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The Geological Survey of Greenland  
Øster Voldgade 10  
DK-1350 København K - Denmark

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FALCONBRIDGE GREENLAND A/S  
WEST GREENLAND TERTIARY BASALT PROVINCE

REPORT ON 1994 EXPLORATION ACTIVITIES

FOR PROSPECTING LICENCE 06/94 AND

EXPLORATION LICENCES 02/91 & 03/91

KEVIN OLSHEFSKY, MURRAY JEROME, MARK GRAVES,  
DAWN EVANS-LAMSWOOD  
FALCONBRIDGE LIMITED  
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Respectfully Submitted

*Kevin Olshefsky*  
Kevin Olshefsky  
Project Geologist

Viking Naja and Viking Buhl at Qutdligssat, Disko Island (viewing north)



The diamond drill on hole FP94-4-5 (SW of Qutdligssat)



## SUMMARY

In 1994, Falconbridge Greenland A/S and Platinova A/S jointly held exclusive exploration licences 02/91 & 03/91 and non-exclusive prospecting licence 06/94. The two exclusive exploration licences covered an area of 2,228 square kilometres of the West Greenland Tertiary flood basalt province.

Exploration in 1994 was directed towards discovering a large tonnage Noril'sk-type nickel-copper deposit. The main objectives were to; 1) carry out ground electromagnetic and magnetic surveys over airborne anomalies and geological targets located in the Itivdle Fault, at Serfat and in the Sarqaq Valley on Nuussuaq Peninsula and at Qutdligssat on Disko Island, 2) complete a gravity survey at Serfat and Igdlukunguaq to detect buried intrusive complexes, 3) diamond drill the high priority targets detected by the 1992 airborne and defined through the 1994 ground geophysical surveys, 4) prospect and sample subvolcanic intrusions on western Nuussuaq Peninsula and northwestern Disko Island in order to outline eruption centres for future drill testing and 5) prospect for mineralized subvolcanic intrusions along the east coast of Disko Island and identify feeder vents for the Ni & Cu depleted Niagussat Member of the Maligât Formation.

In 1994, a total of 4 grids comprising 151.48 line kilometres were established on Disko Island and Nuussuaq Peninsula. The grids are located at Qutdligssat, Serfat, the Itivdle Valley and in the Sarqaq Valley. In addition to the main grids, a total of 9.65 kilometres of gravity reconnaissance lines were established at Igdlukunguaq. Williams Geophysics completed the ground geophysical surveys on the 1994 grids (127.35 km of magnetics, 46.76 km of detailed gravity, 9.65 km of regional gravity, 10.65 km of TEM and 62.35 km of horizontal loop electromagnetics recording frequencies 222, 444 and 1777 Hz).

A total of 3,145.32 m, in 17 diamond drill holes tested geophysical targets at Serfat, the Itivdle Valley, Qutdligssat and the Sarqaq Valley. Subvolcanic intrusives in the form of sills and dykes were intersected in each area. Technical difficulties encountered during the drilling program, led to less metres being drilled over a longer time period.

The geological and topographic features on the 1994 grid were mapped at 1:5,000 scale. Reconnaissance prospecting and lithogeochemical sampling programs concentrated on: 1) the dykes and sills exposed between Qutdligssat and the Kûgánguaq Valley on Disko Island, 2) in the sedimentary sequence of eastern Disko Island and 3) throughout selective areas on western Nuussuaq Peninsula. The 1994 prospecting and lithogeochemical surveys represented the final year of a three year program which focused on key geological target areas on Disko Island and Nuussuaq Peninsula. Emphasis was placed on locating eruption sites for the Ni-Cu depleted, contaminated, tholeiitic lavas and locating Ni-sulphide mineralization. A total of 507 whole rock lithogeochemical samples and 57 rock geochemistry samples were collected during the course of the drilling and geology programs.

The 1994 field program was completed between May 31<sup>st</sup> and September 9<sup>th</sup>, 1994 and employed six geologists, one geophysicist, three field assistants, eight diamond drillers, one drill mechanic/supervisor, two cooks, a two-man helicopter crew, a six man geophysical crew, and a two man boat crew. The exploration program was completed from one land based camp positioned on grid 9D in the Itivdle Valley and from a ship base camp anchored at Qutdligssat, Serfat and at the mouth of the Sarqaq Valley.

## CONCLUSIONS, RECOMMENDATIONS AND PLANS

Despite the lack of a major Ni-Cu discovery in the West Greenland flood basalt province in 1994, the exploration potential for the region remains high. Based on our current understanding of the key geological parameters and geochemical indicators required for the Noril'sk Ni model, the Greenland project is considered to encompass the most prospective flood basalt province for the discovery of a significant Ni deposit outside the Siberian Trap region. The exploration work carried out by Falconbridge during the past four years, along with past and current academic research has demonstrated conclusively that the removal of Ni and Cu from the crustal contaminated tholeiitic lava series has been through sulphide removal. The depth at which these sulphides were deposited has yet to be determined. Only through continued sound and persistent exploration programs will answers be obtained and the rewards of a Ni discovery be realized. It would be premature at this time to conclude that the Disko Island and Nuussuaq Peninsula regions have been thoroughly explored for a major Ni-Cu deposit.

The 1994 exploration program continued to focus on Disko Island and Nuussuaq Peninsula where major fault structures and significant quantities of Ni-Cu depleted lava occur. Diamond drill discoveries in 1994 include: 1) up to 38.3g/t Au in the magnetic fraction of the native-iron mineralization intersected in the bottom 13m of the Qutdligssat Sill, 2) multiple sills to depths of 500m in the Itivdle Valley (one of which is Ni-Cu depleted) and 3) multiple sills and natural gas at Serfat.

The lithochemical sampling program of subvolcanic intrusions has identified a number of Ni-Cu depleted feeders which can be correlated with the contaminated tholeiitic lavas on Disko Island and Nuussuaq Peninsula. One dyke on the east coast of Disko Island contains anomalous levels of Ni and Cu. Two Ni-Cu depleted feeder dykes believed to be associated with the Kûgánguaq eruption centre were discovered in the vicinity of the site. Three Vaigat contaminated, Ni-Cu depleted dykes intrude sulphur-rich sediments within a 3 km area located at the southern end of the Itivdle Valley.


Future exploration programs will need to incorporate deeper diamond drilling programs as a key exploration method. The size and grade of the Noril'sk orebodies make it essential and economically feasible to explore targets down to depths of 1,500m. It is recommended to: 1) carry out deep penetrating, ground geophysical surveys (pulse EM & gravity) at the Kûgánguaq crater site in order to locate conductive zones associated with potential buried sills, 2) follow-up diamond drilling at the Kûgánguaq crater site (2,000 to 3,000m), 3) carry out a detailed gravity survey over the area hosting the Ni-Cu depleted dykes in the southern Itivdle Valley and 4) diamond drill test the Serfat Sill complex to depths of 1,200 to 1,500m.

# WEST GREENLAND FLOOD BASALT PROVINCE



10 km

## 1994 RESULTS

-  MAJOR FAULTS
-  Ni OCCURRENCE  
%Ni/%Cu/%Co
-  ERUPTION SITE  
(vent/feeder dyke)
-  LIMIT OF PICRITE LAVA
-  CONTAMINATED LAVA
-  SILL
-  FLOOD BASALT
-  SEDIMENT
-  GNEISS

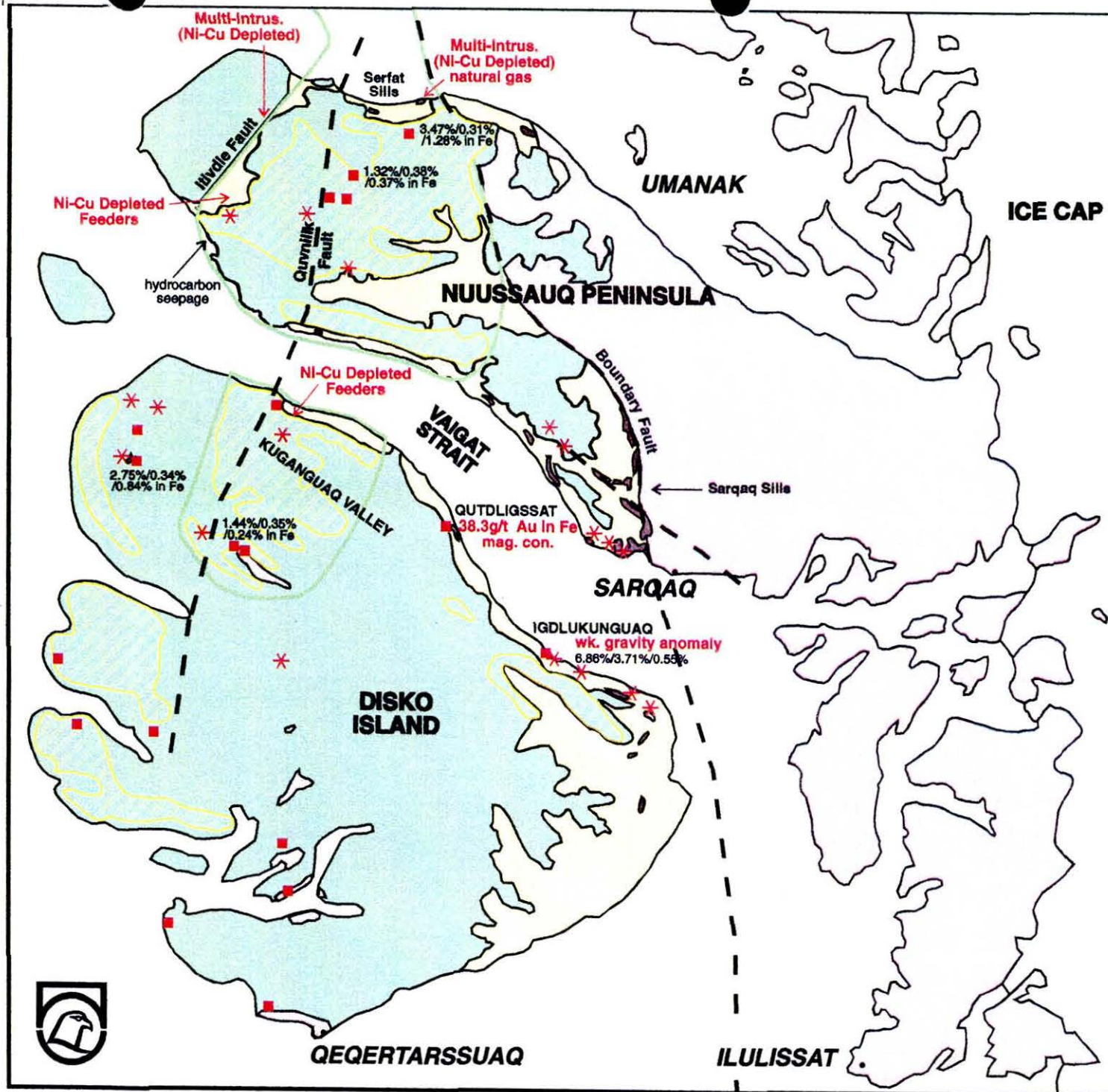


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**1994 EXPLORATION REPORT FOR PROSPECTING LICENCE 06/94 AND  
EXPLORATION LICENCES 02/91 and 03/91**

**LOCATION, ACCESS AND TOPOGRAPHY**

The 1994 exploration licences are situated 90 to 270 kilometres northwest of Ilulissat, on the west coast of Greenland between 70°00'N to 72°00'N and 52°00'W to 54°00'W. The licences are encompassed by non-exclusive prospecting licence 06/94 which covers land areas south of 78°00'N and west of 44°00'W (Figure 1).

The exploration areas are near tidewater having a six to twelve month shipping season. Umanak and Ilulissat serve as the main supply centres for the region. Ilulissat has a Dash 7 air service four times a week to Kangerlussuaq (Søndre Strømfjord) and Nuuk. Connections to Iqaluit, Baffin Island are available twice weekly from Nuuk and daily jet service to Copenhagen can be made from Kangerlussuaq. Hotel accommodations and boat service are readily available.

The topography above the coastal plains and broad valley bottoms is rugged. Mountain peaks exceeding 1,500 metres are commonly covered by glacier and snow year round. Glacial valleys have deeply incised the flood basalt province, locally exposing the underlying sedimentary rocks. The valley floors are covered by thick accumulations of glacial moraine and fluvial material. High arctic flora and fauna occur throughout the low-lying regions.

**PROPERTY STATUS**

In 1994, Falconbridge Greenland A/S (65%) and Platinova A/S (35%) jointly held non-exclusive prospecting licence 06/94 and exclusive exploration licences 02/91 & 03/91. The two exploration licences contained seven subareas covering an area of 2,228 square kilometres (Figure 2 & 3).

An application to reduce the licences to 1,016 sq km was submitted to the MRA in December, 1994.

# WEST GREENLAND PROJECT LOCATION MAP

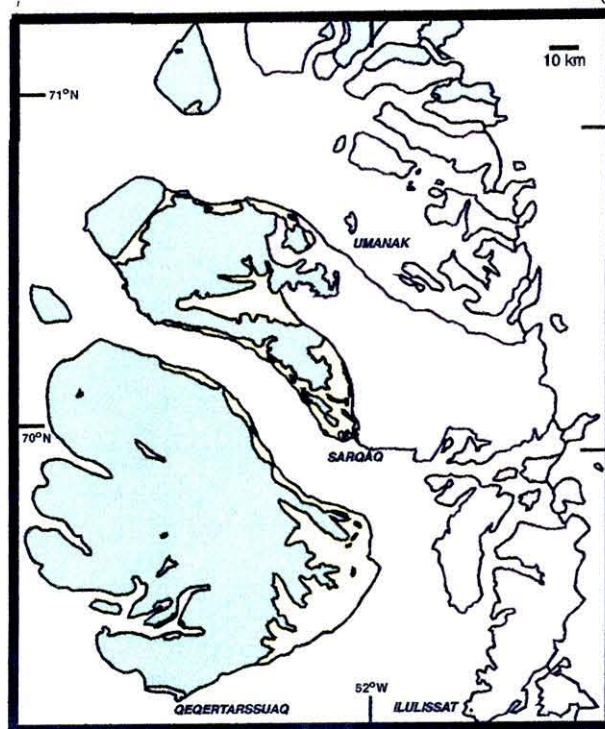
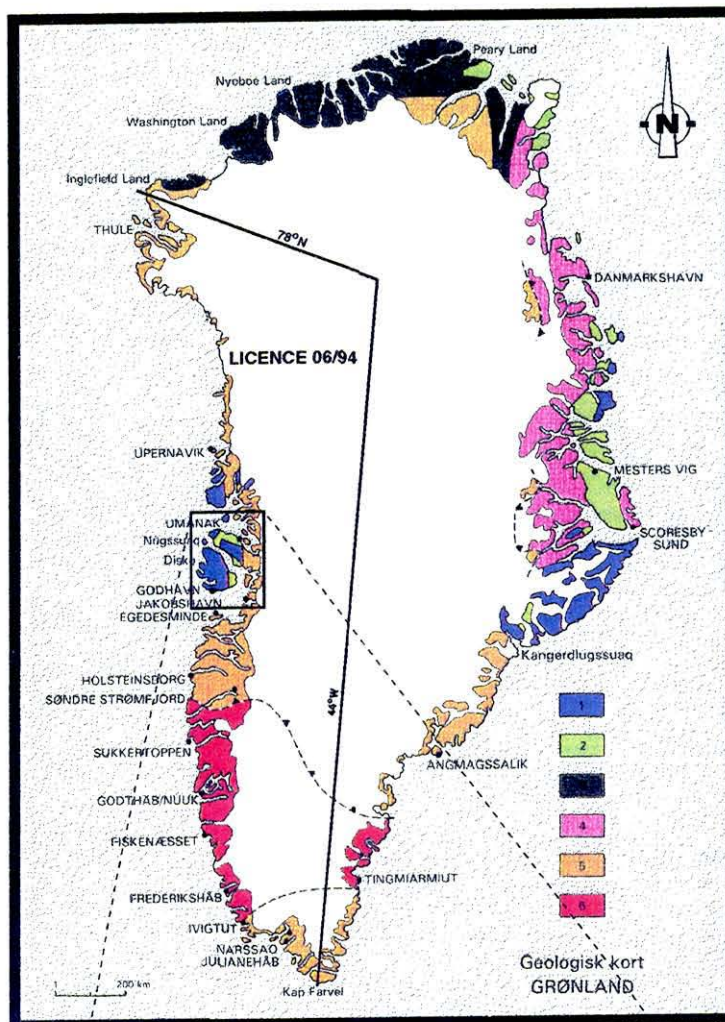


Figure 1



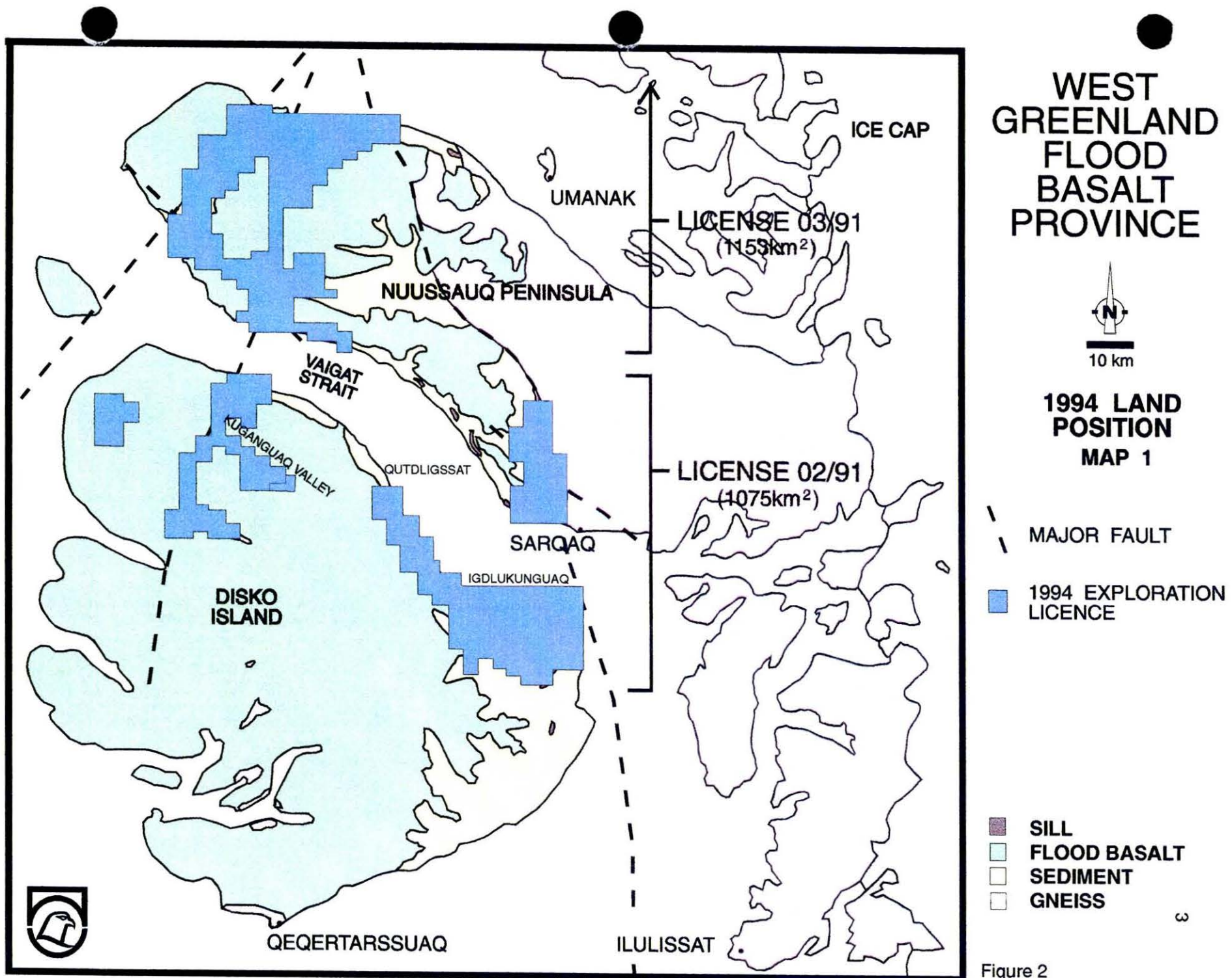


Figure 2

# WEST GREENLAND FLOOD BASALT PROVINCE

ICE CAP



10 km

1994 LAND POSITION  
MAP 2

-  MAJOR FAULT
-  1994 EXPLORATION LICENCE
-  LAYERED INTRUSION
-  FELSIC TUFF
-  SILLS
-  FLOOD BASALT
-  SEDIMENT
-  METASEDIMENTS
-  GNEISS

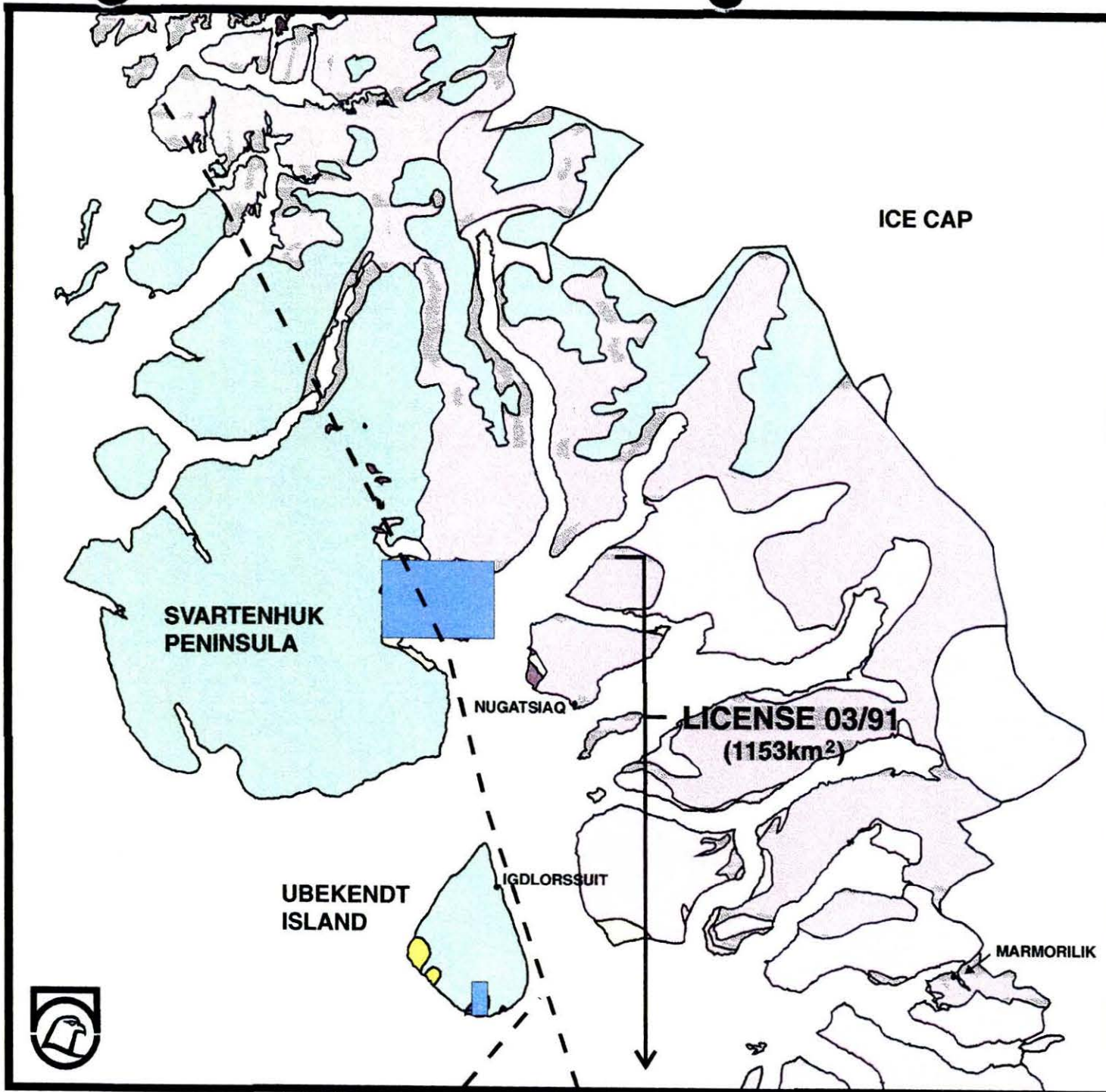


Figure 3

## SENSITIVITIES

The region is typical of tundra and alpine terrains with localized permafrost. The climate in the project area is moderated by warm, northward flowing ocean currents. Mining exploration programs here must be particularly sensitive to any disturbance of the tundra and be aware of the potential for tapping natural gas traps.

Wildlife preservation areas have been identified north and west of Itsako Peninsula, on Svartenhuk Halvø, on east and central Disko Island and in the central region of Nuussuaq Peninsula. Exploration is not prohibited, however, restrictive regulatory guidelines must be met depending on the character and magnitude of the activity.

## REGIONAL GEOLOGY

Hotspot related rifting in the Davis strait at about 63 Ma erupted approximately 55,000 km<sup>2</sup> of flood basalts onto West Greenland and the adjoining continental shelf (Clark and Pedersen, 1976). These basalts are part of the North Atlantic basalt province which extends from the British Isles, through Iceland and Greenland, to the east coast of Baffin Island. Subsidence within the North American craton, between present day North America and Greenland, began as early as 600 million years ago (Fahrig *et. al.*, 1971). This suggests that the Palaeozoic and Mesozoic sediments gradually accumulated until continental rupture in the early Tertiary (Clark and Pedersen, 1976).

The Tertiary lavas were erupted over an estimated time span of four to six million years with the picrite phase lasting as long as three million years (Piasecki *et. al.*, 1992). By comparison, the slightly younger East Greenland Tertiary basalt province erupted within three million years.

The West Greenland lavas extruded onto a rugged paleosurface composed of fault scarps, basement ridges and deeply eroded channels through the underlying sediments (Clark and Pedersen, 1976). For the most part, the lavas are underlain by Cretaceous and Tertiary, epicontinental deltaic sediments of shallow to deep water facies, containing a moderate to high carbon content. Large tectonic basins were present at Svartenhuk Peninsula, northern Disko



Island and western to central Nuussuaq Peninsula. Water depths reached 700 metres on Nuussuaq (Piasecki *et. al.*, 1992) and up to 1000 metres on Svartenhuk (Clark and Pedersen, 1976). The initial volcanism was dominated by the development of picritic pillow and hyaloclastite breccias within the basins. Cyclic volcanism and basin development occurred continuously throughout the evolution of the flood basalt province.

Volcanic stratigraphy for the basalt province has been subdivided into three lithostratigraphic units known as the Vaigat, Maligât and Hareøen Formations (Hald and Pedersen, 1975). The Vaigat Formation consists of picrites to olivine tholeiitic basalts which extend over most of the basalt province. Pedersen (1985), subdivided the formation into the Naujánguit, Asuk, Kûgánguaq, Qordlortorssuaq, Ordlingassoq and Manîtdlat Members that define two volcanic eruption cycles. The Asuk and Kûgánguaq members represent two tholeiitic sequences contaminated by crustal material. These lavas and their contained olivines are depleted in Ni and Cu which Pedersen (1985) attributes to the fractionation of a magmatic sulphide liquid from the magma. These tholeiitic lavas are well documented on Disko Island and may be correlative with contaminated tholeiitic sequences identified on Nuussuaq Peninsula. Many of these contaminated end members host metallic iron containing appreciable amounts of Ni (Figure 4). On Svartenhuk Peninsula, Larsen (1981) has subdivided the stratigraphy into the Lower, Middle and Upper Formations in which he correlates the Lower Formation with the Vaigat Formation.

The Maligât Formation overlies the Vaigat Formation and is composed of thicker, massive, feldspar-phyric, tholeiitic basalts. The formation occurs throughout Disko Island and west of the Itivdle Fault on Nuussuaq Peninsula. On Disko Island the formation has been subdivided into the Rinks Dal, Nordfjord and Niaquussat members (Pedersen, 1975). On Nuussuaq Peninsula, Hald (1977), subdivided the Maligât Formation into the Nûluk, Ifsorisok and Kanîsut members.

The Hareøen Formation is only present on Hareøen Island and consists of olivine porphyritic, transitional basalts. The formation is subdivided into the Aumarûtigssâ and Talerua members (Hald, 1977).

Intrusives of different ages and compositions have been identified in the flood basalt province. A number of these intrusions have been correlated with the volcanic stratigraphy (Figure 5).

# WEST GREENLAND FLOOD BASALT PROVINCE



## GEOLOGY and STRUCTURE

- FAULT
- NI OCCURRENCE  
%Ni/%Cu/%Co
- ERUPTION SITE  
(vent/feeder dyke)
- LIMIT OF PICRITE LAVA
- CONTAMINATED LAVA
- SILL
- FLOOD BASALT
- SEDIMENT
- GNEISS

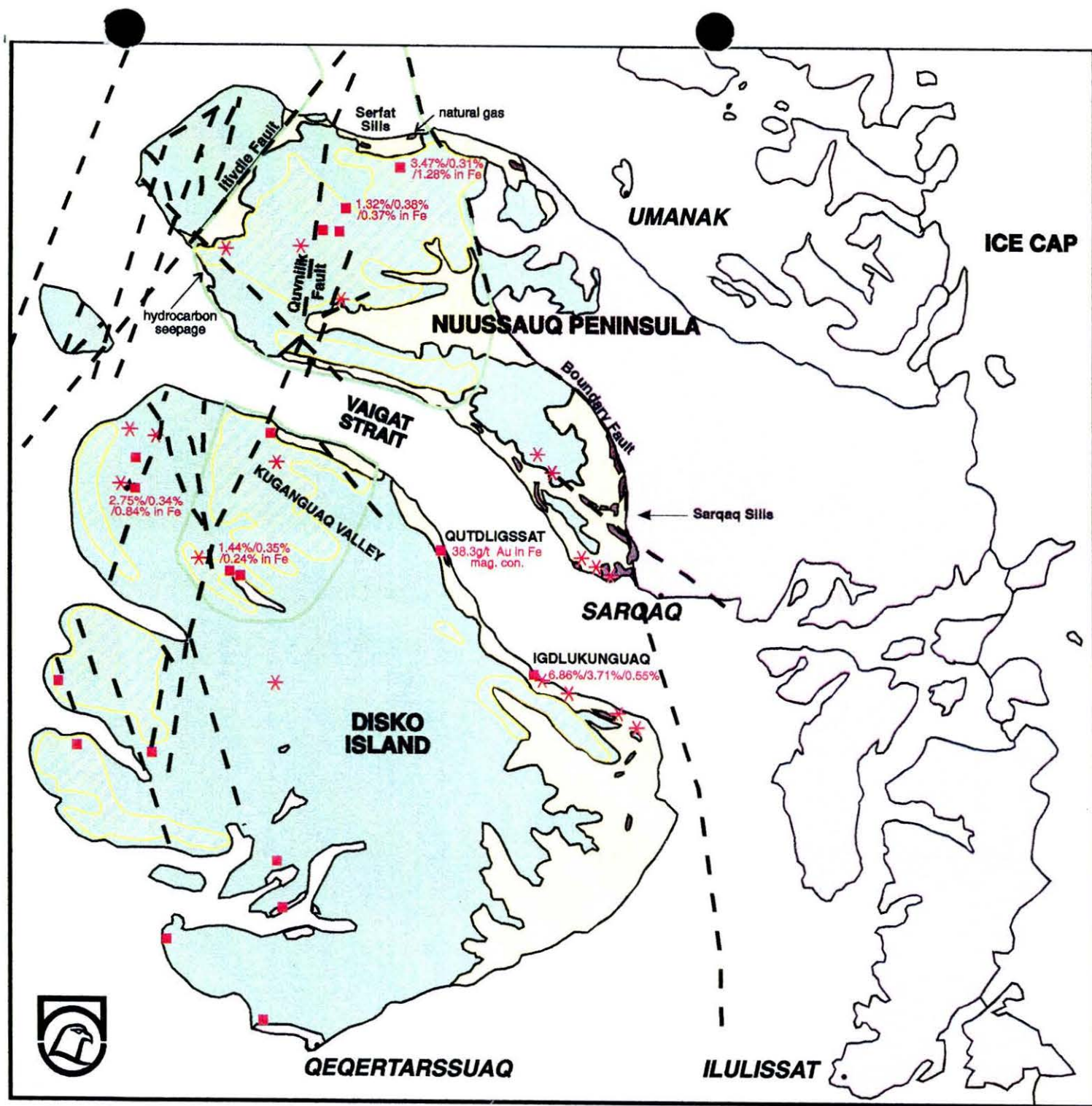


Figure 4

SVARTENHUK      NUUSSUAQ      DISKO ISLAND

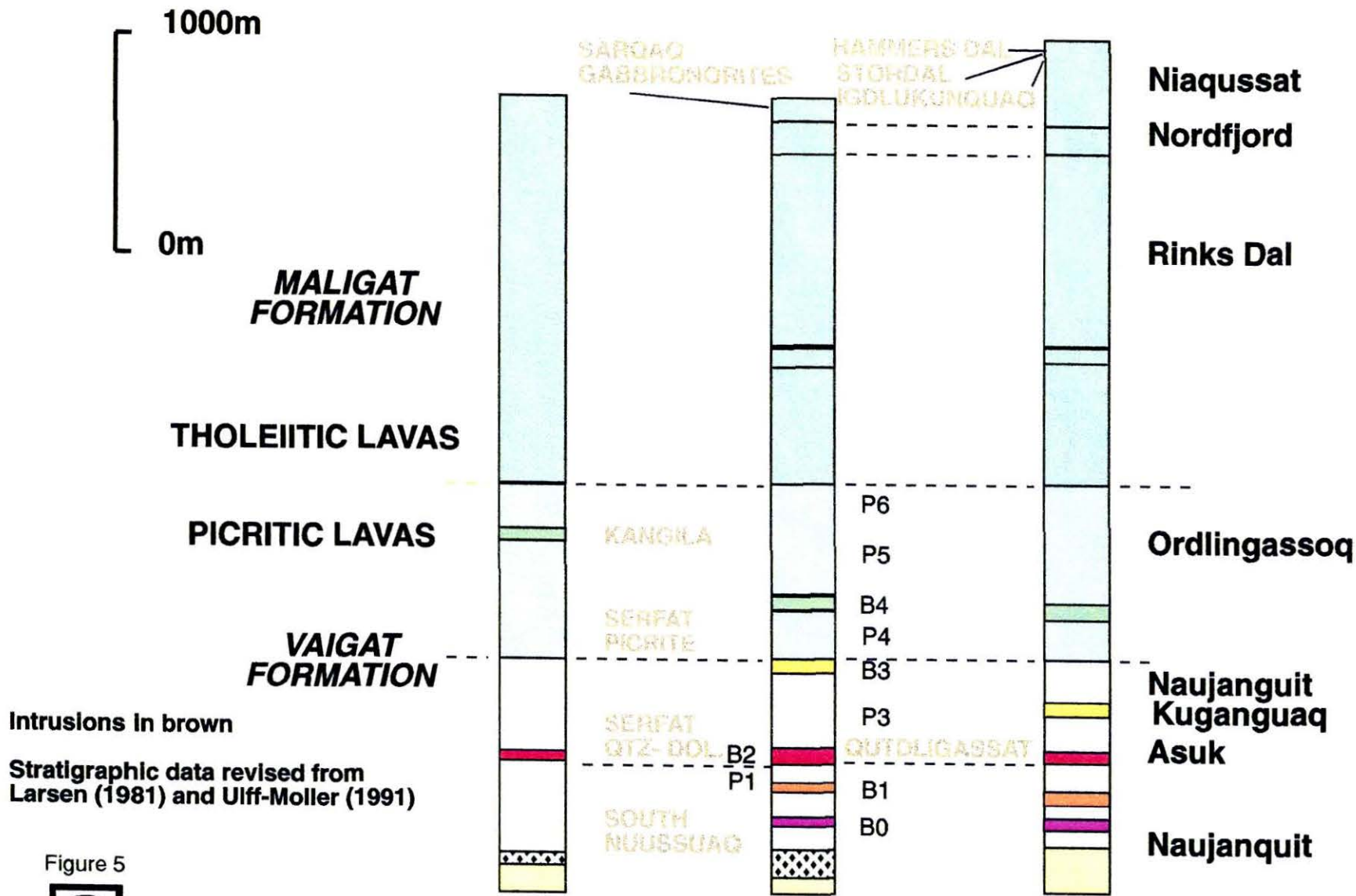


Figure 5



**STRATIGRAPHIC CORRELATION OF VOLCANIC LAVAS AND INTRUSIONS**

The Boundary Fault cuts through eastern Nuussuaq Peninsula and marks the eastern extent of the Cretaceous and Tertiary sediments, serving as a controlling structure for the flood basalts (Figure 4). Locally, some of the flood basalt lavas overstep the fault and rest on the Archean and Proterozoic shield. The Boundary Fault may join with another major fault which runs through Svartenhuk Peninsula at Itsako. The Itivdle Fault transects western Nuussuaq Peninsula and major down faulting is exhibited along its western side. This fault extends south to eastern Hareøen and may represent the land extension of the Ungava Transform Fault (Larsen and Pedersen, 1992). Several eruption centres occur along a third major fault through the Quvnilik valley on Nuussuaq Peninsula. On Disko Island, a north-south orientated gneiss ridge transects the centre of the island and may represent an upthrust fault block which has acted as a barrier to some of the erupting lavas. Active parallel faults west of the ridge have produced a repetition of volcanic stratigraphy in this area.

## PREVIOUS WORK

The native-iron occurrences and the nickel sulphide bearing Igdlukunguaq dyke on Disko Island have been studied and documented as early as the 1870's by A.E. Nordenskjöld and K.J.V. Steenstrup. In 1931, prospectors from Qutdligssat extracted about 28 tons of massive nickel sulphide from the Igdlukunguaq dyke. The dyke drew further attention in 1966, when Niels Aegidius Andersen of the New Quebec Mining and Exploration Company, contracted Lockwood Survey Corporation Limited to complete a helicopter airborne magnetometer and electromagnetic survey over the Igdlukunguaq area and a portion of Sarqaq Valley on Nuussuaq Peninsula (Prior, 1968). A 1968 TURAM electromagnetic (EM) survey by Terratest AB outlined a distinct anomaly 500 metres to the east and along strike of the outcropping nickel sulphide mineralization. In 1970, E.A. Hart Limited completed an EM16 geophysical survey in the area followed by a four hole diamond drill program (256 m) focusing on the dyke. Only one of the holes intersected the dyke.

Since the 1950's, detailed studies have been published on several of the metal occurrences by Bøggild(1953), Pauly(1958,1969), Bird and Goodrich(1981), Goodrich(1984), Bird and Weathers(1977), Klock, Palme and Tobschall(1986), Pedersen(1975,1977,1979) and Ulf-Møller(1975,1977,1985,1989,1990).

About 80% of the flood basalt province has been mapped at 1:100,000 scale by government funded geologists. This geology is compiled on six published map sheets.

Aside from a preliminary evaluation of the nickel potential in the iron cumulates by Inco and mapping & prospecting by the Kryolitselskabet Øresund A/S in 1962-63, the only significant nickel exploration work in the area has been by Cominco/Greenex starting in 1985. The program included an aeromagnetic survey, ground reconnaissance, very low frequency EM (VLF), horizontal loop EM (HEM), time domain EM (UTEM), gravity surveying, prospecting, rock analysis, soil geochemistry and analysis of the light fractions from stream sediment samples. The Greenex program identified 18 airborne electromagnetic (AEM) anomalies, two previously undiscovered native-iron showings and a number of sediment contaminated flows.

In 1991, Falconbridge Limited completed reconnaissance geological mapping, prospecting and lithochemical sampling of lavas and subvolcanic intrusions (770 whole rock and 33 assay samples). Thirty stratigraphic profile sections were constructed throughout the basalt province (Olshefsky, 1992).

In May of 1992, Geotrex Ltd. (under contract from Falconbridge Limited) completed an airborne GEOTEM and magnetic survey (1850 km) over eleven areas on Disko Island and Nuussuaq Peninsula. The summer field program continued to evaluate the nickel and platinum group element potential within the West Greenland basalt province through geological mapping, lithochemical sampling, stream sediment sampling and prospecting (Olshefsky & Jerome, 1993).

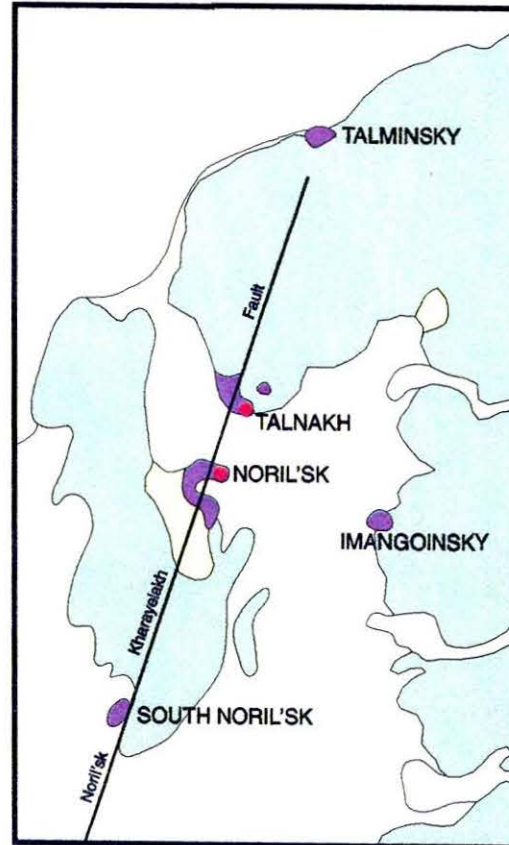
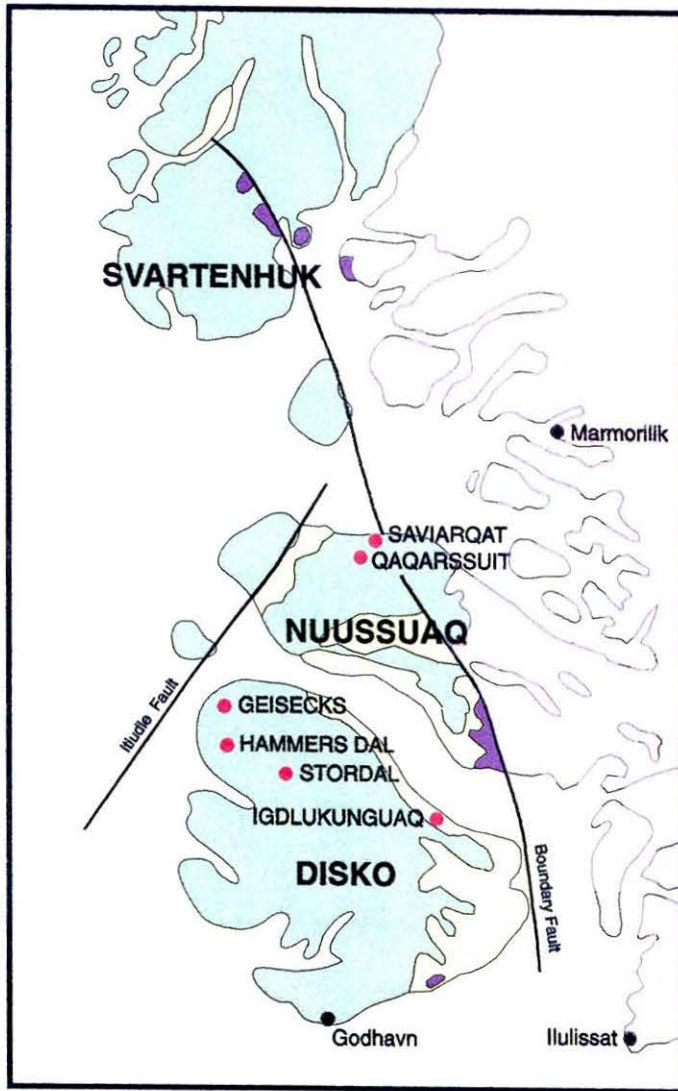
In 1993, Falconbridge established a total of 8 grids consisting of 180 line kilometres along with two reconnaissance lines (4 km) in the Sarqaq Valley. Ground geophysical surveys by Geotrex Ltd. consisted of 185.55 km of magnetics, 128.20 km of VLF-EM and 124.87 km of horizontal loop electromagnetics. A total of 920.10 m in 10 drill holes tested shallow EM and magnetic targets on the grids. On Disko Island, grids were mapped at 1:5,000 scale and a reconnaissance mapping/prospecting program was completed at 1:20,000 scale within selected areas. A total of 191 lithochem samples and 42 assay samples were collected during the course of the drilling and geology programs (Olshefsky and Jerome, 1994).

## EXPLORATION MODEL

The Falconbridge exploration program in the Tertiary flood basalt province is directed towards discovering a large tonnage, Ni-Cu-PGE deposit (>2,000,000 tonnes Ni) based on the model generated for the giant Ni, Cu and PGE deposits of the Noril'sk-Talnakh Region. The Noril'sk model involves major continental rifting above a mantle hot spot producing large volumes of flood basalts. Major faults, activated during rifting, penetrated to the mantle and served as the conduits for the volcanic eruptions and related intrusions.

The depth at which sulphide removal occurred and the parameters controlling the concentration of the sulphides are the subjects of many studies and debates. The latest theory suggests sulphide segregation took place at the present levels of the mineralized intrusions, rather than in a pronounced, deep seated, vertically orientated magma chamber. The new model eliminates the necessity of compressional faulting to transport the sulphide. Naldrett (1994), suggests that the mineralized Noril'sk and Talnakh intrusions served as main arteries of the feeder system for the contaminated magmas. The ascending magma was obstructed and forced to spread out laterally within the sediments, immediately beneath the volcanic lavas. Sulphur in the form of anhydrite and possibly sour gas was encountered and reacted with the magma to produce sulphides. The process of sulphide segregation removed Ni, Cu and PGE from the magma and formed deposits within the intrusions. The depleted magma continued to the surface along routes now occupied by the peripheral sills. Subsequent pulses of magmas through the intrusions came in contact with the initial sulphides, losing Ni, Cu and PGE and enriching the existing sulphides.

In comparison, the tectonic setting of the West Greenland Tertiary basalt province is very similar to that of the Noril'sk region (Figure 6). Large volumes of ultramafic and mafic volcanics (picrites and olivine basalts) were erupted along major tectonic structures. A significant portion of these magmas reacted with basement gneiss and sulphur-rich carbonaceous sediments resulting in the removal of Fe, Ni, Cu & PGE. Significant quantities of these metals are presumed to have accumulated in high level magma chambers (conduits) in the form of magmatic nickel sulphides and metallic iron.



- FLOOD BASALT
- SEDIMENT
- PRE-CAMBRIAN
- INTRUSION
- Fe - Ni - Cu - Co

# WEST GREENLAND NORIL'SK FLOOD BASALT PROVINCES



Figure 6

## 1994 EXPLORATION PROGRAM

The 1994 field exploration program was divided into three main components: 1) geophysics, 2) diamond drilling and 3) geology. The geophysical program included the establishment of 4 grids on which magnetics, gravity, TEM and horizontal loop electromagnetic surveys were completed. Diamond drilling tested geophysical and geological targets identified on grids 11C, 9D, 4A, 4B 6B and 6E. Reconnaissance lithochemical sampling and prospecting surveys were the main thrust of the geology program completed on selected areas on Disko Island and Nuussuaq Peninsula. The main objectives were to discover Ni sulphide bearing intrusions and identify favourable eruption centres. Included in the geology program was the mapping of the 1994 grids at 1:5,000 (figure 7). These programs were carried out from May 31<sup>st</sup> to September 9<sup>th</sup>, 1994. The field crew and company representatives who participated in the summer program are listed as follows:

<u>NAME</u>	<u>POSITION</u>	<u>COMPANY</u>	<u>PERIOD</u>
Kevin Olshefsky	Project Geologist	Falconbridge	31/05 to 07/09
Murray Jerome	Project Geologist	Falconbridge	31/05 to 07/09
Gary MacDougall	Geologist	Falconbridge	31/05 to 20/08
Dawn Lamswood	Geologist	Falconbridge	31/05 to 31/08
Paul Philpott	Geologist	Falconbridge	31/05 to 31/08
Willie Lavallee	Camp Cook	Falconbridge	31/05 to 31/08
Tony Watts	Geophysicist	Falconbridge	21/06 to 05/07
Dennis Prince	Dir. International Expl.	Falconbridge	12/07 to 19/07
Benoit Meert	General Manager	Falconbridge	12/07 to 19/07
Mark Graves	Contract Geologist	Duncan Assos.	05/07 to 07/09
Ulrik Frederiksen	Assistant	Platinova	05/07 to 16/08
Mark Andersen	Assistant	Platinova	01/06 to 16/08
Kim Jensen	Assistant	Platinova	05/07 to 16/08
Chris Hawkesworth	Researcher	Open University	13/07 to 19/07
Peter Lightfoot	Researcher	O.G.S.	12/07 to 19/07
Brian Williams	Geophysicist	Williams Geoph.	08/06 to 05/07
Graham Reid	Geophysicist	Williams Geoph.	08/06 to 05/07
Pat Lohan	Geophysicist Tech.	Williams Geoph.	08/06 to 05/07
Aidan Murray	Geophysicist Tech.	Williams Geoph.	08/06 to 05/07
Pat Hendersen	Geophysicist Tech.	Williams Geoph.	08/06 to 05/07
Chris Brookes	Geophysicist Tech.	Williams Geoph.	08/06 to 05/07
Gerry Nuttall	Pilot	Universal	06/06 to 12/07
Terry Hutchings	Helic. Engineer	Universal	06/06 to 12/07
John Innis	Pilot	Universal	12/07 to 07/09
Dave Evans	Helic. Engineer	Universal	12/07 to 07/09
Paul Garrett	Pilot	Universal	12/07 to 22/08
Norman Broomfield	Helic. Engineer	Universal	12/07 to 22/08
Frank Nolan	Vice President	Petro	24/08 to 26/08
Mel Upwards	Driller	Petro	13/07 to 07/09
Bronson Webber	Driller	Petro	13/07 to 13/09



<u>NAME</u>	<u>POSITION</u>	<u>COMPANY</u>	<u>PERIOD</u>
Brian Payne	Driller	Petro	13/07 to 13/09
Paul King	Driller	Petro	13/07 to 13/09
Geff Upward	Driller	Petro	13/07 to 13/09
Barry Tizzard	Driller	Petro	13/07 to 13/09
Hecter Hewlyn	Driller	Petro	13/07 to 13/09
Dennis Hoffe	Driller	Petro	13/07 to 13/09
Dave Mathews	Mechanic	Petro	13/07 to 13/09
William Freake	Cook	Petro	13/07 to 13/09
John Sune Olsen	Boat Captain	Dykkerselskabet	13/07 to 07/09
Hans Andersen	Boat Engineer	Dykkerselskabet	13/07 to 01/09
Erik Schjørring	Boat Engineer	Dykkerselskabet	01/09 to 07/09

<u>FULL COMPANY NAMES LISTED ABOVE</u>	<u>ADDRESS</u>
Falconbridge Limited	Toronto, Canada
Falconbridge Greenland A/S	Nuuk, Greenland
Platinova A/S	Nuuk, Greenland
Williams Geophysics	Hereford, United Kingdom
Helikopter Service A/S (Universal)	Roskilde, Denmark
Petro Drilling Company Limited	Halifax, Nova Scotia, Canada
Dykkerselskabet Viking Aps	Nuuk, Greenland
D.R. Duncan and Associates Ltd.	Coldbrook, Nova Scotia, Canada

The boat "Viking Naja" and the 30x8x3 metre barge "Viking Buhl" under contract from Dykkerselskabet Viking Aps, served as the main base camp for the summer program. An eight man tent camp was established for the diamond drilling program on grid 9D in the Itivdle Valley. The tents and camp equipment were expedited through Platinova A/S.

Helikopter Service A/S of Roskilde, Denmark, through a wet-lease agreement with Universal Helicopters Newfoundland Limited provided the helicopter for the 1994 exploration program. Universal Helicopters is a Canadian operator based in Newfoundland, Canada and is the owner of the Bell 206 L/R (6 passenger) helicopters used on the project. The contract was set-up for one helicopter to operate in Greenland between June 3<sup>rd</sup> to September 5<sup>th</sup>, 1994. A second Bell 206 L/R helicopter was used from July 12<sup>th</sup> to July 22<sup>nd</sup>, to assist during the start-up period of the diamond drill program. All of the Jet-A aviation fuel (except 60 barrels (12,000L)), was purchased in Ilulissat. Both the Helicopter and diesel fuels were store in large fuel tanks aboard the "Viking Buhl".

The towns of Ilulissat and Umanak served as supply centres for the program.

# WEST GREENLAND FLOOD BASALT PROVINCE



## 1994 EXPLORATION SUMMARY

- MAJOR FAULT
- AIRBORNE EM ANOMALIES
- 1994 GEOPHYSICS GRID LOCATION  
G-4B
- 1994 EXPLORATION LICENCE
- 1994 DIAMOND DRILL HOLE  
FP94-6-2
- AREA OF PROSPECTING
- SILL
- FLOOD BASALT
- SEDIMENT
- GNEISS

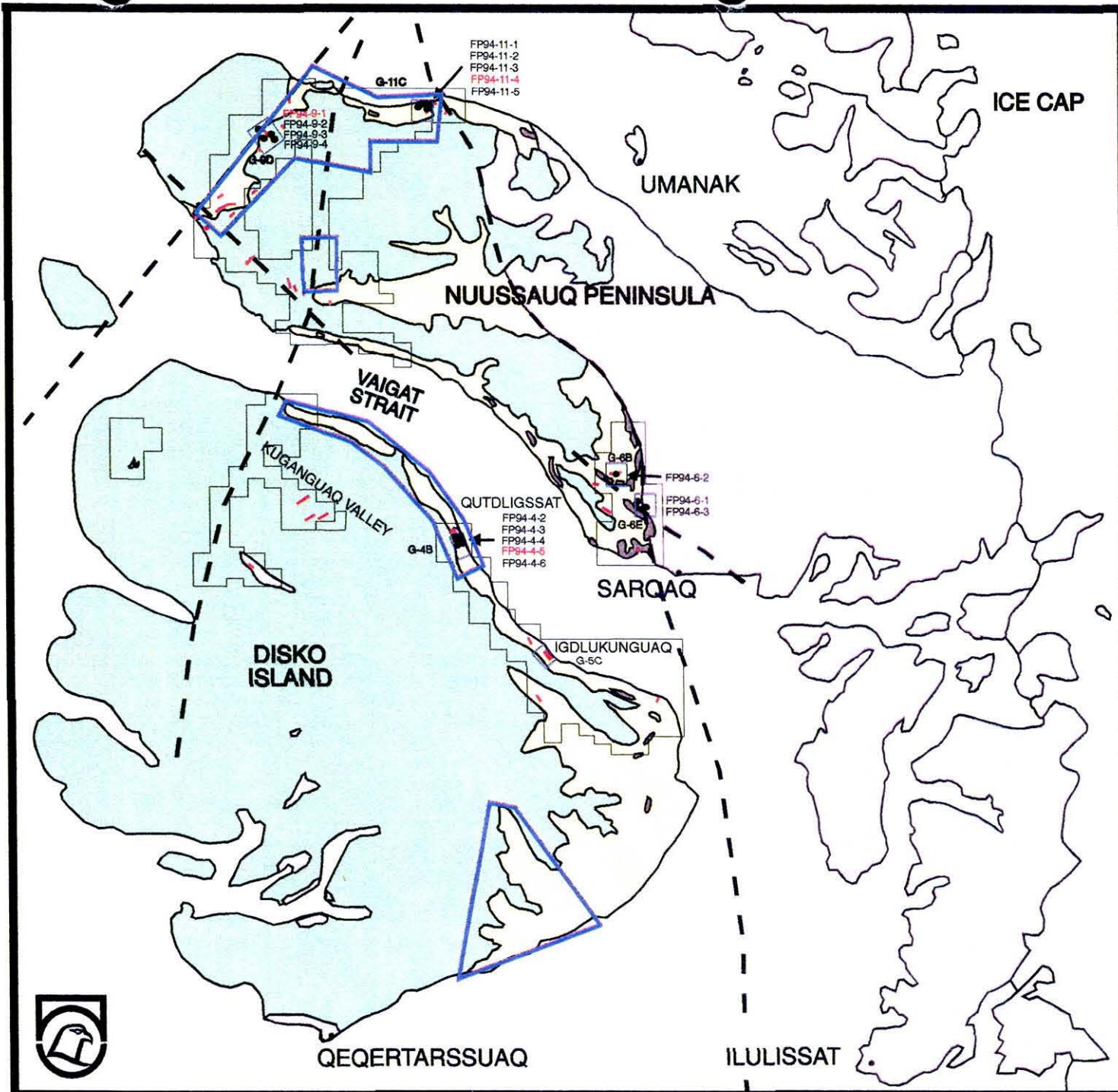


Figure 7

Communications within the project area was through marine VHF and HF radios. The radios on board the "Viking Naja" served as the main base station. The drill camp was equipped with a Furuno FS 1550 HF and Furuno FM 2520 VHF radios. A portable Spilsbury S.B.X 11(a) HF system was utilized in the geology fly camps. The drills were equipped with marine VHF radios, personal locating beacons ( P.L.B 406) and LMX 410 multi-gas monitoring instruments. Portable Lorad XR 100 VHF hand-held radio were used by the field crews to communicate between crews, helicopter and the boat when a line of sight was established.

Communication to destinations outside the project area was through TELE Greenland A/S communication system using the VHF and/or HF radios.

## **GEOPHYSICAL SURVEYS**

### **Introduction**

Williams Geophysics of Hereford, England, under contract from Falconbridge Greenland A/S, completed ground geophysical surveys on Disko Island and Nuussuaq Peninsula, The geophysical surveys consisted of 127.35 km of magnetics, 46.76 km of detailed gravity, 9.65 km regional gravity, 10.65 km TEM and 62.35 km of horizontal loop electromagnetics recording frequencies 222, 444 and 1777 Hz.

The surveys were carried out by a six man geophysical crew from June 8<sup>th</sup> to July 4<sup>th</sup>, 1994. Falconbridge provided the meals, lodging and helicopter transportation for the crew. A report on the 1994 geophysical program was prepared by Williams Geophysics and has been submitted under its own "Report on Geophysical Surveys in the Nuussuaq Area of West Greenland For Falconbridge Greenland A/S" (Appendix I).

A total of 4, secant chained, grids (151.48km), referred to as 4B, 6E, 11C, and 9D, were established as a base for the geophysical surveys and the 1:5,000 scale geology mapping program (Figure 7). The numeric and alphabetic nomenclature of the grids is based on the 1992 airborne survey blocks and the individual EM anomaly identifier, respectively (Olshefsky & Jerome, 1993). To facilitate a gravity survey over the mineralized Igdlukunguaq dyke, an additional 9.65 line kilometres were added to the 1993 grid.

TABLE 1 - 1994 GRID INFORMATION - WEST GREENLAND PROJECT

Grid	Location	Exploration Licence	*Baseline UTM /TN Azi.	Grid position A (UTM)	Grid position B (UTM)	Length of Baseline (km)	*Gridline UTM /NT Azi	Gridline Spacing	Length of Gridlines (m)	Number of Gridlines	Total Km of Gridline	GridlineStation Intervals (m)	Number of Flag Pickets
11C	Nuussuaq	03/91	170°	7852696 N 418204 E	7852445 N 419300 E	8.30	080°	100m 200m	1000E 1000E	17	43.95	25	2,090
4B	Disko I.	02/91	332°	7775125 N 422567 E	7774128 N 422366 E	2.80	062°	200m	1500	15	22.78	25	1,023
6E	Nuussuaq	02/91	260°	7779190 N 459331 E	7779190 N 459331 E	1.80	350°	200m	2300	10	24.10	25	1,036
9D	Nuussuaq	03/91	337°	7847797N 387887E	7845035 N 389059 E	3.00	67°	250m	1500E 1500W	13	35.10	25	1,524
5C	Disko I.	02/91		7754213 N 436722 E	7753935 N 437180 E		028°	500m		2	4.00	200	nil
				7751676 N 439230 E	7751266 N 439517 E		055°	500m		2	1.65 4.00	200	nil
TOTAL GRID KM =			151.48		Total	15.90				Total	135.58		

The grids were established by Falconbridge personnel from June 4<sup>th</sup> to July 4<sup>th</sup>, 1994. A Ushikata - tripod mounted, telescopic compass was used to establish both the baselines and gridlines. The deviation of grid lines from the survey azimuth was determined by a combination of GPS readings and chaining the distance between the end of lines. The GPS instrument used was a hand-held, Magellan 5000. Wire flag pickets measuring 76 cm high and 0.2 cm in diameter were used as station markers. All of the grids were left intact at the conclusion of the 1994 field season. Detailed information on the 1994 grids is summarized in Table 1.

The purpose of the 1994 ground geophysical program was to investigate the top priority 1992 airborne EM anomalies on Nuussuaq Peninsula and to investigate the Ni-Cu enriched intrusion and airborne EM anomaly 4B located in the Qutdligssat area on Disko Island. The gravity survey at Igdlukunguaq and Serfat tested for buried volcanic intrusions.

The surveys were successful in outlining a number of electromagnetic, magnetic and gravity responses that warrant testing by diamond drilling. In preparation for the diamond drill program, an interpretation of the 1994 geophysical results was completed in the field by Tony Watts (Falconbridge Chief Geophysicist). Please refer to the report by Williams Geophysics for a more detailed description of the geophysical program.

## **DIAMOND DRILLING PROGRAM AND RESULTS**

### Introduction

In March 1994, Petro Drilling Company Limited of Halifax, Nova Scotia was contracted to carry out a diamond drilling program for Falconbridge in the Disko Bay area of West Greenland. Two, Longyear Fly-in 38, diamond drill rigs designed for helicopter supported drilling operations were utilized for this work. One of these rigs had been stored over the winter on western Nuussuaq Peninsula after the 1993 program and the other was mobilized from the Petro field office in Springdale, Newfoundland. This latter drill, along with a steel mast, water pumps, water line, drill casing, drill rods, core boxes and miscellaneous items, was shipped in two, sealed, twenty foot long containers from Argentia, Newfoundland to Ilulissat, Greenland in May via Iceland and Nuuk, Greenland. Two containers of drilling muds were also sent at this time. Movement of the drill equipment from Ilulissat to the project area was accomplished using

the "Viking Naja"/"Viking Buhl" and all drill moves in the field utilized the Bell 206 L/R helicopter. A diamond drill crew, consisting of four operators, four assistants, one mechanic and one cook, was employed in the diamond drill program from July 5<sup>th</sup> to September 3<sup>rd</sup>, 1994. At the conclusion of the drill program, the two rigs were released to grønarctic Energy for their subsequent drill program on Western Nuussuaq Peninsula.

The 1994 diamond drilling program in West Greenland was directed toward the discovery of a large tonnage, Noril'sk-type, nickel-copper deposit by testing airborne and ground geophysical anomalies. The principal exploration targets are intrusive bodies containing segregated Ni-sulphides enriched in chalcophile elements. The program was originally designed to test targets with 5000 metres of diamond drilling in four areas on Nuussuaq Peninsula and Disko Island;

- |                   |                         |
|-------------------|-------------------------|
| 1) Serfat         | 3) N. Disko/Outdligssat |
| 2) Itivdle Valley | 4) Sarqaq Valley        |

The total metreage obtained in the 1994 campaign was 3,145.32 m in 17 holes drilled between July 15<sup>th</sup> and September 4<sup>th</sup>. The combination of a one week delay in the arrival of the drill equipment in Ilulissat as well as numerous technical difficulties encountered during the program, led to less metres being drilled than planned over a longer time period. More detailed descriptions of the drilling and the results in each area are outlined below and in Table 2. The diamond drill logs and geochemical results are presented in Appendices II - V.

Whole rock sampling of the drill cores consisted of collecting several pieces of core 5 to 10 cm in length over a 1m interval. A total of 166 samples were collected and shipped air cargo to Lakefield Research Analytical Services in Lakefield, Ontario, Canada at the conclusion of the field program. The lab samples were dried, crushed to 3 mm and a 250 g subsample was pulverized to -150 mesh. Determination of the 11 major oxides was by borate fusion- Xray fluorescence method (XRF), with detection levels of 0.01%. Elements Ba, Nb, Rb, Sr, Y, Zr, Zn, Ni, Co, and S were determined using a pressed powder XRF with detection levels of 5 ppm and 0.5% for S. Samples collected for geochemical analysis were tested for Cu, Ni, Co, As and S levels using pressed powder XRF.

TABLE 2 - 1994 WEST GREENLAND DRILL SUMMARY

DDH	DRILL	GRID	GRID LOC.	UTM LOC.	ELEVATION (m)	DIP	AZIMUTH	DEPTH (m)
FP94-11-1	#1	11C	16+00N 65+00E	7852176N 419808E	151	-90	0	51.2
FP94-11-2	#1	11C	18+00N 57+45E	7852242N 419028E	119	-90	0	422.76
FP94-11-3	#1	11C	14+50N 62+36E	7851990N 419574E	142	-90	0	31.1
FP94-11-4	#1	11C	21+60N 55+00E	7852537N 418783E	81	-90	0	340.46
FP94-11-5	#1	11C	20+10N 48+25E	7852262N 418085E	78	-90	0	230.73
FP94-9-1	#2	9D	15+00S 6+75W	7846152N 387852E	315	-90	0	537.1
FP94-9-2	#2	9D	2+50S 4+00W	7847410N 387616E	435	-90	0	127
FP94-9-3	#2	9D	1+50S 4+50W	7847483N 387531E	485	-90	0	97.5
FP94-9-4	#2	9D	25+00S 5+25E	7845111N 389370E	405	-90	0	180.2
FP94-4-2	#1	4A	11+00E 4+63E	7774442N 422895E	347	-90	0	69.2
FP94-4-3	#2	4B	22+00N 9+75E	7774019 423518E	292	-90	0	58.2
FP94-4-4	#1	4A	12+00E 5+40N	7774328N 422949E	354	-90	0	61.6
FP94-4-5	#2	4B	6+30N 5+12E	7772427N 423818E	358	-90	0	270.5
FP94-4-6	#1	4B	6+00E 17+00N	7772939N 424891E	86	-90	0	143.26
FP94-6-1	#1	6E	12+00W 19+00N	7779441N 457954E	30	-90	0	85.34
FP94-6-2	#2	6B	9+00E 4+00S	7783323N 454355E	32	-50	175	266.8
FP94-6-3	#1	6E	4+00W 10+70N	7778766N 4588889E	30	-90	0	172.82
							TOTAL	3145.77

To check the accuracy of the laboratory, analytical standards were submitted with the field samples. To test the precision of the analysis, the laboratory randomly analyzed duplicates of samples. Both the analytical standards and duplicate samples are clearly marked on the analytical documents in Appendix IV & V.

The major oxide elements were recalculated to anhydrous condition for plotting. The term "Mg number" as used in this report was determined using the formula:  $Mg\ Number = (wt\% MgO/40.32)/((wt\% MgO/40.32) + 0.85 (wt\% FeO\ total/71.85))$ .

### 1) SERFAT

Period of drilling:	July 15 <sup>th</sup> to August 11 <sup>th</sup> , 1994
Number of holes:	5
Metres of drilling:	1076.3 m
Grid:	11C

The 1994 drilling in the Grid 11C area commenced on July 15<sup>th</sup>. The purpose of this program was to test several magnetic, gravity and EM features in the vicinity of and closely associated with the Serfat Sill complex.

#### DDH FP94-11-01

The drill hole was spotted at L16+00 65+00E to provide a section through the stratigraphy while testing a weak Max-Min EM anomaly coincident with a gravity high and the edge of a magnetic high. Difficulties were experienced at this site in penetrating the thick overburden which contained numerous, variably sized, gneissic and mafic boulders. The hole was abandoned in overburden at a depth of 51.2m because of stuck rods. A total of eleven NQ rods (33.5m) were lost in the hole.

#### DDH FP94-11-02

The location of this hole at L18+00N 57+40E was selected to minimize the amount of drilling through overburden (300m west and 13.5m lower in elevation than the planned site). This hole,



as with FP94-11-1, was positioned to test a gravity high coincident with a weak, Max-Min EM anomaly that corresponds to airborne anomaly 11C. Hole FP94-11-2 reached a depth of 422.8m and intersected a thick quartz dolerite unit (73.5 to 212.9m) intruded by a picritic sill (88.8 to 111.9m). The picrite intrusion is a dark, greenish-grey, fine to medium grained, weakly magnetic unit which is locally blocky with talc-filled fractures. The quartz dolerite sill is medium grey, medium to coarse grained (finer grained along margins), non-magnetic and very competent. It is composed of plagioclase and pyroxene crystals up to 1cm in size. Minor (<1%), fine, disseminated pyrite is noted throughout the dolerite sill above and below the picrite (maximum of 1-2% pyrite at 208m). Geochemically, the quartz dolerite sill is strongly depleted in both Ni and Cu (Figure 8 & 11). The depletion of these elements is interpreted to reflect the removal of sulphide liquid from the magma prior to crystallization (Figure 9). The picrite demonstrates a higher inherent magnetism in contrast to the quartz dolerite unit and on the TiO<sub>2</sub> versus MgO plot, forms a distinct field between 15 to 30% MgO (Figure 10). The large spread in the MgO content of the picrite sill is best explained by crystal fractionation of olivine resulting in cumulative olivines. Beneath the sills, a sequence of siltstones and carbonaceous siltstones were intersected. The carbonaceous portions of these sediments locally discharged gas bubbles while being emptied from the core tube. A grey, fine grained, aphyric, weakly to moderately magnetic, mafic dyke lies within these sediments from 232.8 to 245.9m. The dyke plots in a tight cluster above the quartz dolerite sill on the TiO<sub>2</sub> versus MgO plot (figure 10). Unlike the quartz dolerite sill, the dyke and the picrite sill are not depleted in Ni or Cu (figure 8).

The broad, weak, Max-Min EM response tested by this hole is caused by a weakly conductive, unconsolidated, carbonaceous clay cover sequence (65.9 to 69.2m). The gravity high reflects the extensive, subsurface intrusive complex encountered in this hole and which is exposed along the coast. Hole FP94-11-2 was terminated after the rods repeatedly jammed. A total of \_\_ BQ rods and twelve NQ rods (36.6m) were lost in the hole.

### DDH FP94-11-3

To minimize drilling through overburden, the hole was spotted at 14+50N, 62+36E, 50m north and 14m west of the proposed location. This hole was intended to examine a strong magnetic high adjacent to the south edge of a gravity high. Unfortunately, like FP94-11-1, this hole was unable to penetrate the overburden cover and ended at 31.1m.

DDH FP94-11-4

This drill hole was sited upon an exposure of the picrite intrusion at 21+60N 54+60E, 160 m north and 65 m west of the proposed hole location in order to provide a wider spacing between holes while still testing a gravity high target adjacent to an interpreted fault. This hole reached a depth of 340.5 m and intersected picrite (3.8 to 16.6 m) and quartz dolerite (16.6 to 105.8m) intrusions of the same geochemical affinities as those intersected in FP94-11-2. Minor pyrite (+pyrrhotite?) was observed throughout the quartz dolerite unit. The two intrusive bodies explain the gravity high.

The quartz dolerite sill is differentiated with MgO levels of 4.63% in the upper portion of the sill increasing to 6 - 8% MgO in the bottom half (phases 1 & 2 respectively on Figure 10). As in hole FP94-11-2, this sill is strongly depleted in Ni and Cu. A change in composition from pyroxene phyric to feldspar-phyric hosting minor pyroxenes at a hole depth of 57.30m is also reflected in the levels of MgO, TiO<sub>2</sub> and Cu. The sill is void of Cu above 57.30m and increases to 10.5 ppm below this point (Figure 9). This composition and geochemical change may be indicating a differentiation boundary or a separate pulse of magma. Lightfoot (1995) reports that the composition of the quartz dolerite sill correlates with that of the contaminated Kûgánguaq member on Disko Island based on Th/Nb values. This contradicts the REE and trace element signature which correlates the sill to the Ni sulphide-bearing Igdlukunguaq dyke which in turn is chemically correlated to the Niagussat Member of the Maligât Formation (Olshefsky and Jerome, 1994).

Beneath the intrusive units, a sequence of sandstones and carbonaceous siltstones (105.8-340.5m) were encountered. As in FP94-11-2, the drillers reported gas bubbles throughout the carbonaceous siltstone portions of the hole on emptying the core tube. However, at the time of the initial core logging, only the section from 265.0 to 317.5m displayed these bubbles. The bubbles were produced at 1 to 2sec intervals from random bedding planes and displayed a uniform intensity and size (<1mm). The carbonaceous siltstone though this section is a dark grey, very fine grained, uniformly bedded at 60 - 70° to core axis and contains a minor light grey, sand content. The unit is fairly competent overall with an RQD of 60 to 70%. This hole ended due to the intersection of a pressurized gas seam (Appendix VI- West Greenland incident report) most likely emanating from a less competent zone within the carbonaceous siltstone from 286.0 to 294.0m (RQD of 10 to 15%). The only points of structural weakness (ground core)

within the entire unit occur through the sections between 287.73 to 287.77m, 288.25 to 288.26m and 293.14 to 293.15m. These zones may have been the focal points channelling greater quantities of gas into the hole. The natural gas may be of some significance to Ni exploration in that it could potentially be an excellent source of sulphur required for the formation of sulphide according to the model.

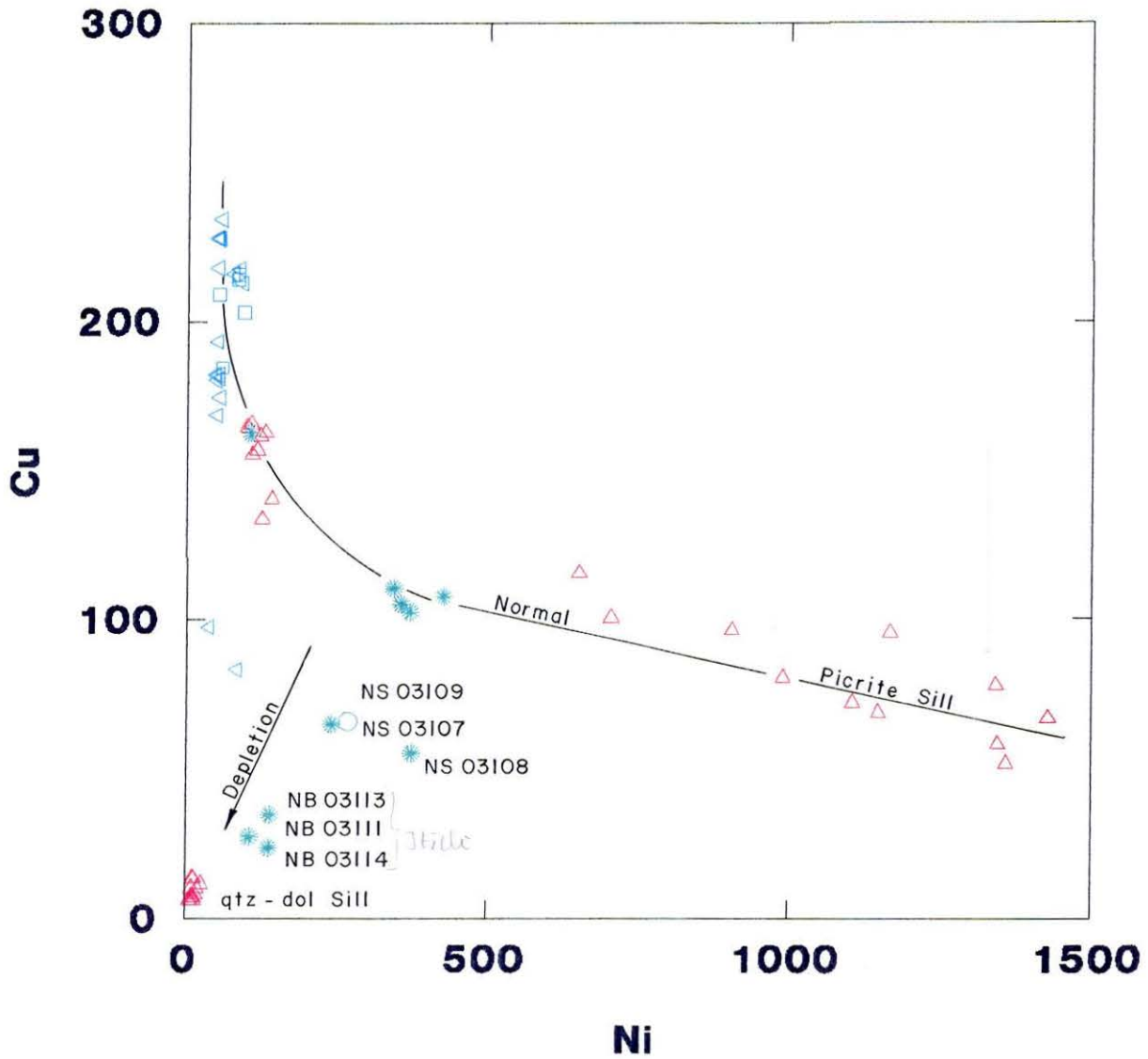
Because of the high gas levels and the risk of a flash fire (ie. sparks from engine or the rods), the BQ rods (317m) and NQ rods (6.1m) were left in the hole to seal the gas discharge. A metal cap has been screwed into the casing closing the hole and allowing access for future work (Plates 3 and 4).

A drill hole site inspection was completed on August 21<sup>st</sup>, 1994 by Hans Christian Langager (GFU), Bjørn Thomassen (GGU) and three Falconbridge representatives. At this time, the casing was checked for external and internal gas seepage. No escaping gases were detected from within or around the casing. The casing cap was replaced at the conclusion of the site inspection.

#### DDH FP94-11-5

Hole FP94-11-5 positioned at L20+00N 48+25E was spotted 400m north and 100m west of its proposed location in order to avoid excessive overburden depths. It was designed to test a gravity high beside an interpreted fault. The hole intersected a blocky, fine to medium grained, medium greenish-grey, weakly magnetic, picrite sill beneath overburden from 10.0 to 31.1m, similar in appearance to those previously encountered. Interlayered siltstone and carbonaceous siltstone units separate the picrite sill from the quartz dolerite sill that occurs between the depths of 92.60 m to 203.60 m. The dolerite sill displays the same geochemical zoning of Cu, MgO and TiO<sub>2</sub> as in hole FP94-11-4. This composition change occurs at a hole depth of 157.00 m dividing the unit into two chemical affinities (phases 1 & 2) on the TiO<sub>2</sub> versus MgO plot (figure 10).

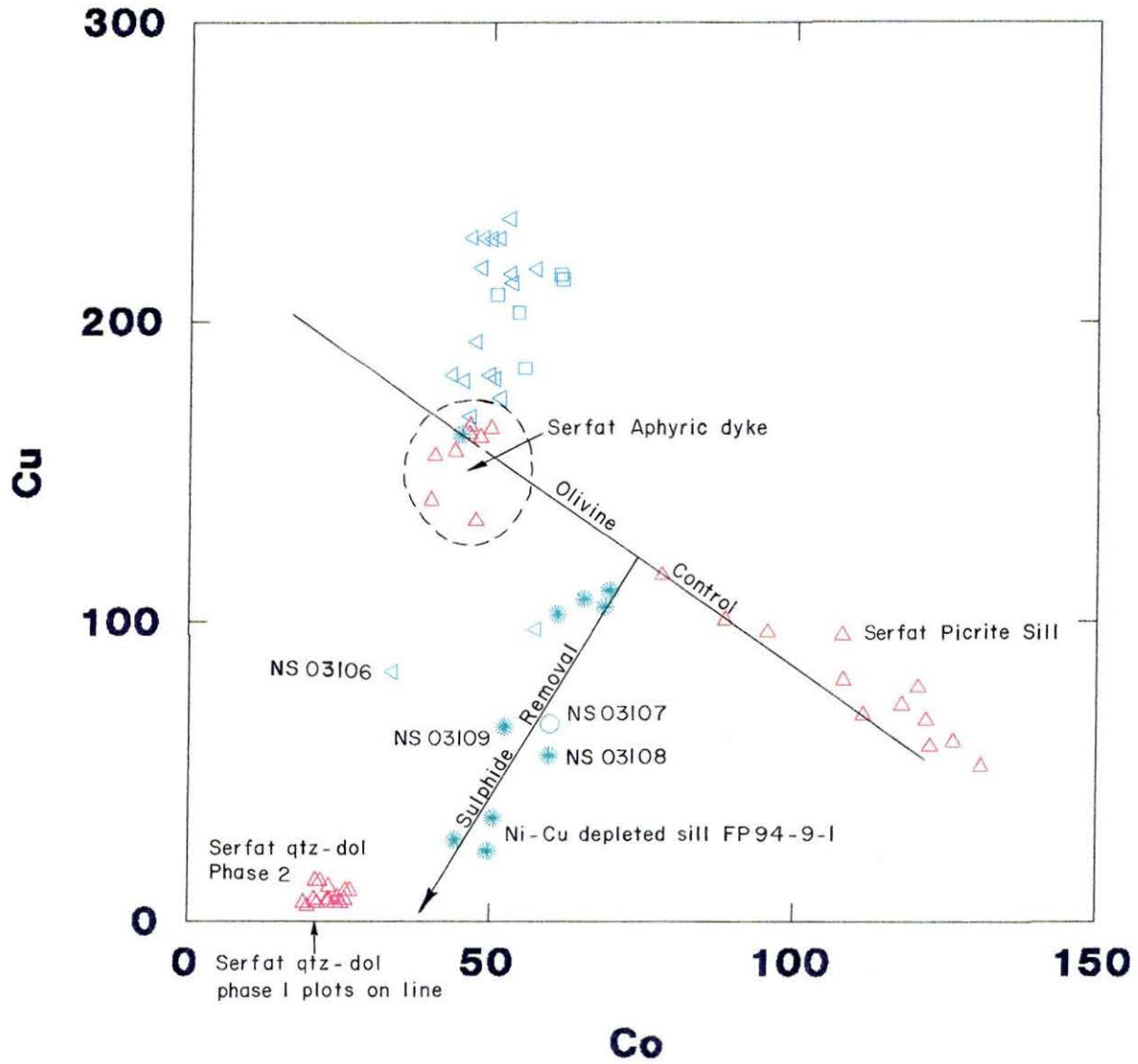
# 94' NUUSSUAQ INTRUSIONS IN DDH



LEGEND	
□	Maligat Fp. Sill/Dyke
◁	Maligat Aphyric Sill/Dyke
+	Sarqaq Ti-rich Sill/Dyke
×	Vaigat Aphyric Magnetic Sill/Dyke
☆	Vaigat Ol/Pyx Sill/Dyke
○	Vaigat Fp/Ol/Pyx Sill/Dyke
*	Vaigat Aphyric Non-Mag. Sill/Dyke
△	Serfat Sills/Dyke

Figure 8

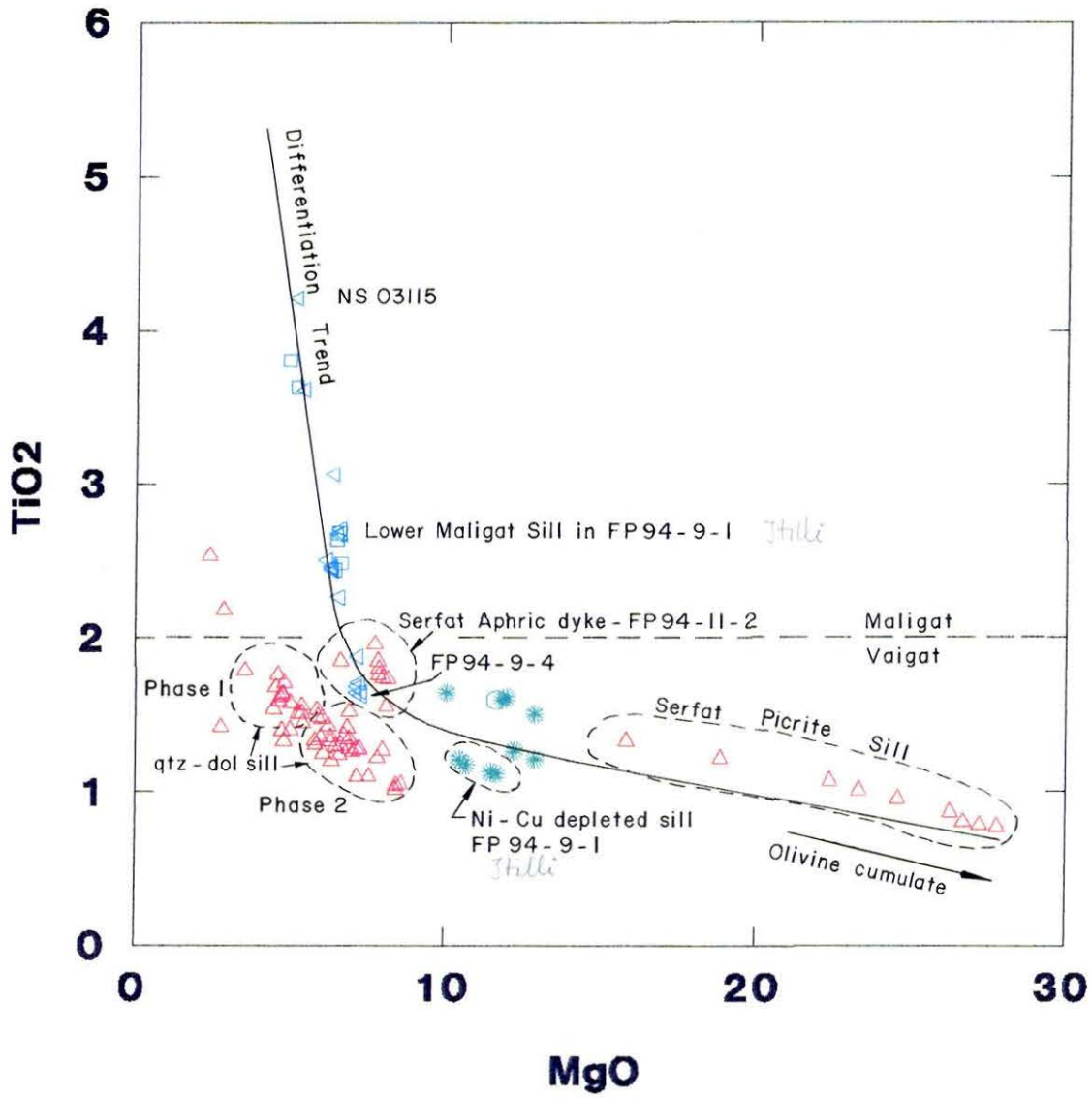
# 94' NUUSSUAQ INTRUSIONS IN DDH



LEGEND	
□	Maligat Fp. Sill/Dyke
◁	Maligat Aphyric Sill/Dyke
+	Sarqaq Ti-rich Sill/Dyke
×	Vaigat Aphyric Magnetic Sill/Dyke
☆	Vaigat Ol/Pyx Sill/Dyke
○	Vaigat Fp/Ol/Pyx Sill/Dyke
*	Vaigat Aphyric Non-Mag. Sill/Dyke
△	Serfat Sills/Dyke

Figure 9

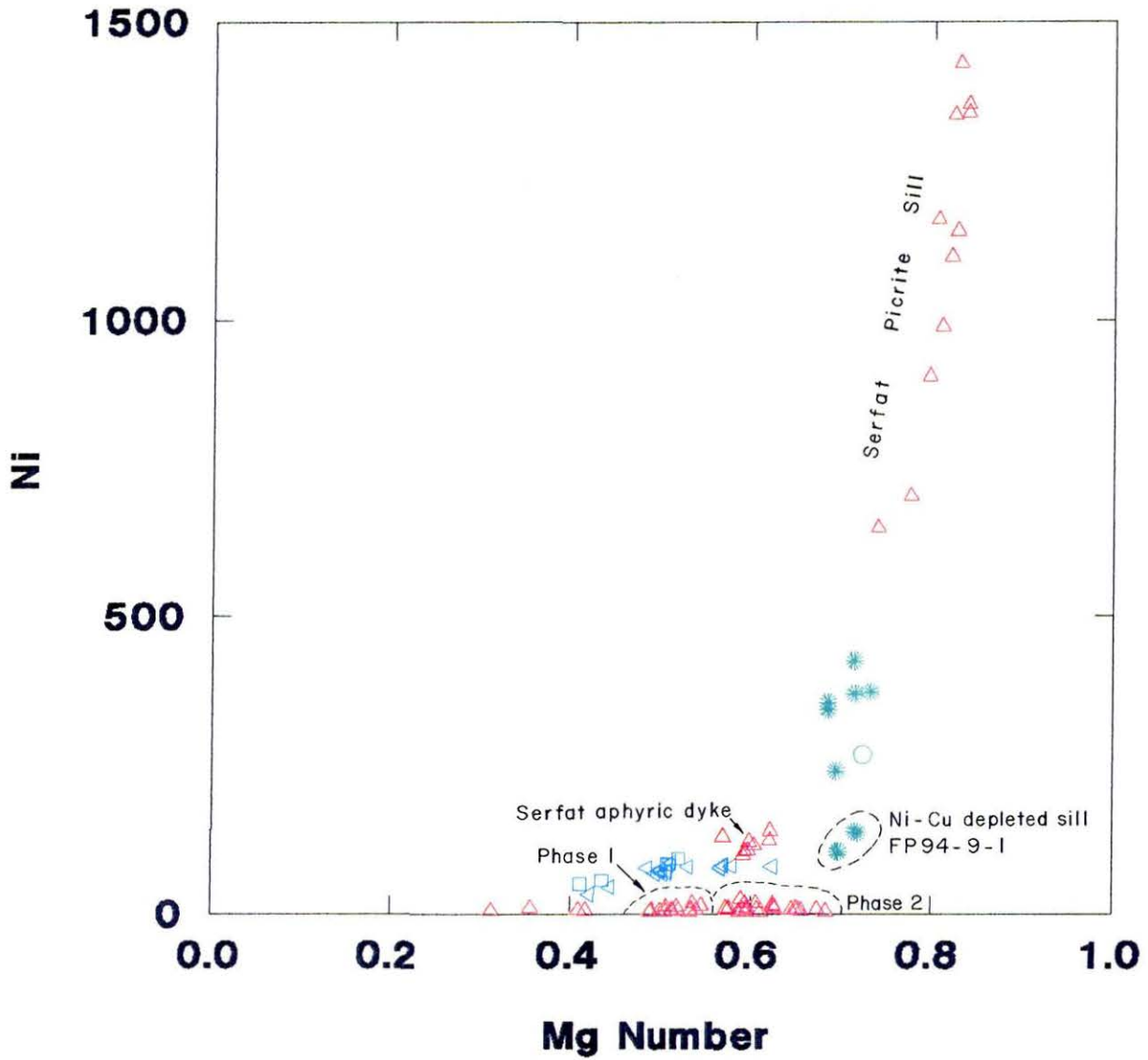
# '94' NUUSSUAQ INTRUSIONS IN DDH



LEGEND	
□	Maligat Fp. Sill/Dyke
◁	Maligat Aphyric Sill/Dyke
+	Sarqaq Ti-rich Sill/Dyke
×	Vaigat Aphyric Magnetic Sill/Dyke
☆	Vaigat Ol/Pyx Sill/Dyke
○	Vaigat Fp/Ol/Pyx Sill/Dyke
*	Vaigat Aphyric Non-Mag. Sill/Dyke
△	Serfat Sills/Dyke

Figure 10

# '94' NUUSSUAQ INTRUSIONS IN DDH



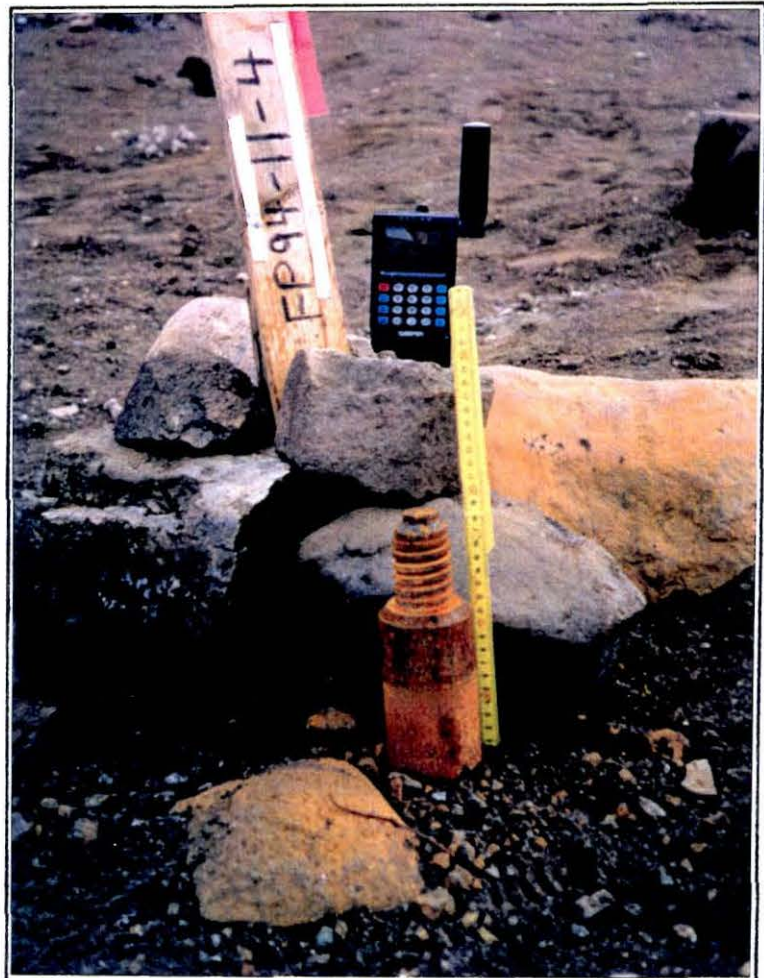
LEGEND	
□	Maligat Fp. Sill/Dyke
△	Maligat Aphyric Sill/Dyke
+	Sarqaq Ti-rich Sill/Dyke
×	Vaigat Aphyric Magnetic Sill/Dyke
☆	Vaigat Ol/Pyx Sill/Dyke
○	Vaigat Fp/Ol/Pyx Sill/Dyke
*	Vaigat Aphyric Non-Mag. Sill/Dyke
△	Serfat Sills/Dyke

Figure II

Plate 3: Diamond drill hole FP94-11-4 location (viewing northwest)



Plate 4: The capped diamond drill hole FP94-11-4  
(scale units are centimetres)





## 2) ITIVDLE VALLEY

Period of drilling:	July 15 <sup>th</sup> to August 11 <sup>th</sup> , 1994
Number of holes:	4
Metres of drilling:	941.7 m
Grid:	9D

Four diamond drill holes (FP94-9-1 to FP94-9-4) were spotted on grid 9D along the Itivdle Valley Fault to: 1) evaluate various coincident magnetic features and Max-Min EM responses and 2) test for the presence of favourable intrusive sills/dykes along the deep-seated Itivdle Fault zone. The Itivdle Fault is represented topographically by the northeast-southwest trending glacial Itivdle Valley.

The impetus for establishing a grid along this part of the Itivdle Fault and conducting ground geophysical surveys was the presence of a coincident airborne EM (9D) and magnetic anomaly that traverses obliquely to the Itivdle Valley and breaches the Itivdle Fault. It was felt that this airborne conductor may be caused by massive sulphides associated with a shallow, magma chamber intruded along the Itivdle Fault.

An additional hole was added to the planned program because of problems in penetrating buried saprolitic horizons in some holes.

### DDH FP94-9-1

Diamond drill hole FP94-9-1 was spotted at L15+00S 6+75W of the Itivdle Valley grid at the mid-point of a low level electromagnetic response striking north-south for 1km. The EM anomaly coincides with a magnetic low having a similar position and strike length. This hole was drilled vertically to 537.1m, encountering a number of mafic sills past 474.4m.

Diamond drill hole FP94-9-1 had initial problems in penetrating 7 to 8 m of buried, remnant, glacial ice left from the retreating glaciers. Beyond the ice and overburden, the drill hole intersected a thick sequence of sediments composed mostly of carbonaceous siltstone with lesser interbedded sandstone. These sediments are intruded by fine grained, aphyric and plagiophyric mafic sills which vary from 0.5 to 3.3m in thickness. The hole bottomed in a thicker (>15m)

Ti-rich, feldspar-phyric Maligât sill containing normal levels of Cu and Ni (Figure 10 & 11). This sill displays a marginal phase (sample NS03115) of an unknown thickness which is identified by an increase in  $\text{TiO}_2$  (>4.0%) and a decrease in the MgO content (Figure 10). Three sills of Vaigat affinity were intersected from 476.10 to 479.40m, 479.90 to 480.20m and 486.40 to 487.20m. These sills contain high levels of Sr (>669 ppm) suggesting some sedimentary contamination (NS03106 to NS03109), however they are only depleted in Cu and not Ni samples (Figure 9). Of interest is a weakly differentiated, fine-grained, aphyric, Ni-Cu depleted Vaigat sills between the depths of 499.00 m and 503.70 m. (Figure 8). The MgO content of the sill varies from 10.68% at the top to 11.66% at the base (Figure 10). The major element chemistry indicates the sill is enriched in silica with levels ranging from 51.50% - 51.97%  $\text{SiO}_2$ .

Resistivity measurements on the carbonaceous siltstone indicate that it is non-conductive, however, water saturated gouges associated with faults which lie parallel to bedding at (70 to 85° to core axis) are weakly conductive and felt to be the reason for the EM response. The gouge zones vary from 1 to 20 cm in thickness when completely cored and are stacked in the sub-surface as large sub-horizontal planes. Also conductive and within the range of detection by the Max-Min electromagnetic survey are pyritic bands (86.5 to 94.5m). The bands are 2 to 5mm thick, lie parallel to bedding and are comprised of heavily disseminated pyrite. These bands are noted again deeper in the drill hole between 472.2 and 522.1m. In all instances the pyritic bands are spatially associated with mafic sills. The pyrite likely formed by remobilization and co-precipitation of iron and sulphur in the thermal aureole of the mafic sills. The pyritic bands occur as large conductive sheets lying parallel to bedding in the sediments. Nickel and/or copper bearing, massive sulphides were not intersected in FP94-9-1.

The magnetic low coinciding with the EM response is the result of a low magnetic signature for the carbonaceous sediments. Magnetic susceptibility readings in this unit vary from  $0.06 \times 10$  emu to  $0.27 \times 10$  emu.

DDH FP94-9-2

Diamond drill hole FP94-9-2 was spotted at L2+50S 4+00W on the Itivdle Valley grid and drilled vertically to explain: 1) a low level, northwest-southeast electromagnetic trend extending from L0+00 5+00W to L5+00S 1+50W and 2) a generally elevated magnetic signature over the rocks of this area. The hole was terminated at 127.0m, short of the 500m planned depth, due to the collapse of fractured wallrock around the drill rods. Attempts to free the rods resulted in the string being "twisted off" and 70m of BQ drill equipment being lost down the hole.

This drill hole intersected five, successive volcanic cycles that collectively comprise intercalated mafic volcanic and volcanoclastic sediment of Maligât origin (3 to 4%  $\text{TiO}_2$ ). Except for the mafic flow occurring from 8.0 to 46.9m, each of the volcanic cycles hosts a thick weathered profile varying from 3 to 4m. This saprolite varies in colour from a gossanous, yellowish brown to a red, hematitic tone, crumbling during drilling operations.

Rocks within the individual cycles consist predominantly of strongly magnetic, intercalated ash tuff and heterolithic lapillistone with lesser siltstone and basalt. Mutual contacts between the various lithologies are sharp to gradational. The gradational contacts demonstrate graded bedding which coarsens downwards indicating an uphole younging direction.

The weak, Max-Min EM conductor test by hole FP94-9-2 is suspected to have been caused by the water saturated, saprolitic horizons. The combination of water and residual clays formed in the saprolite by post-depositional weathering was noted to be weakly conductive during the core logging. Nickel and/or copper bearing sulphides were not intersected in FP94-9-2.

Magnetic susceptibility readings on this sequence of mafic volcanics ranges from  $3.00 \times 10$  emu to  $12 \times 10$  emu thereby explaining the higher magnetic background occurring in this portion of the grid and contrasting strongly with the magnetics in the area of hole FP94-9-1.

### DDH FP94-9-3

Hole FP94-9-3 was spotted on the same EM trend 150m to the west of FP94-9-2 at 1+50S 4+50W. The hole was drilled vertically in an attempt to successfully complete a stratigraphic hole and test the EM response at a different locality. Drilling problems led to the premature termination of this hole at 97.5m, short of the planned depth of 500m.

The volcanic stratigraphy in FP94-9-3 is comprised of intercalated, high Ti, mafic volcanics and volcanoclastic sediments, similar to that in FP94-9-2. However, only three volcanic cycles were logged in FP94-9-3 as compared to the five cycles in FP94-9-2. The upper mafic flow in FP94-9-3 is dark green, massive, magnetic and generally aphyric and is similar in appearance to a mafic flow from 8.0 - 46.9m in hole FP94-9-2.

Similarly, deep, post-depositional weathering has been noted in this hole. The lowermost volcanic cycle (76.1 - 97.5m) has been completely weathered to the bottom of the hole. It is possible that this lower unit consists of more than one volcanic cycle, however, the extensive weathering and resulting core loss does not allow further subdivision.

The explanations for the Max-Min EM and magnetic responses at the FP94-9-3 site are similar to those for the geophysical anomalies tested by FP94-9-2. The weak, Max-Min EM conductor is the result of water permeated, saprolitic zones and the magnetic signature is derived from moderately to strongly magnetic rocks having a magnetic susceptibility ranging from  $3.00 \times 10$  emu to  $16 \times 10$  emu.

### DDH FP94-9-4

Drill hole FP94-9-4 was spotted at 25+00S 5+25E over the mid point of a weak Max-Min response approximately 500m in length and trending north-south. The intended depth was 250m. There was no elevated magnetic response associated with this EM trend and therefore the geophysical setting was comparable to that at FP94-9-1.

This hole cored 138.1m of hyaloclastite breccia. The breccia is interrupted by carbonaceous siltstone at 23.4 to 30.2m and is also in faulted contact at its base with carbonaceous siltstone

and sandstone. The hyaloclastite breccia is emerald green, locally magnetic and easily scratched by a knife. The breccia hosts angular to rounded vitric fragments that are aphanitic in texture and vary from ash to lapilli in size. Basaltic fragments contain quartz and zeolite amygdules.

The carbonaceous sediment is intruded by grey-green, magnetic and generally aphyric, mafic sills or dykes. Three of the intrusions are of Maligât affinity with only one (157.80 to 163.40m) being of Vaigat composition (Figure 10). No loss or enrichment of Ni or Cu was detected.

The carbonaceous sediment adjacent to these mafic intrusives hosts 0.5 to 1cm thick concordant pyrite bands and ovoids that are conductive. The pyrite is best seen from 152.5 to 153.8m and 171.6 to 175.0m. The hole was drilled to 180.2m, stopping at a fault in a mafic intrusive.

The weak Max-Min conductor on which FP94-9-4 was located is explained by a 6.8m thick carbonaceous siltstone located from 23.4 to 30.2m. The carbonaceous sediment itself does not respond to the resistivity meter, however, 10 to 20cm wide zones of hydrated fault gouge do and are the most likely explanation for the conductor. No conductive zones were identified in the hyaloclastite breccia. Nickel and/or copper bearing sulphides were not intersected in FP94-9-4.

Magnetic susceptibility in the hyaloclastite breccia varied from  $0.1 \times 10^6$  emu to  $4.5 \times 10^6$  emu and magnetic susceptibility in the mafic intrusives varied from  $7.00 \times 10^6$  emu to  $13.0 \times 10^6$  emu.

### 3) QUTDLIGSSAT

Period of Drilling:	August 14th to August 26th, 1994
Number of holes:	5
Metres of drilling:	602.36m
Grid:	4A and 4B

The diamond drill in the Itivdle Valley was flown to the north coast of Nuussuaq On August 12<sup>th</sup> and loaded on the "Viking Naja" along with the Serfat drill. The two drills were then sailed around Nuussuaq Peninsula to Qutdligssat, arriving on the 13<sup>th</sup> of August. Both diamond drills

were utilized to test targets on grids 4A and 4B. Water circulation problems continued to affect the drilling and prevented 3 of 5 drill holes from reaching the desired hole depths.

#### DDH FP94-4-2

Diamond drill #1 was positioned at 4+63N L11+00E on grid 4A to test a strong, negative, magnetic anomaly within Cretaceous sediments. A steep slope prevented drilling at the most optimal site on L11+00E 4+75N. Overburden was penetrated to a depth of 42.52 m upon which a fine-grained, weakly magnetic, feldspar-phyric basaltic sill of Vaigat composition was encountered. This sill plots in the Naujánguit lava affinity field (figure 12). The hole cored through a mafic fragmental between 44.27 and 51.12 m and then into a second sill to the final hole depth of 69.20m. The fragmental unit is composed of 1 to 20 cm size, angular to subrounded mafic blocks in a medium grey to buff coloured matrix. The second intrusion is a fine-grained, dark grey to black, blocky and hosts light grey sandstone and graphite fragments up to 50 mm in diameter. Based on the texture and the major oxides, this sill is correlated with the intrusion drilled in 1993 (FP93-4-1). The hole was eventually terminated due to the extreme loss of water circulation caused by large, open fractures within the sill. Several attempts at using various combinations of muds and cements to rectify the water loss problem failed and the hole eventually had to be abandoned.

#### DDH FP94-4-3

This hole was spotted at 22+00N 9+75E on grid 4B, drilling vertically into a northwest-southeast trending, magnetic low interpreted to be the extension of the Ni-Cu enriched sill drilled in 1993. The proposed depth for this drill hole was 500m, however drilling difficulties encountered at 58.2m resulted in the hole being abandoned at this depth when the casing and drill string were lost in separate down hole incidents. The purpose of the hole was to: 1) explain the magnetic low, 2) explore the basal area of the Qutdligssat sill for accumulated nickel and copper sulphide and 3) to test for additional sills at lower stratigraphic levels.

The hole intersected a grey, fine-grained, equigranular, massive, aphyric and strongly magnetic mafic sill from 32.5 to 58.2m. The sill plots within the affinity field for the Ni-Cu enriched Qutdligssat intrusion (Figure 12). Neither the upper nor lower contacts were intersected in this

hole and thus, this unit could not be interpreted as a sill based on intrusive relationships. The unit contains number of sedimentary fragment types: 1) 3 to 5% well preserved sandstone xenoliths that are 0.2 to 3cm in diameter, 2) larger (10 to 20cm) irregularly shaped sandstone enclaves in varying stages of assimilation, 3) 1 to 2% graphitic xenoliths that are angular to sub-rounded and 0.1 to 2cm in diameter and 4) fine grained graphite homogenously distributed throughout the sill matrix. The presence of sandstone and graphite xenoliths incorporated from the enclosing Cretaceous sedimentary sequence provides the geologic evidence required to interpret this unit as being intrusive. The graphite occurs as a thermally metamorphosed equivalent of coal present in the Cretaceous sandstones.

#### DDH FP94-4-4

This drill hole was positioned at 12+00E 5+40N to test the target outlined for hole FP94-4-2. Once again, an extreme water loss problem encountered in the blocky mafic sill forced the hole to be terminated prematurely at a depth of 61.60 m. The hole cored through carbonaceous siltstone, an upper mafic sill, mafic volcanoclastics and terminated in the graphite bearing, Ni-Cu enriched sill. The upper mafic sill correlates with Naujáunguit pricitic volcanism (Figure 12).

#### DDH FP94-4-5

As in FP94-4-3, this hole was primarily intended to explore the basal area of the Qutdligssat sill in the search for nickel and copper sulphide accumulations. FP94-4-5 was spotted at L6+30N 5+12E of the Qutdligssat grid and drilled vertically for 270.5m on a coincident magnetic low, and airborne EM and ground TEM target (4B). This hole was the first to drill through the entire thickness of the Qutdligssat sill and into the footwall.

Diamond drill hole FP94-4-5 intersected 50.2m of carbonaceous sediment and sandstone above the Qutdligssat sill and intercalated horizon of carbonaceous siltstone, sandstone and coal below. In this hole, the Qutdligssat sill is visually identical to that seen in FP94-4-2, FP94-4-3 and FP94-4-4. It is grey, fine grained, equigranular, massive, non-mega-cystic and hosts numerous, country rock fragments. On the  $TiO_2$  versus MgO plot, the sill falls within the affinity field of the Asuk lavas and correlates with the Qutdligssat intrusion drilled in 1993 (Figure 12). As identified by Olshefsky and Jerome (1994), the sill contains elevated levels of Ni & Cu and may

represent an intrusive phase of the Asuk volcanism (Figures 13 and 14).

Additional geologic information was obtained by drilling completely through the sill. The upper contact comprises 8m of intrusive breccia consisting of: 1) sedimentary fragments in a calcite and sandstone matrix, 2) sill clasts in a calcite and sandstone matrix and 3) sill clasts in a sill matrix. The lower contact is intrusive and brecciated with sill fragments in a quartz-calcite matrix. This contact is altered to bluish colour over 15cm and slightly discordant.

A native iron cumulate was intersected in the basal part of the Qutdligssat sill from 177.4 to 190.5m. The native iron droplets are 0.5 to 2mm in diameter and have a modal composition varying from trace amounts to 5% over the 13m thickness of the intersection. The most significant concentration of iron droplets was 2 to 5% from 188.3 to 190.5m. The core from the zone of iron cumulate was split and twelve samples were collected for geochemical analysis (NS03214-NS03226). Three of these samples (NB03214, 03217 & 03226) were processed by magnetic separation and the non-magnetic and magnetic fractions were fire assayed. Results indicate low concentrations of Ni, Cu, Co, Pt, Pd and surprisingly low Fe content in both the magnetic and non-magnetic fractions. However, all samples returned anomalous Au values with higher concentrations of up to 4.83 g/t Au associated with the magnetic fraction. A second processing of sample NS03226 returned higher grades of 14.8 g/t Au. Samples NS03226 and NS03214 were then reprocessed using a finer-grind, resulting in increased values of up to 38.3 g/t Au from the finer magnetic fraction. Since high Au values were returned from the magnetic concentrates the 3 samples and the remaining 9 were submitted for normal geochemical process using pressed powder XRF and fire assay. Surprisingly all samples returned Au values below the detection level of <0.02 g/t Au. The erratic Au values returned from the magnetic concentrates and the whole core samples suggests that the occurrence of the Au in the sill is sporadic.

To confirm the native iron mineralization and the presence of Au, Lakefield Research completed an ore microscope study, a petrography study and SEM-EDS analysis on selected samples. The petrography study and SEM-EDS analysis on core sample NS 03214 confirmed the presences of disseminated, sub-spherical to anhedral droplets of metallic iron rimmed with a complex bladed intergrowth of Fe-oxyhydroxides, silicates and metallic iron, and having an outer zone containing anhedral blebs of pyrrhotite/troilite. Ore microscope studies of the magnetic fractions of samples NS03223 and NS03214 identified a single particle of gold (NB03223) measuring 10



micrometres in diameter attached to a tiny grain of pyrrhotite. (Appendix VII).

The geophysical anomalies on which this hole was spotted are sufficiently explained by the presence of the underlying Qutdligssat sill which has been demonstrated to be both conductive and magnetic. The magnetic signature of the Qutdligssat sill in FP94-4-5 is variable and at 127m there is a rapid increase in magnetism. The average background susceptibility from 58 to 127m is  $14.7 \times 10$  emu (68 readings) and from 127-190.5m is  $46.5 \times 10$  emu (63 readings). This magnetic cannot be explained by anything observed in the core.

#### DDH FP94-4-6

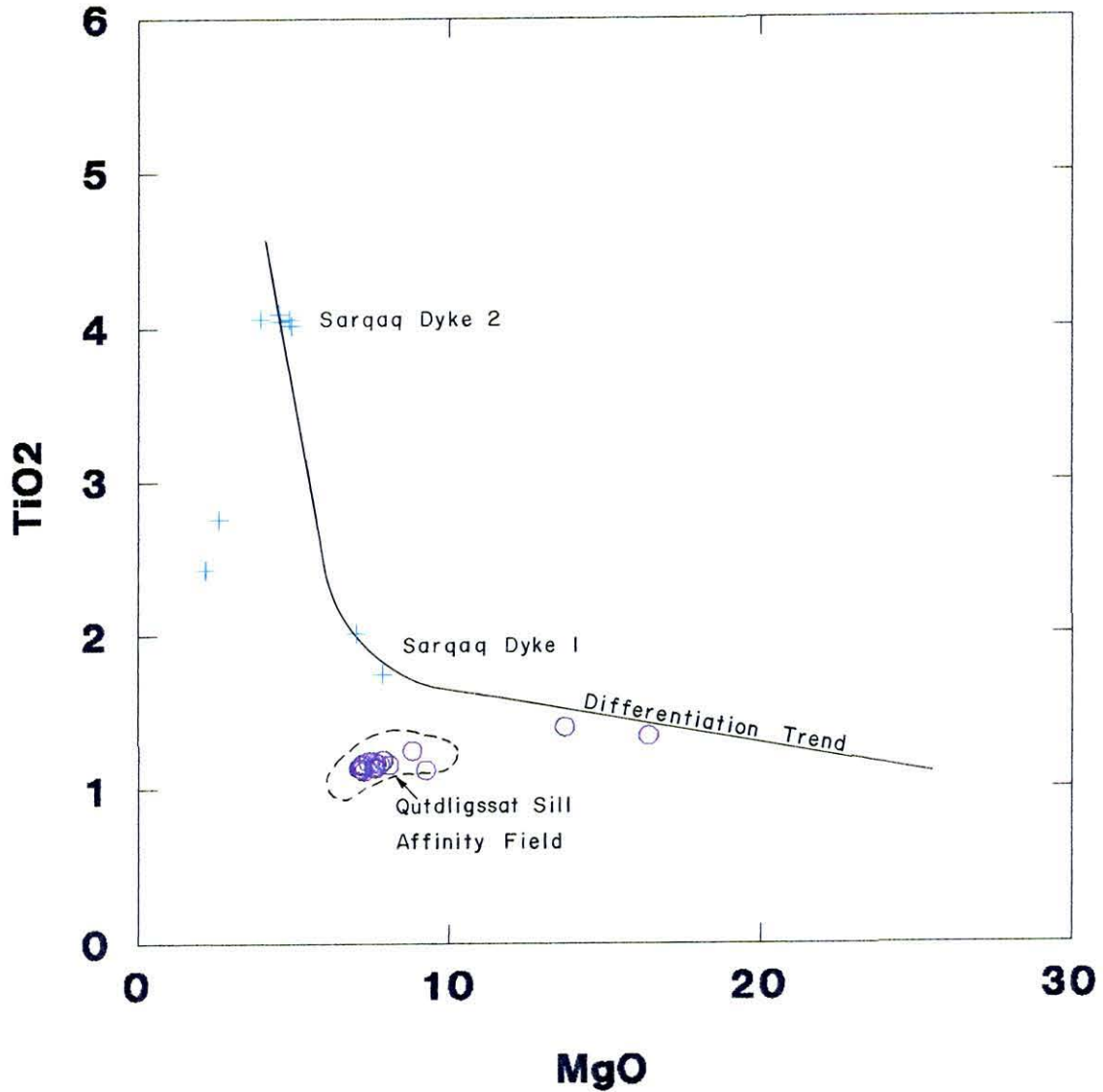
Hole FP94-4-6 was spotted at L6+00W 17+00N and drilled vertically to test a magnetic low that occurs 200 m north of an exposure of a basaltic sill at 15+00N. No sill was intersected and the hole cored interbedded quartzose-sandstone, carbonaceous siltstone and coal to a final hole depth of 143.26 m. Bedding core axis angles indicate that the sediments in this area have a dip of  $10^\circ$ . The drill mud program is credited for the technical success of coring through the poorly lithified sediments.

#### 4) SARQAQ VALLEY

Period of drilling:	August 28 <sup>th</sup> to September 4 <sup>th</sup> , 1994
Number of holes:	3
Metres of drilling:	524.96m
Grid:	6B and 6E

The objectives of the drill program in the Sarqaq valley were to test: 1) Max-Min EM anomaly C coinciding with the down dip extension of a large ringlike dyke feature exposed on grid 6B and 2) investigate the strong airborne and Max-Min EM anomaly along the Boundary Fault on grid 6E. The drills were mobilized from Qutdligssat to the mouth of the Sarqaq Valley by barge on August 27<sup>th</sup>.

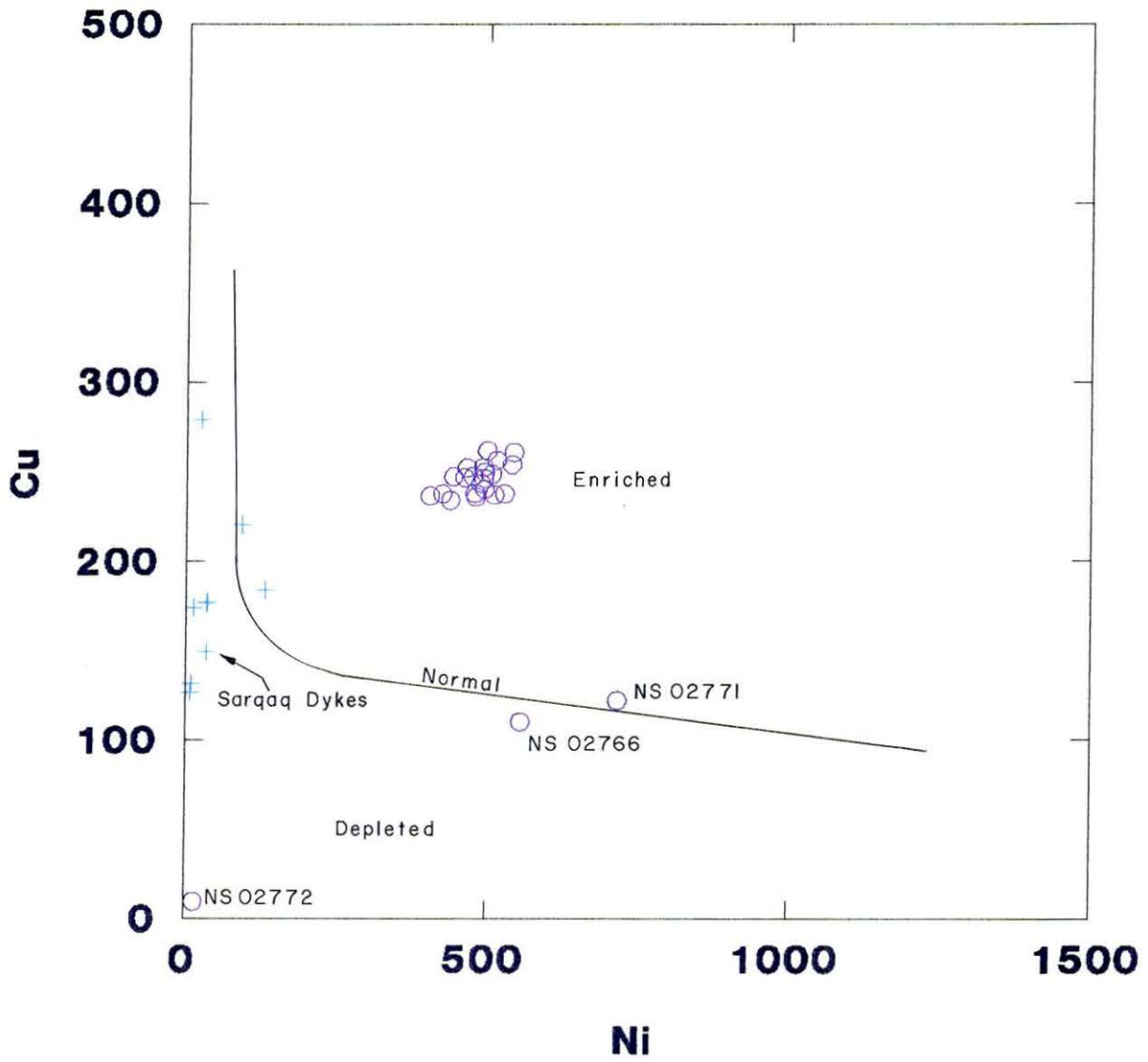
# '94' DISKO INTRUSIONS IN DDH



LEGEND	
*	Kuganguaq Feøder
☆	Niagussat Feeder
⊛	Maligat Dolerite Dyke
⋈	Maligat Olivine Dyke
◁	Maligat Aphyric Dyke
◻	Maligat Fp.Dyke
×	Vaigat Olivine Dyke
*	Igdlukunguaq Dyke
○	Qutdligssat Sill
☆	Unkown Sill

Figure 12

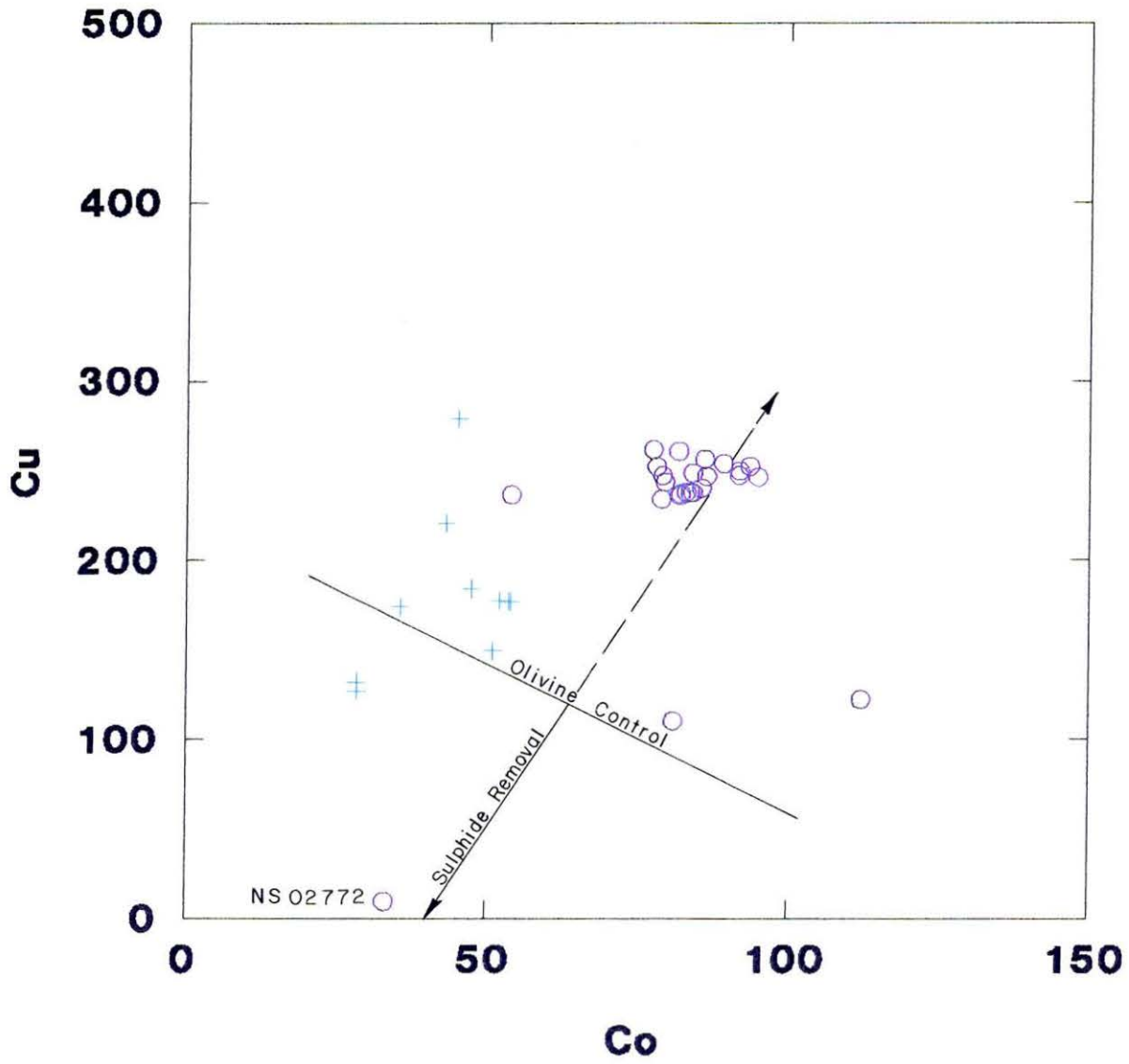
# '94' DISKO INTRUSIONS IN DDH



LEGEND	
*	Kuganguaq Feeder
☆	Niagussat Feeder
*	Maligat Dolerite Dyke
⋈	Maligat Olivine Dyke
△	Maligat Aphyric Dyke
□	Maligat Fp.Dyke
×	Vaigat Olivine Dyke
*	Igdlukunguaq Dyke
○	Qutdligssat Sill
☆	Unkown Sill

Figure 13

# '94' DISKO INTRUSIONS IN DDH



LEGEND	
*	Kuganguaq Feeder
☆	Niagussat Feeder
*	Maligat Dolerite Dyke
∧	Maligat Olivine Dyke
△	Maligat Aphyric Dyke
□	Maligat Fp. Dyke
×	Vaigat Olivine Dyke
*	Igdlukunguaq Dyke
○	Outdligssat Sill
☆	Unknown Sill

Figure 14

### DDH FP94-6-1

The drill was set-up on grid 6E at L12+00W 19+00N to: 1) test the strong and complex Max-Min EM anomaly located on the west side of the magnetically inferred Boundary Fault and 2) investigate the stratigraphy for Ni-sulphide bearing intrusions to a vertical depth of 500 m. The hole was terminated at a depth of 85.34 m when the drill rods sheared while attempting to pass through a 7.93m open cavity. The hole cored intercalated carbonaceous siltstone and sandstone from 44.02m to 48.93m and a non-lithified, quartzose sandstone to the final hole depth. A section of moderately conductive, pre-glacial, saltmarsh mud was recovered while drilling through the overburden. The mud is deposited directly on top of the Cretaceous sediment and is the most likely explanation for the EM response.

### DDH FP94-6-2

This hole was spotted on the grid 6B at 9+00E 4+00S and drilled southward at a 175° azimuth with a -50° dip. The hole was designed to test the 1993 Max-Min EM anomaly C coinciding with a mafic dyke exposed along the southern portion of the grid. The proposed depth for this hole was 300 metres, however, it was stopped at 266.8m after the EM target and the dyke were penetrated.

Diamond drill hole FP94-6-2 intersected a thick sequence of intercalated, carbonaceous sandstone and siltstone horizons that are intruded by two gabbroic dykes. A 13m thick, grey to green mottled coloured, fine-medium grained, magnetic, aphyric dyke occurs between 107.4 to 120.2m (dyke 1). This dyke contains MgO levels ranging from 7 to 8% and plot within the Vaigat affinity field (Figure 12). A thicker (79m) strongly magnetic, dark green, medium grained, equigranular, gabbroic dyke (dyke 2) occurs from 124.9 to 203.8m. This dyke is Ti-rich (4.0% range) and has been correlated with the Maligât volcanism. Both intrusions contain normal levels of Ni and Cu.

A carbonaceous siltstone at a hole depth of 101.20 m to 107.40 m explains EM anomaly C. The gabbro ringlike dyke which suboutcrops on 9+00E has an inferred north dip of 55° and thickens at depth.

### DDH FP94-6-3

Drill hole FP94-6-3 was spotted at L4+00W 10+70N on grid 6E to test the strong airborne and Max-Min EM responses east of the Boundary Fault. Initially, the drill hole was planned to reach 250m but was revised to 500m after the termination of drill hole FP94-6-1. A 500 m hole would test the EM anomaly and explore for sulphide-bearing, mineralized intrusions below the range of geophysical detection. As in drill hole FP94-6-1, poorly lithified sediment forced the drilling to terminate at a depth of 172.82 m at which point, the rod string broke.

The sedimentary units cored from 46.04 m to 172.82 m consisted of interbedded quartzose sandstone, carbonaceous sandstone, carbonaceous siltstone and shale. The same black, conductive, saltmarsh mud was intersected immediately above bedrock and explains EM anomaly 6E.

### Technical Problems

The 1994 diamond drill program was successful in testing the principal geophysical targets outlined, but was not without its share of technical difficulties. In most cases, solutions to these technical problems were devised and implemented, but at the expense of fewer metres being drilled over a longer time period.

In 1993, poorly lithified, quartzose, deltaic sediments hampered the drilling operations at Igdlukungauq on Disko Island. In this area, the complete loss of drilling fluids within the porous sandstone prevented the holes from reaching their planned target depths. In the fall of 1993, Baroid Canada completed porosity tests on core sample and recommended a mud program to rectify the problem of drilling fluid loss.

Though the Baroid mud program was incorporated into the 1994 drilling operations, additional, unforeseen technical problems impacted negatively on the drilling productivity. At Serfat, attempts to drill through thick accumulations (up to 65 m) of coarse overburden proved to be a challenge. In the Itivdle Valley, buried ice left from the most recent glacial retreat and saprolitic horizons within volcanic flows were all obstacles resulting in delays. The drilling difficulty experienced at Qutdligssat was a fluid loss problem of a different nature than that

encountered in 1993. Large, open fractures prevented the mud and cement from effectively sealing the holes. Drilling at elevations above the local groundwater table, only added to the problem of fluid loss. On grid 6E in the Sarqaq Valley, the non-lithified sediments and large open cavities resulted in two problems: 1) collapsing drill hole walls causing the deterioration of the rod string and binding and 2) rods shearing due to whipping in the open cavities.

## **GEOLOGY PROGRAM**

### Introduction

The geology program was carried out on exploration licences 02/91 & 03/91 and prospecting licence 06/94 between July 8<sup>th</sup> and August 25<sup>th</sup>, 1994. A total of 341 rock samples were collected for whole rock analysis. The reconnaissance prospecting and lithogeochemical sampling program was completed by a field crew consisting of 2 geologists and 2 geology field assistants. Personnel involved with the diamond drilling operations assisted in the geology program when time permitted. Logistical support for the program was provided from the "Viking Naja" which was periodically moved to better expedite the field crews and to minimize the helicopter flying hours. Helicopter support was essential for establishing fly-in tent camp operations and when working from the ship.

The 1994 program concluded the reconnaissance lithogeochemical and prospecting surveys that spanned three field seasons. The work focused on priority target areas on Disko Island and Nuussuaq Peninsula. These areas were identified based on their proximity to major fault zones and/or regions with high concentrations of subvolcanic intrusions, indicative of volcanic eruption centres.

In 1994, regional mapping of subvolcanic intrusions, prospecting and lithogeochemical sampling concentrated on the coastal sections at Qutdligssat, Kûgánguaq, east Disko Island and northern Nuussuaq Peninsula including the Tunorsuaq, Itivdle and Qunnilik valleys. The sample locations are plotted on base maps 3, 4 and 5 (1:100,000 scale). The dykes and sills sampled during the survey were classified according to their texture and composition.

Sampling procedures entailed the collecting of a fresh, unaltered grab sample, (weighing approximately 0.75kg) at each location. Samples were processed by Lakefield Research Analytical Services using the same analytical procedures as outlined for the diamond drill core samples.

#### Lithochemical Sampling and Prospecting on East Disko Island

The mapping and prospecting program was carried out between July 8<sup>th</sup> and July 11<sup>th</sup>. The objectives of the program were to prospect for mineralized subvolcanic intrusions and to identify eruption sites for the contaminated, Ni-Cu depleted, Niagussat member of the Maligât Formation. A total of 72 samples of subvolcanic intrusions were collected for whole rock analysis by a crew of 6 geologists and 4 geology assistants. The dykes and sills examined ranged texturally from feldspar phyric to aphyric and were consistently associated with the Maligât Volcanism (Figure 15). Infrequently, weak sulphide mineralization was exhibited as trace quantities of disseminated pyrite.

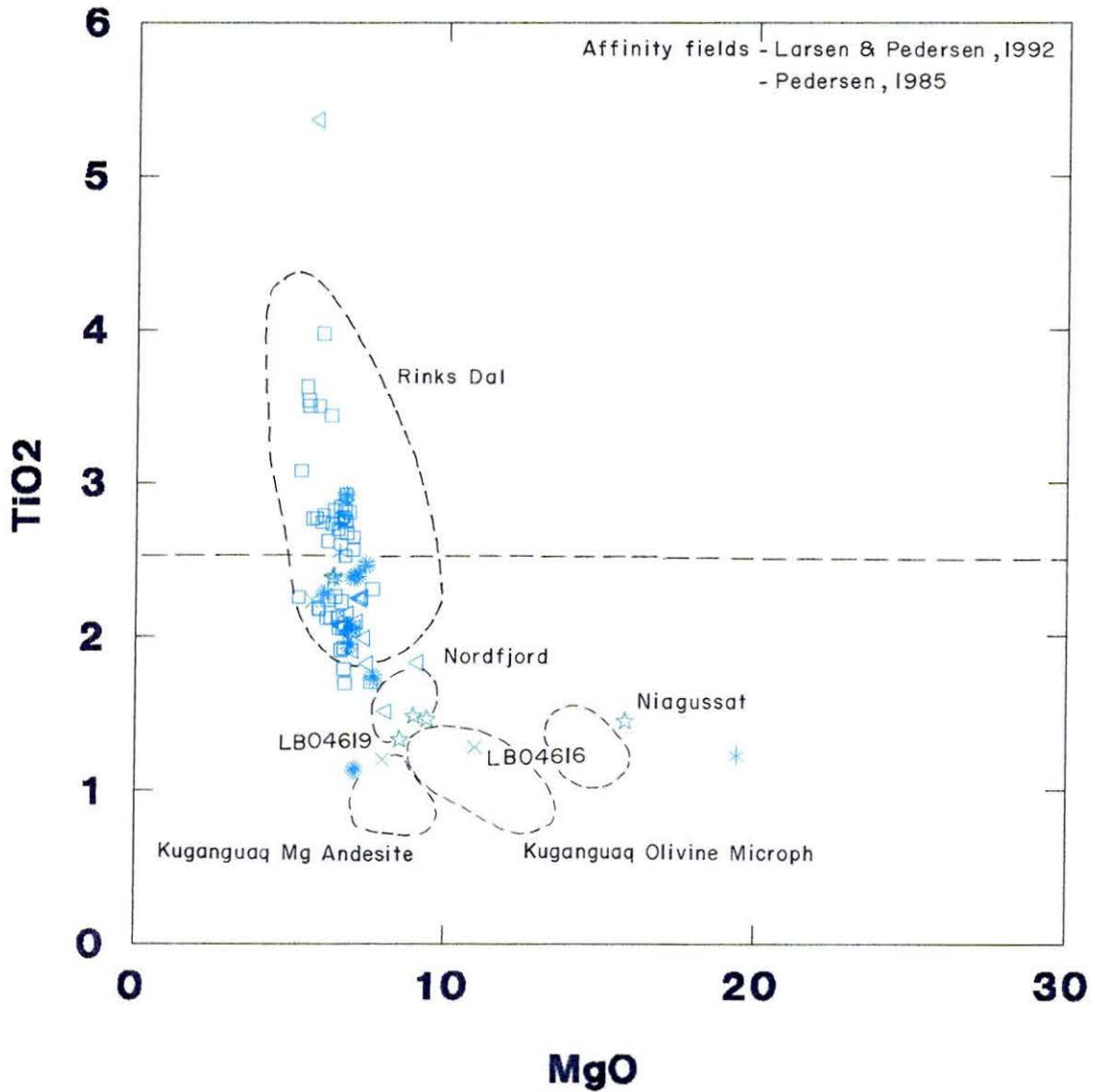
At 2.5% TiO<sub>2</sub>, the subvolcanic intrusives form two distinct clusters (Figure 15). All the samples fall in the Rinksdal Member affinity field, defined by published analyses from Larsen & Pedersen, (1992). The levels of Ni and Cu in the samples reflect the normal crystal fractionation of the magma.

On the Cu versus Ni plot, samples NB03138 and NB03136 are elevated in Cu but contain normal levels of Ni. Sample NB03177 is anomalous in both Ni and Cu with values of 900 ppm and 3808 ppm respectively (Figure 16). This sample was collected from a Maligât dyke located at the mouth of the Blåbærdalen at an elevation of 100m. The dyke is 3m wide, feldspar-phyric (5%), strongly magnetic and strikes 040/subvertical. No mineralization was noted during the sampling and a second sample from the dyke returned normal levels of Ni and Cu.

A total of 6 Ti-rich, strongly magnetic, non-mineralized, dolerite sills were discovered in the survey area. The largest of these intrusions occurs 3km southeast of Skansen and is up to 60m thick, outcropping over a 2 km<sup>2</sup> area.



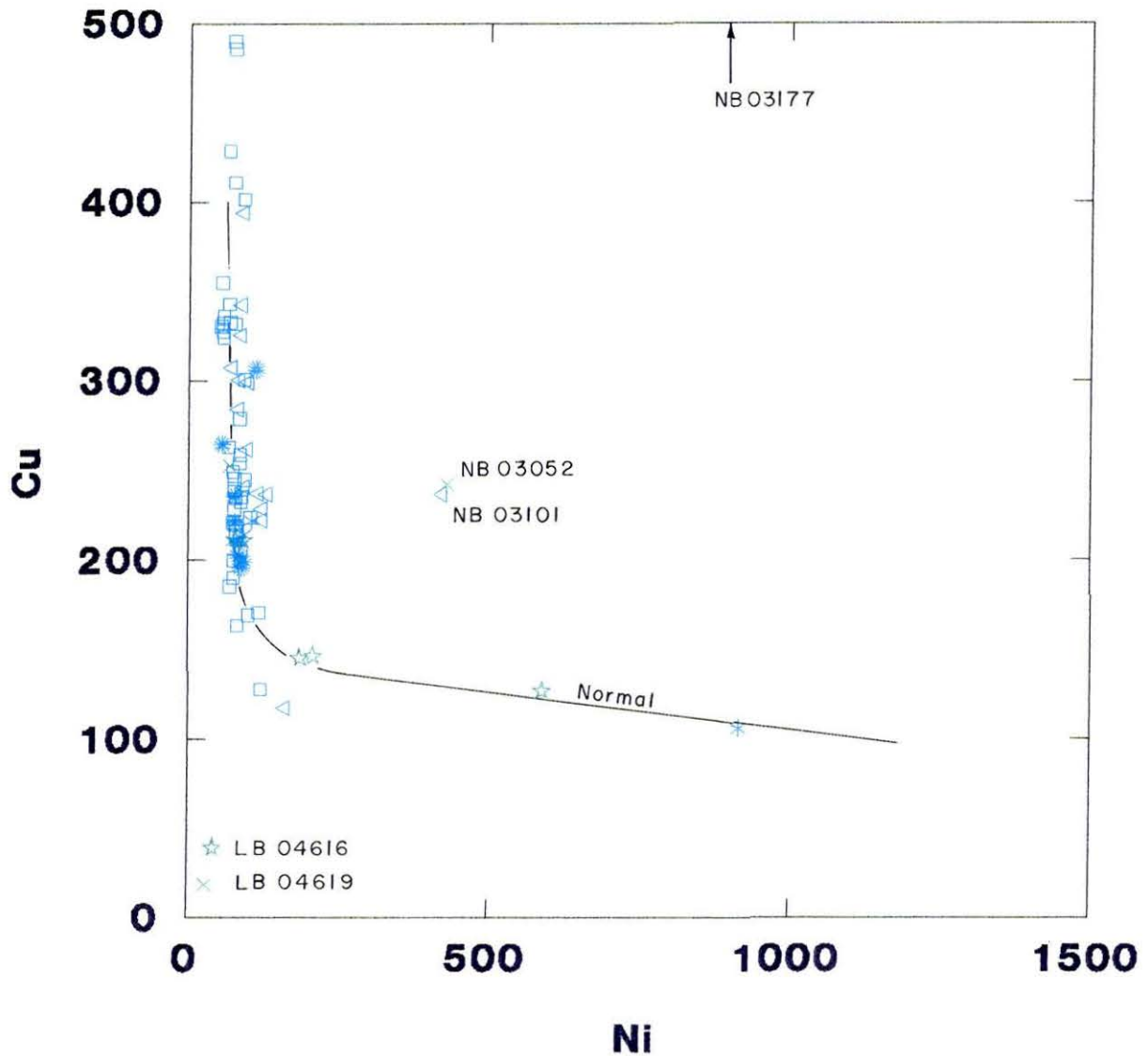
# '94' DISKO INTRUSIONS



LEGEND	
*	Kuganguaq Feeder
☆	Niagussat Feeder
✱	Maligat Dolerite Dyke
⋈	Maligat Olivine Dyke
◁	Maligat Aphyric Dyke
◻	Maligat Fp.Dyke
×	Vaigat Olivine Dyke
✱	Igdlukunguaq Dyke
○	Qutdligssat Sill
☆	Unkown Sill

Figure 15

# '94' DISKO INTRUSIONS



LEGEND	
*	Kuganguaq Feeder
☆	Niagussat Feeder
✱	Maligat Dolerite Dyke
⋈	Maligat Olivine Dyke
◁	Maligat Aphyric Dyke
□	Maligat Fp.Dyke
×	Vaigat Olivine Dyke
*	Igdlukunguaq Dyke
○	Qutdligssat Sill
☆	Unkown Sill

Figure 16

### Lithogeochemical Sampling and Prospecting on Nuussuaq Peninsula

The lithogeochemical and prospecting program on Nuussuaq Peninsula was conducted from the Viking Naja anchored at Serfat. The geological work completed in the Tunorsuaq, Itivdle and Qunnilik valleys were carried out from tent camps located for optimal geological access. A total of 249 lithogeochemical whole rock samples were collected from subvolcanic intrusions on Nuussuaq Peninsula.

The prospecting and lithogeochemical survey along the north coast of Nuussuaq Peninsula from Serfat to Niaqornat was completed between July 17<sup>th</sup> and July 22<sup>nd</sup>. A total of 56 whole-rock samples were collected from the various exposures of sills and dykes. These samples represent approximately 90% of the total subvolcanic intrusions outcropping in this area. The intrusions investigated range texturally from aphyric, feldspar-phyric, quartofeldspathic to olivine-phyric. Mineralization was rare with minor amounts of disseminated pyrite observed in a number of dykes.

In the vicinity of Niaqornat, 6 dykes and 3 mafic sills of 14 to 20% MgO compositions are characterized by intense quartofeldspathic contamination, most likely derived from interaction with the local sediments. The dykes vary in thickness from 1 to 3 m and the sills are up to 5m thick. The intrusives are weathered to a pale tan colour with the contaminated zones having a beige, siliceous matrix. These contaminated zones are more common to the intrusive margins but are locally intermixed with the mafic material in a migmatized style. Minor disseminated pyrite and trace chalcopyrite occur in the siliceous, contaminated zones. No depletion or enrichment of Ni or Cu is evident in these intrusions. Anomalous levels of Cu are evident in the core phase of a compositionally zoned dyke located approximately midway between Niaqornat and Serfat at an elevation of 195m (NB03067 & NB03068). The dyke is 1.5m wide, weakly magnetic and is exposed over a distance of 250m. The dyke is comprised of an outer, feldspar porphyritic to glomeroporphyritic phase enclosing an inner, aphanitic, siliceous looking core. Sample NB03067 collected from the marginal phase contains 14.81% MgO and contains normal levels of Ni and Cu. The inner phase (NB03068) is less mafic in composition (11.76% MgO) hosting elevated levels of copper (up to 342 ppm) (figure 18). Trace amounts of pyrite were noted in the marginal phase of the dyke.

No loss or enrichment of Ni and Cu was detected in the differentiated and undifferentiated sills along the north coast of Nuussuaq Peninsula, except in the strongly Ni & Cu depleted quartz-dolerite sill at Serfat (NB03053 & NB03054). Earlier work on the Serfat sill complex had recognised the loss of Ni and Cu (Olshefsky, 1991; Olshefsky and Jerome, 1994).

A total of 40 lithochemical whole rock samples were collected during the prospecting and lithochemical survey within the Tunorsuaq Valley. The work was completed during the period of July 24<sup>th</sup> to July 29<sup>th</sup> and was successful in sampling approximately 75% of the dykes in this region. Access to the remainder was difficult due to the presence of steep inclined slopes and high topographic relief.

Overall, the lithologies of the dykes and sills in the Tunorsuaq Valley are very similar to those investigated along the north coast of Nuussuaq Peninsula. It was noted that a higher percentage of Vaigat pyroxene-phyric dykes (with olivine and feldspar as lesser constituents) occur in the valley as opposed to more olivine-phyric dykes along the coastal region. Sulphide mineralization occurs frequently as disseminated pyrite in trace amounts. One, aphyric, Maligât dyke (AF09939) hosts weak but ubiquitous pyrite mineralization which can best be described texturally as massive flakes or small pods. The dyke is strongly depleted in Cu (10.5 ppm) and slightly depleted in Ni (Figure 19).

The Itivdle Valley was prospected from July 30<sup>th</sup> to August 9<sup>th</sup>. In this region, approximately 90% or a combined total of 124 dykes and sills were sampled. The subvolcanic intrusions examined west of the Itivdle Fault are predominately of Maligât affinity and varied texturally from feldspar phyric to aphyric. An increase in the percentage of Vaigat dykes west of the fault occurs in the southern portion of the Itivdle Valley at lower topographic levels. Compositionally these Vaigat dykes are olivine  $\pm$  pyroxene  $\pm$  feldspar phyric. East of the main fault structure, the dykes are predominantly related to the Vaigat volcanism. Based on texture and composition, these dykes are identical to the Vaigat dykes west of the Fault. Minor pyrite mineralization (< 1%) is common in dykes and sills on both sides of the Itivdle Fault. The highest percentage of pyrite bearing dykes are located in the southern region of the valley in the vicinity of Ukalersalik. One aphyric Maligât dyke (AF09902) in this area was of particular interest as it exhibited relatively moderate to intense silicification. The dyke contained a mesoscopic scale alteration zone with pyritic veins up to 0.8 cm in width hosting trace amounts of chalcopyrite (Figure 17). Unfortunately, the silicification appears to have brecciated the dyke, thus inferring

that the mineralization is related to a secondary event and not a primary constituent. In this area, mineralized sandstones and shales containing up to 1% pyrite are common in the baked zones adjacent to the dyke and sill margins. In the Itivdle Valley, 4 aphyric Vaigat dykes are depleted in both Ni and Cu (figure 19). Three of the dykes (NB04990, NB04989 & NB04983) outcrop along the river valleys in the Ukalersalik area. The fourth dyke occurs west of the Itivdle Fault at the north end of the valley (NB03096). The decrease in Ni and Cu in these dykes is attributed to sulphide removal (figure 20).

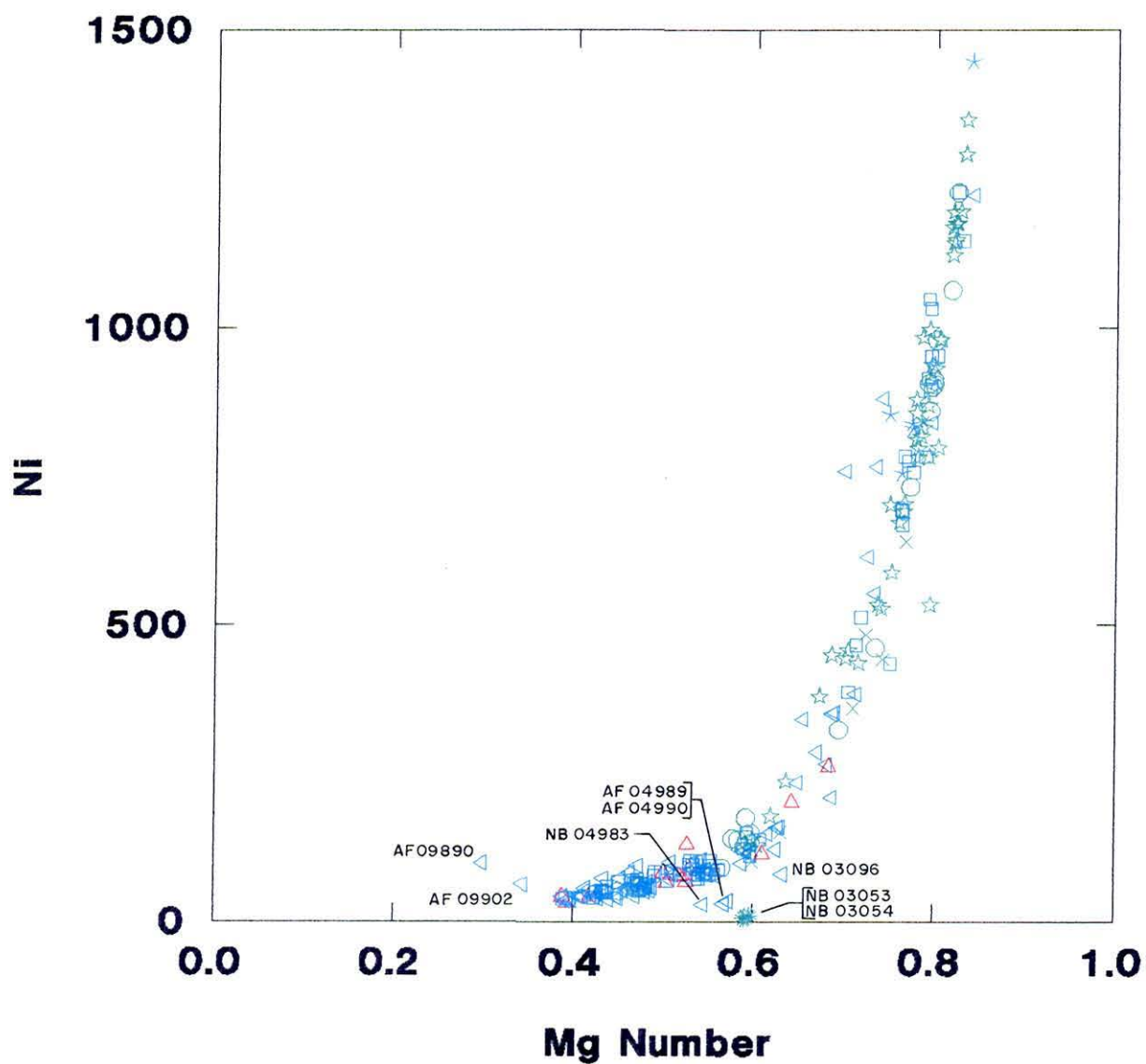
Field investigations in the Qunnilik Valley were carried out between August 11<sup>th</sup> and August 13<sup>th</sup>, 1994. A total of 29 lithogeochemical samples were collected representing approximately 50% of the dykes and sills at this locality. A higher sampling ratio was not achieved due to the steep topography and high water volume in the main river bisecting the valley. The majority of the dykes recorded were olivine phyric to aphyric and related to the Vaigat Volcanism. No sulphide mineralization was observed and the samples collected contained normal levels of Ni and Cu.

#### Lithogeochemical Sampling and Prospecting on North Disko Island

The coastal section between Qutdligssat and the Kûgánguaq Valley on Disko Island was examined between August 20<sup>th</sup> and August 25<sup>th</sup>. One crew consisting of two geologists completed the work from the "Viking Naja" anchored at the abandoned, coal mining town of Qutdligssat. Outcrop exposure along the north coast of Disko Island is limited due to the significant quantities of landslide debris, scree and glacial deposits. The local geology has been best exposed along deeply incised stream channels and these were traversed during the course of the work. A total of 20 lithogeochemical samples of subvolcanic intrusives were collected during this phase of the program.

Two Ni and Cu depleted dykes (LB04616 and LB04619) were discovered in close proximity to the Kûgánguaq eruption site. On the Cu versus Co plot, both samples fall along the sulphide removal trend suggesting an accumulation of Ni-bearing sulphides at depth (Figure 21). Sample LB04616 was collected at an elevation of 760m from a fine-grained, pyroxene-phyric, non-magnetic dyke hosting trace amounts of pyrite. This dyke plots within the affinity field for the contaminated, tholeiitic, Kûgánguaq, olivine microporphyric lavas as defined by published

## '94' NUUSSUAQ INTRUSIONS

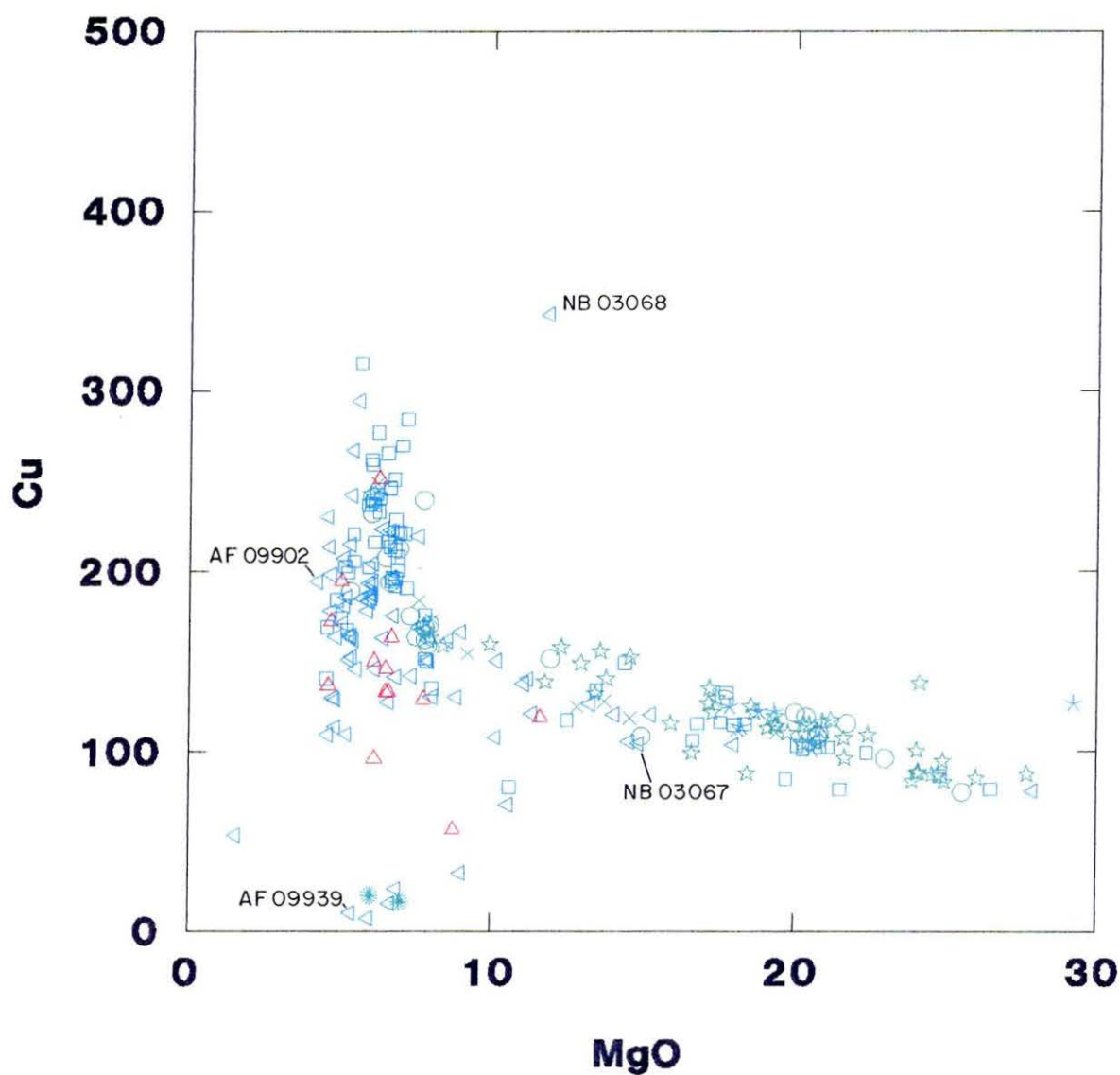


## LEGEND

- Maligat Fp. Sill/Dyke
- △ Maligat Aphyric Sill/Dyke
- + Sarqaq Ti-rich Sill/Dyke
- × Vaigat Aphyric Magnetic Sill/Dyke
- ☆ Vaigat Ol/Pyx Sill/Dyke
- Vaigat Fp/Ol/Pyx Sill/Dyke
- \* Vaigat Aphyric Non-Mag. Sill/Dyke
- △ Serfat Sills/Dyke

Figure 17

# '94' NUUSSUAQ INTRUSIONS

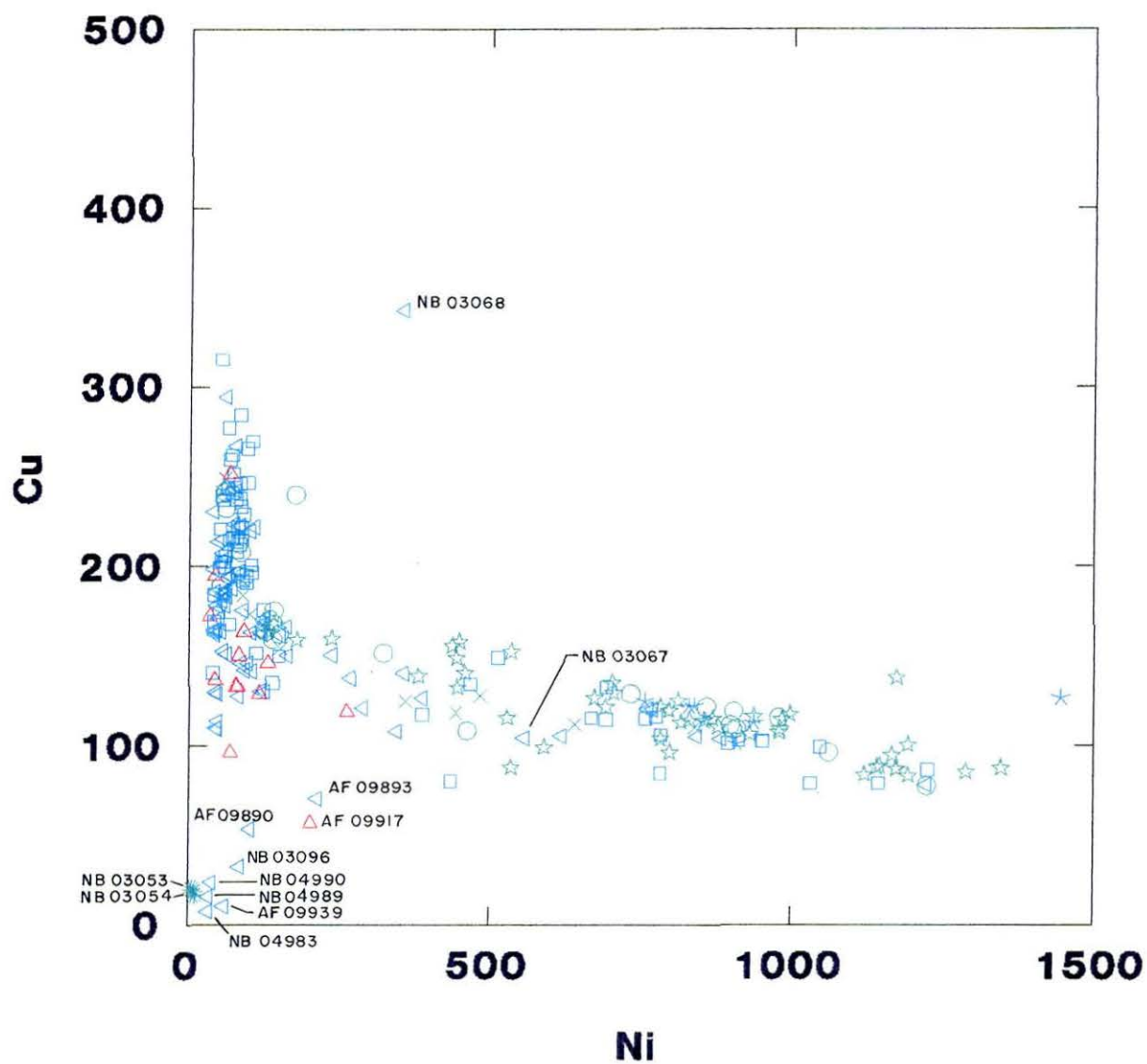


## LEGEND

- Maligat Fp. Sill/Dyke
- ◁ Maligat Aphyric Sill/Dyke
- + Sarqaq Ti-rich Sill/Dyke
- × Vaigat Aphyric Magnetic Sill/Dyke
- ☆ Vaigat Ol/Pyx Sill/Dyke
- Vaigat Fp/Ol/Pyx Sill/Dyke
- \* Vaigat Aphyric Non-Mag. Sill/Dyke
- △ Serfat Sills/Dyke

Figure 18

## '94' NUUSSUAQ INTRUSIONS



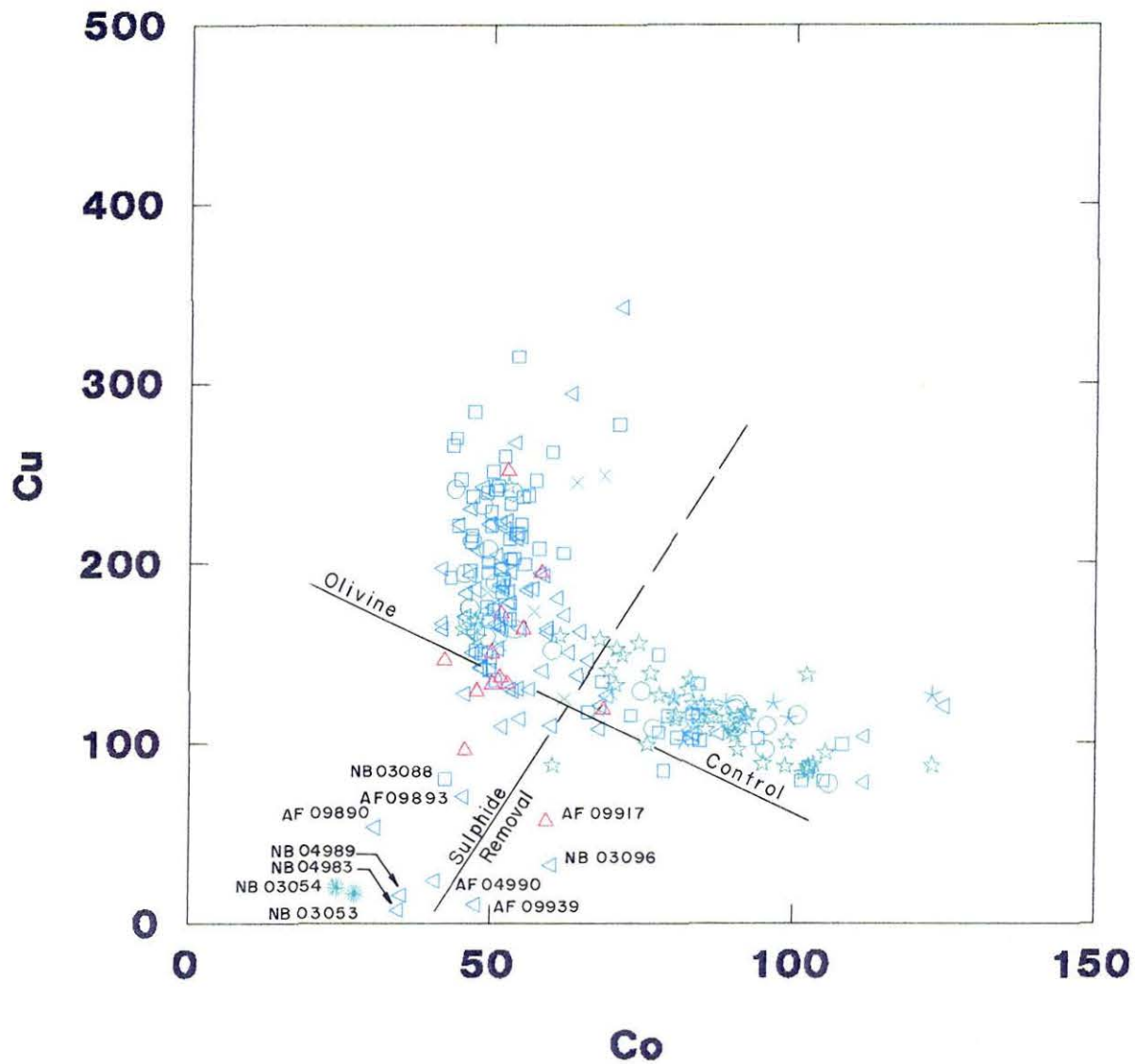
## LEGEND

- Maligat Fp. Sill/Dyke
- ◁ Maligat Aphyric Sill/Dyke
- + Sarqaq Ti-rich Sill/Dyke
- × Vaigat Aphyric Magnetic Sill/Dyke
- ☆ Vaigat Ol/Pyx Sill/Dyke
- Vaigat Fp/Ol/Pyx Sill/Dyke
- \* Vaigat Aphyric Non-Mag. Sill/Dyke
- △ Serfat Sills/Dyke

Figure 19



## '94' NUUSSUAQ INTRUSIONS



## LEGEND

- Maligat Fp. Sill/Dyke
- △ Maligat Aphyric Sill/Dyke
- + Sarqaq Ti-rich Sill/Dyke
- × Vaigat Aphyric Magnetic Sill/Dyke
- ☆ Vaigat Ol/Pyx Sill/Dyke
- Vaigat Fp/Ol/Pyx Sill/Dyke
- \* Vaigat Aphyric Non-Mag. Sill/Dyke
- △ Serfat Sills/Dyke

Figure 20

# '94' DISKO INTRUSIONS

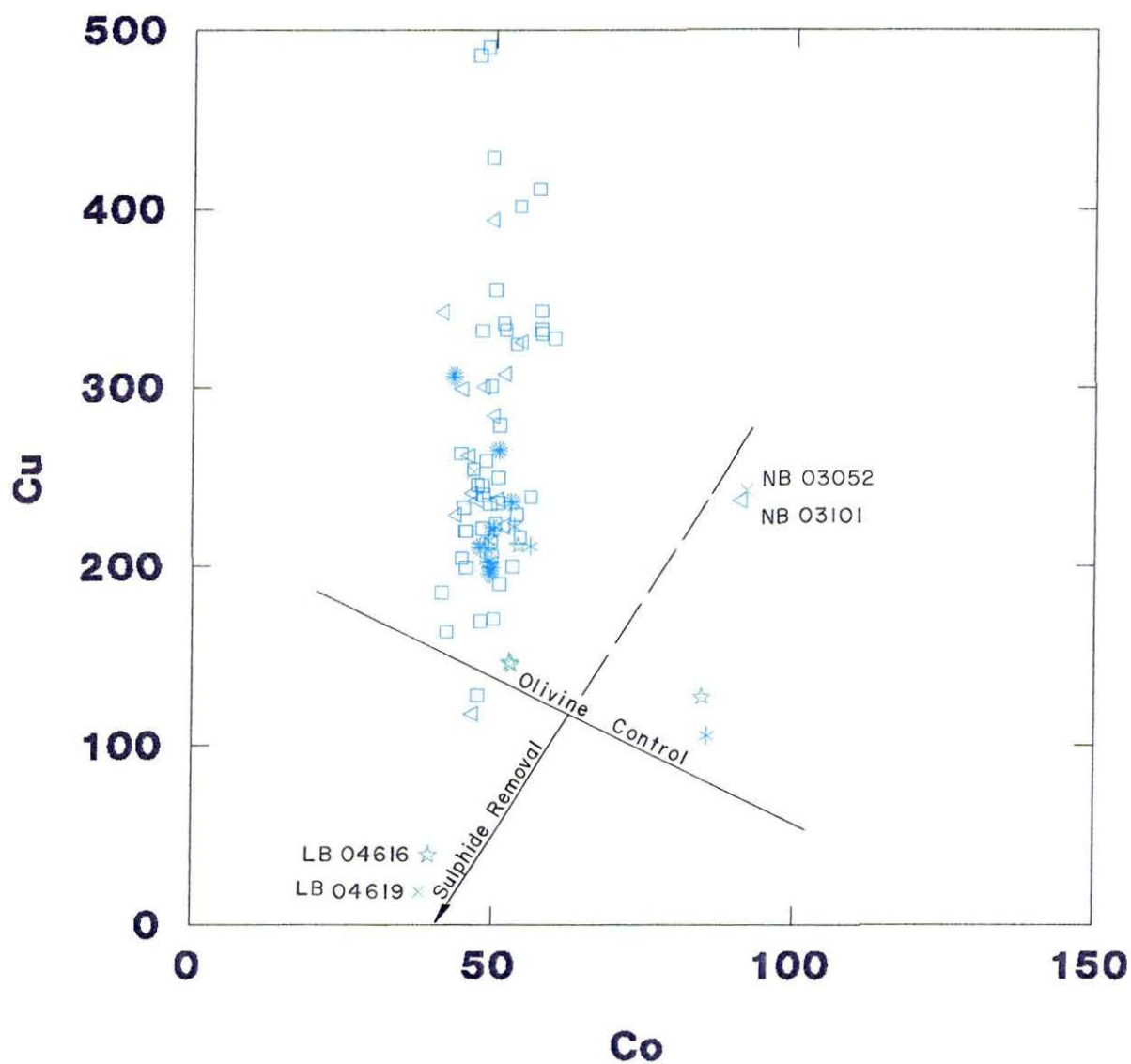


Figure 21

analyses from Larsen & Pedersen (1992) (Figure 15). Dyke LB04619 outcrops at an elevation of 344m and contained 5 to 10%, euhedral feldspars (< 1mm in length) in a fine-grained matrix. The dyke contains 8.54% MgO and plots at the affinity boundary of the Kûgánguaq olivine microporphyric and the Nordfjord Member basalts (Figure 15). However, the magnetic signature and chemical composition of this dyke correlates well with the low MgO, Niagussat lavas identified in 1993 (Olshefsky and Jerome, 1994).

The remaining subvolcanic intrusions sampled during this segment of the survey all plot along the differentiation trend for the Maligât and Vaigat Formation lavas and display no loss of Ni or Cu.

#### Grid Mapping 1:5,000 Scale

The detailed 1:5,000 scale mapping program recorded the geology, geographical and topographical features on the 1994 grids. The information assisted in the interpretation of the ground geophysical surveys and in the preparation of the diamond drill program. The results of the program are summarized below by grid number.

#### Grid 11C - (Map 5C-13)

Grid 11C was designed to cover the quartz-dolerite/picrite Serfat Sill complex and associated airborne EM anomaly 11C. A thick accumulation of gneissic and basaltic till blankets approximately 90% of the grid. The exposures of highly weathered, orange-brown, quartz-dolerite sill are restricted to the coastline between lines 19+00N to L30+00N and within two deeply incised stream channels. Along the coast, the sills form steep slopes to vertical cliffs. Inland, the best exposure occurs between L20+00N to L22+00N at 54+50E which has been described as the waterfall outcrop by Munck (1945). At this locality, a 22m thick, deeply weathered, picrite sill cuts the quartz-dolerite intrusion. The younger sill has an apparent dip of 8° to the south. The top chill margin of the quartz-dolerite sill is exposed above the waterfall and hosts up to 5% irregular to subrounded amygdules and irregular to semi-globby shaped, dark-grey shale xenoliths up to 20cm in size (Olshefsky and Jerome, 1994).

The picrite sill is believed to exit the quartz-dolerite sill at approximately 48+50E on L21+00N. West of this point, a metamorphosed shales/sandstone units separates the overlying picrite sill from the quartz-dolerite sill.

The topography on the grid rises steeply from the shoreline to L16+00N. Deeply incised stream channels cutting through this area makes traverses along lines extremely difficult. South of L16+00N the topography becomes more gentle and vegetated. The later area is cut by a number of small streams having an intermittent, northward flow in mid summer.

#### Grid 4B - (MAP4A-11)

Grid 4B adjoins the bottom right corner of the 1993 grid 4A. This grid extends southeast along a generally planar hillside that slopes northeasterly. At higher elevations, landslide Maligât Formation lavas and breccias and associated boulder scree commonly are exposed through the moss covered slopes. The north end of the gridlines lie over a gently sloping terrain covered by typical arctic vegetation.

Outcrop on the grid is limited to an area north of 14+00N between lines 6+00E to 12+00E and on line 0+00E at 7+50N. At the first location, several exposures of a fine-grained, dark-grey to black, strongly magnetic sill hosting minor olivine phenocrysts (up to 1mm in diameter) and minor concentrations of finely disseminated pyrite, occur (NB03051 & NB03052). On weathered surfaces, fracture controlled to spotty iron staining is common. Glacial grooves orientated at 155° were noted on several of these exposures.

On line 0+00E at 7+50N, an outcrop of fine-grained, aphyric, basaltic sill (NB03031) forms a steep ridge. The exposed thickness of the unit is 25 to 30m with both contacts covered by glacial debris and landslide material. The unit is strongly magnetic and hosts <1%, very fine disseminated pyrite. On the TiO<sub>2</sub> versus MgO plot, the unit is of Vaigat composition and falls within the affinity field of the Qutdligssat Sill (Figure 15).

### Grid 9D - (MAPS 9D-14 & 15)

This grid straddles the Itivdle Valley and covers coincidental, northwest-trending airborne magnetic and electromagnetic features which breach the Itivdle Fault. At this location, about 80% of the grid is covered in glacial deposits with the remainder consisting of fluvial deposited gravels. The grid is cut by a braided, northeast flowing river from L25+00S 15+00W to L10+00S 15+00E. A large circular kettle lake centred at L16+25S 3+00W is still contained within buried glacial ice. This ice sheet was encountered in the top portion of diamond drill hole FP94-9-1 located 300 m west of the lake on L15+00S. An old, eroded, pingo is located in the river bed along line 12+50S at 10+50E.

The topography in this area consists of rolling hills cut by deeply incised, stream channels. The slope of the land steepens dramatically towards either end of the baseline. The area east of 9+00E on lines 17+50 to 30+00 was not gridded due to the steep mountain slopes of picritic hyaloclastite breccia.

Several small exposure of fine-grained, aphyric sills occur immediately south of the grid at 4+00E (NB03060 & 61). Some uncertainty existed during the mapping as to whether these units were in place or were landslide blocks. The fact that the units are of high Ti, Maligât affinity and occur east of the Itivdle Fault in a predominantly Vaigat hyaloclastite breccia environment suggests that they are of intrusive origin and are in place. These units may be dykes rather than sills. A fine-grained, aphyric, Maligât dyke (NB03055) does outcrop 200m south of grid station L30+00S 3+50W.

### Grid 6E - (MAP 6B-8)

The topography on Grid 6E is flat with a slight increase towards the southeast corner of the grid. The grid is cut by a braided, north flowing river between L14+00W and 6+00W. Two exposures of Ti-rich, gabbro-norite dyke occur adjacent line 18+00W at 6+50N.

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**APPENDIX I**

**Report on Geophysical Surveys in the Nuussuaq Area of West Greenland For Falconbridge  
Greenland A/S (William Geophysics, 1994)**



**APPENDIX II**

**Diamond Drill Logs**



DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-11-1      Zone # :      Contractor : PETRO DRILLING      Date started : 07/15/1994  
 Township:      Date completed: 07/18/1994  
 Lot :      Concession:      Claim # :  
 Level :      Section:      Location : GRID 11C-SERFAT, GRN  
 Collar coordinate :      Line : 16+ 0 N      Latitude: 7852176.00 N      Azimuth: 0° 0' 0"  
    Station: 65+ 0 E      Departure: 419808.00 E      Dip : -90° 0' 0"  
 Reference frame :      Elevation: 151.00      Length : 51.20

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
0.00 M	° ' "	° ' "

Remarks : No returns, hole discontinued at 51.2m due to jamming of drill rods, 11 BQ rods left in hole.

Water flow : NO  
 Cemented : NO



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-11-2      Zone # :      Contractor : PETRO DRILLING      Date started : 07/20/1994  
Township:      Date completed: 07/27/1994  
Lot :      Concession:      Claim # :  
Level :      Section:      Location : GRID 9C-SERFAT, GRN  
Collar coordinate :      Line : 18+ 0 N      Latitude: 7852242.00 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 57+45 E      Departure: 419028.00 E      Dip : -90° 0' 0"  
Elevation: 119.00      Length : 422.76

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
F	° ' "	° ' "

Remarks : Hole ended at 422.76m due to sticking of rods in fault zone, 12 NQ rods remain in hole.

Water flow : NO  
Cemented : NO

Logged by : P. PHILPOTT

Date logged: 07/26/1994

Hole # : FP94-11-2

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	69.62	OVERBURDEN- Glacial till consisting of gneissic and basaltic boulders (up to 1.5m diameter), gravel, sand and clay.									
		65.90- 66.00 Gravel and sand in overburden. Lithic fragments up to 1.5cm in size.									
		66.00- 68.65 Clay unit consisting of 70% black carbonaceous clays and 30% light grey clays (talcose-soapstone texture).	MS001 MS002 MS003	66.00 67.00 68.00	66.01 67.01 68.01	0.01 0.01 0.01					0.82 0.08 0.98
		68.65- 69.00 Aphyric, basaltic boulder									
		69.00- 69.20 Dark carbonaceous clay unit similar to that above.	MS004	69.00	69.01	0.01					0.62
		69.20- 69.62 Light grey, very soft clay unit (weathered bedrock?).									
69.62	73.48	LITHIFIED SEDIMENTS - Unit consists of siltstone coarsening into quartzose sandstone, then grading into arkosic sandstone (RQD~90%).									
		69.62- 70.28 Light grey siltstone coarsening gradually to light grey, medium grained quartzose sandstone.	MS005	70.00	70.01	0.01					0.67
		70.28- 72.11 Medium grey, fine to medium grained arkosic sandstone with lithic fragments up to 3cm in size. Zones of apparent mixing (locally up to 5cm) of sandstone and underlying intrusive. Gradational upper and lower contacts.	MS006 MS007	71.00 72.00	71.01 72.01	0.01 0.01					0.69 0.84





FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		88.82- 89.35 Dark grey, weakly magnetic, fine grained, aphyric margin to picritic sill. Unit very soft and crumbly in places.	MS024	89.00	89.01	0.01					7.90
			MS025	90.00	90.10	0.10					9.11
			MS026	91.00	91.01	0.01					4.31
		91.30- 91.31 Talc and pearly white colored carbonate(?) vug.									
			MS027	92.00	92.01	0.01					6.96
		92.70- 92.85 Broken core.									
			MS028	93.00	93.01	0.01					12.00
		93.10- 93.40 Broken core (gouge?).									
93.78	94.82	DOLERITE - Coarse grained, weakly magnetic, leucocratic dolerite. Euhedral plagioclase crystals up to 1cm in size. Approximately 30% euhedral pyrox- ene crystals up to 4mm in size. RQD~70%.	MS029	94.00	94.01	0.01					16.30
94.82	104.53	PICRITE SILL - Dark greyish green, medium to fine grained (grain size decreasing downhole, fine grained at 95.8m) picrite unit similiar to that above. Inner contact gradational over 5cm. Approximately 20% olivine content. RQD~50%.	MS030	95.00	95.01	0.01					7.41
		95.15- 95.17 Talc-carbonate vein with slicken- sides on fracture surfaces.									
		95.19- 95.20 Talc-carbonate vein with slicken- sides on talcose surface.									
		95.95- 96.00 5mm wide talc-calcite vein.									
			MS031	96.00	96.01	0.01					6.08

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS	
104.53	106.95	96.11- 96.14 Talc-carbonate vein.	MS032	97.00	97.01	0.01					4.92	
		97.40- 97.60 Broken/blocky, altered core.	MS033	98.00	98.01	0.01					7.28	
			MS034	99.00	99.01	0.01					4.37	
			MS035	100.00	100.01	0.01					5.28	
			MS036	101.00	101.01	0.01					4.16	
			MS037	102.00	102.01	0.01					3.56	
			MS038	103.00	103.01	0.01					3.05	
			103.50- 104.00 Broken/blocky, altered core.	MS039	104.00	104.01	0.01					2.07
			ALTERED PICRITE SILL - Fine grained, greenish picrite unit, fractured and filled with talc-calcite-chlorite veinlets. There appears to be a mineral alignment along fracture planes. RQD~40%.									
			104.53- 104.90 Carbonate-chlorite filled fractures up to 8mm in width. Zone has a strong greenish tinge due to presence of epidote(?) and/ or talc.									
			104.60- 104.61 Carbonate vein @60 to CA.									
	104.65- 104.66 Carbonate vein @70 to CA.											
	104.70- 104.71 Carbonate vein @65 to CA.											
	105.00- 105.06 Intense zone of carbonate-chlorite alteration with some broken core.	MS040	105.00	105.01	0.01						0.22	
		MS041	106.00	106.01	0.01						3.53	



FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		106.10- 106.15 Zone of broken core.									
		106.70- 106.90 Zone of broken core with talc-chlorite slickensides along fracture planes.									
106.95	111.85	PICRITE SILL - Picrite sill similiar to that above zone of alteration. Chlorite-filled fractures throughout. Minor carbonate fractures close to basal contact. RQD~70%.	MS042 MS043 MS044 MS045 MS046	107.00 108.00 109.00 110.00 111.00	107.01 108.01 109.01 110.01 111.01	0.01 0.01 0.01 0.01 0.01					4.08 4.47 5.04 13.1 7.55
111.85	212.85	QUARTZ DOLERITE SILL - Meso-leucocratic, medium to coarse grained, non-magnetic, massive quartz diorite sill. Very competent unit with 100% core recovery. Unit has equivalent proportions of plagioclase to pyroxene content in upper portion of sill, plagioclase becomes more dominant towards the lower portion of the unit (indicated by a lighter color). Sparse (<<1%) disseminated pyrite (+/- po) through unit increasing to about 1% towards the base of the sill (sulfides <1% after 207.80m). Local quartzofeldspathic zones up to 10cm in width. Randomly orientated carbonate filled fractures up to 2mm in width. RQD~90%.									
		111.88- 113.50 Coarse grained quartz dolerite.									
		111.88- 111.89 Sharp contact of quartz dolerite with picritic unit @70 to CA. Randomly orientated quartz-carbonate filled fractures along contact and proximal to contact. <1% sulfides along fractures.	MS047 MS048	112.00 113.00	112.01 113.01	0.01 0.01					0.19 0.26
		113.50- 144.00 Transition from medium to coarse grained	MS049 MS050	114.00 115.00	114.01 115.01	0.01 0.01					0.29 0.28

FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS	
		texture (pyroxene lathes up to 3cm in size).	NS03053	115.00	116.50	1.50	0.10	10	12	21	0.27	
			MS051	116.00	116.01	0.01						
			NS03054	116.50	118.00	1.50	0.14	8	6	21		
			MS052	117.00	117.01	0.01						
			MS053	118.00	118.01	0.01						
			MS054	119.00	119.01	0.01						
			MS055	120.00	120.01	0.01						
			MS056	121.00	121.01	0.01						
			MS057	122.00	122.01	0.01						
			MS058	123.00	123.01	0.01						
			MS059	124.00	124.01	0.01						
			MS060	125.00	125.01	0.01						
			MS061	126.00	126.01	0.01						
			MS062	127.00	127.01	0.01						
		MS063	128.00	128.01	0.01							
		MS064	129.00	129.01	0.01							
		130.00- 131.00 Sporadic quartz-calcite filled vugs.	MS065	130.00	130.01	0.01					0.26	
			MS066	131.00	131.01	0.01					0.29	
			MS067	132.00	132.01	0.01					0.30	
			MS068	133.00	133.01	0.01					0.27	
			MS069	134.00	134.01	0.01					0.21	
		135.00- 136.00 Sporadic quartz-calcite filled vugs.	MS070	135.00	135.01	0.01					0.26	
			MS071	136.00	136.01	0.01					0.21	
			MS072	137.00	137.01	0.01					0.26	
			MS073	138.00	138.01	0.01					0.30	
			MS074	139.00	139.01	0.01					0.28	
			MS075	140.00	140.01	0.01					0.26	
		140.75- 140.95 Feldspathic injection (minor pyroxenes and quartz).	MS076	141.00	141.01	0.01					0.34	
		141.83- 141.93 Feldspathic injection (minor pyroxenes and quartz).	MS077	142.00	142.01	0.01					0.32	
			MS078	143.00	143.01	0.01					0.21	
			MS079	144.00	144.01	0.01					0.28	
			MS080	145.00	145.01	0.01					0.26	

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS081	146.00	146.01	0.01					0.30
			MS082	147.00	147.01	0.01					0.23
			MS083	148.00	148.01	0.01					0.30
			MS084	149.00	149.01	0.01					0.18
			MS085	150.00	150.01	0.01					0.29
			MS086	151.00	151.01	0.01					0.27
			MS087	152.00	152.01	0.01					0.28
			MS088	153.00	153.01	0.01					0.21
			MS089	154.00	154.01	0.01					0.26
			MS090	155.00	155.01	0.01					0.27
			MS091	156.00	156.01	0.01					0.24
			MS092	157.00	157.01	0.01					0.27
			MS093	158.00	158.01	0.01					0.26
			MS094	159.00	159.01	0.01					0.27
			MS095	160.00	160.01	0.01					0.20
			MS096	161.00	161.01	0.01					0.26
			MS097	162.00	162.01	0.01					0.26
			MS098	163.00	163.01	0.01					0.25
			NS03055	163.00	164.50	1.50	0.11	7	7	24	
			MS099	164.00	164.01	0.01					0.19
			NS03056	164.50	166.00	1.50	0.12	9	-5	27	
			MS100	165.00	165.01	0.01					0.25
			MS101	166.00	166.01	0.01					0.23
			NS03057	166.00	167.50	1.50	0.13	10	6	20	
			MS102	167.00	167.01	0.01					0.26
			NS03058	167.50	169.00	1.50	0.09	6	-5	22	
			MS103	168.00	168.01	0.01					0.25
			MS104	169.00	169.01	0.01					0.26
			MS105	170.00	170.01	0.01					0.28
			MS106	171.00	171.01	0.01					0.26
			MS107	172.00	172.01	0.01					0.26
			MS108	173.00	173.01	0.01					0.24
			MS109	174.00	174.01	0.01					0.24
			MS110	175.00	175.01	0.01					0.24
			MS111	176.00	176.01	0.01					0.23
			MS112	177.00	177.01	0.01					0.25
			MS113	178.00	178.01	0.01					0.19
			MS114	179.00	179.01	0.01					0.19
			MS115	180.00	180.01	0.01					0.21
			MS116	181.00	181.01	0.01					0.28
			MS117	182.00	182.01	0.01					0.27
			MS118	183.00	183.01	0.01					0.28
			MS119	184.00	184.01	0.01					0.24
			MS120	185.00	185.01	0.01					0.31

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS		
212.85	215.20	SEDIMENT CONTAMINATED QUARTZ DOLERITE SILL - (Section of sediment contamination). Unit varies in colour from dark grey near the top to light grey near the bottom. Pyroxene crystals dominate to 214.50m. Gradual mixing with sediments, grading into fine grained quartzose sandstone. Minor (<1%), finely disseminated pyrite through- out. Extremely gradational inner contact deter- mined by magnetic readings. RQD~80%.	MS121	186.00	186.01	0.01					0.41		
			MS122	187.00	187.01	0.01						0.31	
			NS03059	187.50	189.00	1.50	0.12	5	-5	23			
			MS123	188.00	188.01	0.01							0.33
			MS124	189.00	189.01	0.01							0.29
			NS03060	189.00	190.50	1.50	0.16	7	6	20			
			MS125	190.00	190.01	0.01							0.30
			NS03061	190.50	192.00	1.50	0.16	8	-5	21			
			MS126	191.00	191.01	0.01							0.39
			MS127	192.00	192.01	0.01							0.34
			MS128	193.00	193.01	0.01							0.25
			MS129	194.00	194.01	0.01							0.27
			MS130	195.00	195.01	0.01							0.22
			MS131	196.00	196.01	0.01							0.34
			MS132	197.00	197.01	0.01							0.29
			MS133	198.00	198.01	0.01							0.19
			MS134	199.00	199.01	0.01							0.26
			MS135	200.00	200.01	0.01							0.24
			MS136	201.00	201.01	0.01							0.25
			MS137	202.00	202.01	0.01							0.29
			MS138	203.00	203.01	0.01							0.32
			MS139	204.00	204.01	0.01							0.52
			MS140	205.00	205.01	0.01							0.42
			NS03062	205.00	206.50	1.50	0.15	18	-5	24			
			MS141	206.00	206.01	0.01							0.32
			NS03063	206.50	208.00	1.50	0.08	-5	-5	27			
			MS142	207.00	207.01	0.01							0.28
			MS143	208.00	208.01	0.01							0.25
			NS03064	208.00	209.50	1.50	0.07	9	7	24			
			MS144	209.00	209.01	0.01							0.26
			MS145	210.00	210.01	0.01							0.27
			MS146	211.00	211.01	0.01							0.21
			MS147	212.00	212.01	0.01							0.24
			MS148	213.00	213.01	0.01					1.01		
			MS149	214.00	214.01	0.01					1.92		
			MS150	215.00	215.01	0.01					2.14		

FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		215.20- 215.21 Sharp, outer contact with siltstone @75 to CA.									
215.21	219.40	INTERBEDDED SILTSTONE AND SANDSTONE - Light grey to dark grey siltstone, coarsening into fine to medium grained quartzose sandstone (quartz fragments up to 1cm in size). Quartzose sandstone grades to a mixed, darker grey lithology with lighter components in a swirly mixture. Clay content increases into a blue-grey mudstone near the base of the unit. <1%, finely disseminated sulfides throughout. RQD~30%.									
		215.40- 215.41 Bedding in siltstone @68 to CA.	MS151	216.00	216.01	0.01					1.59
			MS152	217.00	217.01	0.01					1.14
			MS153	218.00	218.01	0.01					0.73
			MS154	219.00	219.01	0.01					1.98
219.40	221.80	CARBONACEOUS SILTSTONE - Blue-grey mudstone with a gradual increase in the carbon content (grading into dark blue-grey to black, carbonaceous siltstone with graphitic fragments (1-3%)). Weakly conductive. Sharp outer contact with intrusive. RQD<10%.	MS155	220.00	220.01	0.01					2.15
		220.50- 220.51 Bedding @71 to CA.									
		221.00- 221.01 Bedding @68 to CA.	MS156	221.00	221.01	0.01					2.06
		221.80- 221.81 Sharp outer contact with intrusive @69 to CA.									
221.81	222.95	FELDSPAR PORPHYRITIC MAFIC SILL - Fine grained, grey, massive, weakly magnetic, feldspar porphyritic, mafic sill (<5%, <3mm sized, feldspar phenocrysts throughout). Minor, irregular, calcite-filled fractures up to 2mm in width. <<1%, finely disseminated pyrite through-	MS157	222.00	222.01	0.01					7.42



FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		232.75- 233.50 Section along inner margin with feldspars (<2%).	MS168	233.00	233.01	0.01					9.68
			MS169	234.00	234.01	0.01					9.09
			MS170	235.00	235.01	0.01					10.9
			MS171	236.00	236.01	0.01					7.38
			MS172	237.00	237.01	0.01					1.03
			MS173	238.00	238.01	0.01					4.41
			MS174	239.00	239.01	0.01					3.86
			NS03065	239.00	240.50	1.50	0.03	123	151	45	
			MS175	240.00	240.01	0.01					8.44
			MS176	241.00	241.01	0.01					9.34
			MS177	242.00	242.01	0.01					9.60
			MS178	243.00	243.01	0.01					9.18
		243.28- 243.38 10cm wide, chlorite-carbonate vein @ 20 to CA.									
		243.50- 244.50 Section with weak carbonate/chlorite alteration.									
		243.50- 245.90 Section along outer margin with feldspars (<2%).									
		243.80- 243.90 Chlorite-carbonate alteration.									
			MS179	244.00	244.01	0.01					9.52
		244.50- 244.60 Chlorite-carbonate alteration.									
			MS180	245.00	245.01	0.01					10.0
		245.90- 245.90 Sharp outer contact with underlying sediments @20 to CA (5cm of sediment contamination within the dyke).									
245.91	247.00	QUARTZOSE SANDSTONE - White to light grey, fine to medium grained, quartzose sandstone with clays (mixed in bands and layers) bedded @68 to CA. Sharp inner contact	MS181	246.00	246.01	0.01					0.96

FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		with mafic unit. RQD~90%.									
247.00	249.40	CARBONACEOUS SANDSTONE - (Same unit as that above), unit becoming dark grey as carbon content increases. Interbedded, thin bands of siltstone. RQD~50%.	MS182 MS183 MS184	247.00 248.00 249.00	247.01 248.01 249.01	0.01 0.01 0.01					1.63 1.23 1.74
249.40	254.00	CARBONACEOUS SILTSTONE - Dominantly carbonaceous siltstone with interbedded layers and fragments of quartzose sandstone (<1cm in width). Carbonaceous component weakly conductive. Bedding consistent @68 to CA. RQD~30%.	MS185 MS186	250.00 251.00	250.01 250.01	0.01 -0.99					2.28 1.67
		252.00- 252.01 Bedding @68 to CA.	MS187 MS188	252.00 253.00	252.01 253.01	0.01 0.01					1.92 1.71
254.00	257.95	INTERBEDDED CARBONACEOUS SILTSTONE AND SANDSTONE- Carbonaceous siltstone gradually coarsening to a medium to dark grey, medium grained, carbonaceous sandstone. RQD~70%.	MS189 MS190 MS191 MS192	254.00 255.00 256.00 257.00	254.01 255.01 256.01 257.01	0.01 0.01 0.01 0.01					1.52 1.19 0.63 0.73
257.95	270.30	QUARTZOSE SANDSTONE WITH CARBONACEOUS SILTSTONE - Fine to medium grained, pale white, quartzose sandstone with intermixed layers and bands of weakly conductive, carbonaceous siltstone (<10cm wide). 2cm wide bands of disseminated pyrite locally. Bedding consistent @68-70 to CA. RQD~70%.	MS193 MS194	258.00 259.00	258.01 259.01	0.01 0.01					0.50 0.12
		259.02- 259.04 3-5%, disseminated pyrite.									
		259.20- 259.21 Band of disseminated pyrite.									
		259.88- 259.89 Band of disseminated pyrite.	MS195	260.00	260.01	0.01					0.66
		260.16- 260.19 Band of disseminated pyrite.	MS196	261.00	261.01	0.01					0.09



FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS197	262.00	262.01	0.01					0.96
		262.63- 262.64 Band of disseminated pyrite.	MS198	263.00	263.01	0.01					0.43
			MS199	264.00	264.01	0.01					0.55
			MS200	265.00	265.01	0.01					0.12
		266.00- 266.01 Bedding @69 to CA.	MS201	266.00	266.01	0.01					0.71
		266.85- 266.86 Pyrite patch and disseminations along thin quartz vein.	MS202	267.00	267.01	0.01					0.88
			MS203	268.00	268.01	0.01					0.43
			MS204	269.00	269.01	0.01					0.53
			MS205	270.00	270.01	0.01					0.57
270.30	287.30	CARBONACEOUS SANDSTONE AND SILTSTONE - Alternating dark grey, carbonaceous sandstones and siltstones (similar to previous unit). Local disseminated and banded pyrite (<<1%). RQD~70%	MS206	271.00	271.01	0.01					0.69
			MS207	272.00	272.01	0.01					0.65
			MS208	273.00	273.01	0.01					0.14
			MS209	274.00	274.01	0.01					0.13
			MS210	275.00	275.01	0.01					0.13
			MS211	276.00	276.01	0.01					0.10
			MS212	277.00	277.01	0.01					0.14
			MS213	278.00	278.01	0.01					0.08
			MS214	279.00	279.01	0.01					0.14
			MS215	280.00	280.01	0.01					0.11
			MS216	281.00	281.01	0.01					0.02
			MS217	282.00	282.01	0.01					0.11
			MS218	283.00	283.01	0.01					0.09
			MS219	284.00	284.01	0.01					0.12
			MS220	285.00	285.01	0.01					0.10
			MS221	286.00	286.01	0.01					0.10
			MS222	287.00	287.01	0.01					0.10
287.30	336.16	CARBONACEOUS SILTSTONE - Dark grey, weakly conductive, carbonaceous siltstone interbedded with minor quartzose sandstone layers (<40cm wide). Minor graphitic fragments (1-2%). RQD<15%.	MS223	288.00	288.01	0.01					0.13
			MS224	289.00	289.01	0.01					0.08
			MS225	290.00	290.01	0.01					0.16
			MS226	291.00	291.01	0.01					0.17
			MS227	292.00	292.01	0.01					0.10

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS228	293.00	293.01	0.01					0.09
			MS229	294.00	294.01	0.01					0.90
			MS230	295.00	295.01	0.01					0.12
			MS231	296.00	296.01	0.01					0.08
		297.00- 297.01 Bedding @60 to CA.	MS232	297.00	297.01	0.01					0.08
			MS233	298.00	298.01	0.01					0.10
			MS234	299.00	299.01	0.01					0.11
		299.50- 299.55 Ground material (shear zone?).	MS235	300.00	300.01	0.01					0.28
		301.00- 301.01 Bedding @70 to CA.	MS236	301.00	301.01	0.01					0.14
			MS237	302.00	302.01	0.01					0.12
			MS238	303.00	303.01	0.01					0.10
			MS239	304.00	304.01	0.01					0.13
			MS240	305.00	305.01	0.01					0.13
			MS241	306.00	306.01	0.01					0.11
			MS242	307.00	307.01	0.01					0.10
			MS243	308.00	308.01	0.01					0.13
			MS244	309.00	309.01	0.01					0.21
			MS245	310.00	310.01	0.01					0.11
			MS246	311.00	311.01	0.01					0.10
			MS247	312.00	312.01	0.01					0.10
			MS248	313.00	313.01	0.01					0.10
			MS249	314.00	314.01	0.01					0.13
			MS250	315.00	315.01	0.01					0.12
			MS251	316.00	316.01	0.01					0.12
			MS252	317.00	317.01	0.01					0.12
			MS253	318.00	318.01	0.01					0.18
			MS254	319.00	319.01	0.01					0.13
			MS255	320.00	320.01	0.01					0.11
			MS256	321.00	321.01	0.01					0.11
			MS257	322.00	322.01	0.01					0.10
			MS258	323.00	323.01	0.01					0.09
		324.00- 324.01 Bedding @62 to CA.	MS259	324.00	324.01	0.01					0.15
			MS260	325.00	325.01	0.01					0.09
			MS261	326.00	326.01	0.01					0.12
			MS262	327.00	327.01	0.01					0.12

FROM (F)	TO ( F	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
336.16	389.40	QUARTZOSE/CARBONACEOUS SANDSTONE - Blackish-white to black, fine to medium grained, carbonaceous to quartzose sandstone unit with minor interbedded and banded carbonaceous siltstone layers (<30cm thick). RQD~60-70%.  340.46- 340.51 Zone of muddy, broken core (shear zone?).  348.00- 348.01 Bedding @65 to CA.	MS263	328.00	328.01	0.01					0.11
			MS264	329.00	329.01	0.01					0.10
			MS265	330.00	330.01	0.01					0.13
			MS266	331.00	331.01	0.01					0.12
			MS267	332.00	332.01	0.01					0.10
			MS268	333.00	333.01	0.01					0.10
			MS269	334.00	334.01	0.01					0.09
			MS270	335.00	335.01	0.01					0.11
			MS271	336.00	336.01	0.01					0.08
			MS272	337.00	337.01	0.01					0.07
			MS273	338.00	338.01	0.01					0.16
			MS274	339.00	339.01	0.01					0.08
			MS275	340.00	340.01	0.01					0.16
			MS276	341.00	341.01	0.01					0.07
			MS277	342.00	342.01	0.01					0.08
			MS278	343.00	343.01	0.01					0.07
			MS279	344.00	344.01	0.01					0.07
			MS280	345.00	345.01	0.01					0.20
			MS281	346.00	346.01	0.01					0.10
			MS282	347.00	347.01	0.01					0.10
			MS283	348.00	348.01	0.01					0.15
			MS284	349.00	349.01	0.01					0.05
			MS285	350.00	350.01	0.01					0.08
			MS286	351.00	351.01	0.01					0.26
			MS287	352.00	352.01	0.01					0.09
			MS288	353.00	353.01	0.01					0.13
			MS289	354.00	354.01	0.01					0.11
			MS290	355.00	355.01	0.01					0.08
			MS291	356.00	356.01	0.01					0.12
			MS292	357.00	357.01	0.01					0.10
			MS293	358.00	358.01	0.01					0.10
			MS294	359.00	359.01	0.01					0.10
			MS295	360.00	360.01	0.01					0.32
MS296	361.00	361.01	0.01					0.16			
MS297	362.00	362.01	0.01					0.17			
MS298	363.00	363.01	0.01					0.09			
MS299	364.00	364.01	0.01					0.08			

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS300	365.00	365.01	0.01					0.08
			MS301	366.00	366.01	0.01					0.06
			MS302	367.00	367.01	0.01					0.03
			MS303	368.00	368.01	0.01					0.07
			MS304	369.00	369.01	0.01					0.06
			MS305	370.00	370.01	0.01					0.06
			MS306	371.00	371.01	0.01					0.08
			MS307	372.00	372.01	0.01					0.06
			MS308	373.00	373.01	0.01					0.05
			MS309	374.00	374.01	0.01					0.08
			MS310	375.00	375.01	0.01					0.08
			MS311	376.00	376.01	0.01					0.05
			MS312	377.00	377.01	0.01					0.08
			MS313	378.00	378.01	0.01					0.08
			MS314	379.00	379.01	0.01					0.07
			MS315	380.00	380.01	0.01					0.06
			MS316	381.00	381.01	0.01					0.06
			MS317	382.00	382.01	0.01					0.04
			MS318	383.00	383.01	0.01					0.07
			MS319	384.00	384.01	0.01					0.07
			MS320	385.00	385.01	0.01					0.06
			MS321	386.00	386.01	0.01					0.07
			MS322	387.00	387.01	0.01					0.08
			MS323	388.00	388.01	0.01					0.10
			MS324	389.00	389.01	0.01					0.08
389.40	395.50	CARBONACEOUS SANDSTONE - Fine to medium grained, black-white, carbonaceous sandstone with minor, interbedded carbonaceous siltstone (gradational change to medium grained, dirty, quartzose sandstone with interbedded carbonaceous siltstone). Quartzose sandstone layers up to 0.75m wide. RQD~90%.	MS325	390.00	390.01	0.01					0.11
			MS326	391.00	391.01	0.01					0.09
			MS327	392.00	392.01	0.01					0.08
			MS328	393.00	393.01	0.01					0.08
			MS329	394.00	394.01	0.01					0.07
			MS330	395.00	395.01	0.01					0.07
395.50	422.76	CARBONACEOUS SILTSTONE - Dark grey to black, very weakly conductive, carbonaceous siltstone with minor interbedded sandstone (flecks of graphite within unit). Local calcite crystals. Bedding @62-65 to CA. RQD~50% (breaks easily along bedding planes).	MS331	396.00	396.01	0.01					0.08
			MS332	397.00	397.01	0.01					0.17
			MS333	398.00	398.01	0.01					0.10
			MS334	399.00	399.01	0.01					0.09
			MS335	400.00	400.01	0.01					0.07
		400.50- 400.51 Bedding @63 to CA.	MS336	401.00	401.01	0.01					0.11



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-11-3      Zone # :      Contractor : PETRO DRILLING      Date started : 07/28/1994  
Township:      Date completed: 07/30/1994  
Lot :      Concession:      Claim # :  
Level :      Section:      Location : GRID 11C-SERFAT, GRN  
Collar coordinate :      Line : 14+50 N      Latitude: 7851990.00 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 62+36 E      Departure: 419574.00 E      Dip : -90° 0' 0"  
Elevation: 142.00      Length : 31.10

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
0.00 M	° ' "	° ' "

Remarks : Hole discontinued due to inability to penetrate overburden.

Water flow : NO  
Cemented : NO

Logged by : P. PHILPOTT

Date logged: 07/30/1994

Hole # : FP94-11-3

FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPH	CU PPH	CO PPH	MS
0.00	31.10	OVERBURDEN - Glacial till consisting of clay, sand, gravel and boulders (gneissic and basaltic, <1.5m wide).									
31.10	31.10	END OF HOLE									

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-11-4      Zone # :      Contractor : PETRO DRILLING      Date started : 07/31/1994  
Township:      Date completed: 08/04/1994  
Lot :      Concession:      Claim # :  
Level :      Section:      Location : GRID 11C-SERFAT, GRN  
Collar coordinate :      Line : 21+60 N      Latitude: 7852537.00 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 55+ 0 E      Departure: 418783.00 E      Dip : -90° 0' 0"  
Elevation: 81.00      Length : 340.46

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
F	° ' "	° ' "

Remarks : Pressurized gas encountered in hole. 104 BQ rods,  
1 BQ core barrel, 2 NQ rods left in hole.

Water flow : NO  
Cemented : NO

Logged by : P. PHILPOTT

Date logged: 08/01/1994

Hole # : FP94-11-4





FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		of section along with calcite and quartz grains). Local pyroxene lathes up to 1-1.5cm in size. Quartz content up to 5%. Minor, carbonate and chlorite-filled fracturing.									
		16.55- 16.55 Sharp contact with underlying dolerite unit @55 to CA, marked by 2cm wide, quartz-carbonate vein.	MS013	17.00	17.01	0.01					0.26
		17.30- 17.31 Carbonate-filled fractures @64 to CA.	MS014	18.00	18.01	0.01					0.31
			MS015	19.00	19.01	0.01					0.28
			MS016	20.00	20.01	0.01					0.29
			MS017	21.00	21.01	0.01					0.26
		21.80- 21.81 Carbonate-filled fracture @35 to CA.	MS018	22.00	22.01	0.01					0.30
			MS019	23.00	23.01	0.01					0.29
			MS020	24.00	24.01	0.01					0.30
			MS03066	24.00	25.50	1.50	0.72	8	-5	20	0.28
			MS021	25.00	25.01	0.01					0.28
			MS03067	25.50	27.00	1.50	0.69	6	-5	24	0.29
			MS022	26.00	26.01	0.01					0.29
		27.00- 27.01 Fracture (joint) @45 to CA.	MS023	27.00	27.01	0.01					0.25
			MS024	28.00	28.01	0.01					0.30
			MS025	29.00	29.01	0.01					0.31
		29.94- 57.30 Section with pyroxene lathes up to 3cm in size. Up to 10% quartz, carbonate and feldspar phenocrysts locally. Local, 3-5 cm long, quartzofeldspathic zones. RQD 90%.	MS026	30.00	30.01	0.01					0.22
			MS027	31.00	31.01	0.01					0.21
			MS028	32.00	32.01	0.01					0.31
		33.00- 33.03 Carbonate-filled fracture @15 to CA.	MS029	33.00	33.01	0.01					0.29
			MS030	34.00	34.01	0.01					0.21

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS031	35.00	35.01	0.01					0.29
			MS03069	35.00	36.50	1.50	0.49	7	-5	18	
			MS032	36.00	36.01	0.01					0.27
			MS033	37.00	37.01	0.01					0.30
			MS034	38.00	38.01	0.01					0.27
			MS035	39.00	39.01	0.01					0.28
			MS036	40.00	40.01	0.01					0.29
			MS037	41.00	41.01	0.01					0.26
		41.85- 41.86 Carbonate-filled fracture @47 to CA.									
			MS038	42.00	42.01	0.01					0.38
			MS039	43.00	43.01	0.01					0.26
		43.80- 43.81 Fracture (joint) @30 to CA.									
			MS040	44.00	44.01	0.01					0.45
			MS041	45.00	45.01	0.01					0.35
			MS042	46.00	46.01	0.01					0.38
			MS043	47.00	47.01	0.01					0.67
			MS044	48.00	48.01	0.01					0.40
			MS045	49.00	49.01	0.01					0.41
			MS046	50.00	50.01	0.01					0.33
			MS047	51.00	51.01	0.01					0.35
			MS048	52.00	52.01	0.01					0.35
			MS049	53.00	53.01	0.01					0.37
			MS050	54.00	54.01	0.01					0.39
			MS051	55.00	55.01	0.01					0.56
		55.40- 55.42 Carbonate-filled fracture @27 to CA.									
			MS052	56.00	56.01	0.01					0.61
			MS053	57.00	57.01	0.01					0.37
		57.30- 88.50 Minor pyroxene relative to feldspar at top of section. Local quartz, calcite and feldspar phenocrysts and quartz-calcite vugs at top of section. Less quartz generally than previous section. Carbonate-filled fractures randomly orientated. RQD 90%.									
			MS054	58.00	58.01	0.01					0.37
			MS055	59.00	59.01	0.01					0.77
			MS056	60.00	60.01	0.01					0.70

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	SX %	NI PPM	CU PPM	CO PPM	MS
		60.30- 60.31 Carbonate-filled fracture @10 to CA.									
			MS057	61.00	61.01	0.01					0.61
			MS058	62.00	62.01	0.01					0.52
			MS059	63.00	63.01	0.01					0.44
			NS03070	63.00	64.50	1.50	0.64	5	-5	19	
			MS060	64.00	64.01	0.01					0.75
			MS061	65.00	65.01	0.01					0.66
			MS062	66.00	66.01	0.01					0.47
		66.80- 66.81 Carbonate-filled fracture @50 to CA.									
			MS063	67.00	67.01	0.01					0.43
			MS064	68.00	68.01	0.01					0.38
			MS065	69.00	69.01	0.01					0.35
			MS066	70.00	70.01	0.01					0.37
		70.40- 70.41 Fracture (joint) @20 to CA.									
			MS067	71.00	71.01	0.01					0.62
			MS068	72.00	72.01	0.01					0.34
			NS03071	72.50	74.00	1.50	0.26	-5	-5	25	
			MS069	73.00	73.01	0.01					0.33
			MS070	74.00	74.01	0.01					0.29
			MS071	75.00	75.01	0.01					0.27
			MS072	76.00	76.01	0.01					0.21
			MS073	77.00	77.01	0.01					0.28
			MS074	78.00	78.01	0.01					0.26
			MS075	79.00	79.01	0.01					0.32
			MS076	80.00	80.01	0.01					0.32
			MS077	81.00	81.01	0.01					0.50
			MS078	82.00	82.01	0.01					0.29
			MS079	83.00	83.01	0.01					0.33
			MS080	84.00	84.01	0.01					0.48
			MS081	85.00	85.01	0.01					0.51
			NS03072	85.00	86.50	1.50	1.15	-5	5	19	
			MS082	86.00	86.01	0.01					0.86
			MS083	87.00	87.01	0.01					0.62
			MS084	88.00	88.01	0.01					0.94
		88.50- 99.67 Grain size change from fine at the top to medium grained. Minor quartz, calcite and feldspar phenocrysts. RQD 70%.	MS085	89.00	89.01	0.01					1.05

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		89.30- 89.31 Quartz/carbonate-filled fracture @70 to CA.	MS086	90.00	90.01	0.01					0.54
			MS087	91.00	91.01	0.01					0.51
			MS088	92.00	92.01	0.01					0.93
			MS089	93.00	93.01	0.01					1.71
			NS03073	93.50	95.00	1.50	1.47	-5	-5	19	
			MS090	94.00	94.01	0.01					1.27
		94.40- 94.41 Carbonate-filled fracture @25 to CA.	MS091	95.00	95.01	0.01					1.15
			MS092	96.00	96.01	0.01					2.22
		96.62- 97.75 Fine grained, white zone of alteration (leaching?) consisting of carbonate, feldspar, +/-quartz and a green alteration mineral.	MS093	97.00	97.01	0.01					1.09
			MS094	98.00	98.01	0.01					2.52
		98.50- 98.51 Carbonate-filled fracture @15 to CA.	MS095	99.00	99.01	0.01					1.69
		99.30- 99.67 Alteration zone similiar to that above.									
		99.67- 104.35 Base of sill with more mafic appearance. Decrease in pyroxene content. RQD 90%.	MS096	100.00	100.01	0.01					0.53
			MS097	101.00	101.01	0.01					0.26
			MS098	102.00	102.01	0.01					0.47
			MS099	103.00	103.01	0.01					0.67
			NS03074	103.00	104.00	1.00	0.62	6	-5	21	
			MS100	104.00	104.01	0.01					0.99
104.35	105.75	CHILLED MIXING ZONE - Chilled, grey to tan brown, fine grained, aphyric zone of sediment contamination and mixing with quartz dolerite unit. Sharp outer contact with sediments. Trace, fine disseminated pyrite. RQD ~90%.	MS101	105.00	105.01	0.01					2.24

FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS		
105.76	130.85	105.74- 105.75 Sharp outer contact @55 to CA.											
		QUARTZOSE SANDSTONE - Fine to medium grained, pale white to dirty, light blue, quartzose sandstone. Interbedded, light grey to light blue, siltstone layers up to 2cm thick. Sandstone decreases in grain size with depth, varying from interbedded separate units to a swirling mixture. Local calcite veins and vugs. Carbon content increases slightly downhole as indicated by darker colour. Bedding consistent @60-65 to CA. Minor pyritic bands. RQD~70%.	MS102	106.00	106.01	0.01						0.08	
			MS103	107.00	107.01	0.01						0.10	
			MS104	108.00	108.01	0.01						0.06	
			MS105	109.00	109.01	0.01						0.08	
			MS106	110.00	110.01	0.01						0.49	
			MS107	111.00	111.01	0.01						0.28	
			MS108	112.00	112.01	0.01						0.10	
			MS109	113.00	113.01	0.01						0.24	
			MS110	114.00	114.01	0.01						0.20	
				115.00- 115.04 Calcite vein @20 to CA.	MS111	115.00	115.01	0.01					0.52
					MS112	116.00	116.01	0.01					0.85
					MS113	117.00	117.01	0.01					1.23
					MS114	118.00	118.01	0.01					1.97
					MS115	119.00	119.01	0.01					0.66
				120.00- 120.01 Bedding @61 to CA.	MS116	120.00	120.01	0.01					1.53
					MS117	121.00	121.01	0.01					1.79
					MS118	122.00	122.01	0.01					1.81
					MS119	123.00	123.01	0.01					2.36
					MS120	124.00	124.01	0.01					0.11
				124.30- 124.31 Bedding @64 to CA.	MS121	125.00	125.01	0.01					0.65
					MS122	126.00	126.01	0.01					0.05
					MS123	127.00	127.01	0.01					0.25
				127.85- 127.86 Pyrite crystals along bedding planes @65 to CA.									
				127.95- 127.96 Pyrite crystals along bedding plane @65 to CA.	MS124	128.00	128.01	0.01					0.08
					MS125	129.00	129.01	0.01					0.38
					MS126	130.00	130.01	0.01					1.07

FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	SX %	NI PPM	CU PPM	CO PPM	MS		
130.85	153.10	QUARTZOSE TO CARBONACEOUS SILTSTONE - (Gradational with unit above) Unit consists of fine grained, blue grey sandstone beds (up to 1.5 cm thick) with minor quartz and clay content mixed with white, fine grained, quartzose sandstone and darker grey, carbonaceous clays. Unit increasingly carbonaceous downhole. Bedding consistent @65 to CA. RQD~50%.	MS127	131.00	131.01	0.01					1.01		
			MS128	132.00	132.01	0.01					1.68		
			MS129	133.00	133.01	0.01					2.20		
			MS130	134.00	134.01	0.01					2.03		
			MS131	135.00	135.01	0.01					1.69		
			MS132	136.00	136.01	0.01					1.67		
			MS133	137.00	137.01	0.01					2.99		
			MS134	138.00	138.01	0.01					2.01		
			MS135	139.00	139.01	0.01					2.07		
			MS136	140.00	140.01	0.01					1.72		
			MS137	141.00	141.01	0.01					2.36		
			MS138	142.00	142.01	0.01					2.46		
			MS139	143.00	143.01	0.01					1.88		
			MS140	144.00	144.01	0.01					2.73		
			MS141	145.00	145.01	0.01					2.78		
			MS142	146.00	146.01	0.01					2.45		
			MS143	147.00	147.01	0.01					1.89		
			MS144	148.00	148.01	0.01					2.21		
			MS145	149.00	149.01	0.01					1.59		
					149.01- 149.01 Bedding @65 to CA.								
			MS146	150.00	150.01	0.01					2.51		
			MS147	151.00	151.01	0.01					3.01		
			MS148	152.00	152.01	0.01					2.34		
			MS149	153.00	153.01	0.01					1.93		
153.10	199.80	CARBONACEOUS (SHALEY) SILTSTONE - Dark blue to black, weakly conductive, carbonaceous siltstone with interbedded, fine grained, white, quartzose sandstone layers up to 1cm thick. Dominantly carbonaceous siltstone past 157.5m. Local calcite crystals (<1cm thick). Minor pyrite patches and disseminations along fracture planes. RQD<<10%.	MS150	154.00	154.01	0.01					2.90		
			MS151	155.00	155.01	0.01					2.74		
			MS152	156.00	156.01	0.01					2.35		
			MS153	157.00	157.01	0.01					3.26		
			MS154	158.00	158.01	0.01					2.61		
			MS155	159.00	159.01	0.01					3.65		
					160.00- 160.01 Bedding @64 to CA.	MS156	160.00	160.01	0.01				2.59
						MS157	161.00	161.01	0.01				2.80
						MS158	162.00	162.01	0.01				2.36
						MS159	163.00	163.01	0.01				2.42
						MS160	164.00	164.01	0.01				2.07
						MS161	165.00	165.01	0.01				2.56
						MS162	166.00	166.01	0.01				2.77

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS163	167.00	167.01	0.01					2.98
			MS164	168.00	168.01	0.01					2.38
			MS165	169.00	169.01	0.01					3.22
		170.00- 170.01 Bedding @68 to CA.	MS166	170.00	170.01	0.01					1.55
			MS167	171.00	171.01	0.01					2.24
		171.30- 171.31 Fracture (joint) @25 to CA.	MS168	172.00	172.01	0.01					2.11
			MS169	173.00	173.01	0.01					2.39
			MS170	174.00	174.01	0.01					2.55
			MS171	175.00	175.01	0.01					2.07
			MS172	176.00	176.01	0.01					2.38
			MS173	177.00	177.01	0.01					2.40
			MS174	178.00	178.01	0.01					2.33
			MS175	179.00	179.01	0.01					2.69
			MS176	180.00	180.01	0.01					1.87
			MS177	181.00	181.01	0.01					0.49
			MS178	182.00	182.01	0.01					1.88
			MS179	183.00	183.01	0.01					0.0
			MS180	184.00	184.01	0.01					1.70
			MS181	185.00	185.01	0.01					2.01
			MS182	186.00	186.01	0.01					2.02
			MS183	187.00	187.01	0.01					1.01
			MS184	188.00	188.01	0.01					1.60
			MS185	189.00	189.01	0.01					1.30
		190.00- 190.01 Bedding @64 to CA.	MS186	190.00	190.01	0.01					1.20
			MS187	191.00	191.01	0.01					0.16
			MS188	192.00	192.01	0.01					0.09
			MS189	193.00	193.01	0.01					0.11
			MS190	194.00	194.01	0.01					0.14
			MS191	195.00	195.01	0.01					0.12
			MS192	196.00	196.01	0.01					0.08
			MS193	197.00	197.01	0.01					0.13
			MS194	198.00	198.01	0.01					0.10
			MS195	199.00	199.01	0.01					0.11
199.20	218.10	CARBONACEOUS SANDSTONE - Fine to medium grained, medium grey, carbonaceous sandstone with interbedded bands of quartzose	MS196	200.00	200.01	0.01					0.14
			MS197	201.00	201.01	0.01					0.11
			MS198	202.00	202.01	0.01					0.07



FROM (F)	TO (F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	SX %	NI PPM	CU PPM	CO PPM	MS	
218.10	230.70	sandstone (<3cm thickness). Minor layers of light grey siltstone. Variable shale (clay) content within sandstone. RQD~70%.	MS199	203.00	203.01	0.01					0.10	
			MS200	204.00	204.01	0.01					0.12	
			MS201	205.00	205.01	0.01					0.11	
			MS202	206.00	206.01	0.01					0.14	
			MS203	207.00	207.01	0.01					0.09	
			MS204	208.00	208.01	0.01					0.0	
			MS205	209.00	209.01	0.01					0.11	
			MS206	210.00	210.01	0.01					0.10	
			MS207	211.00	211.01	0.01					0.11	
			MS208	212.00	212.01	0.01					0.06	
		MS209	213.00	213.01	0.01					0.12		
			214.00- 214.01 Bedding @70 to CA.	MS210	214.00	214.01	0.01					0.12
			214.65- 214.70 Broken, clay rich core (shear zone??).	MS211	215.00	215.01	0.01					0.10
				MS212	216.00	216.01	0.01					0.11
				MS213	217.00	217.01	0.01					0.08
				MS214	218.00	218.01	0.01					0.07
			CARBONACEOUS SILTSTONE - Dark grey to black, carbonaceous siltstone with thin, interbedded, quartzose sandstone layers. Minor carbonaceous sandstone content. RQD~40%.	MS215	219.00	219.01	0.01					0.15
				MS216	220.00	220.01	0.01					0.11
				MS217	221.00	221.01	0.01					0.11
				MS218	222.00	222.01	0.01					0.12
		MS219	223.00	223.01	0.01					0.08		
	224.00- 224.01 Bedding @65 to CA.	MS220	224.00	224.01	0.01					0.09		
		MS221	225.00	225.01	0.01					0.09		
		MS222	226.00	226.01	0.01					0.20		
		MS223	227.00	227.01	0.01					0.06		
		MS224	228.00	228.01	0.01					0.04		
		MS225	229.00	229.01	0.01					0.11		
		MS226	230.00	230.01	0.01					0.09		
230.70	255.70	QUARTZOSE/CARBONACEOUS SANDSTONE - Fine to medium grained, white, quartzose sandstone with variable, carbonaceous sandstone content. Interbedded, carbonaceous siltstone horizons up to 11cm in thickness. Minor pyrite fragments and disseminations. RQD~80%.	MS227	231.00	231.01	0.01					0.07	
		MS228	232.00	232.01	0.01						0.05	
		MS229	233.00	233.01	0.01						0.07	
		MS230	234.00	234.01	0.01						0.06	
		MS231	235.00	235.01	0.01						0.07	
		MS232	236.00	236.01	0.01						0.09	

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS233	237.00	237.01	0.01					0.07
			MS234	238.00	238.01	0.01					0.03
			MS235	239.00	239.01	0.01					0.03
			MS236	240.00	240.01	0.01					0.06
			MS237	241.00	241.01	0.01					0.07
			MS238	242.00	242.01	0.01					0.03
			MS239	243.00	243.01	0.01					0.04
			MS240	244.00	244.01	0.01					0.05
			MS241	245.00	245.01	0.01					0.07
			MS242	246.00	246.01	0.01					0.04
			MS243	247.00	247.01	0.01					0.06
		247.50- 247.51 Bedding @70 to CA.									
			MS244	248.00	248.01	0.01					0.08
			MS245	249.00	249.01	0.01					0.10
			MS246	250.00	250.01	0.01					0.07
			MS247	251.00	251.01	0.01					0.04
			MS248	252.00	252.01	0.01					0.06
			MS249	253.00	253.01	0.01					0.06
			MS250	254.00	254.01	0.01					0.06
			MS251	255.00	255.01	0.01					0.05
255.70	265.00	MIXED CARBONACEOUS SILTSTONE AND QUARTZOSE SANDSTONE - Dark grey, carbonaceous siltstone with minor, interbedded, fine grained, white, quartzose sandstone. Sandstone content decreases with depth. Calcite crystals throughout. RQD~40%.	MS252	256.00	256.01	0.01					0.06
			MS253	257.00	257.01	0.01					0.11
			MS254	258.00	258.01	0.01					0.06
		258.25- 258.26 Bedding @70 to CA.									
			MS255	259.00	259.01	0.01					0.04
			MS256	260.00	260.01	0.01					0.07
			MS257	261.00	261.01	0.01					0.07
		262.00- 262.01 Bedding @65 to CA.									
			MS258	262.00	262.01	0.01					0.09
			MS259	263.00	263.01	0.01					0.06
			MS260	264.00	264.01	0.01					0.09
265.00	317.50	CARBONACEOUS SILTSTONE - Carbonaceous siltstone unit hosting pressurized gas (reflected as gas bubbles exhaled from core).	MS261	265.00	265.01	0.01					0.05
			MS262	266.00	266.01	0.01					0.08
			MS263	267.00	267.01	0.01					0.11

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		Local calcite crystals and carbonate filled- fractures. Minor disseminated pyrite. RQD<<10%.	MS264 MS265	268.00 269.00	268.01 269.01	0.01 0.01					0.08 0.06
		269.36- 269.96 Sediment contaminated, light grey-white, fine grained, carbonate altered sill with ~2-3% quartz eyes and 3-5% calcite filled vesicles up to 1cm in size. Upper contact sharp @60 to CA. Siltstone xenoliths within top margin of sill.									
			MS266	270.00	270.01	0.01					0.20
			MS267	271.00	271.01	0.01					0.06
			MS268	272.00	272.01	0.01					0.31
			MS269	273.00	273.01	0.01					0.12
			MS270	274.00	274.01	0.01					0.08
		275.00- 275.01 Bedding @70 to CA.	MS271	275.00	275.01	0.01					0.09
			MS272	276.00	276.01	0.01					0.11
			MS273	277.00	277.01	0.01					0.09
			MS274	278.00	278.01	0.01					0.08
			MS275	279.00	279.01	0.01					0.13
			MS276	280.00	280.01	0.01					0.08
			MS277	281.00	281.01	0.01					0.04
			MS278	282.00	282.01	0.01					0.15
			MS279	283.00	283.01	0.01					0.08
			MS280	284.00	284.01	0.01					0.07
			MS281	285.00	285.01	0.01					0.08
			MS282	286.00	286.01	0.01					0.06
			MS283	287.00	287.01	0.01					0.30
		287.70- 287.75 Broken and ground core (shear zone?).									
			MS284	288.00	288.01	0.01					0.12
			MS285	289.00	289.01	0.01					0.11
			MS286	290.00	290.01	0.01					0.07
			MS287	291.00	291.01	0.01					0.10
			MS288	292.00	292.01	0.01					0.13
			MS289	293.00	293.01	0.01					0.11
		293.20- 293.25 Broken and ground core (shear zone?).									
			MS290	294.00	294.01	0.01					0.10

FROM (F)	TO ( F)	DESCRIPTION	Sampl.	FROM (F)	TO F	L (F)	S% %	NI PPM	CU PPM	CO PPM	MS
		295.00- 295.01 Bedding @70 to CA.	MS291	295.00	295.01	0.01					0.13
			MS292	296.00	296.01	0.01					0.07
			MS293	297.00	297.01	0.01					0.10
			MS294	298.00	298.01	0.01					0.07
			MS295	299.00	299.01	0.01					0.12
			MS296	300.00	300.01	0.01					0.08
			MS297	301.00	301.01	0.01					0.10
			MS298	302.00	302.01	0.01					0.10
			MS299	303.00	303.01	0.01					0.08
			MS300	304.00	304.01	0.01					0.11
			MS301	305.00	305.01	0.01					0.07
			MS302	306.00	306.01	0.01					0.07
			MS303	307.00	307.01	0.01					0.08
			MS304	308.00	308.01	0.01					0.12
			MS305	309.00	309.01	0.01					0.09
			MS306	310.00	310.01	0.01					0.14
			MS307	311.00	311.01	0.01					0.10
			MS308	312.00	312.01	0.01					0.08
			MS309	313.00	313.01	0.01					0.08
			MS310	314.00	314.01	0.01					0.11
			MS311	315.00	315.01	0.01					0.08
			MS312	316.00	316.01	0.01					0.08
			MS313	317.00	317.01	0.01					0.08
317.50	340.46	QUARTZOSE/CARBONACEOUS SANDSTONE - Unit dominated by white, fine grained, quartzose sandstone variably mixed with carbonaceous sandstone. Interbedded carbonaceous siltstone horizons up to 10cm thick locally. Minor calcite crystals throughout. RQD~70%.	MS314	318.00	318.01	0.01					0.10
			MS315	319.00	319.01	0.01					0.04
			MS316	320.00	320.01	0.01					0.04
			MS317	321.00	321.01	0.01					0.05
			MS318	322.00	322.01	0.01					0.06
			MS319	323.00	323.01	0.01					0.10
			MS320	324.00	324.01	0.01					0.15
			MS321	325.00	325.01	0.01					0.09
			MS322	326.00	326.01	0.01					0.14
			MS323	327.00	327.01	0.01					0.05
			MS324	328.00	328.01	0.01					0.04
			MS325	329.00	329.01	0.01					0.05
			MS326	330.00	330.01	0.01					0.07
			MS327	331.00	331.01	0.01					0.11
			MS328	332.00	332.01	0.01					0.05
			MS329	333.00	333.01	0.01					0.05
			MS330	334.00	334.01	0.01					0.04
			MS331	335.00	335.01	0.01					0.04



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-11-5      Zone # :      Contractor : PETRO      Date started : 08/06/1994  
Township:      Date completed: 08/10/1994  
Lot :      Concession:      Claim # :  
Level :      Section:      Location : GRID 11C, SERFAT, GN  
Collar coordinate :      Line : 20+ 1 N      Latitude: 7852262.00 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 48+25 E      Departure: 418085.00 E      Dip : -90° 0' 0"  
Elevation: 78.00      Length : 230.73

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
12.20 M	-89° 0' 0"	112° 0' 0"
74.34 M	-88° 0' 0"	143° 0' 0"

Remarks : Minor delays due to poor water circulation,  
corrected using drill mud program.

Water flow : NO  
Cemented : NO

Logged by : PAUL PHILPOTT

Date logged: 08/10/1994

Hole # : FP94-11-5

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	9.95	OVERBURDEN - Cover sequence consists of glacial till (sand, gravel and boulders up to 0.5m thick) and the top weathered portion of the underlying picritic unit.									
9.95	31.08	PICRITIC SILL - Fine to medium grained, weakly magnetic, light to dark greenish-grey, picritic sill.									
		9.95- 11.37 Very fine grained margin of sill (uncertain upper contact). RQD 20%.	MS001	10.00	10.01	0.01					1.35
		10.10- 10.11 Fracture @68 to CA.									
		10.51- 10.52 Fracture @24 to CA.									
		10.80- 11.37 Fractured and broken section.	MS002	11.00	11.01	0.01					6.15
		11.37- 19.50 Section with 70-80% breakage (RQD<10%), randomly orientated. Local carbonate veins and patches, talcose vugs. Olivine apparently altered to bright green talc.	MS003 MS004 MS005 MS006 MS007 MS008 MS009 MS010	12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00	12.01 13.01 14.01 15.01 16.01 17.01 18.01 19.01	0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01					10.4 10.5 3.75 1.94 3.35 1.98 2.27 1.87
		19.50- 30.00 Up to 20%, <4mm sized, pyroxene crystals in section (greatest quantity at base of section). Local chloritic and carbonate-filled fractures/veinlets. RQD 70%.	MS011 MS012	20.00 21.00	20.01 21.01	0.01 0.01					1.66 7.73
		21.50- 21.51 Carbonate-filled fracture @18 to CA.	MS013 MS014	22.00 23.00	22.01 23.01	0.01 0.01					7.30 5.32

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		23.40- 23.46 Weathered core.	MS015	24.00	24.01	0.01					3.41
			MS016	25.00	25.01	0.01					4.55
		25.10- 25.20 Weathered core.									
		25.25- 25.26 Carbonate-filled fracture @22 to CA.	MS017	26.00	26.01	0.01					4.43
			MS018	27.00	27.01	0.01					4.40
			MS019	28.00	28.01	0.01					4.67
			MS020	29.00	29.01	0.01					7.70
		30.00- 31.08 Base of picrite sill with 3mm pyroxene crystals set in a fine grained groundmass. Bottom contact sharp but unmeasureable. Broken core from 30.7-30.8m and 30.9-30.95m. RQD 70%.	MS021	30.00	30.01	0.01					8.45
		30.30- 30.31 Fracture @65 to CA.	MS022	31.00	31.01	0.01					4.45
31.08	32.16	SILTSTONE - Light grey, heavily fractured and broken, moderately carbonatized, siltstone unit. Heavily fractured and broken. Minor carbonate-filled fractures. Upper contact sharp but broken (unmeasurable). RQD<<10%.	MS023	32.00	32.01	0.01					0.18
32.16	51.80	CARBONACEOUS SILTSTONE - Dark blue to dark grey-black, carbonaceous siltstone unit. Minor, thin (<1cm), quartzose sandstone layers. Local carbonate-filled fractures. Carbon content decreases from 47.0m to base of unit (as indicated by lighter colour). Upper portion of unit is weakly conductive. Core is heavily gouged, fractured and broken locally (shearing throughout). Random orientation of fractures (@5-47 to CA). RQD~25%	MS024	33.00	33.01	0.01					0.17
			MS025	34.00	34.01	0.01					0.34





FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS046	55.00	55.01	0.01					0.21
			MS047	56.00	56.01	0.01					0.22
			MS048	57.00	57.01	0.01					0.21
			MS049	58.00	58.01	0.01					0.19
			MS050	59.00	59.01	0.01					0.22
			MS051	60.00	60.01	0.01					0.20
		60.20- 60.21 Bedding @50 to CA.									
			MS052	61.00	61.01	0.01					0.23
			MS053	62.00	62.01	0.01					0.22
			MS054	63.00	63.01	0.01					0.19
			MS055	64.00	64.01	0.01					0.18
			MS056	65.00	65.01	0.01					0.19
			MS057	66.00	66.01	0.01					0.19
			MS058	67.00	67.01	0.01					0.19
			MS059	68.00	68.01	0.01					0.19
		68.80- 68.84 4cm siltstone fragment with 2-3% stringer pyrrhotite.									
			MS060	69.00	69.01	0.01					0.18
			MS061	70.00	70.01	0.01					0.25
		71.00- 71.01 Fracture @45 to CA.									
			MS062	71.00	71.01	0.01					0.30
			MS063	72.00	72.01	0.01					0.22
			MS064	73.00	73.01	0.01					0.19
			MS065	74.00	74.01	0.01					0.22
			MS066	75.00	75.01	0.01					0.14
			MS067	76.00	76.01	0.01					0.21
			MS068	77.00	77.01	0.01					0.19
			MS069	78.00	78.01	0.01					0.20
			MS070	79.00	79.01	0.01					0.18
		79.10- 80.35 Fine to medium grained, white to speckled (white-carbonate; black-mafics) carbonate altered unit (sill?). Very soft with minor, dark carbonaceous sandstone/silt- stone content. Inner contact sharp and broken, outer contact sharp @62 to CA.									
			MS071	80.00	80.01	0.01					0.19
			MS072	81.00	81.01	0.01					0.19
			MS073	82.00	82.01	0.01					0.19

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS			
92.60	203.60	85.00- 85.01 Bedding @45 to CA.	MS074	83.00	83.01	0.01						0.18		
			MS075	84.00	84.01	0.01							0.23	
			MS076	85.00	85.01	0.01							0.20	
			MS077	86.00	86.01	0.01							0.20	
			MS078	87.00	87.01	0.01							0.17	
			MS079	88.00	88.01	0.01							0.22	
			MS080	89.00	89.01	0.01							0.19	
			MS081	90.00	90.01	0.01							0.10	
			MS082	91.00	91.01	0.01							0.19	
			MS083	92.00	92.01	0.01							0.21	
				QUARTZ DOLERITE SILL - Fine to medium grained, greenish-grey to grey, massive, quartz dolerite sill. Trace to <1% disseminated pyrite throughout. Randomly orient- ated carbonate and chlorite-filled fractures throughout.										
				92.60- 94.50 Altered dolerite along margin grading into quartz dolerite, increasing grain size. Up to 1-2%, calcite voids/vesicles decreasing in size and quantity downhole. Minor quartzofeldspathic zones towards lower part of section. Trace sulphides. RQD 90%.	MS084	93.00	93.01	0.01						0.25
					MS085	94.00	94.01	0.01						0.22
				94.50- 104.10 Medium grained section (locally coarse grained) with equal proportions of pyrox- ene and feldspar (pyroxene lathes up to 1cm in size). 2-3% quartz, carbonate and feldspar "phenocrysts" overall (concent- rated about center of unit). RQD 90%.										
					MS086	95.00	95.01	0.01						0.25
					MS087	96.00	96.01	0.01						0.32
				96.50- 96.51 Fracture @30 to CA.										
					MS088	97.00	97.01	0.01						0.30
					NS03075	97.00	98.50	1.50	0.53	-5	-5	23		
					MS089	98.00	98.01	0.01						0.31
			MS090	99.00	99.01	0.01						0.25		
			MS091	100.00	100.01	0.01						0.26		

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
			MS092	101.00	101.01	0.01					0.40
		102.00- 102.01 Fracture @48 to CA.	MS093	102.00	102.01	0.01					0.29
			MS094	103.00	103.01	0.01					0.36
			MS095	104.00	104.01	0.01					0.45
		104.10- 112.20 Section with less quartz than above, pyroxene crystals up to 2cm in size. Green tinge due to weak chloritization. Trace disseminated pyrite. RQD 90%.	MS096	105.00	105.01	0.01					0.40
			MS097	106.00	106.01	0.01					0.38
			MS098	107.00	107.01	0.01					0.35
		107.70- 107.80 Zone of broken core.	NS03076	107.90	109.00	1.10	0.23	5	11	19	
			MS099	108.00	108.01	0.01					0.38
			MS100	109.00	109.01	0.01					0.34
			MS101	110.00	110.01	0.01					0.36
			MS102	111.00	111.01	0.01					0.32
			MS103	112.00	112.01	0.01					0.63
		112.20- 120.40 Decreasing intensity of chloritization with greater quartz content. Pyroxenes up to 3cm long. Local quartz-carbonate crystals up to 2cm in size. <10cm wide quartzofeldspathic bands locally.	MS104	113.00	113.01	0.01					0.76
			MS105	114.00	114.01	0.01					0.81
			MS106	115.00	115.01	0.01					1.27
			MS107	116.00	116.01	0.01					2.01
			MS108	117.00	117.01	0.01					1.72
			MS109	118.00	118.01	0.01					0.68
			MS110	119.00	119.01	0.01					0.68
			MS111	120.00	120.01	0.01					0.60
		120.40- 138.60 Section with minor pyroxenes.	MS112	121.00	121.01	0.01					0.32
			MS113	122.00	122.01	0.01					0.44

FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS114	123.00	123.01	0.01					0.67
			MS115	124.00	124.01	0.01					0.39
			MS116	125.00	125.01	0.01					0.38
			NS03077	125.50	127.00	1.50	0.46	7	-5	26	
			MS117	126.00	126.01	0.01					0.49
			MS118	127.00	127.01	0.01					0.51
			MS119	128.00	128.01	0.01					0.49
			MS120	129.00	129.01	0.01					0.37
			MS121	130.00	130.01	0.01					0.41
			MS122	131.00	131.01	0.01					0.35
			MS123	132.00	132.01	0.01					0.40
			MS124	133.00	133.01	0.01					0.46
			MS125	134.00	134.01	0.01					0.44
			MS126	135.00	135.01	0.01					0.37
			MS127	136.00	136.01	0.01					0.38
			MS128	137.00	137.01	0.01					0.45
			MS129	138.00	138.01	0.01					0.40
		138.60- 169.20	MS130	139.00	139.01	0.01					0.29
		Slightly chloritic section with evident pyroxenes. Micaceous flakes throughout in various proportions (2-3%).	MS131	140.00	140.01	0.01					0.27
			MS132	141.00	141.01	0.01					0.30
			MS133	142.00	142.01	0.01					0.42

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
			MS134	143.00	143.01	0.01					0.36
			NS03078	143.00	144.50	1.50	0.12	7	-5	27	
			MS135	144.00	144.01	0.01					0.28
			MS136	145.00	145.01	0.01					0.28
			MS137	146.00	146.01	0.01					0.38
			MS138	147.00	147.01	0.01					0.27
			MS139	148.00	148.01	0.01					0.30
			MS140	149.00	149.01	0.01					0.22
			MS141	150.00	150.01	0.01					0.25
			MS142	151.00	151.01	0.01					0.25
			MS143	152.00	152.01	0.01					0.24
			MS144	153.00	153.01	0.01					0.23
			MS145	154.00	154.01	0.01					0.24
			MS146	155.00	155.01	0.01					0.26
			MS147	156.00	156.01	0.01					0.23
			MS148	157.00	157.01	0.01					0.30
			MS149	158.00	158.01	0.01					0.24
			MS150	159.00	159.01	0.01					0.25
			NS03079	159.00	160.50	1.50	0.14	8	-5	26	
			MS151	160.00	160.01	0.01					0.30
			MS152	161.00	161.01	0.01					0.29
			MS153	162.00	162.01	0.01					0.28
			MS154	163.00	163.01	0.01					0.23
			MS155	164.00	164.01	0.01					0.21
			MS156	165.00	165.01	0.01					0.23
			MS157	166.00	166.01	0.01					0.25
			MS158	167.00	167.01	0.01					0.24
			MS159	168.00	168.01	0.01					0.24
			MS160	169.00	169.01	0.01					0.27
		169.20- 175.60	MS161	170.00	170.01	0.01					0.27
		Green tone changing to brownish-grey, medium grained section. Apparent sediment contamination locally (finer grained and brown in colour). Finer grained towards base (chill margin?). Sharp outer contact @78 to CA. RQD 90%.	MS162	171.00	171.01	0.01					0.24
			MS163	172.00	172.01	0.01					0.26
			MS164	173.00	173.01	0.01					0.26
			MS165	174.00	174.01	0.01					0.23
			MS166	175.00	175.01	0.01					0.23
		175.60- 191.00	MS167	176.00	176.01	0.01					0.30
		Probable second phase of sill. Slightly darker and finer grained than previous sections. Possible sediment contamination locally. Chloritic slickensides along some fracture facings. Increased	MS168	177.00	177.01	0.01					0.21
			MS169	178.00	178.01	0.01					0.25

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		quantity of carbonate-filled fractures (<3mm thick) from 187.0-191.0m. RQD 90%.									
		178.80- 178.81 Fracture @55 to CA.	MS170	179.00	179.01	0.01					0.27
			MS171	180.00	180.01	0.01					0.25
			MS172	181.00	181.01	0.01					0.28
			MS173	182.00	182.01	0.01					0.26
			MS174	183.00	183.01	0.01					0.30
			MS175	184.00	184.01	0.01					0.26
			MS176	185.00	185.01	0.01					0.29
			MS177	186.00	186.01	0.01					0.26
		187.00- 187.01 Fracture @25 to CA.	MS178	187.00	187.01	0.01					0.26
			MS179	188.00	188.01	0.01					0.26
			MS180	189.00	189.01	0.01					0.29
			NS03080	189.50	190.00	0.50	0.32	-5	-5	17	
			MS181	190.00	190.01	0.01					0.25
		191.00- 192.00 Very fine grained, grey, chill margin. RQD 90%.	MS182	191.00	191.01	0.01					0.54
		192.00- 192.80 Mixed zone of dominantly carbonaceous siltstone with grey siltstone, dissected by carbonate-filled fractures. Inner and outer contacts gradational.	MS183	192.00	192.01	0.01					0.28
		192.80- 193.40 Fine grained, grey, zone of mixing between sediments and dolerite sill. Outer contact @50 to CA.	MS184	193.00	193.01	0.01					0.29
		193.40- 202.50 Possible third phase of quartz dolerite intrusive. RQD 90%.	MS185	194.00	194.01	0.01					0.25
			MS186	195.00	195.01	0.01					0.27
			MS187	196.00	196.01	0.01					0.28





FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
223.10	228.30	222.05- 222.56 White, fine grained, quartz-carbonate altered intrusive (sill?). Carbonate filled matrix with carbonate-filled fractures cutting unit. Up to 5%, euhedral, disseminations and clumps (up to 3cm in size) of pyrite dominantly along fractures (~1% within matrix). Sharp contacts (inner - @70 to CA, outer - @65 to CA).  QUARTZ DOLERITE SILL - Fine grained, massive, brownish-grey quartz dolerite sill. Minor quartz/carbonate-filled voids near top of unit (decreasing downwards). Random carbonate-filled fractures. Trace disseminated pyrite. Inner contact is sediment contaminated and gradational over 5cm @80 to CA, outer contact similar @70 to CA. RQD~90%.  225.30- 225.31 Fracture @45 to CA.	MS214	223.00	223.01	0.01					0.28	
			MS215	224.00	224.01	0.01						3.70
			MS216	225.00	225.01	0.01						3.67
228.30	230.73	CARBONACEOUS SILTSTONE - Blue-grey to blue-black siltstone with variable carbon content. Minor sandstone fragments and layers (1cm wide). Sporadic calcite crystal growth. Random fracturing. Disseminated pyrite along some fracture planes and in small clumps. Bedding @60-65 to CA. RQD~30-40%.	MS217	226.00	226.01	0.01					2.91	
			MS218	227.00	227.01	0.01						2.70
			MS219	228.00	228.01	0.01						3.08
230.73	230.73	END OF HOLE	MS220	229.00	229.01	0.01					1.64	
			MS221	230.00	230.01	0.01						1.17

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-9-1      Zone # : 21W      Contractor : Petro Drilling Company      Date started : 08/15/1994  
Township: Itilvde Valley      Date completed: 08/26/1994  
Lot :      Concession:      Claim # :  
Level :      Section:      Location : Grid 9  
Collar coordinate :      Line : 15+ 0 S      Latitude: 7846152.50 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 6+75 W      Departure: 387851.70 E      Dip : -90° 0' 0"  
Elevation: 315.00      Length : 537.10

Surveyed by: R.M. Graves

Deviation tests :

Depth	Dip	Azimuth
50.00 M	-86° 0' 0"	0° 0' 0"
245.00 M	-86° 0' 0"	0° 0' 0"
450.00 M	-83° 0' 0"	0° 0' 0"

Remarks : Casing pulled. Core recovery greater than 95%  
except between 32.0-83.0m. Problems drilling ice.

Water flow : None  
Cemented : No

Logged by : R. Mark Graves

Date logged: 08/26/1994

Hole # : FP94-9-1

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	32.00	OVERBURDEN -  Difficult to determine exact depth of overburden cover. Drill hole intersected bedrock surface in a fault and there was lost core.	MS01	31.00	32.00	1.00					0.15
32.00	83.00	CARBONACEOUS SANDSTONE/SILTSTONE -  Unit comprises intercalated sandstone and siltstone with minor intra-beds of argillaceous sediment, unit is thinly laminated, laminations are .5-2mm thick, siltstone tends to be more carbonaceous than sandstone, sandstone is fine grained (f.g.) although coarse grained (c.g.) beds of light grey sandstone occur at 39.0-39.1m, 39.7-40.0m, 45.3-45.4m, 52.6-52.7m, 56.3-56.5m, 57.4-57.6m, 62.6-62.7m, 66.0-66.2m and 72.2-72.4m, sandstone is composed of quartz, feldspar and sand-sized lithic fragments of carbonaceous siltstone; no carbonate, no pyrite.  Bedding at 80° TCA, core is extensively broken due to faulting and parting along bedding planes. Unit comprises 5-10% fault gouge and breccia. Faults vary in thickness from 1 cm to 1 metre. Gouge zones at 32.0m, 51.3m, 60.5m, 65.3m, 68.9m, 73.3m, 82.8m. Approximately 10-15% lost core due to not retrieving fault gouge and broken zones. When wet, gouge zones are conductive (i.e. resistivity of 20-30 ohms) however, gouge is non-conductive when dry. Wallrock is also non-conductive.  Quartz-calcite veinlets at 56.5m, 60.4m and 73.3m. Veinlets at 10-20° TCA.  52.50- 52.50 bedding at 80° TCA	MS02 MS03 MS04 MS05 MS06 MS07 MS08 MS09 MS10 MS11 MS12 MS13 MS14 MS15 MS16 MS17 MS18 MS19 MS20 MS21 MS22	32.00 33.00 34.00 35.00 36.00 37.00 38.00 39.00 40.00 41.00 42.00 43.00 44.00 45.00 46.00 47.00 48.00 49.00 50.00 51.00 52.00	33.00 34.00 35.00 36.00 37.00 38.00 39.00 40.00 41.00 42.00 43.00 44.00 45.00 46.00 47.00 48.00 49.00 50.00 51.00 52.00 53.00	1.00 1.00					0.07 0.01 0.14 0.07 0.12 0.08 0.11 0.07 0.08 0.17 0.19 0.06 0.08 0.11 0.17 0.09 0.11 0.27 0.18 0.13 0.11
			MS23 MS24 MS25 MS26 MS27 MS28	53.00 54.00 55.00 56.00 57.00 58.00	54.00 55.00 56.00 57.00 58.00 59.00	1.00 1.00 1.00 1.00 1.00 1.00					0.10 0.11 0.11 0.10 0.10 0.23

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS29	59.00	60.00	1.00					0.09
			MS30	60.00	61.00	1.00					0.13
			MS31	61.00	62.00	1.00					0.13
			MS32	62.00	63.00	1.00					0.14
			MS33	63.00	64.00	1.00					0.14
			MS34	64.00	65.00	1.00					0.09
			MS35	65.00	66.00	1.00					0.06
			MS36	66.00	67.00	1.00					0.13
			MS37	67.00	68.00	1.00					0.16
			MS38	68.00	69.00	1.00					0.13
			MS39	69.00	70.00	1.00					0.10
			MS40	70.00	71.00	1.00					0.11
			MS41	71.00	72.00	1.00					0.16
			MS42	72.00	73.00	1.00					0.07
			MS43	73.00	74.00	1.00					0.06
			MS44	74.00	75.00	1.00					0.15
			MS45	75.00	76.00	1.00					0.10
			MS46	76.00	77.00	1.00					0.10
			MS47	77.00	78.00	1.00					0.11
			MS48	78.00	79.00	1.00					0.10
			MS49	79.00	80.00	1.00					0.25
			MS50	80.00	81.00	1.00					0.12
			MS51	81.00	82.00	1.00					0.10
			MS52	82.00	83.00	1.00					0.10
83.00	83.70	PLAGIOPHYRIC MAFIC SILL -  Greenish-grey, fine-grained and non-magnetic. Contains 5% euhedral to subhedral plagioclase phenocrysts .5-1mm in length, some of the plagioclase crystals are saussuritized. Plagioclase phenocrysts have a preferred crystal orientation at 70° TCA. There is minor chloritization of matrix.  Upper and lower contact areas are distinctive and very different than inner portion of sill. For 10cm at each contact the rock is aphanitic and bleached to a pinkish-buff colour imparting a "porcellanite" appearance to the rock.	MS53	83.00	84.00	1.00					0.23
83.70	89.00	CARBONACEOUS SILTSTONE -  Black, bedding at 60-70° TCA. Minor c.g.	MS54	84.00	85.00	1.00					0.10
			MS55	85.00	86.00	1.00					0.10
			MS56	86.00	87.00	1.00					0.15

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		sandstone beds at 84.5-84.6m and 87.6-87.7m. Pyrite disseminations 2-5mm thick paralleling bedding at 86.5m, 86.7m and 86.8m.	MS57 MS58	87.00 88.00	88.00 89.00	1.00 1.00					0.10 0.30
89.00	90.50	MAFIC SILL -  Similar to sill at 83.0-83.7m except this one is non-plagiophyric, upper contact is paralleling bedding at 80° TCA. Upper and lower contacts are bleached and pinkish-buff. Hosts anastomosing quartz veins at 10° TCA. Non-magnetic.	MS59 MS60	89.00 90.00	90.00 91.00	1.00 1.00					0.37 0.08
90.50	91.80	CARBONACEOUS SILTSTONE -  Black and extensively fractured.  90.50- 91.80 Comprises fault gouge and broken core, this is the location of a significant fault.	MS61	91.00	92.00	1.00					3.90
91.80	92.30	MAFIC SILL -  Dark grey, fine grained, magnetic. Upper and lower contacts are bleached to a light grey for 10cm and have the "porcellanite" appearance. Sill is quite hard.	MS62	92.00	93.00	1.00					0.11
92.30	94.20	CARBONACEOUS SILTSTONE -  Black, bedding at 85-90° TCA, 1mm to 1cm wide pyrite disseminations occur along bedding planes from 92.6-94.0m.	MS63 MS64	93.00 94.00	94.00 94.50	1.00 0.50					0.13 0.30
94.20	95.40	MAFIC SILL -  Grey and fine grained; "porcellanite"-like contacts 10-15cm wide that are plagiophyric. Disseminated pyrite on joint at 94.5m; sill is altered to a soft, yellowish mineral along joints at 94.7m, 94.9m and 95.0m, sericitic alteration?	MS65 MS66	94.50 95.00	95.00 96.00	0.50 1.00					0.41 0.12
95.40	133.40	CARBONACEOUS SILTSTONE -	MS67 MS68	96.00 97.00	97.00 98.00	1.00 1.00					0.13 0.08

FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		Black, generally massive except where intercalated with thin beds of f.g. grey sandstone, c.g. sandstone beds at 103.1-103.5m, 108.8-108.9m, 110.8-111.0m, 113.2-114.0m, 114.8-115.0m and 121.7-121.8m, sandstone is composed of quartz, feldspar and sand-sized grains of carbonaceous siltstone.	MS69	98.00	99.00	1.00					0.16
			MS70	99.00	100.00	1.00					0.16
			MS71	100.00	101.00	1.00					0.15
			MS72	101.00	102.00	1.00					0.18
		Fault gouge zones 1-20cm thick and paralleling bedding (80° TCA) occur at 105.5m, 105.6m, 106.0m, 108.7m, 112.4m, 118.0m, 121.0m, 130.5m and 132.6m. One metre of lost core at 118.0m and 121.0m.									
		Mafic sill altered to pinkish-grey color at 133.4m, sill is 2cm wide and soft enough to be scratched with a knife. Contains 1-2mm wide pyrite veinlets. Disseminated pyrite siltstone at 95.7m and 96.1m.									
		101.20- 101.20 bedding at 70° TCA	MS73	102.00	103.00	1.00					0.11
			MS74	103.00	104.00	1.00					0.16
			MS75	104.00	105.00	1.00					0.09
			MS76	105.00	106.00	1.00					0.09
			MS77	106.00	107.00	1.00					0.11
			MS78	107.00	108.00	1.00					0.08
			MS79	108.00	109.00	1.00					0.10
			MS80	109.00	110.00	1.00					0.09
			MS81	110.00	111.00	1.00					0.07
			MS82	111.00	112.00	1.00					0.10
			MS83	112.00	113.00	1.00					0.06
			MS84	113.00	114.00	1.00					0.08
			MS85	114.00	115.00	1.00					0.05
			MS86	115.00	116.00	1.00					0.10
			MS87	116.00	117.00	1.00					0.15
			MS88	117.00	118.00	1.00					0.14
			MS89	118.00	119.00	1.00					0.15
			MS90	119.00	120.00	1.00					0.11
			MS91	120.00	121.00	1.00					0.09
			MS92	121.00	122.00	1.00					0.08
			MS93	122.00	123.00	1.00					0.08
			MS94	123.00	124.00	1.00					0.11

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
133.40	135.70	SANDSTONE -  Light grey, c.g., arkosic, approximately 5% feldspar and quartz grains at 1mm diameter, massive, 5% disseminated pyrite at 133.5-133.6m, 1% disseminated pyrite at 134.3m and 5-7% disseminated pyrite at 134.6-134.8m, minor fragments of black siltstone	MS95	124.00	125.00	1.00					0.08	
			MS96	125.00	126.00	1.00					0.09	
			MS97	126.00	127.00	1.00					0.09	
			MS98	127.00	128.00	1.00					0.10	
			MS99	128.00	129.00	1.00					0.14	
			MS100	129.00	130.00	1.00					0.10	
			MS101	130.00	131.00	1.00					0.09	
			MS102	131.00	132.00	1.00					0.10	
			MS103	132.00	133.00	1.00					0.07	
			MS104	133.00	134.00	1.00					0.07	
						MS105	134.00	135.00	1.00			
			MS106	135.00	136.00	1.00				2.50		
135.70	136.90	MAFIC INTRUSIVE -  Dark green, fine grained, definitely intrusive since contacts are chilled, however due to broken core at contacts could not determine whether conformable or cross-cutting.  Hosts anastomosing quartz veins with trace pyrite at 136.9m; contacts are similar to those in previous sills i.e. bleached to a pinkish buff, 1cm of fault gouge at 135.8m	MS107	136.00	137.00	1.00					0.04	
136.90	148.80	SANDSTONE -  Color varies from light-dark grey, coarse grained, approximately 2-3% quartz and feldspar grains at 1 mm diameter imparting a pebbly look to the rock, hosts 1-2% black siltstone fragments that are 1 mm in diameter, bedding at 70° TCA.  5% disseminated pyrite over 3 cm at 137.7m, 1cm of fault gouge paralleling bedding at 138.4m, broken core from 138.4-139.3m caused by movement along adjacent fault, minor intercalated black	MS108	137.00	138.00	1.00						0.08
			MS109	138.00	139.00	1.00						0.04
			MS110	139.00	140.00	1.00						0.04
			MS111	140.00	141.00	1.00						0.06
			MS112	141.00	142.00	1.00						0.06
			MS113	142.00	143.00	1.00						0.05
			MS114	143.00	144.00	1.00						0.03
			MS115	144.00	145.00	1.00						0.06
			MS116	145.00	146.00	1.00						0.04
			MS117	146.00	147.00	1.00						0.02
			MS118	147.00	148.00	1.00						0.10
			MS119	148.00	149.00	1.00					0.08	





FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
182.40	216.60	<p>CARBONACEOUS SILTSTONE -</p> <p>Black, massive and no carbonate, unit comprises 90-95% carbonaceous siltstone with 5-10% evenly distributed and intercalated c.g. sandstone beds 0.5-2cm thick, a 70cm thick sandstone bed occurs at 203.8-204.5m.</p> <p>Siltstone is non-conductive, bedding at 80° TCA; Four zones of fault gouge were observed paralleling the bedding; 1cm of gouge at 188.3m, 3cm of gouge at 203.0m, 2cm of gouge at 210.0cm and 3cm of gouge at 210.8m. Pyrite disseminations 5mm wide and paralleling bedding occur at 215.7m, 215.9m, 216.0m and 216.1m. Minor quartz-calcite veining at 30° TCA.</p>	MS150	179.00	180.00	1.00					0.15	
			MS151	180.00	181.00	1.00						0.07
			MS152	181.00	182.00	1.00						0.07
			MS153	182.00	183.00	1.00						0.09
			MS154	183.00	184.00	1.00						0.11
			MS155	184.00	185.00	1.00						0.08
			MS156	185.00	186.00	1.00						0.14
			MS157	186.00	187.00	1.00						0.12
			MS158	187.00	188.00	1.00						0.12
			MS159	188.00	189.00	1.00						0.13
			MS160	189.00	190.00	1.00						0.10
			MS161	190.00	191.00	1.00						0.09
			MS162	191.00	192.00	1.00						0.07
			MS163	192.00	193.00	1.00						0.13
			MS164	193.00	194.00	1.00						0.14
			MS165	194.00	195.00	1.00						0.09
			MS166	195.00	196.00	1.00						0.11
			MS167	196.00	197.00	1.00						0.09
			MS168	197.00	198.00	1.00						0.12
			MS169	198.00	199.00	1.00						0.14
			MS170	199.00	200.00	1.00						0.13
			MS171	200.00	201.00	1.00						0.09
			MS172	201.00	202.00	1.00						0.12
			MS173	202.00	203.00	1.00						0.10
			MS174	203.00	204.00	1.00						0.09
			MS175	204.00	205.00	1.00						0.10
			MS176	205.00	206.00	1.00						0.10
			MS177	206.00	207.00	1.00						0.13
			MS178	207.00	208.00	1.00						0.12
			MS179	208.00	209.00	1.00						0.50
			MS180	209.00	210.00	1.00						0.09
			MS181	210.00	211.00	1.00						0.28
			MS182	211.00	212.00	1.00						0.10
			MS183	212.00	213.00	1.00						0.22
MS184	213.00	214.00	1.00						0.08			
MS185	214.00	215.00	1.00						0.12			
MS186	215.00	216.00	1.00						0.11			
MS187	216.00	217.00	1.00						3.6			
216.60	219.20	<p>MAFIC SILL -</p> <p>Dark green, non-magnetic and fine grained with chilled conformable contacts at 75° TCA; Sill has</p>	MS188	217.00	218.00	1.00					0.68	
			MS189	218.00	219.00	1.00						0.78
			MS190	219.00	220.00	1.00						0.09



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS223	252.00	253.00	1.00					0.11
			MS224	253.00	254.00	1.00					0.11
			MS225	254.00	255.00	1.00					0.20
			MS226	255.00	256.00	1.00					0.10
			MS227	256.00	257.00	1.00					0.24
			MS228	257.00	258.00	1.00					0.11
			MS229	258.00	259.00	1.00					0.23
			MS230	259.00	260.00	1.00					0.13
			MS231	260.00	261.00	1.00					0.12
			MS232	261.00	262.00	1.00					0.23
			MS233	262.00	263.00	1.00					0.05
			MS234	263.00	264.00	1.00					0.17
			MS235	264.00	265.00	1.00					0.35
			MS236	265.00	266.00	1.00					0.11
			MS237	266.00	267.00	1.00					0.13
			MS238	267.00	268.00	1.00					0.40
			MS239	268.00	269.00	1.00					0.14
			MS240	269.00	270.00	1.00					0.11
			MS241	270.00	271.00	1.00					0.14
			MS242	271.00	272.00	1.00					0.21
			MS243	272.00	273.00	1.00					0.21
			MS244	273.00	274.00	1.00					0.20
			MS245	274.00	275.00	1.00					0.13
			MS246	275.00	276.00	1.00					0.11
			MS247	276.00	277.00	1.00					0.09
			MS248	277.00	278.00	1.00					0.19
			MS249	278.00	279.00	1.00					0.10
			MS250	279.00	280.00	1.00					0.08
			MS251	280.00	281.00	1.00					0.10
			MS252	281.00	282.00	1.00					0.12
			MS253	282.00	283.00	1.00					0.14
			MS254	283.00	284.00	1.00					0.11
			MS255	284.00	285.00	1.00					0.13
			MS256	285.00	286.00	1.00					0.13
			MS257	286.00	287.00	1.00					0.13
			MS258	287.00	288.00	1.00					0.17
			MS259	288.00	289.00	1.00					0.13
			MS260	289.00	290.00	1.00					0.11
			MS261	290.00	291.00	1.00					0.17
			MS262	291.00	292.00	1.00					0.11
			MS263	292.00	293.00	1.00					0.08
			MS264	293.00	294.00	1.00					0.08
			MS265	294.00	295.00	1.00					0.11
			MS266	295.00	296.00	1.00					0.13

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS267	296.00	297.00	1.00					0.19
			MS268	297.00	298.00	1.00					0.10
			MS269	298.00	299.00	1.00					0.11
			MS270	299.00	300.00	1.00					0.24
			MS271	300.00	301.00	1.00					0.14
			MS272	301.00	302.00	1.00					0.12
			MS273	302.00	303.00	1.00					0.17
			MS274	303.00	304.00	1.00					0.17
			MS275	304.00	305.00	1.00					0.09
			MS276	305.00	306.00	1.00					0.08
			MS277	306.00	307.00	1.00					0.18
			MS278	307.00	308.00	1.00					0.12
			MS279	308.00	309.00	1.00					0.28
			MS280	309.00	310.00	1.00					0.09
			MS281	310.00	311.00	1.00					0.07
			MS282	311.00	312.00	1.00					0.09
			MS283	312.00	313.00	1.00					0.09
			MS284	313.00	314.00	1.00					0.09
			MS285	314.00	315.00	1.00					0.13
			MS286	315.00	316.00	1.00					0.10
			MS287	316.00	317.00	1.00					0.13
			MS288	317.00	318.00	1.00					0.12
			MS289	318.00	319.00	1.00					0.30
			MS290	319.00	320.00	1.00					0.06
			MS291	320.00	321.00	1.00					0.07
			MS292	321.00	322.00	1.00					0.15
			MS293	322.00	323.00	1.00					0.06
			MS294	323.00	324.00	1.00					0.13
			MS295	324.00	325.00	1.00					0.18
			MS296	325.00	326.00	1.00					0.11
			MS297	326.00	327.00	1.00					0.13
			MS298	327.00	328.00	1.00					0.10
			MS299	328.00	329.00	1.00					0.07
			MS300	329.00	330.00	1.00					0.06
			MS301	330.00	331.00	1.00					0.11
330.60	372.90	CARBONACEOUS SILTSTONE/SANDSTONE -	MS302	331.00	332.00	1.00					0.09
			MS303	332.00	333.00	1.00					0.11
		Intercalated beds of c.g. grey sandstone and black carbonaceous siltstone. Unit comprises 40% siltstone and 60% sandstone. Rip-up clasts of black siltstone in sandstone at 339.7m.	MS304	333.00	334.00	1.00					0.07
			MS305	334.00	335.00	1.00					0.08
			MS306	335.00	336.00	1.00					0.11
		Conglomerate comprising clasts of black siltstone, sandstone and pebbles of Proterozoic	MS307	336.00	337.00	1.00					0.07
			MS308	337.00	338.00	1.00					0.10
			MS309	338.00	339.00	1.00					0.04

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
		provenance at 343.0-343.6m. Bedding at 75° TCA.	MS310	339.00	340.00	1.00					0.14	
			MS311	340.00	341.00	1.00					0.05	
		Pyrite ovoid (1cm x 2cm) at 350.9m. Folded bedding at 360.6m, probable soft sediment slump. Seven zones of fault gouge were observed, 1cm of gouge at 338.9m, 341.0m, 341.6m, 341.7m, 346.4m, 351.6m and 2cm at 362.9m. Attitude of fault gouge is always the same as that in bedding.	MS312	341.00	342.00	1.00					0.07	
			MS313	342.00	343.00	1.00					0.05	
			MS314	343.00	344.00	1.00					0.08	
			MS315	344.00	345.00	1.00					0.07	
			MS316	345.00	346.00	1.00					0.08	
			MS317	346.00	347.00	1.00					0.04	
			MS318	347.00	348.00	1.00					0.06	
		Beds of sandstone at 330.5-331.3m, 332.5-333.0m, 336.1-336.8m, 338.1-339.2m, 339.4-339.9m, 341.0-342.9m, 344.8-345.6m, 345.9-347.2m, 348.0-349.8m, 350.1-350.4m, 351.4-351.8m, 352.2-352.6m, 352.9-353.1m, 353.2-354.0m, 355.0-355.5m, 355.6-355.9m, 356.8-357.5m, 357.8-358.1m, 358.3-358.6m, 358.7-358.9m, 362.0-362.1m, 362.3-362.6m, 364.3-364.6m, 364.7-365.0m, 365.1-365.3m, 368.0-368.8m, 371.4-372.9m.	MS319	348.00	349.00	1.00						0.12
			MS320	349.00	350.00	1.00					0.05	
			MS321	350.00	351.00	1.00					0.16	
			MS322	351.00	352.00	1.00					0.33	
			MS323	352.00	353.00	1.00					0.08	
			MS324	353.00	354.00	1.00					0.05	
			MS325	354.00	355.00	1.00					0.09	
			MS326	355.00	356.00	1.00					0.12	
			MS327	356.00	357.00	1.00					0.08	
			MS328	357.00	358.00	1.00					0.06	
			MS329	358.00	359.00	1.00					0.17	
			MS330	359.00	360.00	1.00					0.08	
			MS331	360.00	361.00	1.00					0.07	
			MS332	361.00	362.00	1.00					0.07	
			MS333	362.00	363.00	1.00					0.08	
			MS334	363.00	364.00	1.00					0.09	
			MS335	364.00	365.00	1.00					0.20	
			MS336	365.00	366.00	1.00					0.06	
			MS337	366.00	367.00	1.00					0.08	
			MS338	367.00	368.00	1.00					0.05	
			MS339	368.00	369.00	1.00					0.07	
			MS340	369.00	370.00	1.00					0.06	
			MS341	370.00	371.00	1.00					0.11	
			MS342	371.00	372.00	1.00					0.05	
			MS343	372.00	373.00	1.00					0.15	
372.90	474.40	CARBONACEOUS SILTSTONE -	MS344	373.00	374.00	1.00					0.06	
			MS345	374.00	375.00	1.00					0.05	
		Black, massive, bedding at 75-80° TCA, no carbonate, non-conductive; comprises <5% c.g. grey sandstone beds generally occurring as thin beds 5mm-1cm in thickness. Sandstone beds 10cm thick at 390.7m, 404.4m, 409.7m, 437.9m and 447.3m.	MS346	375.00	376.00	1.00					0.14	
			MS347	376.00	377.00	1.00					0.15	
			MS348	377.00	378.00	1.00					0.12	
			MS349	378.00	379.00	1.00					0.29	
			MS350	379.00	380.00	1.00					0.12	
			MS351	380.00	381.00	1.00					0.18	
			MS352	381.00	382.00	1.00					0.11	

FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS		
		Fault gouge and broken core from 393.8-394.1m, 10cm of fault gouge at 403.6m and 428.9m. "Tension gashes" in sandstone at 437.9m and 447.3m are infilled with quartz-calcite. Cross-bedding at 444.5m and 468.0m indicate younging up the hole.	MS353	382.00	383.00	1.00					0.08		
			MS354	383.00	384.00	1.00						0.11	
			MS355	384.00	385.00	1.00						0.08	
			MS356	385.00	386.00	1.00						0.09	
			MS357	386.00	387.00	1.00						0.08	
			MS358	387.00	388.00	1.00						0.09	
			MS359	388.00	389.00	1.00						0.10	
			MS360	389.00	390.00	1.00						0.13	
			MS361	390.00	391.00	1.00						0.09	
			MS362	391.00	392.00	1.00						0.17	
			MS363	392.00	393.00	1.00						0.10	
			MS364	393.00	394.00	1.00						0.13	
			MS365	394.00	395.00	1.00						0.08	
			MS366	395.00	396.00	1.00						0.08	
		Mafic sill from 465.0-465.1m, aphanitic matrix bleached to greenish grey color, 3% calcite crystals in central part of sill, 1-2% dark green mineral, possible chlorite or chloritized mafic mineral. Numerous quartz-calcite veinlets in broken core from 465.3-465.6m. Dark green aphanitic mafic sill at 467.7-467.8m, hard, strongly magnetic and has a 2mm wide chilled contact that is blue.	MS367	396.00	397.00	1.00						0.09	
			MS368	397.00	398.00	1.00						0.07	
			MS369	398.00	399.00	1.00						0.18	
			MS370	399.00	400.00	1.00						0.09	
			Pyrite disseminations 5mm wide paralleling bedding at 472.5m, 473.1m, 473.3m, 473.8 and 474.3m	MS371	400.00	401.00	1.00						0.13
				MS372	401.00	402.00	1.00						0.12

FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			MS373	402.00	403.00	1.00					0.14
			MS374	403.00	404.00	1.00					0.07
			MS375	404.00	405.00	1.00					0.10
			MS376	405.00	406.00	1.00					0.21
			MS377	406.00	407.00	1.00					0.11
			MS378	407.00	408.00	1.00					0.09
			MS379	408.00	409.00	1.00					0.13
			MS380	409.00	410.00	1.00					0.19
			MS381	410.00	411.00	1.00					0.15
			MS382	411.00	412.00	1.00					0.10
			MS383	412.00	413.00	1.00					0.15
			MS384	413.00	414.00	1.00					0.07
			MS385	414.00	415.00	1.00					0.07
			MS386	415.00	416.00	1.00					0.11
			MS387	416.00	417.00	1.00					0.08
			MS388	417.00	418.00	1.00					0.18
			MS389	418.00	419.00	1.00					0.14
			MS390	419.00	420.00	1.00					0.09
			MS391	420.00	421.00	1.00					0.09
			MS392	421.00	422.00	1.00					0.10
			MS393	422.00	423.00	1.00					0.08
			MS394	423.00	424.00	1.00					0.06
			MS395	424.00	425.00	1.00					0.10
			MS396	425.00	426.00	1.00					0.30
			MS397	426.00	427.00	1.00					0.08
			MS398	427.00	428.00	1.00					0.15
			MS399	428.00	429.00	1.00					0.13
			MS400	429.00	430.00	1.00					0.07
			MS401	430.00	431.00	1.00					0.10
			MS402	431.00	432.00	1.00					0.07
			MS403	432.00	433.00	1.00					0.11
			MS404	433.00	434.00	1.00					0.10
			MS405	434.00	435.00	1.00					0.07
			MS406	435.00	436.00	1.00					0.09
			MS407	436.00	437.00	1.00					0.09
			MS408	437.00	438.00	1.00					0.11
			MS409	438.00	439.00	1.00					0.12
			MS410	439.00	440.00	1.00					0.15
			MS411	440.00	441.00	1.00					0.10
			MS412	441.00	442.00	1.00					0.07
			MS413	442.00	443.00	1.00					0.12
			MS414	443.00	444.00	1.00					0.08
			MS415	444.00	445.00	1.00					0.06
			MS416	445.00	446.00	1.00					0.12

FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
			MS417	446.00	447.00	1.00					0.08
			MS418	447.00	448.00	1.00					0.12
			MS419	448.00	449.00	1.00					0.10
			MS420	449.00	450.00	1.00					0.25
			MS421	450.00	451.00	1.00					0.10
			MS422	451.00	452.00	1.00					0.08
			MS423	452.00	453.00	1.00					0.15
			MS424	453.00	454.00	1.00					0.08
			MS425	454.00	455.00	1.00					0.12
			MS426	455.00	456.00	1.00					0.12
			MS427	456.00	457.00	1.00					0.06
			MS428	457.00	458.00	1.00					0.10
			MS429	458.00	459.00	1.00					0.12
			MS430	459.00	460.00	1.00					0.15
			MS431	460.00	461.00	1.00					0.15
			MS432	461.00	462.00	1.00					0.15
			MS433	462.00	463.00	1.00					0.10
			MS434	463.00	464.00	1.00					0.15
			MS435	464.00	465.00	1.00					0.22
			MS436	465.00	466.00	1.00					0.14
			MS437	466.00	467.00	1.00					0.13
			MS438	467.00	468.00	1.00					0.09
			MS439	468.00	469.00	1.00					0.08
			MS440	469.00	470.00	1.00					0.11
			MS441	470.00	471.00	1.00					0.13
			MS442	471.00	472.00	1.00					0.13
			MS443	472.00	473.00	1.00					0.33
			MS444	473.00	474.00	1.00					0.33
			MS445	474.00	475.00	1.00					12.3
474.40	475.90	MAFIC SILL -  Greyish green, f.g. matrix, 2-3% plagioclase crystals (1-2mm in length) that are anhedral to lath shaped, minor saussuritization of plagioclase cores, chlorite veins at 30° TCA, strongly magnetic, trace calcite in matrix and rare pyrite on fractures, 2-3% dark green "blotches" (2-3mm in length) that are probably chlorite, contacts are not chilled.	MS446	475.00	476.00	1.00					0.17
475.90	476.10	CARBONACEOUS SILTSTONE -  Black, massive, hosts pyrite disseminations	MS447	476.00	477.00	1.00					2.16



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
476.10	479.40	paralleling bedding and also pyrite veinlets cross-cutting bedding. MAFIC SILL -	MS448 MS449 MS450	477.00 478.00 479.00	478.00 479.00 480.00	1.00 1.00 1.00					6.67 5.47 0.28
479.40	479.90	CARBONACEOUS SILTSTONE - Black, bedding at 80° TCA, pyrite nodules elongated and paralleling bedding at 479.6m.									
479.90	480.20	MAFIC SILL - Same as that seen at 476.1-479.4m except this sill is non-magnetic	MS451	480.00	481.00	1.00					1.26
480.20	486.40	CARBONACEOUS SILTSTONE - Black, highly cleaved along bedding planes and almost entirely broken from 480.2-483.0m, disseminated pyrite common on bedding planes and locally the disseminations are magnetic (pyrrhotite?), minor quartz-calcite veinlets both cross-cutting and paralleling bedding.	MS452 MS453 MS454 MS455 MS456 MS457	481.00 482.00 483.00 484.00 485.00 486.00	482.00 483.00 484.00 485.00 486.00 487.00	1.00 1.00 1.00 1.00 1.00 1.00					0.84 1.05 0.32 0.57 0.65 0.32
486.40	487.20	MAFIC SILL - Dark green, magnetic, no calcite in matrix, a few quartz-calcite stringers, 15-20% chloritic spots, lower contact chilled and oriented 70° TCA.	MS458	487.00	488.00	1.00					0.06
487.20	496.20	CARBONACEOUS SILTSTONE/SANDSTONE - Intercalated siltstone and sandstone, sandstone is c.g., grey and comprises grains of quartz, feldspar and fragments of black siltstone, fault	MS459 MS460 MS461 MS462 MS463	488.00 489.00 490.00 491.00 492.00	489.00 490.00 491.00 492.00 493.00	1.00 1.00 1.00 1.00 1.00					0.04 0.06 0.05 0.04 0.14

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS		
496.20	497.10	gouge paralleling bedding at 487.2-487.3m, 488.4-488.6m and 495.8-495.9m, 2-3% disseminated pyrite at 487.3 and 493.2m, pyrite ovoid at 494.4m.	MS464	493.00	494.00	1.00					0.15		
			MS465	494.00	495.00	1.00					0.18		
			MS466	495.00	496.00	1.00					3.61		
			MS467	496.00	497.00	1.00					0.05		
496.20	497.10	MAFIC SILL -  Greenish grey, fine grained, plagiophyric, similar to that seen at 474.4-475.9m, 2% plagioclase laths and anhedral crystals, hosts quartz-calcite crystals at 30° TCA, upper contact comprises broken core and lower contact is conformable at 85° TCA.	MS468	497.00	498.00	1.00					7.10		
497.10	499.00	SANDSTONE -  Dark grey to black sandstone heavily contaminated with black siltstone.	MS469	498.00	499.00	1.00					0.31		
499.00	503.70	MAFIC SILL -  Dark green, fine grained, non-magnetic, hosts 2-3% chlorite spots 1-2mm in diameter, quartz-calcite veins at 10-30° TCA, bright green mineral in quartz-calcite vein at 500.7m (green colored carbonate?), upper contact is conformable at 30° TCA, lower contact is bleached and altered due to quartz-calcite veining	MS470	499.00	500.00	1.00						0.51	
			MS471	500.00	501.00	1.00						0.33	
			MS472	501.00	502.00	1.00						0.28	
			MS473	502.00	503.00	1.00						0.33	
			MS474	503.00	504.00	1.00						0.10	
503.70	522.10	SANDSTONE/SILTSTONE -  Intercalated sandstone and carbonaceous siltstone, quartz-calcite veining from 503.7-504.1m, 2cm of fault gouge at 507.0m, pyrite ovoids and bands 1-2cm thick and occasionally 3-4cm thick occur at 506.5m, 507.9m, 511.7m, 511.8m, 512.4m, 513.5m, 515.7m, 516.5m, 516.7m, 518.8m, 519.3m, 519.7m, 520.1m, 520.4m and 520.7m. Concentration of pyrite in bands and ovoids can vary from 10-80% and are generally conductive. Pyrite parallels bedding at 70° TCA. Pyrite bands and ovoids are for the most part in the black siltstone. Heavily disseminated pyrite (10%) over 6cm at 516.1m.	MS475	504.00	505.00	1.00						0.12	
			MS476	505.00	506.00	1.00							0.12
			MS477	506.00	507.00	1.00							0.12
			MS478	507.00	508.00	1.00							0.15
			MS479	508.00	509.00	1.00							0.21
			MS480	509.00	510.00	1.00							0.10
			MS481	510.00	511.00	1.00							0.67
			MS482	511.00	512.00	1.00							0.65
			MS483	512.00	513.00	1.00							0.50
			MS484	513.00	514.00	1.00							0.45
			MS485	514.00	515.00	1.00							0.12
			MS486	515.00	516.00	1.00							0.15
			MS487	516.00	517.00	1.00							0.06
			MS488	517.00	518.00	1.00	10.6	52	36	43			0.17

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
522.10	537.10	Sandstone beds occur at 503.7-504.6m, 505.0-505.1m, 505.6-506.0m, 506.3-506.4m, 512.9-513.3m and 516.0-516.2m.	MS489	518.00	519.00	1.00					0.15	
			MS490	519.00	520.00	1.00					0.10	
			MS491	520.00	521.00	1.00					0.81	
			MS492	521.00	522.00	1.00					0.41	
			MS493	522.00	523.00	1.00					0.51	
		Dark green, equigranular, strongly magnetic, quartz-calcite veins at 60° TCA, variably plagiophytic, plagioclase phenocrysts occur as .5-1mm crystals, there is a possible intrusive contact within the sill at 523.5m where an aphanitic mafic dyke similar megascopically to the sill is intrusive at 80° TCA.	MS494	523.00	524.00	1.00						21.0
			MS495	524.00	525.00	1.00						6.10
			MS496	525.00	526.00	1.00						10.4
			MS497	526.00	527.00	1.00						10.1
			MS498	527.00	528.00	1.00						9.21
			MS499	528.00	529.00	1.00						9.61
			MS500	529.00	530.00	1.00						8.84
			MS501	530.00	531.00	1.00						8.65
			MS502	531.00	532.00	1.00						9.44
END OF HOLE	MS503	532.00	533.00	1.00						7.01		
	MS504	533.00	534.00	1.00						6.94		
	MS505	534.00	535.00	1.00						8.50		
	MS506	535.00	536.00	1.00						8.79		
	MS507	536.00	537.00	1.00						7.99		
	MS508	537.00	537.10	0.10						8.69		

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-9-2      Zone # : 21W      Contractor : Petro Drilling Company      Date started : 07/28/1994  
 Township: Itilvde Valley      Date completed: 08/02/1994  
 Lot :      Concession:      Claim # :

Level :      Section:      Location : Grid 9

Collar coordinate :      Line : 2+50 S      Latitude: 7847410.60 N      Azimuth: 0° 0' 0"  
 Station: 4+ 0 W      Departure: 387616.40 E      Dip : -90° 0' 0"  
 Reference frame :      Elevation: 435.00      Length : 127.00

Surveyed by: R.M. Graves

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : 70 metres of BQ drill rods twisted off after cementing hole. Casing pulled and no tropari test.

Water flow : NONE  
 Cemented : Yes

Logged by : R. Mark Graves

Date logged: 08/03/1994

Hole # : FP94-9-2











FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
		104.2-105.0m, 108.5-108.8m, 111.8-111.9m, 117.8-118.0m.									
		88.1-91.0m: lithology is predominantly intercalated ash-tuff and lapillistone, a crystalloclastic rock comprising 30% of 1mm euhedral white crystals (carbonate?) at 88.5-88.6m, bedding at 85° TCA.									
		88.6-96.4m: dark green-black basalt, hosts calcite crystals at 93.2-93.6m, core is almost completely broken									
		96.4-119.2m: intercalated siltstone, coarse ash-tuff and lapillistone; dominantly dark green siltstone (weakly magnetic) from 96.4-99.4m; dominantly coarse ash tuff from 99.4-101.8m, bedding at 85° TCA; intermixed lapillistone and ash tuff from 101.8-115.0m, almost all of the core is broken, "slicks" on joint (20° TCA) at 106.4m indicate dip-slip movement; 115.0-118.0m - a white spotted (plagioclase?) mafic volcanic, non-magnetic, extensively injected with calcite veins from 115.4-116.0m; interbedded argillaceous sediment and fine ash-tuff from 116.0-119.2m.									
		88.10- 91.00	78	89.00	90.00	1.00					25.1
		paleo-weathering surface dis-colored to a yellowish brown	79	90.00	91.00	1.00					3.75
			80	91.00	92.00	1.00					3.75
			81	92.00	93.00	1.00					6.03
			82	93.00	94.00	1.00					7.52
			83	94.00	95.00	1.00					7.52
			84	95.00	96.00	1.00					11.8
			85	96.00	97.00	1.00					3.29
			86	97.00	98.00	1.00					3.35
			87	98.00	99.00	1.00					2.02
			88	99.00	100.00	1.00					4.50
			89	100.00	101.00	1.00					0.39
			90	101.00	102.00	1.00					7.80
			91	102.00	103.00	1.00					8.21
			92	103.00	104.00	1.00					24.0
			93	104.00	105.00	1.00					23.3
			94	105.00	106.00	1.00					8.47



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-9-3

Zone # : 21W

Contractor : Petro Drilling Limited

Date started : 08/03/1994

Township: Itilvde Valley

Date completed: 08/06/1994

Lot :

Concession:

Claim # :

Level :

Section:

Location : Grid 9

Collar coordinate :

Line : 1+50 S

Latitude: 7847483.10 N

Azimuth: 0° 0' 0"

Station: 4+50 W

Departure: 387531.30 E

Dip : -90° 0' 0"

Reference frame :

Elevation: 485.00

Length : 97.50

Surveyed by: R.M. Graves

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : Hole required cementing at bottom therefore drilling was terminated. Casing pulled.

Water flow : Yes  
Cemented : No

Logged by : R. Mark Graves

Date logged: 08/06/1994

Hole # : FP94-9-3



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
		is dark green to black except from 42.6-46.3m where within a paleo-weathering zone the rock is oxidized to a reddish brown, from 42.6-43.5 the volcano-clastic sediment is relatively intact and has the appearance of residual bedrock.									
		Both sharp and gradational contacts occur between the lithologies, rapid grain size transitions between beds at sharp contacts; gradational contacts at 50.6-50.8m and 60.9-61.0m indicate coarsening down hole, sharp contacts occur at 45.0m, 47.1m, 48.1m, 53.3m and 57.2m; carbonaceous sediment at 54.4m (1cm bed), 57.3-57.4 and 1cm bed at 57.6m; carbonaceous sediment is non-conductive.									
		Lapillistone is hetero-lithic, volcanic fragments are fine grained and vary in color from red-brown-green-black; a few breccia fragments were observed; black amygdaloidal basalt from 75.3-76.0m, amygdules are calcite and 1mm in diameter.									
		Core is 80% broken and approximately 4m of core is lost. Fault gouge zones 2cm wide occur at 47.2 and 47.8m and 3cm wide at 53.9 and 57.0m.									
		42.60- 46.30 paleo-weathering zone	39	43.00	44.00	1.00					9.03
			40	44.00	45.00	1.00					5.31
			41	45.00	46.00	1.00					5.17
			42	46.00	47.00	1.00					4.79
			43	47.00	48.00	1.00					0.18
			44	48.00	49.00	1.00					7.67
			45	49.00	50.00	1.00					1.83
			46	50.00	51.00	1.00					11.3
			47	51.00	52.00	1.00					7.17
			48	52.00	53.00	1.00					7.48
			49	53.00	54.00	1.00					1.59
			50	54.00	55.00	1.00					0.96
			51	55.00	56.00	1.00					2.69
			52	56.00	57.00	1.00					0.45
			53	57.00	58.00	1.00					3.80
			54	58.00	59.00	1.00					4.27
			55	59.00	60.00	1.00					4.97

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
76.10	97.50	VOLCANO-CLASTIC SEDIMENT -  Dominated by lapillistone (60%), coarse ash tuff (30%) and fine grained waterlain sediment; most of unit is hematized to reddish-brown color caused by paleo-weathering, bedding is at 85-90° TCA, approximately 30% of core is broken; fault gouge from 78.0-78.3m, 90.2-90.4m and 93.4-93.5m.  Polymictic lapillistone hosting fragments of aphanitic volcanic, sediment, amygdaloidal basalt and minor amounts of volcanic glass; lapillistone contains turquoise blue fragments with quenched margins and brownish "droplets" at 97.0m; bluish colored argillite at 87.5m; sharp depositional contacts at 78.4m, 78.8m, 81.0m, 84.1m, 90.7m, 91.5m, 91.6m and 95.8m.  78.40- 78.40 bedding at 90° TCA	56	60.00	61.00	1.00					5.29
			57	61.00	62.00	1.00					6.45
			58	62.00	63.00	1.00					4.86
			59	63.00	64.00	1.00					7.97
			60	64.00	65.00	1.00					6.32
			61	65.00	66.00	1.00					3.91
			62	66.00	67.00	1.00					5.72
			63	67.00	68.00	1.00					8.75
			64	68.00	69.00	1.00					9.98
			65	69.00	70.00	1.00					8.51
			66	70.00	71.00	1.00					9.27
			67	71.00	72.00	1.00					9.55
			68	72.00	73.00	1.00					6.77
			69	73.00	74.00	1.00					10.4
			70	74.00	75.00	1.00					10.4
			71	75.00	76.00	1.00					9.46
			72	76.00	77.00	1.00					1.25
			73	77.00	78.00	1.00					8.52
			74	78.00	79.00	1.00					7.02
			75	79.00	80.00	1.00					11.1
			76	80.00	81.00	1.00					13.7
77	81.00	82.00	1.00					11.5			
78	82.00	83.00	1.00					16.3			
79	83.00	84.00	1.00					14.5			

FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			80	84.00	85.00	1.00					14.0
			81	85.00	86.00	1.00					12.8
			82	86.00	87.00	1.00					17.4
			83	87.00	88.00	1.00					10.9
			84	88.00	89.00	1.00					1.09
			85	89.00	90.00	1.00					1.85
			86	90.00	91.00	1.00					11.7
			87	91.00	92.00	1.00					3.61
			88	92.00	93.00	1.00					7.60
			89	93.00	94.00	1.00					11.0
			90	94.00	95.00	1.00					9.72
			91	95.00	96.00	1.00					8.00
			92	96.00	97.00	1.00					4.75
97.50	97.50	END OF HOLE	93	97.00	97.50	0.50					8.35

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-9-4  
Township:  
Lot :

Zone # :  
Concession:  
Claim # :

Contractor : Petro Drilling Company

Date started : 08/07/1994  
Date completed: 08/11/1994

Level :

Section:

Location : Grid 9

Collar coordinate :

Line : 25+ 0 S  
Station: 5+25 E

Latitude: 7845111.00 N  
Departure: 389370.00 E  
Elevation: 405.00

Azimuth: 0° 0' 0"  
Dip : -90° 0' 0"  
Length : 180.20

Reference frame :

Surveyed by: R.M.Graves

Deviation tests :

Depth	Dip	Azimuth
90.00 M	89° 0' 0"	0° 0' 0"
175.00 M	88° 0' 0"	0° 0' 0"

Remarks : Difficulty penetrating brittle deformation zones  
from 138.0-180.2m; hole stopped and casing pulled.

Water flow : None  
Cemented : No

Logged by :

Date logged: / /

Hole # : FP94-9-4



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	9.30	OVERBURDEN -	1	0.00	10.00	10.00					0.39
9.30	23.40	HYALOCLASTITE BRECCIA -  Emerald green, occasionally magnetic, soft (easily scratched with a knife), primarily a rock hosting angular-rounded vitric fragments that are light emerald green in a matrix that is darker green, vitric fragments are aphanitic and vary from ash-lapilli in size, the ash-lapilli fragments contain small (<.25mm) translucent green glass fragments and spheroids; the ash-lapilli fragments frequently have a concentric zoning defined by variations in the shades of green.  Rock hosts 5% silica (zeolite?) cavity fillings that are for the most part irregularly shaped (i.e. not rounded); unit also hosts 5-10% grey-maroon colored basalt fragments 1-5cm in diameter, basalt fragments vary in shape from angular to rounded, these basalt fragments may represent un-vitrified protolith; basalt is commonly weathered(?) to brown on the margins.  Broken core from 9.5-9.7m, 14.0-14.1m, 17.2-17.4m and 19.0-19.2m. Approximately 3m of lost core.	2 3 4 5 6 7 8 9 10 11 12 13 14 15	10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00	11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00				0.46 0.01 0.37 0.59 0.35 1.14 1.02 0.64 1.00 0.37 0.28 0.27 0.19 0.04	
23.40	30.20	CARBONACEOUS SILTSTONE -  Color varies from black to brown, massive, minor quartz-calcite veinlets, no visible pyrite, rock is non-conductive however wet fault gouge is conductive - possible explanation for EM anomaly.  Fault gouge at 24.0-24.2m, 25.4-25.6m and 26.4-26.5m; 1m of lost core.  Intercalated hyaloclastite breccia at 25.8-26.1m, 26.7-27.0m and 2cm at 29.4m.	16 17 18 19 20 21 22	24.00 25.00 26.00 27.00 28.00 29.00 30.00	25.00 26.00 27.00 28.00 29.00 30.00 31.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00					0.16 0.09 0.09 0.15 0.05 0.08 0.09



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
			66	74.00	75.00	1.00					0.41
			67	75.00	76.00	1.00					1.04
			68	76.00	77.00	1.00					0.64
			69	77.00	78.00	1.00					0.61
			70	78.00	79.00	1.00					2.33
			71	79.00	80.00	1.00					0.72
			72	80.00	81.00	1.00					0.80
			73	81.00	82.00	1.00					1.00
			74	82.00	83.00	1.00					1.41
			75	83.00	84.00	1.00					0.59
			76	84.00	85.00	1.00					0.62
			77	85.00	86.00	1.00					0.94
			78	86.00	87.00	1.00					2.40
			79	87.00	88.00	1.00					0.99
			80	88.00	89.00	1.00					0.80
			81	89.00	90.00	1.00					6.22
			82	90.00	91.00	1.00					0.81
			83	91.00	92.00	1.00					0.87
			84	92.00	93.00	1.00					0.75
			85	93.00	94.00	1.00					1.08
			86	94.00	95.00	1.00					0.76
			87	95.00	96.00	1.00					2.75
			88	96.00	97.00	1.00					0.76
			89	97.00	98.00	1.00					0.98
			90	98.00	99.00	1.00					1.22
			91	99.00	100.00	1.00					0.68
			92	100.00	101.00	1.00					0.60
			93	101.00	102.00	1.00					1.79
			94	102.00	103.00	1.00					1.37
			95	103.00	104.00	1.00					3.11
			96	104.00	105.00	1.00					0.96
			97	105.00	106.00	1.00					0.80
			98	106.00	107.00	1.00					1.75
			99	107.00	108.00	1.00					0.74
			100	108.00	109.00	1.00					0.75
			101	109.00	110.00	1.00					2.82
			102	110.00	111.00	1.00					2.86
			103	111.00	112.00	1.00					1.58
			104	112.00	113.00	1.00					1.32
			105	113.00	114.00	1.00					0.53
			106	114.00	115.00	1.00					0.55
			107	115.00	116.00	1.00					2.24
			108	116.00	117.00	1.00					0.65
			109	117.00	118.00	1.00					0.86

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS			
138.10	151.40	MAFIC SILL/DYKE -  Grey, fine grained, massive, equigranular, non-plagiophyric except near base at 149.3-151.4m where plagioclase occurs as 1-3mm anhedral crystals, 30% plagioclase in matrix, strongly magnetic, jointing at 60° TCA, chlorite smears joints, both upper and lower contacts are chilled, minor gossan on joints from 138.1-141.1m.	110	118.00	119.00	1.00						1.68		
			111	119.00	120.00	1.00							0.62	
			112	120.00	121.00	1.00								0.39
			113	121.00	122.00	1.00								0.59
			114	122.00	123.00	1.00								0.48
			115	123.00	124.00	1.00								0.37
			116	124.00	125.00	1.00								0.44
			117	125.00	126.00	1.00								0.39
			118	126.00	127.00	1.00								0.57
			119	127.00	128.00	1.00								1.51
			120	128.00	129.00	1.00								0.62
			121	129.00	130.00	1.00								1.89
			122	130.00	131.00	1.00								0.39
			123	131.00	132.00	1.00								0.38
			124	132.00	133.00	1.00								0.99
			125	133.00	134.00	1.00								0.37
			126	134.00	135.00	1.00								0.33
			127	135.00	136.00	1.00								0.24
			128	136.00	137.00	1.00								0.48
			129	137.00	138.00	1.00								17.8
130	138.00	139.00	1.00								14.6			
138.10	151.40	MAFIC SILL/DYKE -  Grey, fine grained, massive, equigranular, non-plagiophyric except near base at 149.3-151.4m where plagioclase occurs as 1-3mm anhedral crystals, 30% plagioclase in matrix, strongly magnetic, jointing at 60° TCA, chlorite smears joints, both upper and lower contacts are chilled, minor gossan on joints from 138.1-141.1m.	131	139.00	140.00	1.00						13.0		
			132	140.00	141.00	1.00							12.9	
			133	141.00	142.00	1.00							16.8	
			134	142.00	143.00	1.00							14.0	
			135	143.00	144.00	1.00							11.4	
			136	144.00	145.00	1.00							13.3	
			137	145.00	146.00	1.00							12.5	
			138	146.00	147.00	1.00							15.4	
			139	147.00	148.00	1.00							14.0	
			140	148.00	149.00	1.00							16.0	
			141	149.00	150.00	1.00							7.7	
			142	150.00	151.00	1.00							8.75	
			143	151.00	152.00	1.00							1.02	
151.40	155.00	CARBONACEOUS SILTSTONE -  Black, massive, hosts pyrite bands at 152.5m, 152.8m, 153.4m and 153.8m, pyrite bands are conductive, wallrock is not conductive; hosts a 6cm wide mafic dyke at 153.4m that is bleached to a pinkish-green color, siltstone above the upper contact is metamorphosed to a greyish color over.	144	152.00	153.00	1.00						0.18		
			145	153.00	154.00	1.00							0.16	
			146	154.00	155.00	1.00							2.30	

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		20cm by the adjacent dyke; at lower contact from 154.4-155.0m the unit is a carbonaceous sandstone; core is broken from 152.5-152.6m and 153.6-154.2m.									
155.00	156.60	MAFIC SILL/DYKE -	147	155.00	156.00	1.00					7.25
		Greyish-green, fine-grained, magnetic, contacts are irregular and do not follow bedding, anastomosing quartz-calcite veinlets in lower 20cm of unit, trace pyrite, non-plagiophytic	148	156.00	157.00	1.00					0.76
156.60	157.80	CARBONACEOUS SILTSTONE -	149	157.00	158.00	1.00					1.24
		Black, massive, strong shear fabric at 30 degrees TCA, core is friable, bottom 30cm is carbonaceous sandstone.									
157.80	163.40	MAFIC SILL/DYKE -	150	158.00	159.00	1.00					10.0
		Greyish-green, aphyric, magnetic, poorly developed jointing at 30° TCA, chlorite on joints, dark green spots (chloritized mafic mineral?), upper contact bleached to a greyish color and cut by quartz veins, 1cm of fault gouge at 163.4m.	151	159.00	160.00	1.00					11.1
			152	160.00	161.00	1.00					10.4
			153	161.00	162.00	1.00					11.0
			154	162.00	163.00	1.00					6.58
			155	163.00	164.00	1.00					1.75
163.40	179.50	INTERCALATED SANDSTONE/CARBONACEOUS SILTSTONE -	156	164.00	165.00	1.00					0.50
		Siltstone beds at 163.6-163.9m, 165.3-166.3m, 170.8-171.3m (sheared to fault gouge), 171.8-172.2m (with minor sandstone), and 174.4-179.0m; sandstone is grey and medium grained, 10cm of fault gouge at 167.0m.									
		Pyrite blebs at 171.6-171.8m and 173.5-175.0, pyrite bands in sandstone at 171.1m, 1m of lost core at 179.0m (fault).									
		165.00- 165.00 bedding at 50° TCA									
			157	165.00	166.00	1.00					1.40
			158	166.00	167.00	1.00					0.46
			159	167.00	168.00	1.00					0.10
			160	168.00	169.00	1.00					0.08



DIAMOND DRILL LOG

Falconbridge

Property : 015905605

Hole # : FP94-4-2      Zone # :      Contractor : PETRO DRILLING      Date started : 08/15/1994  
Township :      Concession:      Claim # :      Date completed: 08/19/1994  
Lot :      Level :      Section:      Location : GRID 4A-DISKO I.,GRN  
Collar coordinate :      Line : 11+ 0 E      Latitude: 7774442.20 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 4+63 N      Departure: 422895.30 E      Dip : -90° 0' 0"  
Elevation: 347.00      Length : 69.20

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "
	0	0

Remarks : Hole unable to continue due to extreme loss of circulation

Water flow : NO  
Cemented :

Logged by : M. JEROME

Date logged: 08/23/1994

Hole # : FP94-4-2

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	42.52	OVERBURDEN -									
		41.10- 42.52 Soft, non-lithified, dark grey, weakly conductive, carbonaceous mud (till) with rock fragments (2-20mm sized, sharp/angular fragments, increased quantity over lower 20cm).	MS01 MS02	41.10 42.00	41.11 42.01	0.01 0.01					0.18 0.31
42.52	44.27	MAFIC SILL - Medium greenish-grey, fine grained, weakly magnetic, competent, non-conductive intrusive unit. 1-2mm, angular, feldspar crystals evident over the initial 30cm of the unit. Sharp inner contact at 85 to CA (fine grained chill margin of 10cm), sharp outer contact at 57 to CA with a 10 cm chill margin.									
		42.52- 42.52 Sharp inner contact @85 to CA.	MS03 MS04	43.00 44.00	43.01 44.01	0.01 0.01					9.77 4.97
44.27	51.12	MAFIC FRAGMENTAL - Medium greyish-green, blocky/broken unit with extreme core loss. Unit composed of 1-20mm sized, subangular/subrounded, light beige to medium grey (locally orange-brown) mafic fragments set in a fine grained, medium grey to buff matrix. Gradational contacts, outer contact broken. Broken sections from 44.32-45.6m and 46.04-48.5m.									
		44.27- 48.00 Section with clear, well-defined fragments									
		44.27- 44.27 Sharp outer contact @57 to CA.	MS05 MS06	45.00 46.00	45.01 46.01	0.01 0.01					0.15 0.16
		48.00- 51.12 Fragments less defined as underlying	MS07	48.00	48.01	0.01					0.18







Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-4-3      Zone # : 22W      Contractor : Petro Drilling Company      Date started : 08/15/1994  
Township: Outdigssat  
Lot :      Concession:      Claim # :      Date completed: 08/20/1994

Level :      Section:      Location : Grid 4

Collar coordinate :      Line : 22+ 0 N      Latitude: 7774019.00 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 9+75 E      Departure: 423518.90 E      Dip : -90° 0' 0"  
Elevation: 292.00      Length : 58.20

Surveyed by: R.M.Graves

Deviation tests :	Depth	Dip	Azimuth
	0.00 M	° ' "	° ' "

Remarks : No tropari test, 30 feet of casing and 30 feet of BQ gear lost including core barrel and core tube.

Water flow : None  
Cemented : No

Logged by : R. Mark Graves

Date logged: 08/16/1994

Hole # : FP94-4-3

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS	
0.00	32.50	OVERBURDEN -	1	0.00	3.00	3.00					1.85	
			2	3.00	4.00	1.00						0.31
			3	4.00	5.00	1.00						0.24
			4	5.00	6.00	1.00						0.12
			5	6.00	7.00	1.00						1.11
			6	7.00	8.00	1.00						0.71
			7	8.00	9.00	1.00						0.38
			8	9.00	10.00	1.00						0.28
			9	10.00	11.00	1.00						0.30
			10	11.00	12.00	1.00						0.34
			11	12.00	13.00	1.00						0.30
			12	13.00	14.00	1.00						0.18
			13	14.00	15.00	1.00						0.30
			14	15.00	16.00	1.00						0.27
			15	16.00	17.00	1.00						0.51
			16	17.00	18.00	1.00						0.70
			17	18.00	19.00	1.00						0.24
			18	19.00	20.00	1.00						0.41
			19	20.00	21.00	1.00						0.37
			20	21.00	22.00	1.00						0.65
			21	22.00	23.00	1.00						1.82
			22	23.00	24.00	1.00						0.93
			23	24.00	25.00	1.00						0.40
			24	25.00	26.00	1.00						0.54
			25	26.00	27.00	1.00						0.00
			26	27.00	28.00	1.00						0.00
			27	28.00	29.00	1.00						0.00
			28	29.00	30.00	1.00						0.00
			29	30.00	31.00	1.00						0.15
			30	31.00	32.00	1.00						0.20
			31	32.00	32.50	0.50						8.81
32.50	58.20	MAFIC SILL -	32	32.50	33.00	0.50					19.9	
			33	33.00	34.00	1.00					16.6	
			NS03210	33.00	34.50	1.50						
			34	34.00	35.00	1.00						6.40
			35	35.00	36.00	1.00						10.7
			36	36.00	37.00	1.00						8.52
			37	37.00	38.00	1.00						5.64
			38	38.00	39.00	1.00						17.5
			39	39.00	40.00	1.00						43.5
			40	40.00	41.00	1.00						10.2
			41	41.00	42.00	1.00						11.6
			42	42.00	43.00	1.00						11.8



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-4-4	Zone # :	Contractor : PETRO DRILLING	Date started : 08/20/1994
Township:			Date completed: 08/24/1994
Lot :	Concession:	Claim # :	
Level :	Section:	Location : GRID 4A-DISKO 1.,GRN	
Collar coordinate :	Line : 12+ 0 E	Latitude: 7774328.40 N	Azimuth: 0° 0' 0"
Reference frame :	Station: 5+40 N	Departure: 422949.80 E	Dip : -90° 0' 0"
		Elevation: 354.00	Length : 61.60

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : Hole abandoned due to extreme loss of circulation,  
4 NQ rods, shoe bit left in hole

Water flow : NO  
Cemented :

Logged by : M. JEROME

Date logged: 08/26/1994

Hole # : FP94-4-4









Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-4-5      Zone # : 22W      Contractor : Petro Drilling Company      Date started : 08/21/1994  
Township: Qutdligssat      Date completed: 08/26/1994  
Lot :      Concession:      Claim # :

Level :      Section:      Location : Grid 4

Collar coordinate :      Line : 6+30 N      Latitude: 7772427.70 N      Azimuth: 0° 0' 0"  
Reference frame :      Station: 5+12 E      Departure: 423817.90 E      Dip : -90° 0' 0"  
Elevation: 358.00      Length : 270.50

Surveyed by: R.M. Graves

Deviation tests :

Depth	Dip	Azimuth
0.00 M	-90° 0' 0"	0° 0' 0"
260.00 M	-87° 0' 0"	0° 0' 0"

Remarks : Tropari instrument destroyed in "free fall" to bottom of drill hole; driller negligence.

Water flow : None  
Cemented : No

Logged by : R.Mark Graves

Date Logged: 08/27/1994

Hole # : FP94-4-5

side 2: se bag på side 3!

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS		
		48.70- 48.70 1cm wide coal seam at 48.7m	20	49.00	50.00	1.00					0.11		
			21	50.00	51.00	1.00					0.07		
50.20	58.10	INTRUSIVE BRECCIA -  Color varies from grey to red, breccia is red from 52.8-53.1m and 54.0-55.5m due to oxidation, fragments vary in size from 1mm-2cm and normally angular, locally the fragments are rounded and give the appearance of a pebble breccia.  Rock is unconsolidated and sheared from 50.2-52.4m, bedding is 90° TCA, unit is clast supported from 51.8-52.7m and 56.2-57.0m; breccia matrix is calcite and sandstone from 52.7-56.2m, mafic sill clasts in a sandstone and calcite matrix from 52.4-54.0m, from 57.0-58.1 the breccia matrix comprises mafic material incorporated from unit below.  50.40- 50.40 bedding at 90°  50.50- 50.80 coal seam											
			22	51.00	52.00	1.00					0.14		
			23	52.00	53.00	1.00					0.33		
			24	53.00	54.00	1.00					0.04		
			25	54.00	55.00	1.00					0.54		
			26	55.00	56.00	1.00					0.29		
			27	56.00	57.00	1.00					0.32		
			28	57.00	58.00	1.00					0.58		
			29	58.00	59.00	1.00					37.8		
		58.10	190.50	MAFIC SILL -  Grey, fine grained equigranular matrix, aphyric, hosts 2-3% angular to sub-rounded sandstone xenoliths varying from 1mm-1cm in size, xenoliths evenly distributed throughout, sandstone is also seen as partially assimilated irregular masses in matrix of sill.	30	59.00	60.00	1.00					32.9
					31	60.00	61.00	1.00					35.6
					NS03211	60.00	61.50	1.50	1.01	514	235	81	
			32	61.00	62.00	1.00					28.9		
			33	62.00	63.00	1.00					11.0		
			34	63.00	64.00	1.00					11.7		
			35	64.00	65.00	1.00					12.8		
			36	65.00	66.00	1.00					7.76		

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
0.00	30.50	OVERBURDEN -	1	0.00	31.00	31.00					0.19
30.50	32.60	CARBONACEOUS SEDIMENT -	2	31.00	32.00	1.00					0.16
		Black, unconsolidated, has the texture of a fault gouge, black fragments 1mm-2cm in size in a silty-sand matrix that is easily dis-aggregated, virtually all of the core is broken, non-conductive when dry, conductive when wet.	3	32.00	33.00	1.00					5.66
32.60	33.80	MAFIC SILL/DYKE -	4	33.00	34.00	1.00					0.11
		Grey, fine grained, equigranular, aphyric, non-amygdaloidal, varies from magnetic to non-magnetic, no carbonate, no pyrite and no veining; jointing paralleling TCA, core almost entirely broken.									
33.80	50.20	SANDSTONE -	5	34.00	35.00	1.00					6.44
		Pebbly sandstone from 33.8-41.2m, grey-buff in color and coarse grained; pebbles are grey, angular, fine grained and comprise siltstone and volcanic lithologies, volcanic pebbles host minute glass spherules (<.5mm), pebbles vary from 2-4mm in size.	6	35.00	36.00	1.00					0.08
			7	36.00	37.00	1.00					0.15
			8	37.00	38.00	1.00					0.24
			9	38.00	39.00	1.00					0.19
			10	39.00	40.00	1.00					0.18
			11	40.00	41.00	1.00					0.08
			12	41.00	42.00	1.00					0.07
			13	42.00	43.00	1.00					0.04
		Rock is pebble supported from 38.6-39.9m; fault gouge from 35.4-35.8m, unit is friable and has a strong parting at 90° TCA, 3 metres of lost core.	14	43.00	44.00	1.00					0.10
			15	44.00	45.00	1.00					0.04
			16	45.00	46.00	1.00					0.12
		Sandstone from 41.2-50.2m, grey, medium-coarse grained, contaminated with carbonaceous material from 44.6-48.9m, bedding varies from 60-80° TCA, sandstone is indurated from 41.2-41.8m, fault gouge from 44.6-44.8m (2m of lost core at fault), in general sandstone is poorly consolidated.									
		45.20- 45.20 Bedding at 70 TCA°	17	46.00	47.00	1.00					0.15
			18	47.00	48.00	1.00					0.15
			19	48.00	49.00	1.00					0.10

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			64	93.00	94.00	1.00					16.0
			65	94.00	95.00	1.00					13.6
			66	95.00	96.00	1.00					14.3
			67	96.00	97.00	1.00					16.0
			68	97.00	98.00	1.00					15.7
			69	98.00	99.00	1.00					16.5
			70	99.00	100.00	1.00					6.51
			71	100.00	101.00	1.00					16.6
			72	101.00	102.00	1.00					17.6
			73	102.00	103.00	1.00					16.8
			74	103.00	104.00	1.00					17.8
			75	104.00	105.00	1.00					16.1
			76	105.00	106.00	1.00					17.7
			77	106.00	107.00	1.00					14.8
			78	107.00	108.00	1.00					17.7
			79	108.00	109.00	1.00					15.7
			80	109.00	110.00	1.00					14.8
			81	110.00	111.00	1.00					15.6
			NS03212	110.00	111.50	1.50	1.02	445	230	78	
			82	111.00	112.00	1.00					17.6
			83	112.00	113.00	1.00					18.7
			84	113.00	114.00	1.00					15.5
			85	114.00	115.00	1.00					12.6
			86	115.00	116.00	1.00					19.2
			87	116.00	117.00	1.00					20.0
			88	117.00	118.00	1.00					18.9
			89	118.00	119.00	1.00					12.9
			90	119.00	120.00	1.00					19.7
			91	120.00	121.00	1.00					19.9
			92	121.00	122.00	1.00					21.1
			93	122.00	123.00	1.00					19.5
			94	123.00	124.00	1.00					16.8
			95	124.00	125.00	1.00					20.1
			96	125.00	126.00	1.00					13.0
			97	126.00	127.00	1.00					15.4
			98	127.00	128.00	1.00					51.6
			99	128.00	129.00	1.00					46.7
			100	129.00	130.00	1.00					40.3
			101	130.00	131.00	1.00					45.2
			102	131.00	132.00	1.00					41.7
			103	132.00	133.00	1.00					44.0
			104	133.00	134.00	1.00					48.3
			105	134.00	135.00	1.00					57.4
			106	135.00	136.00	1.00					24.3

FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS		
		Hosts 1-2% graphite xenoliths varying from 1mm-2cm in size, graphite also occurs disseminated in matrix; graphite xenoliths are conductive and matrix of wallrock is variably conductive from 58.1-110m however from 110-190.5 it is non-conductive.	37	66.00	67.00	1.00					9.42		
			38	67.00	68.00	1.00						9.05	
			39	68.00	69.00	1.00						10.1	
			40	69.00	70.00	1.00						9.81	
			41	70.00	71.00	1.00						8.49	
			42	71.00	72.00	1.00						11.1	
			43	72.00	73.00	1.00						10.6	
			44	73.00	74.00	1.00						10.0	
			45	74.00	75.00	1.00						9.05	
			46	75.00	76.00	1.00						9.44	
			47	76.00	77.00	1.00						9.86	
			48	77.00	78.00	1.00						8.62	
			Jointing at 30-40° TCA with a second weaker jointing at 70-90° TCA, 1mm wide chlorite veins frequently occur on joints; a fracturing paralleling TCA at 132.4-133.0m, 148.6-148.9m and 175.0-176.5m, 1 mm wide milky colored silica veins from 125.3-175.0m that are for the most part at 80-90° TCA and have a framboidal habit.	49	78.00	79.00	1.00					8.59	
		50		79.00	80.00	1.00						9.59	
		51		80.00	81.00	1.00						9.25	
		52		81.00	82.00	1.00						9.95	
		Finely disseminated pyrite on fractures and joints at 125.7m, 151.0m, 154.3m, 180.1-182.3m and 187.7m; pyrite disseminated on vertical fracture from 175.0-176.5m; 10cm of fault gouge at 130.8m, weak flow(?) fabric at 127.6-130.0m.		53	82.00	83.00	1.00					9.41	
				54	83.00	84.00	1.00						9.57
				55	84.00	85.00	1.00						12.2
				56	85.00	86.00	1.00						12.8
				57	86.00	87.00	1.00						10.7
				58	87.00	88.00	1.00						12.0
		Lower contact is brecciated and intrusive, sill fragments in quartz-calcite matrix at contact, lower contact is altered to a bluish color over 15cm, the contact is slightly dis-cordant at 40° TCA.	59	88.00	89.00	1.00					14.9		
			60	89.00	90.00	1.00						17.2	
			61	90.00	91.00	1.00						14.0	
			62	91.00	92.00	1.00						16.4	
			63	92.00	93.00	1.00						15.2	

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
		177.40- 190.50	NS03215	177.40	178.40	1.00	1.01	489	239	92	
		Native iron cumulate at 177.4-190.5m,	149	178.00	179.00	1.00					31.8
		trace amounts of iron droplets from	NS03216	178.40	179.40	1.00	.86	427	229	74	
		177.4-178.0m, droplets vary from .5-2mm	150	179.00	180.00	1.00					59.3
		in size, 2-3% iron droplets from	NS03217	179.40	180.40	1.00	.91	471	250	120	
		178.4-179.6m, trace -1% iron droplets	151	180.00	181.00	1.00					19.6
		(.5-1mm in size) from 181.2-181.3m, 2-5%	NS03219	180.40	181.40	1.00	.89	460	223	87	
		iron droplets from 185.1-187.1m and	152	181.00	182.00	1.00					24.3
		188.3-190.5m that are generally <.5mm;	NS03220	181.40	182.40	1.00	.91	464	233	84	
		anastomosing chlorite veins from	153	182.00	183.00	1.00					38.6
		185.1-185.9m.	NS03221	182.40	183.40	1.00	.9	443	223	90	
			154	183.00	184.00	1.00					65.5
			NS03222	183.40	184.40	1.00	.88	440	220	88	
			155	184.00	185.00	1.00					19.0
			NS03223	184.40	185.90	1.50	.88	381	210	74	
			156	185.00	186.00	1.00					34.9
			NS03214	185.90	186.90	1.00	.90	278	212	60	
			157	186.00	187.00	1.00					38.4
			NS03224	186.90	187.90	1.00	.87	415	221	70	
			158	187.00	188.00	1.00					41.9
			NS03225	187.90	188.90	1.00	.90	373	207	79	
			159	188.00	189.00	1.00					24.5
			NS03226	188.90	190.40	1.50	.80	321	199	80	
			160	189.00	190.00	1.00					24.9
			161	190.00	191.00	1.00					0.94
190.50	200.80	CARBONACEOUS SILTSTONE -	162	191.00	192.00	1.00					0.92
			163	192.00	193.00	1.00					0.91
		Black, non-magnetic, numerous partings along	164	193.00	194.00	1.00					0.94
		bedding planes, no pyrite, no carbonate; upper	165	194.00	195.00	1.00					0.08
		contact with sill is "baked " over 15cm; thin	166	195.00	196.00	1.00					0.08
		(<1mm) sandstone beds evenly distributed	167	196.00	197.00	1.00					0.01
		throughout siltstone, 2cm wide sandstone bed at	168	197.00	198.00	1.00					0.08
		197.0m and 1cm bed at 198.3m.									
		Four 5cm wide unconsolidated siltstone beds from									
		194.3-195.0m - when wet the beds are "spongy",									
		cross beds at 197.5m indicate younging up the									
		hole. Greater than 95% core recovery.									
		197.50- 197.50									
		bedding at 85° TCA	169	198.00	199.00	1.00					0.09
			170	199.00	200.00	1.00					0.13



FROM (M)	TO ( M	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			107	136.00	137.00	1.00					45.7
			108	137.00	138.00	1.00					51.1
			109	138.00	139.00	1.00					30.8
			110	139.00	140.00	1.00					58.0
			111	140.00	141.00	1.00					56.8
			112	141.00	142.00	1.00					59.1
			113	142.00	143.00	1.00					44.6
			114	143.00	144.00	1.00					53.2
			115	144.00	145.00	1.00					48.4
			116	145.00	146.00	1.00					55.6
			117	146.00	147.00	1.00					52.3
			118	147.00	148.00	1.00					52.3
			119	148.00	149.00	1.00					53.2
			120	149.00	150.00	1.00					55.7
			121	150.00	151.00	1.00					64.5
			122	151.00	152.00	1.00					59.8
			123	152.00	153.00	1.00					53.0
			124	153.00	154.00	1.00					48.1
			125	154.00	155.00	1.00					57.5
			126	155.00	156.00	1.00					60.5
			127	156.00	157.00	1.00					59.3
			128	157.00	158.00	1.00					64.4
			129	158.00	159.00	1.00					62.4
			130	159.00	160.00	1.00					62.3
			131	160.00	161.00	1.00					48.4
			132	161.00	162.00	1.00					63.0
			133	162.00	163.00	1.00					67.0
			134	163.00	164.00	1.00					49.3
			135	164.00	165.00	1.00					42.0
			136	165.00	166.00	1.00					31.0
			137	166.00	167.00	1.00					41.5
			138	167.00	168.00	1.00					50.8
			139	168.00	169.00	1.00					25.4
			140	169.00	170.00	1.00					25.7
			141	170.00	171.00	1.00					52.9
			142	171.00	172.00	1.00					51.0
			143	172.00	173.00	1.00					33.8
			144	173.00	174.00	1.00					44.2
			145	174.00	175.00	1.00					58.8
			146	175.00	176.00	1.00					49.8
			147	176.00	177.00	1.00					25.6
			148	177.00	178.00	1.00					36.2

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		younging up the hole, coal seam at 216.4-217.1m. Core recovery greater than 95%.									
		215.00- 215.00 bedding at 70° TCA	186	215.00	216.00	1.00					0.34
			187	216.00	217.00	1.00					0.02
		216.40- 217.10 coal seam	188	217.00	218.00	1.00					0.03
217.80	228.50	SANDSTONE/SILTSTONE -	189	218.00	219.00	1.00					0.04
		Intercalated thick beds of sandstone and siltstone similar to that seen at 204.0-211.9m, sandstone from 217.8-219.7m, 221.8-224.2m and 225.2-228.5m, ground core from 218.7-219.7m. Greater than 95% core recovery.	190	219.00	220.00	1.00					0.04
		220.00- 225.00 bedding at 80-85° TCA	191	220.00	221.00	1.00					0.09
			192	221.00	222.00	1.00					0.08
			193	222.00	223.00	1.00					0.04
			194	223.00	224.00	1.00					0.05
			195	224.00	225.00	1.00					0.22
		224.80- 225.00 coal seam	196	225.00	226.00	1.00					0.03
			197	226.00	227.00	1.00					0.02
			198	227.00	228.00	1.00					0.08
			199	228.00	229.00	1.00					0.37
228.50	232.30	SILTSTONE/SANDSTONE -	200	229.00	230.00	1.00					0.10
		Thin (1mm-2cm) intercalated beds of carbonaceous siltstone and grey sandstone, bedding at 85-90° TCA, greater than 95% core recovery.	201	230.00	231.00	1.00					0.12
		231.00- 231.00 bedding at 85-90° TCA	202	231.00	232.00	1.00					0.25
			203	232.00	233.00	1.00					0.06

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
200.80	204.00	PEBBLY SANDSTONE -  Dark grey-black, massive, matrix is medium-coarse grained sand, approximately 5% white rounded-angular sandstone fragments varying from 1-5mm, also hosts similar sized fragments of dark grey siltstone; 10cm thick bed of grey siltstone at 201.1m, bedding at 90° TCA, no indication of coarsening fragments downhole. Greater than 95% core recovery.	171	200.00	201.00	1.00					0.04
			172	201.00	202.00	1.00					0.08
			173	202.00	203.00	1.00					0.05
			174	203.00	204.00	1.00					0.07
204.00	211.90	SANDSTONE/SILTSTONE -  Intercalated thick beds of carbonaceous siltstone and sandstone; sandstone from 204.0-205.9m, 208.6-209.1m, 209.8-211.9m; siltstone from 205.9-208.6m and 209.1-209.8m.  Sandstone is whitish grey, coarse grained, composed of feldspar and quartz with thin carbonaceous beds; siltstone is black and thinly laminated, ground core from 205.2-205.5m.  207.00- 207.00 bedding at 80° TCA  209.50- 209.50 10cm wide coal seam	175	204.00	205.00	1.00					0.05
			176	205.00	206.00	1.00					0.19
			177	206.00	207.00	1.00					0.06
			178	207.00	208.00	1.00					0.07
			179	208.00	209.00	1.00					0.04
			180	209.00	210.00	1.00					0.06
			181	210.00	211.00	1.00					0.05
211.90	217.80	SANDSTONE/SILTSTONE -  Intercalated sandstone and siltstone, differs from unit above in that individual sandstone and siltstone beds are much thinner (varying from 1mm-4cm in thickness) imparting a striped appearance to the rock, bedding at 70° TCA, cross beds at 212.8m, 213.2m, and 214.1m indicate	182	211.00	212.00	1.00					0.18
			183	212.00	213.00	1.00					0.18
			184	213.00	214.00	1.00					0.22
			185	214.00	215.00	1.00					0.21



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
232.30	241.90	SANDSTONE/SILTSTONE/COAL -  Intercalated thick beds of grey sandstone and carbonaceous siltstone; carbonaceous siltstone from 232.3-233.0m, 235.1-235.5m and 239.9-241.9m; pebbly siltstone from 233.0-233.3m; sandstone contaminated with carbonaceous siltstone from 233.3-233.6m, 234.3-235.1, 235.5-238.4m and 239.0-239.9m; sandstone hosts 1-5mm beds of carbonaceous siltstone, bedding at 70-80° TCA. Core recovery greater than 95%.  233.60- 234.00 coal seam	204	233.00	234.00	1.00					0.06
			205	234.00	235.00	1.00					0.04
			206	235.00	236.00	1.00					0.02
		235.40- 235.50 coal seam	207	236.00	237.00	1.00					0.02
			208	237.00	238.00	1.00					0.06
			209	238.00	239.00	1.00					0.05
		238.40- 239.00 coal seam	210	239.00	240.00	1.00					0.14
			211	240.00	241.00	1.00					0.04
		240.80- 241.00 coal seam	212	241.00	242.00	1.00					0.02
241.90	247.20	SANDSTONE -  Grey, coarse grained and poorly consolidated, hosts minor carbonaceous siltstone beds. Ground core from 243.1-243.4m and 245.5-245.7m.	213	242.00	243.00	1.00					0.03
			214	243.00	244.00	1.00					0.01
			215	244.00	245.00	1.00					0.01
			216	245.00	246.00	1.00					0.03
			217	246.00	247.00	1.00					0.06
			218	247.00	248.00	1.00					0.10
247.20	255.50	SANDSTONE/SILTSTONE -  Thinly laminated and intercalated beds of grey sandstone and carbonaceous siltstone, beds vary from 1mm-3cm in thickness, numerous cross beds	219	248.00	249.00	1.00					0.12
			220	249.00	250.00	1.00					0.13

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-4-6  
Township:  
Lot :

Zone # :  
Concession:  
Claim # :

Contractor : PETRO DRILLING

Date started : 08/25/1994  
Date completed: 08/26/1994

Level :

Section:

Location : GRID 4B-DISK I.,GRN

Collar coordinate :

Line : 6+ 0 E  
Station: 17+ 0 N

Latitude: 7772939.00 N  
Departure: 424891.00 E  
Elevation: 86.00

Azimuth: 0° 0' 0"  
Dip : -90° 0' 0"  
Length : 143.26

Reference frame :

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : Hole ended due to extreme vibration and breakage of rods.

Water flow : NO  
Cemented :

Logged by : M. JEROME

Date logged: 08/27/1994

Hole # : FP94-4-6

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
		37.80- 38.25 Soft, paler grey, sheared/ground/gouged section of siltstone unit foliated @80-85 to CA.	MS11	38.00	38.01	0.01					0.05
		38.25- 38.90 Dark grey to black, non-conductive, fine grained, low density, blocky/broken coal seam. Glassy appearance on fracture facings.	MS12	39.00	39.01	0.01					0.03
		39.93- 42.98 Fine grained, light buff-brown, interbedded sandy component, also as specks throughout	MS13	40.00	40.01	0.01					0.20
			MS14	41.00	41.01	0.01					0.19
			MS15	42.00	42.01	0.01					0.09
42.98	47.62	SANDSTONE - Light buff-beige, gritty/granular sandstone (slightly coarser than previous sandstone units), significant carbonaceous siltstone component over initial 70cm.	MS16	43.00	43.01	0.01					0.09
		43.73- 47.62 30cm of soft sand in box	MS17	44.00	44.01	0.01					0.07
			MS18	45.00	45.01	0.01					0.05
47.62	57.85	CARBONACEOUS SILTSTONE (with sandstone) - Predominantly fine grained, medium to dark grey, well-bedded (@70-80 to CA), non-conductive, carbonaceous siltstone with minor interbedded sandstone component (sandstone dominated sections locally). Local coal-rich sections (ie. 56.95-57.15m, 57.52-57.67m). Numerous blocky/broken sections (ie. 47.62-48.77m).	MS19	48.00	48.01	0.01					0.05
		48.90- 49.30 Sandstone dominated section	MS20	49.00	49.01	0.01					0.04
		49.73- 51.42 Broken/blocky coal horizon (similar to previous coal seam in appearance), 0.28 of 1.69m recovered.	MS21	50.00	50.01	0.01					0.10
			MS22	51.00	51.01	0.01					0.04





FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
		contacts.									
		69.70- 72.34 Carbonaceous siltstone dominated section with 1-20mm sized, pyrite slugs locally.	MS35	70.00	70.01	0.01					0.15
		70.81- 71.20 Broken gouge (fault zone) orientated @70 to CA (0.1 of 0.39m recovered).	MS36	71.00	71.01	0.01					0.10
			MS37	72.00	72.01	0.01					0.09
		72.34- 75.29 Very broken section (0.83 of 2.95m recovered), coal fragments within section	MS38	73.00	73.01	0.01					0.03
			MS39	74.00	74.01	0.01					0.06
			MS40	75.00	75.01	0.01					0.04
			MS41	76.00	76.01	0.01					0.17
		76.17- 78.23 Blocky/broken section with coal fragments	MS42	77.00	77.01	0.01					0.11
			MS43	78.00	78.01	0.01					0.01
		79.00- 81.10 Gouge zone (40cm) with coal fragments (poor core recoveries)	MS44	79.00	79.01	0.01					0.18
			MS45	80.00	80.01	0.01					0.09
			MS46	81.00	81.01	0.01					0.02
81.10	90.07	SANDSTONE - Light buff, gritty/granular sandstone unit bedded @80-85 to CA (similar to those previously encountered). Unit soft and poorly consolidated locally. Carbonaceous siltstone content increasing downhole. Inner contact against gouge, outer contact gradational.	MS47	82.00	82.01	0.01					0.08
		84.47- 85.21 Disrupted, irregular, carbonaceous interbeds	MS48	85.00	85.01	0.01					0.05
			MS49	86.00	86.01	0.01					0.10
			MS50	87.00	87.01	0.01					0.11
			MS51	88.00	88.01	0.01					0.07
			MS52	89.00	89.01	0.01					0.17
			MS53	90.00	90.01	0.01					0.15
90.07	96.62	CARBONACEOUS SILTSTONE - (similar to previous such units), non-conductive, high angle bedding @80-85 to CA. Coal interbeds from 94.82-95.0m, 95.8-95.93m and 96.22-96.43m.	MS54	91.00	91.01	0.01					0.12
			MS55	92.00	92.01	0.01					0.13
			MS56	93.00	93.01	0.01					0.14
			MS57	94.00	94.01	0.01					0.11



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		pyrite blotches.									
		114.46- 114.62 Broken/blocky core	MS74	115.00	115.01	0.01					0.07
			MS75	116.00	116.01	0.01					0.10
			MS76	117.00	117.01	0.01					0.10
			MS77	118.00	118.01	0.01					0.12
			MS78	119.00	119.01	0.01					0.25
119.88	121.26	CARBONACEOUS SILTSTONE AND COAL - Dark grey, fine grained, siltstone unit with coal seams of various widths (1mm-30cm) throughout.									
		119.88- 120.18 Coal seam	MS79	120.00	120.01	0.01					0.02
			MS80	121.00	121.01	0.01					0.05
121.26	123.92	SANDSTONE - Minor interbedded, dark grey, siltstone component	MS81	122.00	122.01	0.01					0.02
			MS82	123.00	123.01	0.01					0.04
		123.85- 123.92 5mm sized, rounded, pyrite blotches common									
123.92	129.21	CARBONACEOUS SILTSTONE AND COAL - Medium to dark grey, fine grained, carbonaceous siltstone unit (as previous) with coal seams throughout (ie. 123.92-124.20m, 125.97-126.08m, 126.52-127.04m and 128.06-128.33m).	MS83	124.00	124.01	0.01					0.04
			MS84	125.00	125.01	0.01					0.17
			MS85	126.00	126.01	0.01					0.11
			MS86	127.00	127.01	0.01					0.09
			MS87	128.00	128.01	0.01					0.02
			MS88	129.00	129.01	0.01					0.05
129.21	132.84	SANDSTONE - Light buff-beige, gritty (pitted), fine grained, sandstone with minor siltstone content, bedded ø80-85 to CA.	MS89	130.00	130.01	0.01					0.13
		130.75- 130.75 1cm coal seam ø85 to CA	MS90	131.00	131.01	0.01					0.07
			MS91	132.00	132.01	0.01					0.03
132.84	135.79	CARBONACEOUS SILTSTONE - Medium to dark grey, fine grained, non-conductive	MS92	133.00	133.01	0.01					0.09
			MS93	134.00	134.01	0.01					0.11

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
		95.40- 95.80 Sandstone section	MS58	95.00	95.01	0.01					0.02
			MS59	96.00	96.01	0.01					0.07
96.62	108.81	SANDSTONE - Light buff-beige, gritty/granular, fine grained unit (similar to previous sandstone units), minor siltstone content. Unit locally broken/soft (non-lithified) particularly over lower 6m.	MS60	97.00	97.01	0.01					0.03
			MS61	98.00	98.01	0.01					0.05
			MS62	99.00	99.01	0.01					0.05
			MS63	100.00	100.01	0.01					0.04
		100.40- 100.40 Bedding @70 to CA	MS64	101.00	101.01	0.01					0.02
			MS65	102.00	102.01	0.01					0.03
		102.72- 108.81 Sand within box, lost core throughout, 1-3mm quartz pebbles noted within sand.	MS66	104.00	104.01	0.01					0.03
			MS67	108.00	108.01	0.01					0.04
108.81	112.55	CARBONACEOUS SILTSTONE - Dominantly fine grained, medium to dark grey, well-bedded (@85-90 to CA), non-conductive siltstone (as previous). Minor, light buff-white interbedded sandy component. Gradational contacts.	MS68	109.00	109.01	0.01					0.21
		109.88- 110.05 Coal seam	MS69	110.00	110.01	0.01					0.06
			MS70	111.00	111.01	0.01					0.19
			MS71	112.00	112.01	0.01					0.07
		112.07- 112.25 Coal seam, pyrite splotches along fracture facings									
112.55	119.88	MIXED SANDSTONE AND CARBONACEOUS SILTSTONE - Interbedded sandstone and siltstone throughout, sharp outer contact @90 to CA.									
		112.55- 114.86 Sandstone dominated section. Local, 5mm sized, rounded, moderately conductive,	MS72	113.00	113.01	0.01					0.10
			MS73	114.00	114.01	0.01					0.03

HOLE NUMBER: FP94-4-6

RQD ASSAY

From (M)	To (M)	Length (M)	Sum Of Length	RQD S/LX100	Number Of Fracturs	Fracturs Per Metres	Number Of Veins	Veins Per Metres	Angle	Comments
			S>= 8.38 cm							
28.55	31.30	2.75	0.14	5.1	0					
31.30	38.00	6.70	3.02	45.1	0					
38.00	39.30	1.30	0.00	0.0	0					
39.30	41.40	2.10	1.37	65.2	0					
41.40	48.77	7.37	0.37	5.0	0					
48.77	49.80	1.03	0.72	69.9	0					
49.80	51.55	1.75	0.00	0.0	0					
51.55	57.85	6.30	2.84	45.1	0					
57.85	63.09	5.24	0.00	0.0	0					
63.09	72.34	9.25	2.04	22.1	0					

HOLE NUMBER: FP94-4-6

MESURE RQD



Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-6-1                      Zone # :                      Contractor : PETRO DRILLING                      Date started : 08/29/1994  
 Township:    Claim # :                      Date completed: 08/31/1994  
 Lot :                      Concession:    Location : GRID 6E-SARQAQ, GRN  
 Level :                      Section:    Latitude: 7779441.50 N                      Azimuth: 0° 0' 0"  
 Collar coordinate :                      Line : 12+ 0 W                      Departure: 457954.60 E                      Dip : -90° 0' 0"  
 Reference frame :                      Station: 19+ 0 N                      Elevation: 30.00                      Length : 85.34

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : 7.93m cavity encountered shearing off core barrel with inner tube (lost) ending hole.

Water flow : NO  
 Cemented :

Logged by : M. JEROME

Date logged: 09/01/1994

Hole # : FP94-6-1







DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-6-2      Zone # : 22      Contractor : Petro Drilling Company      Date started : 08/30/1994  
 Township: Sarqag Valley      Date completed: 09/01/1994  
 Lot :      Concession:      Claim # :  
 Level :      Section:      Location : Grid 6  
 Collar coordinate :      Line : 9+ 0 E      Latitude: 7783323.70 N      Azimuth: 175° 0' 0"  
    Station: 4+ 0 S      Departure: 454355.40 E      Dip : 50° 0' 0"  
 Reference frame :      Elevation: 32.00      Length : 266.80

Surveyed by: R.M.Graves

Deviation tests :

Depth	Dip	Azimuth
0.00 M	50° 0' "	° : "
142.40 M	56° 0' 0"	° : "
264.30 M	58° 0' 0"	° : "

Remarks : I-bolt casing left at site. Acid tests taken.

Water flow : None  
 Cemented : No

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
0.00	6.90	OVERBURDEN -	1	0.00	7.00	7.00					.08
6.90	15.90	PEBBLY SANDSTONE -	2	7.00	8.00	1.00					.02
			3	8.00	9.00	1.00					.04
		Whitish-grey, non-magnetic, non-conductive, massive however bedding locally is 55° TCA, chlorite on bedding at 9.1-9.3m, trace pyrite crystals (<.5mm) that are now gossanous, two pyrite nodules (1-2cm) at 9.3m.	4	9.00	10.00	1.00					.03
		Quartz pebbles are generally transparent-milky, minor siltstone pebbles, pebbles are sub-rounded and vary from 2mm-1cm in size, trace amounts of carbonaceous siltstone contaminating sandstone, 1cm of fault gouge paralleling bedding at 9.0m, ground core from 12.4-12.8m that is a possible fault.									
		9.20- 9.20 bedding at 55° TCA									
			5	10.00	11.00	1.00					.01
			6	11.00	12.00	1.00					.02
			7	12.00	13.00	1.00					.02
			8	13.00	14.00	1.00					.02
			9	14.00	15.00	1.00					.03
			10	15.00	16.00	1.00					.07
15.90	26.30	SANDSTONE/SILTSTONE -	11	16.00	17.00	1.00					.07
			12	17.00	18.00	1.00					.20
		Intercalated beds of sandstone and siltstone varying from 1mm-40cm in thickness, a single thick sandstone bed at 17.9-18.4m, siltstone is black, non-conductive, pyrite nodule (1cm x .5cm) at 18.2m, sandstone is grey and medium-coarse grained.	13	18.00	19.00	1.00					.11
			14	19.00	20.00	1.00					.10
			15	20.00	21.00	1.00					.12
			16	21.00	22.00	1.00					.14
			17	22.00	23.00	1.00					.13
			18	23.00	24.00	1.00					.13
			19	24.00	25.00	1.00					.17
		Siltstone beds at 20.6-20.7m, 21.3-21.6m, 22.9-23.1m, 23.2-23.6m and 23.9-24.0m - elsewhere siltstone is thinly bedded, 1.4m of lost core between 15.9-17.4 in possible fault, .7m of lost core between 19.0-19.8m and .9m of lost core between 22.0-22.9m.	20	25.00	26.00	1.00					.03
			21	26.00	27.00	1.00					.09

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
26.30	35.60	SANDSTONE -  Grey, medium-coarse grained, trace pyrite at 26.9m, minor carbonaceous siltstone at 26.9m, 27.9m, 30.1m and 31.4m, 1.4m of lost core between 34.0-35.4m, pebbly sandstone from 35.4-35.6m.  31.50- 31.50 bedding at 60° TCA	22	27.00	28.00	1.00					.01
			23	28.00	29.00	1.00					.05
			24	29.00	30.00	1.00					.04
			25	30.00	31.00	1.00					.05
			26	31.00	32.00	1.00					.03
			27	32.00	33.00	1.00					.03
			28	33.00	34.00	1.00					.03
			29	34.00	35.00	1.00					.02
			30	35.00	36.00	1.00					.15
			35.60	58.70	SANDSTONE/SILTSTONE -  Intercalated sandstone and carbonaceous siltstone beds, siltstone is black, sandstone is grey and medium grained; thinly laminated sandstone and siltstone from 35.6-37.7m, laminae vary from 1mm-1cm, cross-bedding at 36.0m indicates younging up the hole.  Massive carbonaceous siltstone from 37.7-39.1m with pyrite nodules at 38.5m and 39.0m, gritty greyish-black sandstone from 39.1-44.2m that is heavily contaminated with carbonaceous siltstone; intercalated coal seams at 39.4-39.5m and 39.9-40.0m, siltstone interbedded with coal; core entirely broken from 39.2-40.0m.  Massive black siltstone from 44.2-47.3m with thinly laminated sandstone and siltstone at 45.8-46.0m, thinly laminated sandstone and siltstone from 47.3-49.0m, massive carbonaceous siltstone from 49.0-49.7m, gritty grey-black sandstone from 49.7-52.6m that is heavily contaminated with carbonaceous siltstone occurring as thin beds, rip-clasts and intermixed in matrix.  37.30- 37.30 bedding at 60° TCA	31	36.00	37.00	1.00		
32	37.00	38.00				1.00					.17
33	38.00	39.00				1.00					.18

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS
58.70	75.80	45.90- 45.90 bedding at 55° TCA	34	39.00	40.00	1.00					.01
			35	40.00	41.00	1.00					.12
			36	41.00	42.00	1.00					.02
			37	42.00	43.00	1.00					.02
			38	43.00	44.00	1.00					.12
			39	44.00	45.00	1.00					.02
			40	45.00	46.00	1.00					.12
			41	46.00	47.00	1.00					.13
			42	47.00	48.00	1.00					.06
			43	48.00	49.00	1.00					.19
			44	49.00	50.00	1.00					.12
			45	50.00	51.00	1.00					.14
			46	51.00	52.00	1.00					.01
			47	52.00	53.00	1.00					.15
		48	53.00	54.00	1.00					.15	
		49	54.00	55.00	1.00					.15	
		50	55.00	56.00	1.00					.19	
		51	56.00	57.00	1.00					.30	
		52	57.00	58.00	1.00					.62	
		53	58.00	59.00	1.00					.09	
		54	59.00	60.00	1.00					.06	
		55	60.00	61.00	1.00					.03	
		56	61.00	62.00	1.00					.07	
		57	62.00	63.00	1.00					.11	
		58	63.00	64.00	1.00					.05	
				Quartz pebble sandstone from 60.5-60.7m, 63.4-63.5m, 68.8-69.1m, 71.0-72.1m and 74.8-75.0m. Ground core (fault?) from 65.9-66.0m.							
		64.00- 64.00 bedding at 70° TCA									
			59	64.00	65.00	1.00					.06
			60	65.00	66.00	1.00					.14
			61	66.00	67.00	1.00					.03
			62	67.00	68.00	1.00					.02
			63	68.00	69.00	1.00					.10
			64	69.00	70.00	1.00					.12
			65	70.00	71.00	1.00					.06

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS	
75.80	78.60	SANDSTONE/SILTSTONE -  Intercalated and thinly laminated sandstone and siltstone beds that vary from 1mm-1cm in thickness, sandstone is grey and fine-medium grained, siltstone is black, non-magnetic, no pyrite. Core is 40% broken.	66	71.00	72.00	1.00					.07	
			67	72.00	73.00	1.00					.01	
			68	73.00	74.00	1.00					.02	
			69	74.00	75.00	1.00					.04	
			70	75.00	76.00	1.00					.32	
			71	76.00	77.00	1.00					.23	
78.60	101.20	SANDSTONE -  77.10- 77.10 bedding at 70° TCA  Grey-buff, medium-coarse grained, massive, minor bedding at 60° TCA, subrounded quartz pebbles concentrated in 5-10cm beds at 82.4m, 87.4m, 89.0m, 94.6m, 96.1m and 98.4m. Greenish colored (chloritic) sandstone beds at 86.6-86.7m, 87.9-88.1m, 99.0-99.2m, 99.9-100.0m that host pyrite nodules 1-2cm in size.	72	77.00	78.00	1.00					.33	
			73	78.00	79.00	1.00						.02
			74	79.00	80.00	1.00						.04
			75	80.00	81.00	1.00						.04
			76	81.00	82.00	1.00						.01
			77	82.00	83.00	1.00						.03
			78	83.00	84.00	1.00						.02
			79	84.00	85.00	1.00						.03
			80	85.00	86.00	1.00						.02
			81	86.00	87.00	1.00						.02
			82	87.00	88.00	1.00						.16
			83	88.00	89.00	1.00						.03
			84	89.00	90.00	1.00						.03
			85	90.00	91.00	1.00						.01
			86	91.00	92.00	1.00						.02
			87	92.00	93.00	1.00						.01
			88	93.00	94.00	1.00						.01
			89	94.00	95.00	1.00						.01
			90	95.00	96.00	1.00						.02
91	96.00	97.00	1.00						.01			
92	97.00	98.00	1.00						.01			
93	98.00	99.00	1.00						.01			
94	99.00	100.00	1.00						.02			
95	100.00	101.00	1.00						.28			
96	101.00	102.00	1.00						.07			
101.20	107.40	CARBONACEOUS SILTSTONE -	97	102.00	103.00	1.00					.19	
			98	103.00	104.00	1.00					.22	

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS			
		Black, thinly bedded, bedding at 60° TCA, conductive pyrrhotite nodules 1cm x 2cm in size at 102.6m and 102.7m, overall unit is not conductive.	99	104.00	105.00	1.00					.14			
			100	105.00	106.00	1.00					.20			
			101	106.00	107.00	1.00					.36			
			102	107.00	108.00	1.00					5.67			
107.40	120.20	Numerous partings along bedding planes, 2cm of fault gouge at 103.7m, lower 20 cm of siltstone is "baked" to a light green by underlying sill.  GABBRO (DIORITE?) DYKE -  Green to grey and mottled, fine-medium grained, magnetic, upper and lower contacts are chilled and broadly concordant, lower contact is altered and bleached to a light green color; generally aphyric however lower contact area is plagiophyric for 30cm from 119.5-119.8m.  Unit hosts a set of joints at 30° TCA and a second set at 70-80° TCA, chlorite on joints, gabbro is coarse grained over 10cm at 111.1m. Core recovery is greater than 95%.	103	108.00	109.00	1.00					6.53			
			104	109.00	110.00	1.00						7.14		
			105	110.00	111.00	1.00						5.41		
			106	111.00	112.00	1.00						5.12		
			107	112.00	113.00	1.00						4.68		
			108	113.00	114.00	1.00						5.08		
			109	114.00	115.00	1.00						5.45		
			110	115.00	116.00	1.00						5.83		
			111	116.00	117.00	1.00						5.45		
			112	117.00	118.00	1.00						5.80		
			113	118.00	119.00	1.00						5.65		
			114	119.00	120.00	1.00						.03		
			115	120.00	121.00	1.00						.14		
			120.20	124.90	CARBONACEOUS SILTSTONE/SANDSTONE/MAFIC DYKE -  Intercalated and thinly bedded sandstone and siltstone (laminae vary from 1mm-3cm), thick siltstone bed at 121.8-122.3m; bedding at 60-70° TCA, siltstone is metamorphosed to a bluish tinge due to thermal metamorphism at 123.8-124.9m, ground core from 124.0-124.3m that is a probable fault.  123.20- 123.80 fine grained dark green dyke, non-magnetic and hosts a few quartz-calcite stringers, upper contact on dyke is 45° TCA and lower contact comprises brecciated sediment.	116	121.00	122.00	1.00					.13
						117	122.00	123.00	1.00					
118	123.00	124.00				1.00						.51		
119	124.00	125.00				1.00						.68		
124.90	203.80	GABBROIC DYKE -  Dark green, medium-coarse grained, equigranular,	120	125.00	126.00	1.00					2.01			
			121	126.00	127.00	1.00						1.08		
			122	127.00	128.00	1.00						1.52		

FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS	
		<p>massive and magnetic; consistent in texture and mineralogy throughout; pyroxene phenocrysts occur locally.</p> <p>Upper contact appears to cross-cut bedding and lower contact is discordant and perpendicular TCA, upper and lower contacts are chilled for 1 metre, disseminated pyrite on fractures at 126.8m and 127.4m, 2mm wide quartz-calcite veinlet 10° TCA at 164.3m..</p> <p>Jointing at 30° TCA; a fracturing parallels core axis at 145.2-145.7m and 175.0-175.3m; minor broken core at 130.8m, 132.8-133.0m, 139.4-139.6m, 162.4-162.5m, 188.8-189.0m and 200.7-201.7m.</p>	123	128.00	129.00	1.00					7.63	
			124	129.00	130.00	1.00						9.77
			125	130.00	131.00	1.00						8.13
			126	131.00	132.00	1.00						2.02
			127	132.00	133.00	1.00						0.53
			128	133.00	134.00	1.00						2.17
			129	134.00	135.00	1.00						3.26
			130	135.00	136.00	1.00						5.90
			131	136.00	137.00	1.00						4.15
			132	137.00	138.00	1.00						5.04
			133	138.00	139.00	1.00						6.22
			134	139.00	140.00	1.00						6.44
			135	140.00	141.00	1.00						3.94
			136	141.00	142.00	1.00						3.65
			137	142.00	143.00	1.00						3.88
			138	143.00	144.00	1.00						2.58



FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
			139	144.00	145.00	1.00					2.43
			140	145.00	146.00	1.00					6.10
			141	146.00	147.00	1.00					2.87
			142	147.00	148.00	1.00					2.38
			143	148.00	149.00	1.00					2.24
			144	149.00	150.00	1.00					1.59
			145	150.00	151.00	1.00					3.46
			146	151.00	152.00	1.00					4.55
			147	152.00	153.00	1.00					3.69
			148	153.00	154.00	1.00					4.31
			149	154.00	155.00	1.00					4.56
			150	155.00	156.00	1.00					3.24
			151	156.00	157.00	1.00					2.97
			152	157.00	158.00	1.00					4.75
			153	158.00	159.00	1.00					2.53
			154	159.00	160.00	1.00					1.98
			155	160.00	161.00	1.00					2.95
			156	161.00	162.00	1.00					5.10
			157	162.00	163.00	1.00					5.25
			158	163.00	164.00	1.00					5.02
			159	164.00	165.00	1.00					6.06
			160	165.00	166.00	1.00					6.08
			161	166.00	167.00	1.00					7.94
			162	167.00	168.00	1.00					8.20
			163	168.00	169.00	1.00					8.50
			164	169.00	170.00	1.00					8.65
			165	170.00	171.00	1.00					8.96
			166	171.00	172.00	1.00					10.9
			167	172.00	173.00	1.00					9.42
			168	173.00	174.00	1.00					10.2
			169	174.00	175.00	1.00					10.7
			170	175.00	176.00	1.00					11.9
			171	176.00	177.00	1.00					13.2
			172	177.00	178.00	1.00					12.8
			173	178.00	179.00	1.00					14.2
			174	179.00	180.00	1.00					15.2
			175	180.00	181.00	1.00					15.2
			176	181.00	182.00	1.00					17.7
			177	182.00	183.00	1.00					18.2
			178	183.00	184.00	1.00					18.7
			179	184.00	185.00	1.00					19.0
			180	185.00	186.00	1.00					20.1
			181	186.00	187.00	1.00					21.0
			182	187.00	188.00	1.00					21.4

FROM (M)	TO ( M)	DESCRIPTION	Sampl.	FROM (M)	TO M	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS			
203.80	221.40	SANDSTONE/SILTSTONE -  Intercalated sandstone and siltstone, siltstone is black and thinly laminated, bedding at 60-70° TCA, upper contact "baked" over 30cm by adjacent sill, sandstone is grey-black and heavily contaminated with carbonaceous siltstone.  Siltstone from 203.8-206.6m, gritty sandstone contaminated with carbonaceous siltstone from 206.6-208.5m, carbonaceous siltstone from 208.5-213.0m, 2cm of unconsolidated "spongy" siltstone at 208.7m, sandstone beds at 211.3-211.6m and 211.9-212.1m, gritty sandstone contaminated with carbonaceous siltstone from 213.0-217.3m, carbonaceous siltstone from 217.3-219.0m, sandstone contaminated with carbonaceous siltstone at 219.0-220.2m and carbonaceous siltstone from 220.2-221.4m.  Broken core at 209.2-209.4m, 10cm of broken core and fault gouge at 211.0m, 2cm of fault gouge at 212.6m. and 1cm of fault gouge at 218.3m.  215.00- 215.00 bedding at 60° TCA	183	188.00	189.00	1.00					20.4			
			184	189.00	190.00	1.00						22.9		
			185	190.00	191.00	1.00						20.9		
			186	191.00	192.00	1.00						13.7		
			187	192.00	193.00	1.00						14.1		
			188	193.00	194.00	1.00						16.8		
			189	194.00	195.00	1.00						10.8		
			190	195.00	196.00	1.00						11.1		
			191	196.00	197.00	1.00						11.7		
			192	197.00	198.00	1.00						12.5		
			193	198.00	199.00	1.00						13.5		
			194	199.00	200.00	1.00						14.6		
			195	200.00	201.00	1.00						11.3		
			196	201.00	202.00	1.00						7.36		
			197	202.00	203.00	1.00						4.8		
			198	203.00	204.00	1.00						.57		
						199	204.00	205.00	1.00					.53
						200	205.00	206.00	1.00					.50
						201	206.00	207.00	1.00					.36
						202	207.00	208.00	1.00					.38
			203	208.00	209.00	1.00					.09			
			204	209.00	210.00	1.00					.24			
			205	210.00	211.00	1.00					.07			
			206	211.00	212.00	1.00					1.29			
			207	212.00	213.00	1.00					.74			
			208	213.00	214.00	1.00					1.29			
			209	214.00	215.00	1.00					1.29			
			210	215.00	216.00	1.00					1.31			

FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	S% %	NI PPM	CU PPM	CO PPM	MS
221.40	253.20	SANDSTONE -  Whitish-grey, medium-coarse grained, non-magnetic, generally massive except where thin(<1mm) beds of carbonaceous material define bedding, bedding at 60-70° TCA.  Broken and ground core at 229.3-229.5m otherwise no indication of potential faulting, sandstone is consistent texturally except for a few pebble horizons near base of unit; green siltstone fragments between 230.3-230.4m and black siltstone fragments at 253.0m. Core recovery greater than 95%.	211	216.00	217.00	1.00					1.33
			212	217.00	218.00	1.00					1.46
			213	218.00	219.00	1.00					1.32
			214	219.00	220.00	1.00					1.15
			215	220.00	221.00	1.00					1.16
			216	221.00	222.00	1.00					.96
			217	222.00	223.00	1.00					1.11
			218	223.00	224.00	1.00					1.14
			219	224.00	225.00	1.00					.97
			220	225.00	226.00	1.00					1.23
			221	226.00	227.00	1.00					.96
			222	227.00	228.00	1.00					1.13
			223	228.00	229.00	1.00					.74
			224	229.00	230.00	1.00					.78
			225	230.00	231.00	1.00					.93
			226	231.00	232.00	1.00					1.25
			227	232.00	233.00	1.00					.62
			228	233.00	234.00	1.00					.80
			229	234.00	235.00	1.00					.84
			230	235.00	236.00	1.00					.88
			231	236.00	237.00	1.00					.85
			232	237.00	238.00	1.00					.55
			233	238.00	239.00	1.00					.66
			234	239.00	240.00	1.00					.47
			235	240.00	241.00	1.00					.47
			236	241.00	242.00	1.00					.53
			237	242.00	243.00	1.00					.50
			238	243.00	244.00	1.00					.41
239	244.00	245.00	1.00					.43			
240	245.00	246.00	1.00					.30			
241	246.00	247.00	1.00					.27			
242	247.00	248.00	1.00					.24			
243	248.00	249.00	1.00					.25			
244	249.00	250.00	1.00					.21			
245	250.00	251.00	1.00					.24			
246	251.00	252.00	1.00					.25			
247	252.00	253.00	1.00					.47			
248	253.00	254.00	1.00					.31			
253.20	266.80	SILTSTONE/SANDSTONE -  Intercalated sandstone and siltstone, siltstone is black, locally the siltstone is sufficiently	249	254.00	255.00	1.00					.30
			250	255.00	256.00	1.00					.24
			251	256.00	257.00	1.00					.14



HOLE NUMBER: FP94-6-2

RQD ASSAY

From (M)	To (M)	Length (M)	Sum Of Length	RQD S/LX100	Number Of Fracturs	Fracturs Per Metres	Number Of Veins	Veins Per Metres	Angle	Comments
			S>= 8.38 cm							
253.20	266.80	13.60	50.00							

HOLE NUMBER: FP94-6-2

MESURE RQD

Falconbridge

DIAMOND DRILL LOG

Property : 015905605

Hole # : FP94-6-3  
Township:  
Lot :

Zone # :  
Concession: Claim # :

Contractor : PETRO DRILLING

Date started : 08/31/1994  
Date completed: 09/03/1994

Level :

Section:

Location : GRID 6E-SARQAQ, GRN

Collar coordinate :

Line : 4+ 0 W  
Station: 10+70 N

Latitude: 7778766.50 N  
Departure: 458889.10 E  
Elevation: 30.00

Azimuth: 0° 0' 0"  
Dip : -90° 0' 0"  
Length : 172.82

Reference frame :

Surveyed by:

Deviation tests :

Depth	Dip	Azimuth
M	° ' "	° ' "

Remarks : BQ rods sheared off at 117.96m ending hole.

Water flow : NO  
Cemented :

C

Logged by : M. JEROME

Date logged: 09/04/1994

Hole # : FP94-6-3







FROM (M)	TO (M)	DESCRIPTION	Sampl.	FROM (M)	TO (M)	L (M)	SX %	NI PPM	CU PPM	CO PPM	MS		
120.75	137.46	111.84- 111.96 Dark grey, carbonaceous siltstone section	MS30	112.00	112.01	0.01						0.06	
			MS31	113.00	113.01	0.01						0.09	
			MS32	114.00	114.01	0.01						0.08	
			MS33	115.00	115.01	0.01						0.08	
			MS34	116.00	116.01	0.01						0.06	
		116.68- 117.32 Broken/ground, quartz sandstone section	MS35	117.00	117.01	0.01							0.01
			MS36	118.00	118.01	0.01							0.07
			MS37	119.00	119.01	0.01							0.05
			MS38	120.00	120.01	0.01							0.07
			MS39	121.00	121.01	0.01							0.04
			MS40	122.00	122.01	0.01							0.07
			MS41	123.00	123.01	0.01							0.03
			MS42	124.00	124.01	0.01							0.02
			MS43	125.00	125.01	0.01							0.02
			MS44	126.00	126.01	0.01							0.03
		128.62- 129.09 Darker grey/green, harder, sericitized(?) section	MS45	127.00	127.01	0.01							0.04
			MS46	128.00	128.01	0.01							0.02
			MS47	129.00	129.01	0.01							0.03
			MS48	130.00	130.01	0.01							0.01
			MS49	131.00	131.01	0.01							0.03
MS50	132.00		132.01	0.01							0.02		
MS51	133.00		133.01	0.01							0.02		
MS52	134.00		134.01	0.01							0.01		
MS53	135.00		135.01	0.01							0.05		
MS54	136.00		136.01	0.01							0.03		
137.18- 137.46 Darker grey/green, harder, sericitized(?) section	MS55	137.00	137.01	0.01							0.02		
	137.46	143.69	MIXED CARBONACEOUS SILTSTONE/SHALE AND CARBONACEOUS SANDSTONE - Medium to dark grey, fine grained, very weakly conductive, carbonaceous mudstone with interbedded (a50-55 to CA), minor sandstone	MS56	138.00	138.01	0.01					0.19	
				MS57	139.00	139.01	0.01					0.16	
				MS58	140.00	140.01	0.01					0.16	
				MS59	141.00	141.01	0.01					0.14	
				MS60	142.00	142.01	0.01					0.11	





HOLE NUMBER: FP94-6-3

RQD ASSAY

From (M)	To (M)	Length (M)	Sum Of Length	RQD S/LX100	Number Of Fracturs	Fracturs Per Metres	Number Of Veins	Veins Per Metres	Angle	Comments
			S>= 8.38 cm							
45.72	84.43	38.71	0.77	2.0	0	0.00	0	0.00	0	
84.43	99.67	15.24	0.76	5.0	0	0.00	0	0.00	0	5% of core greater than 10cm however very soft
99.67	101.50	1.83	0.91	49.7	0					
101.50	110.00	8.50	2.98	35.1	0					
110.00	121.01	11.01	6.61	60.0	0					
121.01	134.00	12.99	3.25	25.0	0					
134.00	137.40	3.40	1.70	50.0	0					
137.40	147.40	10.00	6.50	65.0	0					
147.40	149.80	2.40	0.36	15.0	0					
149.80	163.50	13.70	4.80	35.0	0					
163.50	169.00	5.50	3.30	60.0	0					
169.00	172.80	3.80	0.57	15.0	0					

HOLE NUMBER: FP94-6-3

MESURE RQD



**APPENDIX III**

**1994 Whole Rock and Assay Header Data Sheet**

1994 Whole Rock Header Data

SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NS02851	15909	3	-9	-9	FP94-11-2	73.88	74.28	26/07/94
NS02852	15909	3	-9	-9	FP94-11-2	74.50	75.60	26/07/94
NS02853	15909	3	-9	-9	FP94-11-2	79.00	80.00	26/07/94
NS02854	15909	3	-9	-9	FP94-11-2	83.00	84.00	26/07/94
NS02855	15909	3	-9	-9	FP94-11-2	87.72	88.72	26/07/94
NS02856	15909	3	-9	-9	FP94-11-2	90.40	91.20	26/07/94
NS02857	15909	3	-9	-9	FP94-11-2	93.73	94.60	26/07/94
NS02858	15909	3	-9	-9	FP94-11-2	96.23	97.00	26/07/94
NS02859	15909	3	-9	-9	FP94-11-2	101.50	102.50	26/07/94
NS02860	15909	3	-9	-9	FP94-11-2	107.00	107.64	26/07/94
NS02861	15909	3	-9	-9	FP94-11-2	110.50	111.50	26/07/94
NS02862	15909	3	-9	-9	FP94-11-2	112.00	113.00	26/07/94
NS02863	15909	3	-9	-9	FP94-11-2	120.00	121.00	26/07/94
NS02864	15909	3	-9	-9	FP94-11-2	126.00	27.00	26/07/94
NS02865	15909	3	-9	-9	FP94-11-2	134.31	135.20	26/07/94
NS02866	15909	3	-9	-9	FP94-11-2	146.00	147.00	26/07/94
NS02867	15909	3	-9	-9	FP94-11-2	152.00	153.00	26/07/94
NS02869	15909	3	-9	-9	FP94-11-2	160.60	161.60	26/07/94
NS02870	15909	3	-9	-9	FP94-11-2	174.00	175.00	26/07/94
NS02871	15909	3	-9	-9	FP94-11-2	185.00	186.00	26/07/94
NS02872	15909	3	-9	-9	FP94-11-2	197.00	193.00	26/07/94
NS02873	15909	3	-9	-9	FP94-11-2	200.00	201.00	26/07/94
NS02874	15909	3	-9	-9	FP94-11-2	204.00	205.00	26/07/94
NS02875	15909	3	-9	-9	FP94-11-2	213.40	214.00	26/07/94
NS02876	15909	3	-9	-9	FP94-11-2	221.80	222.80	26/07/94
NS02877	15909	3	-9	-9	FP94-11-2	232.80	233.40	26/07/94
NS02878	15909	3	-9	-9	FP94-11-2	234.00	235.00	26/07/94
NS02879	15909	3	-9	-9	FP94-11-2	238.00	239.00	26/07/94
NS02880	15909	3	-9	-9	FP94-11-2	242.00	243.00	26/07/94
NS02881	15909	3	-9	-9	FP94-11-2	244.80	245.60	26/07/94
NS02882	15909	3	-9	-9	FP94-11-4	4.00	5.00	03/08/94
NS02883	15909	3	-9	-9	FP94-11-4	9.00	10.00	03/08/94
NS02884	15909	3	-9	-9	FP94-11-4	13.00	14.00	03/08/94
NS02885	15909	3	-9	-9	FP94-11-4	18.00	19.00	03/08/94
NS02886	15909	3	-9	-9	FP94-11-4	22.00	24.00	03/08/94
NS02887	15909	3	-9	-9	FP94-11-4	27.00	28.00	03/08/94
NS02889	15909	3	-9	-9	FP94-11-4	34.00	35.00	03/08/94
NS02890	15909	3	-9	-9	FP94-11-4	40.00	41.00	03/08/94
NS02891	15909	3	-9	-9	FP94-11-4	49.00	50.00	03/08/94
NS02892	15909	3	-9	-9	FP94-11-4	55.00	56.00	03/08/94
NS02893	15909	3	-9	-9	FP94-11-4	61.00	62.00	03/08/94
NS02894	15909	3	-9	-9	FP94-11-4	71.00	72.00	03/08/94
NS02895	15909	3	-9	-9	FP94-11-4	80.00	81.00	03/08/94
NS02896	15909	3	-9	-9	FP94-11-4	89.00	90.00	03/08/94
NS02897	15909	3	-9	-9	FP94-11-4	95.00	96.00	03/08/94
NS02898	15909	3	-9	-9	FP94-11-4	101.50	102.50	03/08/94
NS02899	15909	3	-9	-9	FP94-11-5	10.00	11.00	08/08/94
NS02900	15909	3	-9	-9	FP94-11-5	20.40	21.25	08/08/94
NB03051	15909	4	4235600	7773570	N.A.	-9.00	-9.00	16/06/94

## 1994 Whole Rock Header Data

SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NB03052	15909	4	423880	7773800	N.A.	-9.00	-9.00	16/06/94
NB03053	15909	3	417113	7852206	N.A.	-9.00	-9.00	01/07/94
NB03054	15909	3	416994	7851896	N.A.	-9.00	-9.00	01/07/94
NB03055	15909	3	388715	7844922	N.A.	-9.00	-9.00	06/07/94
NB03056	15909	3	388695	7844332	N.A.	-9.00	-9.00	06/07/94
NB03057	15909	3	388690	7844400	N.A.	-9.00	-9.00	06/07/94
NB03059	15909	3	388810	7844660	N.A.	-9.00	-9.00	06/07/94
NB03060	15909	3	389305	7845145	N.A.	-9.00	-9.00	06/07/94
NB03061	15909	3	389275	7845245	N.A.	-9.00	-9.00	06/07/94
NB03062	15909	3	-9	-9	N.A.	-9.00	-9.00	16/07/94
NB03063	15909	3	410720	7850780	N.A.	-9.00	-9.00	16/07/94
NB03064	15909	3	410230	7851820	N.A.	-9.00	-9.00	16/07/94
NB03065	15909	3	409830	7851020	N.A.	-9.00	-9.00	16/07/94
NB03067	15909	3	409630	7851750	N.A.	-9.00	-9.00	16/07/94
NB03068	15909	3	409630	7851750	N.A.	-9.00	-9.00	N.A.
NB03069	15909	3	409050	7851550	N.A.	-9.00	-9.00	16/07/94
NB03070	15909	3	409250	7851170	N.A.	-9.00	-9.00	16/07/94
NB03071	15909	3	409250	7851170	N.A.	-9.00	-9.00	16/07/94
NB03072	15909	3	404270	7854280	N.A.	-9.00	-9.00	17/07/94
NB03073	15909	3	403960	7854330	N.A.	-9.00	-9.00	17/07/94
NB03075	15909	3	403030	7855170	N.A.	-9.00	-9.00	17/07/94
NB03076	15909	3	402300	7854600	N.A.	-9.00	-9.00	17/07/94
NB03077	15909	3	402550	7854340	N.A.	-9.00	-9.00	17/07/94
NB03078	15909	3	401520	7854100	N.A.	-9.00	-9.00	17/07/94
NB03079	15909	3	401540	7854140	N.A.	-9.00	-9.00	18/07/94
NB03080	15909	3	407780	7849450	N.A.	-9.00	-9.00	18/07/94
NB03081	15909	3	407750	7849680	N.A.	-9.00	-9.00	18/07/94
NB03083	15909	3	407830	7849750	N.A.	-9.00	-9.00	18/07/94
NB03084	15909	3	407640	7849840	N.A.	-9.00	-9.00	18/07/94
NB03085	15909	3	407610	7850070	N.A.	-9.00	-9.00	18/07/94
NB03086	15909	3	407650	7850330	N.A.	-9.00	-9.00	18/07/94
NB03087	15909	3	407900	7850600	N.A.	-9.00	-9.00	18/07/94
NB03088	15909	3	401340	-9	N.A.	-9.00	-9.00	20/07/94
NB03089	15909	3	401370	7854230	N.A.	-9.00	-9.00	20/07/94
NB03091	15909	3	401390	7854310	N.A.	-9.00	-9.00	20/07/94
NB03092	15909	3	400550	7854690	N.A.	-9.00	-9.00	20/07/94
NB03093	15909	3	400570	7854590	N.A.	-9.00	-9.00	20/07/94
NB03094	15909	3	400610	7854790	N.A.	-9.00	-9.00	20/07/94
NB03095	15909	3	399110	7855310	N.A.	-9.00	-9.00	20/07/94
NB03096	15909	3	398930	7855370	N.A.	-9.00	-9.00	20/07/94
NB03097	15909	3	399280	7856140	N.A.	-9.00	-9.00	20/07/94
NB03099	15909	3	411780	7851740	N.A.	-9.00	-9.00	21/07/94
NB03100	15909	3	408690	7852370	N.A.	-9.00	-9.00	21/07/94
NS03101	15909	3	-9	-9	FP94-9-1	92.00	92.50	22/07/94
NS03102	15909	3	-9	-9	FP94-9-1	94.90	95.90	22/07/94
NS03103	15909	3	-9	-9	FP94-9-1	217.40	217.90	23/07/94
NS03104	15909	3	-9	-9	FP94-9-1	218.30	218.40	23/07/94
NS03105	15909	3	-9	-9	FP94-9-1	474.40	475.90	25/07/94
NS03106	15909	3	-9	-9	FP94-9-1	476.10	477.10	25/07/94



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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NS03107	15909	3	-9	-9	FP94-9-1	477.10	478.10	25/07/94
NS03108	15909	3	-9	-9	FP94-9-1	478.10	479.40	25/07/94
NS03109	15909	3	-9	-9	FP94-9-1	486.40	487.20	25/07/94
NS03110	15909	3	-9	-9	FP94-9-1	496.20	497.10	26/07/94
NS03111	15909	3	-9	-9	FP94-9-1	499.10	500.00	26/07/94
NS03112	15909	3	-9	-9	FP94-9-1	500.00	501.00	26/07/94
NS03113	15909	3	-9	-9	FP94-9-1	501.00	502.00	26/07/94
NS03114	15909	3	-9	-9	FP94-9-1	502.00	503.00	26/07/94
NS03115	15909	3	-9	-9	FP94-9-1	522.10	523.10	26/07/94
NS03116	15909	3	-9	-9	FP94-9-1	525.10	526.10	26/07/94
NS03117	15909	3	-9	-9	FP94-9-1	527.10	528.10	26/07/94
NS03118	15909	3	-9	-9	FP94-9-1	529.10	530.10	26/07/94
NS03119	15909	3	-9	-9	FP94-9-1	531.10	532.10	26/07/94
NS03120	15909	3	-9	-9	FP94-9-1	533.10	534.10	26/07/94
NS03121	15909	3	-9	-9	FP94-9-1	535.10	536.10	26/07/94
NS03122	15909	3	-9	-9	FP94-9-2	21.00	22.00	03/08/94
NS03123	15909	3	-9	-9	FP94-9-2	24.10	25.00	03/08/94
NS03124	15909	3	-9	-9	FP94-9-2	13.00	14.00	03/08/94
NS03125	15909	3	-9	-9	FP94-9-2	16.50	17.50	03/08/94
NS03126	15909	3	-9	-9	FP94-9-2	28.00	29.00	03/08/94
NS03127	15909	3	-9	-9	FP94-9-2	31.00	32.00	03/08/94
NS03128	15909	3	-9	-9	FP94-9-2	35.00	36.00	03/08/94
NS03129	15909	3	-9	-9	FP94-9-2	37.00	38.00	03/08/94
NS03130	15909	3	-9	-9	FP94-9-2	40.00	41.00	03/08/94
NS03131	15909	3	-9	-9	FP94-9-2	42.00	43.00	03/08/94
NS03132	15909	3	-9	-9	FP94-9-2	45.00	46.00	03/08/94
NS03133	15909	3	-9	-9	FP94-9-2	123.50	124.50	03/08/94
NS03134	15909	3	-9	-9	FP94-9-2	125.50	126.50	03/08/94
NS03135	15909	3	-9	-9	FP94-9-3	9.00	10.00	07/08/94
NS03136	15909	3	-9	-9	FP94-9-3	12.00	13.00	07/08/94
NS03137	15909	3	-9	-9	FP94-9-3	14.00	15.00	07/08/94
NS03138	15909	3	-9	-9	FP94-9-3	16.00	17.00	07/08/94
NS03139	15909	3	-9	-9	FP94-9-3	17.00	18.00	07/08/94
NS03140	15909	3	-9	-9	FP94-9-3	21.00	22.00	07/08/94
NS03141	15909	3	-9	-9	FP94-9-3	24.00	25.00	07/08/94
NS03142	15909	3	-9	-9	FP94-9-3	25.00	26.00	07/08/94
NS03143	15909	3	-9	-9	FP94-9-3	27.00	28.00	07/08/94
NS03144	15909	3	-9	-9	FP94-9-3	29.00	30.00	07/08/94
NS03145	15909	3	-9	-9	FP94-9-3	31.00	32.00	07/08/94
NS03146	15909	3	-9	-9	FP94-9-3	33.00	34.00	07/08/94
NS03147	15909	3	-9	-9	FP94-9-3	37.00	38.00	07/08/94
NB03101	15909	4	424295	7772100	N.A.	-9.00	-9.00	16/06/94
NB03102	15909	5	433252	7701884	N.A.	-9.00	-9.00	09/07/94
NB03103	15909	5	433006	7701443	N.A.	-9.00	-9.00	09/07/94
NB03104	15909	5	432661	7701310	N.A.	-9.00	-9.00	09/07/94
NB03105	15909	5	432710	7700910	N.A.	-9.00	-9.00	09/07/94
NB03106	15909	5	435486	7700343	N.A.	-9.00	-9.00	09/07/94
NB03107	15909	5	434100	7707000	N.A.	-9.00	-9.00	09/07/94
NB03109	15909	5	435750	7705870	N.A.	-9.00	-9.00	09/07/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NB03110	15909	5	436730	7705450	N.A.	-9.00	-9.00	09/07/94
NB03111	15909	5	432150	7706800	N.A.	-9.00	-9.00	09/07/94
NB03112	15909	5	432100	7707080	N.A.	-9.00	-9.00	09/07/94
NB03113	15909	5	433010	7703750	N.A.	-9.00	-9.00	09/07/94
NB03114	15909	5	435570	7703630	N.A.	-9.00	-9.00	09/07/94
NB03115	15909	5	442680	7707340	N.A.	-9.00	-9.00	09/07/94
NB03116	15909	5	441650	7702935	N.A.	-9.00	-9.00	09/07/94
NB03117	15909	5	441205	7705900	N.A.	-9.00	-9.00	09/07/94
NB03118	15909	5	440860	7705040	N.A.	-9.00	-9.00	09/07/94
NB03119	15909	5	440106	7703680	N.A.	-9.00	-9.00	09/07/94
NB03120	15909	5	440100	7703680	N.A.	-9.00	-9.00	09/07/94
NB03121	15909	5	440100	7703680	N.A.	-9.00	-9.00	09/07/94
NB03122	15909	5	441310	7703040	N.A.	-9.00	-9.00	09/07/94
NB03123	15909	5	434640	7720325	N.A.	-9.00	-9.00	10/07/94
NB03124	15909	5	434500	7720300	N.A.	-9.00	-9.00	10/07/94
NB03125	15909	5	434690	7720250	N.A.	-9.00	-9.00	10/07/94
NB03126	15909	5	434500	7719900	N.A.	-9.00	-9.00	10/07/94
NB03127	15909	5	434700	7717900	N.A.	-9.00	-9.00	10/07/94
NB03129	15909	5	434770	7717950	N.A.	-9.00	-9.00	10/07/94
NB03130	15909	5	434950	7717960	N.A.	-9.00	-9.00	10/07/94
NB03131	15909	5	434950	7717700	N.A.	-9.00	-9.00	10/07/94
NB03132	15909	5	434980	7717350	N.A.	-9.00	-9.00	10/07/94
NB03133	15909	5	435110	7717250	N.A.	-9.00	-9.00	10/07/94
NB03134	15909	5	434980	7717030	N.A.	-9.00	-9.00	10/07/94
NB03135	15909	5	435500	7716300	N.A.	-9.00	-9.00	10/07/94
NB03136	15909	5	435600	7716175	N.A.	-9.00	-9.00	10/07/94
NB03137	15909	5	432536	7699249	N.A.	-9.00	-9.00	10/07/94
NB03138	15909	5	432612	7699041	N.A.	-9.00	-9.00	10/07/94
NB03139	15909	5	432659	7698946	N.A.	-9.00	-9.00	10/07/94
NB03140	15909	5	431914	7698661	N.A.	-9.00	-9.00	10/07/94
NB03141	15909	5	431038	7698896	N.A.	-9.00	-9.00	10/07/94
NB03142	15909	5	431316	7698428	N.A.	-9.00	-9.00	10/07/94
NB03143	15909	5	431254	7698067	N.A.	-9.00	-9.00	10/07/94
NB03144	15909	5	430281	7697873	N.A.	-9.00	-9.00	10/07/94
NB03145	15909	5	431508	7697658	N.A.	-9.00	-9.00	10/07/94
NB03151	15909	5	439680	7706220	N.A.	-9.00	-9.00	10/07/94
NB03152	15909	5	440220	7706220	N.A.	-9.00	-9.00	10/07/94
NB03153	15909	5	440110	7706390	N.A.	-9.00	-9.00	10/07/94
NB03154	15909	5	440620	7706490	N.A.	-9.00	-9.00	10/07/94
NB03155	15909	5	439700	7707950	N.A.	-9.00	-9.00	10/07/94
NB03157	15909	5	451265	7710890	N.A.	-9.00	-9.00	11/07/94
NB03158	15909	5	450274	7709622	N.A.	-9.00	-9.00	11/07/94
NB03159	15909	5	450420	7708593	N.A.	-9.00	-9.00	11/07/94
NB03160	15909	5	450285	7708115	N.A.	-9.00	-9.00	11/07/94
NB03161	15909	5	451599	7707672	N.A.	-9.00	-9.00	11/07/94
NB03162	15909	5	451793	7708579	N.A.	-9.00	-9.00	11/07/94
NB03163	15909	5	452163	7708435	N.A.	-9.00	-9.00	11/07/94
NB03164	15909	5	452753	7708714	N.A.	-9.00	-9.00	11/07/94
NB03165	15909	5	453021	7708457	N.A.	-9.00	-9.00	11/07/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NB03166	15909	5	441050	7710750	N.A.	-9.00	-9.00	11/07/94
NB03167	15909	5	441870	7710530	N.A.	-9.00	-9.00	11/07/94
NB03169	15909	5	430200	7708650	N.A.	-9.00	-9.00	09/07/94
NB03170	15909	5	434750	7723400	N.A.	-9.00	-9.00	10/07/94
NB03171	15909	5	434750	7723400	N.A.	-9.00	-9.00	10/07/94
NB03172	15909	5	436300	7720450	N.A.	-9.00	-9.00	10/07/94
NB03173	15909	5	436300	7702450	N.A.	-9.00	-9.00	10/07/94
NB03174	15909	5	436950	7717850	N.A.	-9.00	-9.00	10/07/94
NB03175	15909	5	436950	7717850	N.A.	-9.00	-9.00	10/07/94
NB03176	15909	5	437850	7716050	N.A.	-9.00	-9.00	10/07/94
NB03177	15909	5	446100	7714150	N.A.	-9.00	-9.00	11/07/94
NB03178	15909	5	446100	7714150	N.A.	-9.00	-9.00	11/07/94
NB03179	15909	3	407558	7850620	N.A.	-9.00	-9.00	16/07/94
NB03180	15909	3	407280	7851640	N.A.	-9.00	-9.00	16/07/94
NB03181	15909	3	407220	7851750	N.A.	-9.00	-9.00	16/07/94
NB03182	15909	3	406819	7852410	N.A.	-9.00	-9.00	16/07/94
NB03183	15909	3	407730	7852490	N.A.	-9.00	-9.00	16/07/94
NB03184	15909	3	407730	7852650	N.A.	-9.00	-9.00	16/07/94
NB03185	15909	3	405452	7852160	N.A.	-9.00	-9.00	17/07/94
NB03186	15909	3	405111	7852162	N.A.	-9.00	-9.00	17/07/94
NB03187	15909	3	405095	7852026	N.A.	-9.00	-9.00	17/07/94
NB03189	15909	3	404499	7851703	N.A.	-9.00	-9.00	17/07/94
NB03190	15909	3	407260	7849490	N.A.	-9.00	-9.00	18/07/94
NB03191	15909	3	407127	7850217	N.A.	-9.00	-9.00	18/07/94
NB03192	15909	3	407127	7850217	N.A.	-9.00	-9.00	18/07/94
NB03193	15909	3	406710	7850700	N.A.	-9.00	-9.00	18/07/94
NB03194	15909	3	406410	7851150	N.A.	-9.00	-9.00	18/07/94
NB03195	15909	3	401920	7853360	N.A.	-9.00	-9.00	20/07/94
NB03196	15909	3	402010	7853215	N.A.	-9.00	-9.00	20/07/94
NB03197	15909	3	402020	7853195	N.A.	-9.00	-9.00	20/07/94
NB03146	15909	5	431806	7697967	N.A.	-9.00	-9.00	10/07/94
NB03147	15909	5	432128	7698194	N.A.	-9.00	-9.00	10/07/94
NB03149	15909	5	439040	7705320	N.A.	-9.00	-9.00	N.A.
NB03150	15909	5	439590	7706100	N.A.	-9.00	-9.00	N.A.
NS03149	15909	3	-9	-9	FP94-9-3	39.00	40.00	07/08/94
NS03150	15909	3	-9	-9	FP94-9-3	41.00	42.00	07/08/94
NB03480	15909	3	-9	-9	FP94-9-4	138.00	139.00	11/08/94
NB03481	15909	3	-9	-9	FP94-9-4	140.00	141.00	11/08/94
NB03482	15909	3	-9	-9	FP94-9-4	142.00	143.00	11/08/94
NB03483	15909	3	-9	-9	FP94-9-4	144.00	145.00	11/08/94
NB03484	15909	3	-9	-9	FP94-9-4	146.00	147.00	11/08/94
NB03485	15909	3	-9	-9	FP94-9-4	148.00	149.00	11/08/94
NB03486	15909	3	-9	-9	FP94-9-4	150.00	151.00	11/08/94
NB03487	15909	3	-9	-9	FP94-9-4	155.00	156.00	11/08/94
NB03489	15909	3	-9	-9	FP94-9-4	158.00	159.00	11/08/94
NB03490	15909	3	-9	-9	FP94-9-4	159.00	160.00	11/08/94
NB03491	15909	3	-9	-9	FP94-9-4	160.00	161.00	11/08/94
NB03492	15909	3	-9	-9	FP94-9-4	161.00	162.00	11/08/94
NB03493	15909	3	-9	-9	FP94-9-4	162.00	163.00	11/08/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NB03494	15909	3	-9	-9	FP94-9-4	179.50	180.20	11/08/94
LB04851	15909	3	-9	-9	FP94-4-3	38.00	39.00	16/08/94
LB04852	15909	3	-9	-9	FP94-4-3	48.00	49.00	16/08/94
LB04853	15909	3	-9	-9	FP94-4-3	56.00	57.00	16/08/94
LB04854	15909	3	-9	-9	FP94-4-5	59.00	60.00	23/08/94
LB04855	15909	3	-9	-9	FP94-4-5	69.00	70.00	23/08/94
LB04856	15909	3	-9	-9	FP94-4-5	79.00	80.00	23/08/94
LB04857	15909	3	-9	-9	FP94-4-5	89.00	90.00	23/08/94
LB04858	15909	3	-9	-9	FP94-4-5	99.00	100.00	23/08/94
LB04859	15909	3	-9	-9	FP94-4-5	109.00	110.00	23/08/94
LB04860	15909	3	-9	-9	FP94-4-5	119.00	120.00	23/08/94
LB04861	15909	3	-9	-9	FP94-4-5	128.00	129.00	23/08/94
LB04862	15909	3	-9	-9	FP94-4-5	139.00	140.00	27/08/94
LB04863	15909	3	-9	-9	FP94-4-5	149.00	150.00	27/08/94
LB04864	15909	3	-9	-9	FP94-4-5	159.00	160.00	27/08/94
LB04865	15909	3	-9	-9	FP94-4-5	167.00	168.00	27/08/94
LB04866	15909	3	-9	-9	FP94-4-5	179.60	180.60	27/08/94
LB04867	15909	4	-9	-9	FP94-6-2	109.00	110.00	02/09/94
LB04869	15909	4	-9	-9	FP94-6-2	118.00	119.00	02/09/94
LB04870	15909	4	-9	-9	FP94-6-2	127.00	128.00	02/09/94
LB04871	15909	4	-9	-9	FP94-6-2	137.00	138.00	02/09/94
LB04872	15909	4	-9	-9	FP94-6-2	147.00	148.00	02/09/94
LB04873	15909	4	-9	-9	FP94-6-2	157.00	158.00	02/09/94
LB04874	15909	4	-9	-9	FP94-6-2	167.00	168.00	02/09/94
LB04875	15909	4	-9	-9	FP94-6-2	177.00	178.00	02/09/94
LB04876	15909	4	-9	-9	FP94-6-2	187.00	188.00	02/09/94
LB04877	15909	4	-9	-9	FP94-6-2	197.00	198.00	02/09/94
NB03458	15909	3	-9	-9	FP94-11-5	24.00	25.00	08/08/94
NB03459	15909	3	-9	-9	FP94-11-5	26.00	27.00	08/08/94
NB03460	15909	3	-9	-9	FP94-11-5	30.00	31.00	08/08/94
NB03461	15909	3	-9	-9	FP94-11-5	96.00	97.00	09/08/94
NB03462	15909	3	-9	-9	FP94-11-5	101.00	102.00	09/08/94
NB03463	15909	3	-9	-9	FP94-11-5	105.00	106.00	09/08/94
NB03464	15909	3	-9	-9	FP94-11-5	110.00	111.00	09/08/94
NB03465	15909	3	-9	-9	FP94-11-5	118.00	119.00	09/08/94
NB03466	15909	3	-9	-9	FP94-11-5	173.00	124.00	09/08/94
NB03467	15909	3	-9	-9	FP94-11-5	178.00	129.00	09/08/94
NB03469	15909	3	-9	-9	FP94-11-5	134.00	135.00	09/08/94
NB03470	15909	3	-9	-9	FP94-11-5	140.00	141.00	09/08/94
NB03471	15909	3	-9	-9	FP94-11-5	148.00	149.00	09/08/94
NB03472	15909	3	-9	-9	FP94-11-5	157.00	158.00	09/08/94
NB03473	15909	3	-9	-9	FP94-11-5	167.00	168.00	10/08/94
NB03474	15909	3	-9	-9	FP94-11-5	173.80	174.70	10/08/94
NB03475	15909	3	-9	-9	FP94-11-5	179.00	180.00	10/08/94
NB03476	15909	3	-9	-9	FP94-11-5	187.00	188.00	10/08/94
NB03477	15909	3	-9	-9	FP94-11-5	195.00	196.00	10/08/94
NB03478	15909	3	-9	-9	FP94-11-5	200.00	201.00	10/08/94
NB03479	15909	3	-9	-9	FP94-11-5	225.00	226.00	10/08/94
LB04601	15909	4	420960	7776540	N.A.	-9.00	-9.00	20/08/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
LB04602	15909	4	422350	7777340	N.A.	-9.00	-9.00	20/08/94
LB04603	15909	4	421670	7778960	N.A.	-9.00	-9.00	20/08/94
LB04604	15909	4	421510	7779560	N.A.	-9.00	-9.00	20/08/94
LB04605	15909	4	420000	7778580	N.A.	-9.00	-9.00	20/08/94
LB04606	15909	4	421290	7780300	N.A.	-9.00	-9.00	20/08/94
LB04607	15909	4	421430	7780420	N.A.	-9.00	-9.00	20/08/94
LB04609	15909	4	415820	7787450	N.A.	-9.00	-9.00	21/08/94
LB04610	15909	4	415640	7786080	N.A.	-9.00	-9.00	21/08/94
LB04611	15909	4	426940	7769630	N.A.	-9.00	-9.00	23/08/94
LB04612	15909	4	427160	7769600	N.A.	-9.00	-9.00	23/08/94
LB04613	15909	4	427320	7769560	N.A.	-9.00	-9.00	23/08/94
LB04614	15909	4	429280	7763360	N.A.	-9.00	-9.00	24/08/94
LB04615	15909	4	427500	7767240	N.A.	-9.00	-9.00	24/08/94
LB04616	15909	4	394160	7795300	N.A.	-9.00	-9.00	25/08/94
LB04617	15909	4	394530	7794970	N.A.	-9.00	-9.00	25/08/94
LB04618	15909	4	394530	7795000	N.A.	-9.00	-9.00	25/08/94
LB04619	15909	4	395900	7795670	N.A.	-9.00	-9.00	25/08/94
NB03198	15909	3	402070	7853065	N.A.	-9.00	-9.00	20/07/94
NB03199	15909	3	402210	7852995	N.A.	-9.00	-9.00	20/07/94
NB03200	15909	3	402200	7853020	N.A.	-9.00	-9.00	20/07/94
NB04951	15909	3	420200	7852840	N.A.	-9.00	-9.00	20/07/94
NB04952	15909	3	403610	7852580	N.A.	-9.00	-9.00	20/07/94
NB04953	15909	3	403700	7852070	N.A.	-9.00	-9.00	20/07/94
NB04954	15909	3	408320	7852450	N.A.	-9.00	-9.00	21/07/94
NB04955	15909	3	399337	7852702	N.A.	-9.00	-9.00	25/07/94
NB04956	15909	3	399380	7852650	N.A.	-9.00	-9.00	25/07/94
NB04957	15909	3	401500	7851310	N.A.	-9.00	-9.00	26/07/94
NB04958	15909	3	401310	7850970	N.A.	-9.00	-9.00	26/07/94
NB04959	15909	3	400980	7851075	N.A.	-9.00	-9.00	29/07/94
NB04960	15909	3	400900	7850980	N.A.	-9.00	-9.00	26/07/94
NB04961	15909	3	401180	7848120	N.A.	-9.00	-9.00	27/07/94
NB04962	15909	3	401100	7848075	N.A.	-9.00	-9.00	27/07/94
NB04963	15909	3	400920	7848140	N.A.	-9.00	-9.00	27/07/94
NB04964	15909	3	400950	7848100	N.A.	-9.00	-9.00	27/07/94
NB04965	15909	3	400730	7848100	N.A.	-9.00	-9.00	27/07/94
NB04966	15909	3	399780	7849750	N.A.	-9.00	-9.00	28/07/94
NB04967	15909	3	398830	7849600	N.A.	-9.00	-9.00	28/07/94
NB04969	15909	3	398550	7849300	N.A.	-9.00	-9.00	28/07/94
NB04970	15909	3	379640	7836930	N.A.	-9.00	-9.00	30/07/94
NB04971	15909	3	379580	7836970	N.A.	-9.00	-9.00	30/07/94
NB04972	15909	3	379420	7837050	N.A.	-9.00	-9.00	30/07/94
NB04973	15909	3	379350	7837270	N.A.	-9.00	-9.00	30/07/94
NB04974	15909	3	379300	7837390	N.A.	-9.00	-9.00	30/07/94
NB04975	15909	3	379110	7837600	N.A.	-9.00	-9.00	30/07/94
NB04976	15909	3	380800	7837190	N.A.	-9.00	-9.00	31/07/94
NB04977	15909	3	381075	7837390	N.A.	-9.00	-9.00	31/07/94
NB04978	15909	3	381370	7837630	N.A.	-9.00	-9.00	31/07/94
NB04979	15909	3	381500	7837670	N.A.	-9.00	-9.00	31/07/94
NB04980	15909	3	381550	7837560	N.A.	-9.00	-9.00	31/07/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
NB04981	15909	3	381510	7837550	N.A.	-9.00	-9.00	31/07/94
NB04982	15909	3	381700	7837740	N.A.	-9.00	-9.00	31/07/94
NB04983	15909	3	381910	7837830	N.A.	-9.00	-9.00	31/07/94
NB04984	15909	3	382100	7837850	N.A.	-9.00	-9.00	31/07/94
NB04985	15909	3	382240	7837850	N.A.	-9.00	-9.00	31/07/94
NB04986	15909	3	384400	7839750	N.A.	-9.00	-9.00	02/08/94
NB04987	15909	3	384100	7839480	N.A.	-9.00	-9.00	02/08/94
NB04989	15909	3	383860	7839450	N.A.	-9.00	-9.00	02/08/94
NB04990	15909	3	383830	7839350	N.A.	-9.00	-9.00	02/08/94
NB04991	15909	3	378200	7838600	N.A.	-9.00	-9.00	02/08/94
NB04992	15909	3	382690	7837950	N.A.	-9.00	-9.00	02/08/94
NB04993	15909	3	382500	7837950	N.A.	-9.00	-9.00	02/08/94
NB04994	15909	3	382450	7837930	N.A.	-9.00	-9.00	02/08/94
NB04995	15909	3	382360	7837850	N.A.	-9.00	-9.00	02/08/94
NB04996	15909	3	389960	7844970	N.A.	-9.00	-9.00	05/08/94
NB04997	15909	3	389800	7845080	N.A.	-9.00	-9.00	05/08/94
NB04998	15909	3	389710	7845210	N.A.	-9.00	-9.00	05/08/94
NB04999	15909	3	389770	7845200	N.A.	-9.00	-9.00	05/08/94
NB05000	15909	3	390040	7844650	N.A.	-9.00	-9.00	05/08/94
AF09851	15909	3	403470	7850390	N.A.	-9.00	-9.00	25/07/94
AF09852	15909	3	403400	7850380	N.A.	-9.00	-9.00	25/07/94
AF09853	15909	3	401550	7849870	N.A.	-9.00	-9.00	26/07/94
AF09854	15909	3	401780	7849970	N.A.	-9.00	-9.00	26/07/94
AF09855	15909	3	401750	7850040	N.A.	-9.00	-9.00	26/07/94
AF09856	15909	3	401810	7850100	N.A.	-9.00	-9.00	26/07/94
AF09857	15909	3	401840	7850140	N.A.	-9.00	-9.00	26/07/94
AF09859	15909	3	401950	7850150	N.A.	-9.00	-9.00	26/07/94
AF09860	15909	3	401970	7850220	N.A.	-9.00	-9.00	26/07/94
AF09861	15909	3	402020	7850250	N.A.	-9.00	-9.00	26/07/94
AF09862	15909	3	402120	7850270	N.A.	-9.00	-9.00	26/07/94
AF09863	15909	3	402240	7850330	N.A.	-9.00	-9.00	26/07/94
AF09864	15909	3	402150	7849950	N.A.	-9.00	-9.00	26/07/94
AF09865	15909	3	402150	7849790	N.A.	-9.00	-9.00	26/07/94
AF09866	15909	3	401820	7847750	N.A.	-9.00	-9.00	27/07/94
AF09867	15909	3	399230	7849740	N.A.	-9.00	-9.00	28/07/94
AF09869	15909	3	399230	7849740	N.A.	-9.00	-9.00	28/07/94
AF09870	15909	3	399700	7850080	N.A.	-9.00	-9.00	28/07/94
AF09871	15909	3	400090	7850070	N.A.	-9.00	-9.00	28/07/94
AF09872	15909	3	400700	7849630	N.A.	-9.00	-9.00	28/07/94
AF09873	15909	3	378880	7836320	N.A.	-9.00	-9.00	30/07/94
AF09874	15909	3	378780	7836240	N.A.	-9.00	-9.00	30/07/94
AF09875	15909	3	378750	7836240	N.A.	-9.00	-9.00	30/07/94
AF09876	15909	3	378700	7836200	N.A.	-9.00	-9.00	30/07/94
AF09877	15909	3	378650	7836180	N.A.	-9.00	-9.00	30/07/94
AF09879	15909	3	378590	7836180	N.A.	-9.00	-9.00	30/07/94
AF09880	15909	3	378550	7836120	N.A.	-9.00	-9.00	30/07/94
AF09881	15909	3	378460	7836020	N.A.	-9.00	-9.00	30/07/94
AF09882	15909	3	378280	783590	N.A.	-9.00	-9.00	30/07/94
AF09883	15909	3	378350	7836000	N.A.	-9.00	-9.00	30/07/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
AF09884	15909	3	378200	7835410	N.A.	-9.00	-9.00	30/07/94
AF09885	15909	3	380220	7836120	N.A.	-9.00	-9.00	31/07/94
AF09886	15909	3	382660	7837170	N.A.	-9.00	-9.00	31/07/94
AF09887	15909	3	385820	7837530	N.A.	-9.00	-9.00	31/07/94
AF09889	15909	3	385840	7837570	N.A.	-9.00	-9.00	31/07/94
AF09890	15909	3	385840	7837571	N.A.	-9.00	-9.00	31/07/94
AF09891	15909	3	385740	7837540	N.A.	-9.00	-9.00	31/07/94
AF09892	15909	3	385400	7837500	N.A.	-9.00	-9.00	31/07/94
AF09893	15909	3	384870	7837470	N.A.	-9.00	-9.00	31/07/94
AF09894	15909	3	384550	7837440	N.A.	-9.00	-9.00	31/07/94
AF09895	15909	3	384700	7837420	N.A.	-9.00	-9.00	31/07/94
AF09896	15909	3	384470	7837348	N.A.	-9.00	-9.00	31/07/94
AF09897	15909	3	384360	7837370	N.A.	-9.00	-9.00	31/07/94
AF09899	15909	3	385500	7839050	N.A.	-9.00	-9.00	02/07/94
AF09900	15909	3	385780	7838660	N.A.	-9.00	-9.00	02/08/94
AF09901	15909	3	385630	7838420	N.A.	-9.00	-9.00	02/08/94
AF09902	15909	3	384900	7838860	N.A.	-9.00	-9.00	02/08/94
AF09903	15909	3	384900	7838861	N.A.	-9.00	-9.00	02/08/94
AF09904	15909	3	384005	7837440	N.A.	-9.00	-9.00	02/08/94
AF09905	15909	3	383960	7838500	N.A.	-9.00	-9.00	02/08/94
AF09906	15909	3	383890	7837520	N.A.	-9.00	-9.00	02/08/94
AF09907	15909	3	386840	7841530	N.A.	-9.00	-9.00	03/08/94
AF09908	15909	3	401550	7825770	N.A.	-9.00	-9.00	12/08/94
AF09909	15909	3	390540	7847360	N.A.	-9.00	-9.00	05/08/94
AF09910	15909	3	390370	7847550	N.A.	-9.00	-9.00	05/08/94
AF09911	15909	3	390330	7847580	N.A.	-9.00	-9.00	05/08/94
AF09912	15909	3	390820	7847650	N.A.	-9.00	-9.00	05/08/94
AF09913	15909	3	390810	7847810	N.A.	-9.00	-9.00	05/08/94
AF09914	15909	3	390780	7847860	N.A.	-9.00	-9.00	05/08/94
AF09915	15909	3	390820	7848290	N.A.	-9.00	-9.00	05/08/94
AF09916	15909	3	392240	7848020	N.A.	-9.00	-9.00	07/08/94
AF09917	15909	3	392000	7848370	N.A.	-9	-9.00	07/08/94
AF09918	15909	3	401110	7826250	N.A.	-9.00	-9.00	12/08/94
AF09919	15909	3	389210	7848360	N.A.	-9.00	-9.00	07/08/94
AF09920	15909	3	392380	7848400	N.A.	-9.00	-9.00	07/08/94
AF09921	15909	3	392380	7848380	N.A.	-9.00	-9.00	07/08/94
AF09922	15909	3	392050	7848600	N.A.	-9.00	-9.00	07/08/94
AF09923	15909	3	392750	7848580	N.A.	-9.00	-9.00	07/08/94
AF09924	15909	3	392620	7848700	N.A.	-9.00	-9.00	07/08/94
AF09925	15909	3	392490	7848850	N.A.	-9.00	-9.00	07/08/94
AF09926	15909	3	392410	7848040	N.A.	-9.00	-9.00	07/08/94
AF09927	15909	3	393580	7848620	N.A.	-9.00	-9.00	08/08/94
AF09929	15909	3	393520	7848570	N.A.	-9.00	-9.00	08/08/94
AF09930	15909	3	393770	7848850	N.A.	-9.00	-9.00	08/08/94
AF09931	15909	3	393470	7848900	N.A.	-9.00	-9.00	08/08/94
AF09932	15909	3	393450	7848950	N.A.	-9.00	-9.00	08/08/94
AF09933	15909	3	404600	7849300	N.A.	-9.00	-9.00	08/08/94
AF09934	15909	3	404520	7849360	N.A.	-9.00	-9.00	09/08/94
AF09935	15909	3	404110	7849620	N.A.	-9.00	-9.00	09/08/94

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SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
AF09936	15909	3	403700	7849350	N.A.	-9.00	-9.00	09/08/94
AF09937	15909	3	403540	7849280	N.A.	-9.00	-9.00	09/08/94
AF09938	15909	3	401380	7826370	N.A.	-9.00	-9.00	12/08/94
AF09939	15909	3	403060	7849900	N.A.	-9.00	-9.00	09/08/94
AF09940	15909	3	401390	7826360	N.A.	-9.00	-9.00	12/08/94
AF09941	15909	3	401550	7826360	N.A.	-9.00	-9.00	12/08/94
AF09942	15909	3	402370	7826730	N.A.	-9.00	-9.00	12/08/94
AF09943	15909	3	399310	7825900	N.A.	-9.00	-9.00	13/08/94
AF09944	15909	3	399850	7820450	N.A.	-9.00	-9.00	13/08/94
AF09945	15909	3	400910	7820770	N.A.	-9.00	-9.00	13/08/94
AF09946	15909	3	400930	7820770	N.A.	-9.00	-9.00	13/08/94
AF09947	15909	3	401300	7820640	N.A.	-9.00	-9.00	13/08/94
AF09949	15909	3	401310	7820640	N.A.	-9.00	-9.00	13/08/94
AF09950	15909	3	401320	7820640	N.A.	-9.00	-9.00	13/08/94
AF09951	15909	3	390250	7844920	N.A.	-9.00	-9.00	05/08/94
AF09952	15909	3	390660	7844740	N.A.	-9.00	-9.00	05/08/94
AF09953	15909	3	390710	7844680	N.A.	-9.00	-9.00	05/08/94
AF09954	15909	3	390705	7844520	N.A.	-9.00	-9.00	05/08/94
AF09955	15909	3	388020	7842190	N.A.	-9.00	-9.00	07/08/94
AF09956	15909	3	387740	7842380	N.A.	-9.00	-9.00	07/08/94
AF09957	15909	3	388040	7842800	N.A.	-9.00	-9.00	07/08/94
AF09958	15909	3	387940	7842950	N.A.	-9.00	-9.00	07/08/94
AF09959	15909	3	387880	7843000	N.A.	-9.00	-9.00	07/08/94
AF09960	15909	3	387740	7843140	N.A.	-9.00	-9.00	07/08/94
AF09961	15909	3	387700	7843160	N.A.	-9.00	-9.00	07/08/94
AF09962	15909	3	387620	7843210	N.A.	-9.00	-9.00	07/08/94
AF09963	15909	3	387490	7843260	N.A.	-9.00	-9.00	07/08/94
AF09964	15909	3	387100	7843160	N.A.	-9.00	-9.00	07/08/94
AF09965	15909	3	387090	7843100	N.A.	-9.00	-9.00	07/08/94
AF09966	15909	3	388760	7843090	N.A.	-9.00	-9.00	13/08/94
AF09967	15909	3	388800	7842900	N.A.	-9.00	-9.00	07/08/94
AF09969	15909	3	393780	7848520	N.A.	-9.00	-9.00	08/08/94
AF09970	15909	3	393700	7848720	N.A.	-9.00	-9.00	08/08/94
AF09971	15909	3	393690	7848940	N.A.	-9.00	-9.00	08/08/94
AF09972	15909	3	393840	7849300	N.A.	-9.00	-9.00	08/08/94
AF09973	15909	3	393900	7849400	N.A.	-9.00	-9.00	08/08/94
AF09974	15909	3	399130	7852720	N.A.	-9.00	-9.00	09/08/94
AF09975	15909	3	399050	7852700	N.A.	-9.00	-9.00	09/08/94
AF09976	15909	3	399110	7852580	N.A.	-9.00	-9.00	09/08/94
AF09977	15909	3	399290	7852170	N.A.	-9.00	-9.00	09/08/94
AF09978	15909	3	398360	7852560	N.A.	-9.00	-9.00	09/08/94
AF09979	15909	3	398360	7852560	N.A.	-9.00	-9.00	09/08/94
AF09980	15909	3	400740	7824600	N.A.	-9.00	-9.00	12/08/94
AF09981	15909	3	400880	7824660	N.A.	-9.00	-9.00	12/08/94
AF09982	15909	3	400260	7824480	N.A.	-9.00	-9.00	12/08/94
AF09983	15909	3	400320	7823470	N.A.	-9.00	-9.00	12/08/94
AF09984	15909	3	400460	7823420	N.A.	-9.00	-9.00	12/08/94
AF09985	15909	3	400560	7823190	N.A.	-9.00	-9.00	12/08/94
AF09986	15909	3	400640	7823200	N.A.	-9.00	-9.00	12/08/94



1994 Whole Rock Header Data

SN	PROJ	MAP	EAST	NORTH	HOLE	FROM	TO	DATE
AF09987	15909	3	399810	7824160	N.A.	-9.00	-9.00	12/08/94
AF09989	15909	3	400040	7822490	N.A.	-9.00	-9.00	13/08/94
AF09990	15909	3	400220	7822520	N.A.	-9.00	-9.00	13/08/94
AF09991	15909	3	400360	7822560	N.A.	-9.00	-9.00	13/08/94
AF09992	15909	3	400350	7822340	N.A.	-9.00	-9.00	13/08/94
AF09993	15909	3	399540	7821950	N.A.	-9.00	-9.00	05/08/94
AF09994	15909	3	399220	7822310	N.A.	-9.00	-9.00	13/08/94
AF09995	15909	3	399260	7822310	N.A.	-9.00	-9.00	13/08/94
AF09996	15909	3	398900	7822270	N.A.	-9.00	-9.00	13/08/94

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idea for barckermine



**APPENDIX IV**

**1994 Whole Rock Analysis**

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, October 14, 1994

Date Rec. : September 20, 1994  
LR. Ref. : **SEP9094.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
1	NS02851	48.8	13.8	8.40	2.48	13.2	2.03	0.68	1.29	0.14	0.18	0.10	6.99	98.1
2	NS02852	52.0	14.2	9.63	4.70	9.76	2.20	0.79	1.33	0.16	0.16	0.09	3.79	98.8
3	NS02853	52.6	14.3	9.67	5.58	8.17	2.39	1.02	1.42	0.16	0.15	0.08	3.73	99.3
4	NS02854	52.8	14.5	9.56	6.00	8.46	2.18	0.92	1.30	0.13	0.14	0.09	3.65	99.7
5	NS02855	50.6	14.7	9.28	7.56	9.09	2.00	0.55	1.21	0.12	0.15	0.11	4.59	100.0
6	NS02856	44.1	10.4	12.4	18.3	8.72	1.49	0.15	1.18	0.09	0.18	0.23	3.04	100.3
7	NS02857	46.1	13.9	11.7	7.39	11.3	3.88	0.10	1.89	0.16	0.17	0.03	3.19	99.8
8	NS02858	41.6	7.36	13.0	26.4	6.38	0.88	0.09	0.76	0.07	0.19	0.35	3.76	100.8
9	NS02859	40.3	5.96	13.3	29.4	5.23	0.60	0.05	0.67	0.06	0.20	0.42	4.37	100.6
10	NS02860	41.7	7.63	13.1	25.4	6.36	1.08	0.08	0.84	0.07	0.19	0.33	3.53	100.3
11	NS02861	43.6	9.14	13.2	22.0	7.68	1.16	0.10	1.05	0.09	0.20	0.27	1.95	100.4
12	NS02862	51.2	13.7	8.90	4.37	9.10	2.25	0.78	1.22	0.13	0.14	0.08	6.78	98.7
13	NS02863	52.3	13.4	10.3	4.20	9.92	2.21	0.93	1.46	0.14	0.20	0.07	3.61	98.7
14	NS02864	53.9	13.4	9.96	4.22	7.24	2.40	1.25	1.58	0.16	0.15	0.04	3.94	98.2
15	NS02865	53.7	13.6	10.9	3.32	7.94	2.48	1.12	1.70	0.22	0.17	0.02	4.19	99.4
16	NS02866	53.3	13.8	10.6	4.34	8.06	2.32	1.03	1.68	0.17	0.16	0.04	3.45	99.0
17	NS02867	52.2	13.7	10.0	5.02	8.74	2.14	0.85	1.47	0.15	0.16	0.07	4.13	98.6
18	NS02868 STANDARD	35.4	1.36	12.4	35.0	0.10	< 0.05	0.04	0.16	< 0.01	0.20	1.73	11.9	98.3

# LAKEFIELD RESEARCH

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Phone : 705-652-2000 - FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
19	NS02869	50.6	13.7	9.38	6.30	9.71	1.96	0.70	1.28	0.12	0.16	0.13	4.82	98.9
20	NS02870	51.2	16.0	8.80	6.02	9.40	2.00	0.68	1.15	0.13	0.14	0.10	2.94	98.6
21	NS02871	51.3	16.1	8.88	6.29	9.15	2.10	0.74	1.19	0.14	0.15	0.11	2.98	99.1
22	NS02872	50.2	15.4	8.58	7.90	8.46	2.16	0.63	0.96	0.09	0.15	0.16	4.46	99.2
23	NS02873	51.6	15.2	8.86	8.20	8.22	2.07	0.71	1.01	0.11	0.15	0.16	2.69	99.0
24	NS02874	51.1	14.7	8.70	7.27	7.84	2.04	0.58	1.14	0.12	0.15	0.12	5.18	98.9
25	NS02875	51.1	14.1	9.52	5.78	8.18	2.36	0.67	1.33	0.14	0.17	0.10	4.44	97.9
26	NS02876	47.8	14.2	12.0	7.79	12.0	2.28	0.10	1.71	0.15	0.20	0.06	1.22	99.5
27	NS02877	47.7	14.2	12.0	7.61	11.9	2.27	0.15	1.72	0.14	0.20	0.06	1.09	99.0
28	NS02878	47.3	13.8	12.2	7.59	11.8	2.29	0.16	1.75	0.15	0.20	0.08	0.64	98.0
29	NS02879	47.2	14.4	11.2	7.82	12.4	2.26	0.13	1.51	0.12	0.18	0.07	2.07	99.4
30	NS02880	48.2	13.7	12.4	7.65	11.9	2.32	0.16	1.82	0.16	0.20	0.05	0.84	99.4
31	NS02881	45.0	14.5	11.1	6.26	13.7	2.41	0.15	1.76	0.15	0.18	0.06	4.08	99.4
32	NS02882	45.7	14.2	11.0	7.71	12.7	1.94	0.19	1.65	0.13	0.17	0.05	3.00	98.4
33	NS02883	39.5	6.01	12.9	28.5	5.16	0.55	0.03	0.64	0.05	0.19	0.39	6.22	100.1
34	NS02884	41.4	8.09	12.9	23.4	7.04	0.97	0.05	0.91	0.07	0.18	0.31	4.18	99.5
35	NS02885	51.8	13.8	9.87	5.05	9.00	2.09	0.77	1.36	0.16	0.15	0.08	3.94	98.1
36	NS02886	53.2	13.6	10.0	4.48	8.90	2.23	0.93	1.56	0.18	0.15	0.06	3.74	99.0
37	NS02887	53.1	13.7	9.95	4.48	8.92	2.24	0.95	1.55	0.17	0.16	0.07	3.31	98.6
38	NS02888 STANDARD	34.8	1.28	12.2	35.7	0.06	< 0.05	0.03	0.16	< 0.01	0.19	1.69	12.0	98.1
39	NS02889	52.2	13.6	10.0	4.36	8.97	2.18	0.88	1.52	0.17	0.15	0.06	4.00	98.1
40	NS02890	53.7	13.9	10.4	4.42	8.29	2.35	1.03	1.52	0.15	0.16	0.05	2.99	99.0
41	NS02891	51.6	12.5	11.1	2.15	7.37	2.53	1.32	2.31	0.23	0.18	< 0.01	7.13	98.4

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

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Phone : 705-652-2000 - FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
42	NB03480	47.4	13.6	14.6	6.18	10.8	2.53	0.30	2.42	0.27	0.23	0.02	0.65	99.0
43	NB03481	47.9	13.6	14.6	6.22	10.9	2.52	0.35	2.43	0.27	0.23	0.03	0.52	99.6
44	NB03482	48.0	13.7	14.7	6.41	10.9	2.52	0.33	2.43	0.27	0.24	0.03	0.43	100.0
45	NB03483	47.2	14.2	13.2	6.37	11.4	2.43	0.25	2.21	0.22	0.21	0.03	1.33	99.1
46	NB03484	47.7	13.6	14.6	6.26	11.0	2.50	0.32	2.41	0.26	0.22	0.02	0.44	99.3
47	NB03485	48.5	13.8	14.9	6.33	11.1	2.54	0.34	2.45	0.27	0.24	0.02	0.42	100.9
48	NB03486	48.2	13.8	14.7	6.10	10.9	2.53	0.36	2.49	0.28	0.24	0.02	0.72	100.3
49	NB03487	47.1	12.4	15.5	6.19	10.4	2.26	0.23	2.99	0.34	0.25	0.03	1.62	99.3
50	NB03488 STANDARD	35.0	1.29	12.4	35.7	0.06	< 0.05	0.03	0.16	< 0.01	0.19	1.71	11.8	98.3
51	NB03489	48.6	14.8	12.5	7.05	12.3	2.24	0.20	1.64	0.15	0.21	0.04	0.42	100.2
52	NB03490	47.5	14.4	12.6	7.08	11.6	2.19	0.34	1.61	0.14	0.19	0.04	0.87	98.6
53	NB03491	48.8	15.0	12.3	7.20	11.8	2.26	0.38	1.62	0.14	0.20	0.04	0.84	100.6
54	NB03492	48.7	14.7	12.7	7.07	12.2	2.35	0.24	1.68	0.15	0.21	0.04	0.59	100.6
55	NB03493	48.4	14.5	12.8	7.13	12.2	2.23	0.20	1.70	0.15	0.21	0.04	0.51	100.1
56	NB03494	46.8	12.4	15.4	5.22	10.1	2.46	0.71	3.51	0.46	0.25	0.01	1.36	98.7
57	LB04851	53.2	14.7	7.99	6.79	7.57	1.70	0.90	1.10	0.13	0.14	0.09	4.92	99.2
58	LB04852	51.5	14.3	9.21	6.66	7.56	1.71	0.76	1.08	0.09	0.14	0.08	5.33	98.4
59	LB04853	51.1	14.3	9.79	6.60	7.59	1.74	0.68	1.06	0.11	0.13	0.08	5.18	98.4
60	LB04854	51.3	14.3	10.5	7.00	8.04	1.93	0.31	1.12	0.12	0.13	0.08	4.18	99.0
61	LB04855	52.0	14.2	10.6	6.80	7.76	1.77	0.65	1.08	0.12	0.15	0.08	3.58	98.8
62	LB04856	51.4	14.5	10.9	6.81	7.73	1.76	0.76	1.10	0.12	0.14	0.08	4.41	99.7
63	LB04857	51.0	14.2	10.5	6.74	7.65	1.61	0.86	1.06	0.13	0.13	0.08	4.07	98.0
64	LB04858	51.6	14.4	10.7	6.79	7.69	1.67	0.86	1.08	0.13	0.15	0.08	4.05	99.2

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Phone : 705-652-2000

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SEP9094.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
65	LB04859	52.2	14.6	10.8	6.86	7.75	1.63	0.85	1.09	0.13	0.14	0.08	4.13	100.3
66	LB04860	51.3	14.3	10.6	6.81	7.63	1.66	0.87	1.07	0.12	0.14	0.08	3.75	98.3
67	LB04861	50.4	14.2	10.5	7.14	7.75	1.83	0.83	1.07	0.07	0.14	0.08	4.88	98.9
68	LB04862	49.9	14.3	10.4	6.74	7.74	1.87	0.87	1.04	0.06	0.14	0.08	4.98	98.1
69	LB04863	50.6	14.2	10.8	7.21	8.05	1.78	0.85	1.09	0.06	0.14	0.08	4.69	99.6
70	LB04864	50.5	14.1	10.8	7.23	8.12	1.80	0.87	1.11	0.06	0.14	0.08	4.50	99.3
71	LB04865	50.1	14.0	11.0	7.44	8.45	1.82	0.66	1.13	0.08	0.14	0.09	4.87	99.8
72	LB04866	49.7	14.0	10.8	7.40	8.37	1.86	0.63	1.12	0.06	0.15	0.08	5.10	99.3
73	LB04867	48.4	14.0	13.3	7.00	11.9	2.44	0.21	2.01	0.16	0.22	0.03	0.33	100.0
74	LB04868 STANDARD	69.6	14.3	3.40	0.84	1.39	3.22	4.41	0.46	0.22	0.08	< 0.01	0.64	98.6
75	LB04869	47.7	14.4	12.2	7.77	12.2	2.30	0.17	1.73	0.14	0.19	0.07	0.79	99.7
76	LB04870	48.0	12.3	17.0	4.52	8.90	2.88	1.17	4.08	0.55	0.26	< 0.01	0.70	100.4
77	LB04871	47.7	12.2	16.7	4.50	8.96	2.94	1.13	4.00	0.54	0.25	< 0.01	0.82	99.7
78	LB04872	52.0	12.4	16.1	2.14	6.52	3.58	2.08	2.39	0.95	0.28	< 0.01	1.50	99.9
79	LB04873	52.2	12.4	15.9	2.12	6.32	3.65	2.11	2.39	0.94	0.28	< 0.01	1.48	99.8
80	LB04874	50.8	12.0	16.8	2.54	6.79	3.57	1.88	2.71	1.02	0.28	< 0.01	1.15	99.5
81	LB04875	48.4	12.3	17.3	3.92	8.34	3.10	1.36	4.04	0.58	0.27	< 0.01	0.58	100.2
82	LB04876	46.9	12.1	16.6	4.77	9.11	2.98	1.11	3.99	0.49	0.24	< 0.01	0.53	98.8
83	LB04877	47.2	12.1	16.5	4.85	9.12	2.74	1.09	3.95	0.48	0.24	0.01	0.72	99.0
84	NS02766	45.4	11.1	12.9	16.2	9.72	1.55	0.09	1.33	0.12	0.20	0.20	1.39	100.2
85	NS02767	46.8	13.5	8.64	7.89	5.47	1.30	0.51	0.96	0.08	0.09	0.07	13.1	98.4
86	NS02768 Missing	--	--	--	--	--	--	--	--	--	--	--	--	--
87	NS02769	48.4	13.4	9.85	6.92	7.48	1.70	0.30	1.04	0.11	0.13	0.07	9.21	98.6

# LAKEFIELD RESEARCH

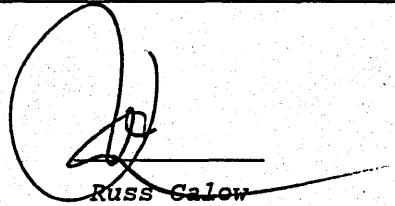
A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
88	NS02770	50.4	13.9	10.3	7.03	7.58	1.81	0.42	1.06	0.14	0.14	0.08	6.62	99.5
89	NS02771	38.3	10.4	13.3	12.1	10.8	1.49	0.11	1.24	0.13	0.21	0.24	11.0	99.3
90	NS02772	43.5	11.8	7.25	7.17	8.24	1.13	0.91	1.02	0.22	0.20	0.10	16.9	98.4
91	NS02773	50.0	13.8	9.13	7.35	7.69	1.65	0.51	1.06	0.09	0.13	0.08	8.13	99.6
92	NS02774	53.0	14.6	6.30	6.96	7.65	1.80	0.61	1.09	0.09	0.13	0.08	6.84	99.1
-- duplicates --														
93	NS02866	52.8	13.6	10.5	4.29	7.98	2.26	1.03	1.65	0.17	0.16	0.04	3.52	98.0
94	NS02876	47.5	14.0	11.9	7.73	11.9	2.26	0.11	1.70	0.14	0.19	0.06	1.25	98.7
95	NS02886	52.0	13.6	9.93	4.46	8.89	2.25	0.94	1.55	0.17	0.15	0.07	3.72	97.7
96	NB03484	46.7	13.3	14.5	6.21	10.9	2.43	0.31	2.36	0.26	0.23	0.02	0.47	97.7
97	NB03494	46.6	12.7	15.7	5.21	10.2	2.50	0.73	3.57	0.46	0.24	0.01	1.38	99.3
98	LB04860	51.4	14.3	10.5	6.79	7.66	1.66	0.91	1.08	0.12	0.14	0.08	3.72	98.4
99	LB04870	47.7	12.3	16.9	4.53	8.91	2.88	1.18	4.04	0.54	0.25	< 0.01	0.70	99.9
100	NS02774	53.4	15.0	6.25	7.07	7.71	1.74	0.62	1.13	0.09	0.13	0.08	6.91	100.1



Russ Galow

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association



# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, October 18, 1994

Date Rec. : September 20, 1994  
LR. Ref. : **SEP9094.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
1	NS02851	158	6	20	204	22	126	< 5	57	7	15
2	NS02852	176	8	24	203	26	140	< 5	54	5	16
3	NS02853	229	7	34	203	27	144	< 5	73	7	22
4	NS02854	234	7	28	201	25	138	< 5	72	5	22
5	NS02855	177	7	17	202	22	110	< 5	64	6	25
6	NS02856	91	7	5	150	18	65	98	64	684	86
7	NS02857	46	9	5	183	28	100	150	57	104	39
8	NS02858	24	6	7	103	12	40	67	71	1115	108
9	NS02859	12	7	6	89	9	33	50	67	1310	126
10	NS02860	28	< 5	6	103	14	40	70	70	1070	114
11	NS02861	25	6	5	114	16	56	95	72	890	94
12	NS02862	167	6	23	223	23	122	< 5	52	8	20
13	NS02863	214	7	30	197	28	146	< 5	73	5	24
14	NS02864	265	7	38	184	30	183	< 5	74	< 5	19
15	NS02865	257	8	32	202	35	183	< 5	91	6	24
16	NS02866	231	8	32	199	28	172	< 5	79	6	20
17	NS02867	196	7	27	197	26	140	< 5	68	7	22
18	NS02868 STANDARD	< 10	5	5	< 5	5	8	15	138	2780	157

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
19	NS02869	171	6	22	187	23	111	< 5	63	5	19
20	NS02870	167	6	24	214	21	111	< 5	62	< 5	21
21	NS02871	311	6	25	226	22	106	5	60	< 5	19
22	NS02872	229	6	21	217	17	87	6	56	5	24
23	NS02873	242	7	24	198	22	100	< 5	57	< 5	24
24	NS02874	186	7	20	203	21	107	< 5	58	< 5	18
25	NS02875	204	6	19	190	24	129	< 5	68	5	21
26	NS02876	53	7	< 5	183	29	90	154	72	114	43
27	NS02877	39	7	5	177	29	93	158	77	119	47
28	NS02878	46	7	5	173	27	92	161	76	103	45
29	NS02879	31	5	6	182	23	77	130	63	121	46
30	NS02880	43	6	6	174	30	96	162	74	98	49
31	NS02881	54	6	< 5	210	30	92	155	72	124	44
32	NS02882	61	7	6	223	22	80	134	61	134	38
33	NS02883	< 10	5	5	80	8	31	55	63	1265	115
34	NS02884	24	6	< 5	113	14	44	77	66	943	103
35	NS02885	198	6	26	201	28	149	< 5	77	14	20
36	NS02886	221	8	31	203	28	153	< 5	72	6	23
37	NS02887	266	7	33	198	28	167	< 5	80	6	20
38	NS02888 STANDARD	< 10	< 5	5	< 5	5	6	15	135	2730	153
39	NS02889	195	8	30	205	26	150	< 5	79	5	24
40	NS02890	227	8	35	200	29	166	< 5	76	5	18
41	NS02891	305	9	41	197	34	209	< 5	88	5	18

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No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
42	NB03480	107	14	9	239	40	158	224	95	72	50
43	NB03481	98	15	10	252	40	164	232	93	74	52
44	NB03482	106	14	9	252	36	155	227	89	70	46
45	NB03483	98	12	8	256	32	131	189	79	78	46
46	NB03484	112	16	10	256	38	160	225	90	68	49
47	NB03485	119	15	12	256	36	160	219	89	75	48
48	NB03486	162	16	10	250	38	161	227	99	68	48
49	NB03487	78	14	10	197	47	200	306	113	76	53
50	NB03488 STANDARD	< 10	5	5	< 5	< 5	7	16	116	2289	128
51	NB03489	65	7	6	193	28	101	174	68	82	51
52	NB03490	190	8	10	199	28	99	176	77	81	44
53	NB03491	249	8	12	201	27	96	168	72	81	46
54	NB03492	103	9	6	196	28	102	182	73	78	43
55	NB03493	76	8	7	192	29	102	180	71	77	50
56	NB03494	226	35	21	336	43	280	177	123	45	48
57	LB04851	240	7	28	187	20	138	247	19	470	73
58	LB04852	217	6	26	188	21	132	243	18	505	76
59	LB04853	214	7	25	186	20	132	237	20	503	83
60	LB04854	208	6	12	182	20	129	228	< 5	469	81
61	LB04855	206	7	24	187	22	130	225	11	457	78
62	LB04856	224	7	26	185	21	131	227	11	456	79
63	LB04857	218	7	27	186	21	131	232	19	433	81
64	LB04858	224	8	28	187	21	132	223	21	416	75

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No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
65	LB04859	221	6	26	188	20	129	238	22	425	76
66	LB04860	222	7	28	189	21	133	225	19	401	79
67	LB04861	224	7	27	185	21	127	234	17	476	79
68	LB04862	228	6	28	192	20	128	239	16	479	80
69	LB04863	193	7	25	180	20	124	234	17	468	90
70	LB04864	195	7	26	177	20	124	237	20	469	87
71	LB04865	184	7	22	176	19	120	235	22	451	87
72	LB04866	175	5	25	180	20	119	238	16	464	88
73	LB04867	52	8	8	185	32	111	220	81	92	43
74	LB04868 STANDARD	482	11	170	102	27	163	6	74	10	5
75	LB04869	56	6	6	180	28	95	182	74	130	47
76	LB04870	317	39	30	337	49	331	177	148	35	52
77	LB04871	320	39	32	344	45	334	175	135	35	53
78	LB04872	532	61	52	346	75	547	130	173	9	28
79	LB04873	526	62	54	342	76	583	125	165	7	28
80	LB04874	499	56	48	350	75	532	171	154	12	35
81	LB04875	391	43	36	356	54	370	278	134	24	45
82	LB04876	318	35	31	352	48	313	174	130	33	53
83	LB04877	282	32	28	316	40	274	147	113	33	50
84	NS02766	20	5	6	143	19	70	109	71	549	80
85	NS02767	255	7	19	157	21	119	202	< 5	344	46
86	NS02768 Missing	--	--	--	--	--	--	--	--	--	--
87	NS02769	166	7	14	172	19	121	218	< 5	436	71

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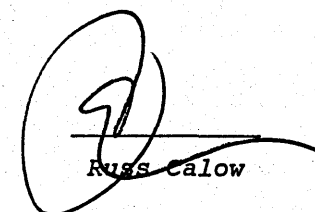
P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
88	NS02770	202	7	18	178	19	126	221	22	490	78
89	NS02771	49	6	6	144	18	65	108	74	632	99
90	NS02772	538	6	32	94	21	108	8	58	12	27
91	NS02773	192	7	20	173	21	126	217	9	467	75
92	NS02774	298	6	24	182	19	133	233	11	429	72
-- duplicates --											
93	NS02866	247	9	33	199	28	169	< 5	79	9	20
94	NS02876	48	8	5	181	27	89	154	71	119	49
95	NS02886	254	7	31	194	28	164	< 5	76	6	14
96	NB03484	106	15	11	260	37	160	222	93	73	44
97	NB03494	224	34	22	326	40	274	175	117	41	49
98	LB04860	226	7	27	187	20	131	232	14	408	77
99	LB04870	328	39	32	332	49	329	175	144	32	50
100	NS02774	306	8	24	186	21	135	237	11	433	75



Russ Calow

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

Falconbridge - Greenland Project  
c/o Falconbridge Ltd, 21 Murray Park Rd  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

RECEIVED

NOV 14 1994

Lakefield, November 3, 1994

Falconbridge Limited  
Date Rec. : September 20, 1994  
LR. Ref. : SEP9094.C94  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	S %
1	NS02851	1.48
2	NS02852	1.50
3	NS02853	0.17
4	NS02854	0.08
5	NS02855	0.01
6	NS02856	0.04
7	NS02857	0.02
8	NS02858	0.01
9	NS02859	0.02
10	NS02860	0.02
11	NS02861	0.03
12	NS02862	0.27
13	NS02863	0.34
14	NS02864	0.37
15	NS02865	0.29
16	NS02866	0.25
17	NS02867	0.20
18	NS02868	0.02
19	NS02869	0.08
20	NS02870	0.26
21	NS02871	0.32
22	NS02872	0.03
23	NS02873	0.01
24	NS02874	0.15
25	NS02875	0.95
26	NS02876	0.05
27	NS02877	0.06
28	NS02878	0.05
29	NS02879	0.14
30	NS02880	0.07
31	NS02881	0.08
32	NS02882	0.07
33	NS02883	0.04
34	NS02884	0.03
35	NS02885	0.58
36	NS02886	0.86
37	NS02887	0.33

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SEP9094.C94

No.	Sample ID	S %
38	NS02888	0.03
39	NS02889	0.51
40	NS02890	0.56
41	NS02891	0.18
42	NB03480	0.03
43	NB03481	0.02
44	NB03482	0.01
45	NB03483	0.02
46	NB03484	0.01
47	NB03485	0.02
48	NB03486	0.04
49	NB03487	0.05
50	NB03488	0.02
51	NB03489	0.01
52	NB03490	0.02
53	NB03491	0.02
54	NB03492	< 0.01
55	NB03493	0.02
56	NB03494	0.26
57	LB04851	0.95
58	LB04852	1.01
59	LB04853	1.01
60	LB04854	0.97
61	LB04855	0.98
62	LB04856	1.02
63	LB04857	1.04
64	LB04858	1.06
65	LB04859	1.04
66	LB04860	1.05
67	LB04861	1.01
68	LB04862	0.94
69	LB04863	0.94
70	LB04864	0.99
71	LB04865	1.00
72	LB04866	0.97
73	LB04867	0.04
74	LB04868	0.02
75	LB04869	0.04
76	LB04870	0.08
77	LB04871	0.04
78	LB04872	0.04
79	LB04873	0.07
80	LB04874	0.11

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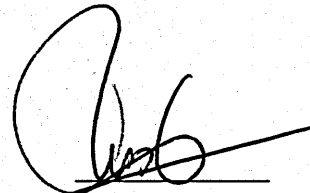
P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9094.C94

No.	Sample ID	S %
81	LB04875	0.10
82	LB04876	0.06
83	LB04877	0.10
84	NS02766	< 0.01
85	NS02767	0.05
86	NS02768 Missing	--
87	NS02769	0.79
88	NS02770	0.61
89	NS02771	0.06
90	NS02772	0.06
91	NS02773	0.87
92	NS02774	0.80



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A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Windsor)  
P.O. Box 398, 124 Water Street  
Windsor, NS, B0N 2T0 - Canada

Attn : Bob Stewart  
Fax : 902-798-2395

Lakefield, October 11, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9082.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
1	NB03101	50.1	14.2	11.1	7.68	8.70	1.54	0.59	1.45	0.12	0.16	0.09	4.03	99.8
2	NB03102	47.2	12.3	16.5	5.42	9.50	2.52	0.54	5.28	0.50	0.23	0.02	0.83	100.8
3	NB03103	47.0	12.6	16.3	5.55	10.7	2.51	0.38	4.43	0.36	0.25	0.01	1.11	101.2
4	NB03104	47.1	12.6	16.2	5.96	10.3	2.50	0.40	4.42	0.34	0.23	0.01	0.53	100.6
5	NB03105	47.1	13.0	13.5	6.17	10.7	2.47	0.21	3.41	0.24	0.21	0.03	0.99	98.0
6	NB03106	46.9	13.2	13.8	6.60	11.5	2.28	0.14	2.68	0.18	0.22	0.03	1.34	98.9
7	NB03107	46.7	13.3	14.0	5.88	10.7	2.54	0.33	3.89	0.29	0.21	0.04	2.07	100.0
8	NB03108 STANDARD	35.0	1.28	12.3	36.1	0.07	< 0.05	0.03	0.21	< 0.01	0.19	1.69	12.0	98.9
9	NB03109	48.2	14.0	13.8	6.74	11.3	2.40	0.23	2.82	0.19	0.21	0.03	0.95	100.9
10	NB03110	47.2	13.8	13.5	6.75	11.3	2.40	0.22	2.76	0.19	0.21	0.03	1.68	100.0
11	NB03111	46.1	12.3	15.9	5.67	9.84	2.63	0.43	5.31	0.47	0.25	0.02	0.44	99.4
12	NB03112	47.9	14.1	13.2	6.56	11.7	2.34	0.17	2.82	0.20	0.22	0.03	1.16	100.4
13	NB03113	48.4	13.4	14.7	6.81	11.2	2.46	0.26	2.94	0.20	0.24	0.02	0.46	101.1
14	NB03114	48.1	14.0	14.0	6.70	11.5	2.39	0.26	2.78	0.19	0.22	0.04	0.94	101.1
15	NB03115	47.3	13.6	13.7	6.54	11.9	2.40	0.26	2.74	0.19	0.22	0.04	2.10	101.0

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
16	NB03116	47.9	14.1	13.1	6.97	11.8	2.28	0.19	2.55	0.17	0.20	0.04	1.49	100.8
17	NB03117	47.6	15.2	12.6	7.65	12.1	2.16	0.17	2.31	0.15	0.19	0.06	0.54	100.7
18	NB03118	46.0	15.4	10.9	6.33	13.1	2.06	0.10	1.98	0.13	0.18	0.04	2.89	99.1
19	NB03119	48.2	12.8	14.9	6.81	11.6	2.44	0.32	2.93	0.20	0.24	0.02	0.50	101.0
20	NB03120	47.4	15.1	12.8	7.01	12.0	2.21	0.18	2.37	0.16	0.21	0.04	0.94	100.4
21	NB03121	47.2	14.2	13.2	7.36	11.8	2.23	0.19	2.44	0.16	0.21	0.03	0.58	99.6
22	NB03122	47.6	15.0	13.0	7.15	11.9	2.26	0.21	2.39	0.16	0.20	0.03	0.77	100.7
23	NB03123	48.1	14.0	13.5	6.36	11.7	2.46	0.26	2.81	0.19	0.22	0.03	1.69	101.3
24	NB03124	47.8	14.2	13.4	6.02	12.0	2.47	0.26	2.77	0.19	0.23	0.03	2.20	101.6
25	NB03125	48.0	14.0	13.8	6.60	11.8	2.48	0.13	2.68	0.19	0.22	0.03	1.75	101.7
26	NB03126	47.7	14.0	13.3	6.47	12.0	2.47	0.20	2.68	0.18	0.21	0.03	1.76	101.0
27	NB03127	47.6	13.9	13.4	6.96	11.7	2.32	0.13	2.62	0.18	0.21	0.03	2.40	101.5
28	NB03128 STANDARD	35.6	1.32	12.4	36.4	0.06	< 0.05	0.03	0.20	< 0.01	0.20	1.70	12.0	99.9
29	NB03129	47.3	14.4	12.8	6.67	12.2	2.26	0.13	2.49	0.16	0.21	0.03	2.55	101.2
30	NB03130	47.4	12.5	16.7	5.87	10.6	2.46	0.16	3.49	0.27	0.25	0.02	1.93	101.7
31	NB03131	48.0	14.0	13.2	6.76	11.9	2.30	0.19	2.66	0.17	0.19	0.03	1.35	100.8
32	NB03132	45.3	15.6	12.6	5.01	9.92	2.61	0.24	2.91	0.21	0.14	0.03	6.40	101.0
33	NB03133	47.8	12.9	16.4	5.58	10.6	2.39	0.33	3.50	0.27	0.25	0.02	0.83	100.9
34	NB03134	48.4	12.9	16.0	5.57	10.7	2.43	0.33	3.55	0.28	0.24	0.02	1.37	101.8
35	NB03135	47.8	13.1	16.3	5.48	10.3	2.51	0.34	3.62	0.29	0.23	0.02	1.23	101.2
36	NB03136	47.9	12.7	16.9	6.33	10.5	2.32	0.32	3.47	0.27	0.27	0.02	0.53	101.5
37	NB03137	47.6	14.3	13.9	6.30	11.7	2.40	0.25	2.72	0.19	0.23	0.03	1.04	100.7
38	NB03138	48.3	14.4	13.4	6.71	12.0	2.20	0.25	1.92	0.17	0.20	0.03	1.11	100.7

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
39	NB03139	47.6	13.9	14.0	6.67	11.6	2.30	0.19	2.06	0.18	0.21	0.03	1.38	100.1
40	NB03140	48.0	14.3	12.8	7.62	12.2	2.10	0.17	1.72	0.15	0.21	0.05	0.98	100.3
41	NB03141	48.1	14.0	13.5	7.04	11.6	2.34	0.15	2.08	0.18	0.20	0.03	1.26	100.5
42	NB03142	46.9	13.7	13.5	6.10	11.9	2.35	0.14	2.06	0.19	0.21	0.03	2.60	99.7
43	NB03143	47.5	13.9	13.8	5.80	11.8	2.38	0.17	2.13	0.19	0.21	0.03	2.00	99.9
44	NB03144	47.0	14.0	14.3	5.10	11.4	2.52	0.22	2.19	0.21	0.21	0.01	2.69	99.8
45	NB03145	47.8	14.7	12.7	6.85	11.8	2.24	0.25	1.88	0.15	0.20	0.04	1.11	99.7
46	NB03146	49.0	14.3	13.6	7.06	11.6	2.33	0.22	2.07	0.17	0.22	0.03	0.97	101.6
47	NB03147	48.0	14.2	13.4	7.30	11.8	2.29	0.18	1.98	0.16	0.21	0.04	1.02	100.6
48	NB03148 STANDARD	35.5	1.28	12.5	36.5	0.06	< 0.05	0.03	0.16	< 0.01	0.20	1.71	11.9	99.8
49	NB03149	47.9	14.8	11.8	6.49	12.2	2.11	0.15	1.87	0.16	0.18	0.05	2.35	100.1
50	NB03150	47.3	13.6	14.1	6.33	11.6	2.39	0.24	2.22	0.20	0.21	0.03	1.83	100.1
51	NB03151	47.8	14.4	13.9	6.57	11.7	2.37	0.21	2.06	0.18	0.21	0.03	0.42	99.9
52	NB03152	48.2	14.6	13.8	6.62	11.7	2.36	0.21	2.06	0.18	0.22	0.03	0.63	100.6
53	NB03153	47.9	14.5	13.7	6.75	11.7	2.34	0.22	2.02	0.17	0.21	0.04	0.42	100.0
54	NB03154	47.5	15.0	12.5	7.39	12.3	2.29	0.13	1.81	0.15	0.20	0.06	0.73	100.1
55	NB03155	47.6	14.5	13.2	6.04	11.7	2.37	0.23	2.08	0.19	0.21	0.03	1.11	99.3
56	NB03156no sample	--	--	--	--	--	--	--	--	--	--	--	--	--
57	NB03157	47.5	14.1	14.6	5.82	11.5	2.51	0.22	2.16	0.19	0.22	0.02	1.40	100.2
58	NB03158	47.8	13.8	13.8	6.44	11.7	2.36	0.21	2.10	0.19	0.21	0.03	1.73	100.4
59	NB03159	48.7	14.5	12.0	7.56	12.2	2.12	0.15	1.69	0.14	0.20	0.07	1.31	100.6
60	NB03160	47.6	12.6	16.6	5.63	10.5	2.56	0.32	2.74	0.27	0.27	0.02	1.00	100.1
61	NB03161	47.5	12.7	16.7	5.76	10.3	2.34	0.31	2.74	0.27	0.25	0.02	0.51	99.4

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

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Phone : 705-652-2000

FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
62	NB03162	47.8	14.4	13.7	6.64	11.7	2.33	0.23	2.04	0.19	0.22	0.03	0.41	99.7
63	NB03163	47.7	15.3	12.5	6.66	12.1	2.29	0.19	1.77	0.16	0.19	0.04	0.75	99.6
64	NB03164	47.8	14.5	13.7	6.92	11.7	2.34	0.22	2.03	0.18	0.21	0.03	0.55	100.2
65	NB03165	48.0	14.0	14.8	6.18	11.4	2.48	0.22	2.23	0.19	0.23	0.02	0.83	100.6
66	NB03166	47.7	13.8	14.0	6.57	11.4	2.36	0.25	2.20	0.20	0.22	0.03	0.84	99.6
67	NB03167	47.7	16.0	12.2	6.75	12.5	2.24	0.16	1.69	0.13	0.20	0.04	0.70	100.3
68	NB03168 STANDARD	35.6	1.30	12.5	36.5	0.07	< 0.05	0.03	0.16	< 0.01	0.20	1.69	12.0	100.1
69	NB03169	47.1	15.1	13.2	5.83	11.8	2.29	0.20	2.12	0.18	0.21	0.02	2.10	100.2
70	NB03170	47.8	14.5	12.9	6.80	11.9	2.20	0.17	1.92	0.16	0.21	0.03	1.48	100.1
71	NB03171	47.7	13.8	13.5	6.89	11.8	2.30	0.18	2.02	0.16	0.22	0.03	1.43	100.0
72	NB03172	47.3	12.6	15.8	5.72	10.2	2.60	0.42	3.67	0.38	0.23	0.02	0.93	99.9
73	NB03173	47.4	12.8	16.0	5.70	10.1	2.66	0.43	3.69	0.39	0.22	0.02	0.70	100.1
74	NB03174	47.3	12.7	15.7	6.05	10.3	2.51	0.39	3.52	0.38	0.22	0.03	0.95	100.1
75	NB03175	47.7	12.8	15.7	6.08	10.4	2.55	0.42	3.54	0.38	0.24	0.03	0.79	100.6
76	NB03176	48.1	13.5	14.3	6.67	10.8	2.53	0.21	3.12	0.29	0.22	0.04	0.25	100.0
77	NB03177	50.8	14.3	10.9	6.68	7.57	1.72	0.83	1.07	0.12	0.14	0.08	3.87	98.1
78	NB03178	47.2	13.7	14.9	6.00	11.3	2.43	0.22	2.24	0.19	0.23	0.02	1.21	99.6
79	NB03051	47.0	13.8	15.0	5.60	11.7	2.51	0.22	2.20	0.19	0.24	0.03	2.11	100.6
80	NB03052	50.7	14.6	10.2	7.65	8.76	1.82	0.50	1.15	0.09	0.15	0.09	4.11	99.8
81	NB03053	50.0	14.8	10.4	6.59	7.58	2.00	0.67	1.83	0.10	0.13	0.10	5.75	99.9
82	NB03054	50.8	14.8	9.09	5.64	9.32	1.72	0.61	1.23	0.15	0.14	0.10	5.28	98.9
83	NB03055	46.7	13.6	15.2	5.32	10.5	3.00	0.76	3.31	0.42	0.25	< 0.01	0.30	99.4
84	NB03056	47.2	13.7	15.2	5.26	10.4	3.07	0.82	3.32	0.42	0.24	< 0.01	0.28	99.9

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
85	NB03057	46.5	13.5	15.4	5.14	10.5	2.98	0.78	3.34	0.42	0.26	< 0.01	0.62	99.4
86	NB03058 STANDARD	35.4	1.31	12.3	36.3	0.07	< 0.05	0.03	0.17	< 0.01	0.20	1.70	11.9	99.4
87	NB03059	46.5	13.7	14.8	5.82	10.9	2.92	0.78	2.80	0.35	0.24	0.01	-0.10	98.7
88	NB03060	47.7	12.1	17.2	5.63	10.3	2.51	0.46	3.10	0.35	0.27	0.02	0.31	99.9
89	NB03061	46.8	13.8	14.8	5.93	11.1	2.85	0.77	2.84	0.36	0.25	0.01	0.67	100.2
90	NB03062	47.0	14.2	12.4	9.10	12.4	1.82	0.09	1.48	0.12	0.19	0.06	1.50	100.4
91	NB03063	43.2	10.1	12.3	17.1	8.87	1.41	0.10	1.32	0.12	0.19	0.19	5.18	100.1
92	NB03064	47.0	14.3	12.2	8.33	12.4	1.93	0.15	1.51	0.12	0.19	0.06	1.86	100.1
93	NB03065	49.1	13.1	15.1	5.87	10.5	2.57	0.38	2.42	0.25	0.25	0.02	1.03	100.6
94	NB03066 STANDARD	34.7	1.19	12.0	36.2	0.11	< 0.05	0.04	0.16	< 0.01	0.19	1.64	11.9	98.1
95	NB03067	43.7	11.2	11.9	13.9	9.36	1.60	0.25	1.42	0.14	0.18	0.17	6.09	99.9
96	NB03068	46.1	12.6	12.2	11.4	10.5	1.77	0.29	1.57	0.15	0.19	0.14	3.22	100.1
97	NB03069	49.0	14.5	13.1	6.63	11.8	2.48	0.27	1.88	0.18	0.22	0.04	0.69	100.8
98	NB03070	42.5	12.4	11.9	10.3	10.2	1.86	0.28	1.57	0.15	0.18	0.13	8.57	100.0
99	NB03071	41.3	10.9	11.5	12.9	8.91	1.51	0.18	1.33	0.13	0.17	0.17	10.5	99.5
100	NB03072	42.5	9.73	11.8	19.6	8.57	1.17	0.05	1.00	0.07	0.18	0.27	4.85	99.8
101	NB03073	32.9	8.19	10.6	13.6	6.02	1.51	0.12	1.17	0.08	0.16	0.19	25.5	100.0
102	NB03074 STANDARD	35.8	1.31	12.5	36.5	0.07	< 0.05	0.03	0.17	< 0.01	0.20	1.70	11.9	100.2
103	NB03075	45.2	13.4	11.4	8.11	11.0	1.80	0.20	1.22	0.10	0.19	0.08	7.25	99.9
104	NB03076	33.0	8.16	11.5	14.0	8.92	0.81	0.07	1.17	0.11	0.17	0.23	20.6	98.7
105	NB03077	37.5	10.2	11.1	11.0	5.88	1.09	0.23	1.18	0.09	0.17	0.16	21.1	99.7
106	NB03078	40.0	7.91	12.4	20.3	7.04	1.09	0.14	1.21	0.11	0.19	0.26	9.25	99.9
107	NB03079	40.5	7.20	11.6	26.0	5.85	0.58	0.09	0.88	0.08	0.17	0.43	7.23	100.6

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
108	NB03080	43.2	11.3	12.3	16.0	10.6	1.14	0.03	1.16	0.08	0.19	0.21	3.88	100.1
109	NB03081	44.4	12.1	12.3	14.6	11.2	1.28	0.04	1.24	0.10	0.19	0.18	2.51	100.1
110	NB03082 STANDARD	35.3	1.27	12.3	36.3	0.06	< 0.05	0.03	0.16	< 0.01	0.20	1.69	11.9	99.2
111	NB03083	46.3	12.8	16.9	6.26	11.2	2.56	0.40	2.99	0.25	0.26	0.02	0.16	100.1
112	NB03084	45.8	13.1	12.0	11.7	11.6	1.78	0.09	1.52	0.12	0.18	0.11	0.89	98.9
113	NB03085	47.8	13.9	12.2	7.84	12.3	1.83	0.17	1.58	0.14	0.20	0.05	0.61	98.6
114	NB03086	45.1	12.5	16.7	6.05	11.0	2.46	0.39	2.93	0.25	0.26	0.02	0.36	98.0
115	NB03087	46.4	13.2	16.4	6.21	11.4	2.48	0.38	2.92	0.25	0.26	0.02	0.32	100.2
116	NB03088	37.1	6.25	6.00	7.77	15.0	< 0.05	< 0.01	0.62	0.02	0.16	0.23	25.2	98.4
117	NB03089	34.4	7.94	9.81	15.8	10.4	0.49	0.08	0.73	0.06	0.12	0.22	19.9	100.0
118	NB03090 STANDARD	35.7	1.34	12.5	36.5	0.08	< 0.05	0.03	0.17	< 0.01	0.20	1.72	11.9	100.1
119	NB03091	46.2	14.3	11.8	7.52	12.4	2.16	0.23	1.75	0.15	0.19	0.06	3.02	99.8
120	NB03092	30.9	7.76	8.29	13.8	11.4	1.27	0.25	0.74	0.06	0.14	0.17	25.4	100.2
121	NB03093	46.9	14.2	12.3	7.79	12.5	2.03	0.13	1.67	0.14	0.20	0.06	0.95	98.9
122	NB03094	35.3	8.35	10.2	17.9	8.42	1.11	0.10	0.76	0.05	0.16	0.22	16.8	99.4
123	NB03095	44.8	11.0	12.6	17.9	9.44	1.35	0.09	1.18	0.09	0.20	0.23	1.62	100.5
124	NB03096	45.7	13.1	11.6	8.51	11.2	2.74	0.16	1.89	0.18	0.18	0.06	3.47	98.8
125	NB03097	34.9	7.17	10.5	17.4	8.59	0.79	0.10	0.91	0.08	0.16	0.33	18.8	99.7
126	NB03098 STANDARD	35.6	1.26	12.4	36.3	0.05	< 0.05	0.03	0.16	< 0.01	0.20	1.70	11.9	99.6
127	NB03099	45.7	13.1	13.5	7.36	12.7	2.20	0.25	2.04	0.19	0.21	0.03	3.16	100.4
128	NB03100	39.5	9.69	11.3	15.6	8.82	1.35	0.09	1.07	0.07	0.18	0.20	12.2	100.1
129	AF09851	48.4	14.9	12.1	6.53	11.9	2.43	0.29	1.89	0.19	0.18	0.04	1.47	100.3
130	AF09852	47.9	14.1	12.7	6.79	11.9	2.43	0.28	1.84	0.18	0.20	0.03	2.09	100.4

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
131	AF09853	46.7	14.4	12.1	7.71	11.8	2.21	0.13	1.71	0.14	0.19	0.06	1.33	98.5
132	AF09854	41.7	8.12	12.2	25.5	6.55	0.79	0.03	0.74	0.05	0.19	0.34	2.91	99.1
133	AF09855	46.8	14.3	11.7	7.69	12.0	2.23	0.09	1.64	0.14	0.19	0.06	1.75	98.6
134	AF09856	44.0	10.1	12.0	18.8	8.55	1.33	0.14	1.40	0.12	0.19	0.17	3.18	100.0
135	AF09857	44.7	13.3	12.7	9.54	11.4	1.86	0.15	1.89	0.15	0.21	0.11	2.58	98.6
136	AF09858 STANDARD	34.7	1.29	12.2	35.0	0.07	< 0.05	0.03	0.16	< 0.01	0.20	1.69	11.9	97.2
137	AF09859	47.9	14.8	11.9	7.37	12.1	2.21	0.14	1.73	0.15	0.20	0.06	1.68	99.9
138	AF09860	48.0	14.8	12.7	6.74	12.1	2.41	0.24	1.81	0.17	0.20	0.03	0.85	99.8
139	AF09861	47.7	14.1	13.2	6.67	11.9	2.42	0.25	1.90	0.17	0.22	0.03	0.82	99.2
140	AF09862	44.7	10.6	12.3	20.2	8.98	1.26	0.04	1.05	0.08	0.19	0.26	0.99	100.6
141	AF09863	46.9	14.0	12.8	6.71	11.3	2.30	0.23	1.81	0.17	0.21	0.03	0.32	96.8
-- duplicates --														
142	NB03110	47.0	13.9	13.5	6.72	11.3	2.38	0.23	2.07	0.19	0.21	0.03	1.67	99.0
143	NB03120	47.6	15.3	12.8	7.00	12.0	2.26	0.18	1.81	0.16	0.21	0.05	0.85	100.0
144	NB03130	47.4	12.8	16.7	5.91	10.6	2.37	0.17	2.64	0.28	0.26	0.02	1.90	100.9
145	NB03140	47.9	14.5	12.7	7.96	12.1	2.11	0.17	1.70	0.15	0.20	0.05	1.06	100.4
146	NB03150	47.1	13.7	14.0	6.35	11.5	2.35	0.25	2.21	0.19	0.22	0.03	1.85	99.5
147	NB03160	47.8	12.6	16.6	5.68	10.5	2.46	0.32	2.73	0.28	0.26	0.02	0.98	100.2
148	NB03170	47.7	14.5	12.9	6.76	11.9	2.23	0.17	1.92	0.16	0.21	0.03	1.51	100.0
149	NB03052	51.1	14.6	10.1	7.67	8.79	1.79	0.50	1.18	0.09	0.15	0.09	4.11	100.2
150	NB03062	47.6	14.2	12.4	9.18	12.4	1.86	0.10	1.50	0.12	0.20	0.06	1.47	101.1
151	NB03072	42.0	9.66	11.7	19.5	8.53	1.19	0.05	0.99	0.07	0.18	0.26	4.73	98.9
152	NB03082 STANDARD	35.1	1.25	12.4	36.1	0.07	< 0.05	0.04	0.17	< 0.01	0.19	1.72	11.9	98.9
153	NB03092	30.2	7.65	8.18	13.7	11.0	1.23	0.26	0.72	0.06	0.13	0.16	25.4	98.7

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SEP9082.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
154	AF09852	47.4	14.1	12.7	6.75	11.8	2.37	0.28	1.83	0.17	0.20	0.03	2.12	99.8
155	AF09862	44.6	10.4	12.2	20.1	8.94	1.26	0.04	1.02	0.08	0.20	0.27	1.00	100.1



J. R. Johnston

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association



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Falconbridge Limited (Windsor)  
P.O. Box 398, 124 Water Street  
Windsor, NS, B0N 2T0 - Canada

Attn : Bob Stewart  
Fax : 902-798-2395

Lakefield, October 11, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9082.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
1	NB03101	176	6	19	173	21	113	227	23	401	87
2	NB03102	95	15	14	307	47	301	320	137	77	54
3	NB03103	90	13	10	304	41	231	263	121	63	51
4	NB03104	68	12	9	306	40	228	254	121	63	52
5	NB03105	43	8	6	236	37	164	216	104	80	49
6	NB03106	140	7	8	206	34	120	229	82	77	48
7	NB03107	107	9	7	250	40	187	240	115	91	47
8	NB03108 STANDARD	< 10	5	< 5	< 5	< 5	7	17	141	2912	162
9	NB03109	41	7	6	210	32	131	200	94	77	53
10	NB03110	48	7	6	209	32	129	187	93	75	50
11	NB03111	92	15	13	273	51	296	304	133	67	51
12	NB03112	38	6	5	216	31	130	184	86	70	41
13	NB03113	54	8	5	189	34	141	251	90	75	51
14	NB03114	62	9	10	194	31	129	233	86	88	45
15	NB03115	242	9	6	213	33	134	233	93	87	50

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No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
16	NB03116	24	7	6	189	32	112	198	81	87	45
17	NB03117	28	7	5	196	27	101	171	76	119	50
18	NB03118	49	7	5	207	26	88	163	62	97	46
19	NB03119	71	9	8	178	36	135	266	95	56	51
20	NB03120	42	7	7	199	29	105	195	84	88	49
21	NB03121	62	7	7	189	30	109	197	81	91	49
22	NB03122	36	7	7	191	29	104	203	81	84	49
23	NB03123	89	8	8	199	34	139	239	89	76	48
24	NB03124	135	8	7	215	36	142	244	92	76	47
25	NB03125	200	7	5	203	33	119	221	87	75	48
26	NB03126	140	8	5	203	34	119	218	87	78	45
27	NB03127	91	8	6	202	32	113	212	79	79	49
28	NB03128 STANDARD	< 10	< 5	< 5	< 5	6	7	18	142	2931	163
29	NB03129	231	8	5	205	31	107	202	88	87	44
30	NB03130	222	10	< 5	194	45	170	327	107	56	60
31	NB03131	43	7	7	189	33	117	215	86	80	54
32	NB03132	95	9	7	288	36	133	245	99	81	46
33	NB03133	83	12	9	210	47	171	331	118	53	58
34	NB03134	102	11	10	213	47	173	334	119	57	52
35	NB03135	64	11	12	191	46	178	355	123	55	50
36	NB03136	61	11	9	178	48	169	844	163	90	67
37	NB03137	59	9	7	196	33	127	484	115	75	47
38	NB03138	97	7	9	207	31	109	780	152	96	49

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
39	NB03139	47	6	6	192	32	117	484	137	72	48
40	NB03140	57	6	6	182	29	96	304	98	111	43
41	NB03141	45	6	< 5	216	33	126	391	137	85	49
42	NB03142	189	10	7	221	33	128	292	94	90	48
43	NB03143	177	7	8	233	31	128	393	94	89	53
44	NB03144	145	8	< 5	209	37	135	416	124	64	48
45	NB03145	105	7	6	187	30	104	258	82	93	45
46	NB03146	35	8	< 5	184	34	115	286	105	80	50
47	NB03147	33	8	7	185	31	109	240	84	90	46
48	NB03148 STANDARD	< 10	5	5	< 5	< 5	8	23	144	2942	164
49	NB03149	33	7	5	195	30	105	219	79	101	49
50	NB03150	75	9	6	230	33	134	274	91	84	50
51	NB03151	46	8	7	193	33	120	324	94	83	54
52	NB03152	61	8	6	191	32	120	300	83	81	48
53	NB03153	52	9	5	193	33	117	341	94	84	41
54	NB03154	88	8	7	208	27	104	221	83	119	51
55	NB03155	62	8	8	219	33	122	326	90	76	47
56	NB03156no sample	--	--	--	--	--	--	--	--	--	--
57	NB03157	98	8	5	202	36	127	260	96	66	44
58	NB03158	48	8	6	214	33	119	226	86	76	53
59	NB03159	58	6	< 5	175	29	101	127	71	120	47
60	NB03160	98	12	10	184	46	175	333	120	57	51
61	NB03161	77	10	9	184	49	171	321	118	57	53

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
62	NB03162	54	8	6	201	32	123	408	88	75	57
63	NB03163	62	6	8	203	29	106	203	78	88	49
64	NB03164	55	8	9	189	31	120	219	86	78	45
65	NB03165	46	9	6	192	37	127	238	99	76	56
66	NB03166	62	9	7	203	32	137	251	84	84	46
67	NB03167	28	6	6	214	25	88	163	81	82	42
68	NB03168 STANDARD <	10	5	< 5	< 5	5	9	19	147	2888	158
69	NB03169	57	8	6	199	31	120	265	91	61	41
70	NB03170	44	6	< 5	189	31	108	208	84	84	47
71	NB03171	38	8	< 5	184	32	109	218	81	76	49
72	NB03172	78	12	11	348	35	227	216	119	53	48
73	NB03173	104	13	9	352	36	234	255	129	54	51
74	NB03174	76	12	10	335	39	219	245	126	85	55
75	NB03175	84	12	11	335	37	219	252	125	85	49
76	NB03176	49	9	6	249	42	188	236	109	97	43
77	NB03177	239	8	27	187	21	133	3589	759	856	150
78	NB03178	52	8	6	201	36	130	232	93	76	52
79	NB03051	57	8	6	209	35	128	249	104	67	46
80	NB03052	164	7	21	174	21	117	232	13	412	88
81	NB03053	159	7	19	165	18	93	16	81	10	26
82	NB03054	158	7	21	192	22	115	19	69	6	23
83	NB03055	498	30	22	410	34	202	161	114	40	64
84	NB03056	331	31	24	398	37	211	164	114	42	51

# LAKEFIELD RESEARCH

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Phone : 705-652-2000 - FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
85	NB03057	352	31	24	406	35	208	163	114	38	51
86	NB03058 STANDARD	< 10	5	< 5	< 5	5	9	18	143	2890	156
87	NB03059	340	29	22	315	35	205	182	109	51	52
88	NB03060	99	15	13	196	47	219	314	126	52	54
89	NB03061	217	28	20	289	35	202	185	103	53	47
90	NB03062	43	8	< 5	154	24	81	153	77	150	51
91	NB03063	51	5	< 5	144	19	69	109	72	657	80
92	NB03064	69	6	6	159	25	84	159	67	145	58
93	NB03065	107	10	11	204	41	162	236	119	55	55
94	NB03066 STANDARD	< 10	5	5	< 5	6	7	17	145	2925	161
95	NB03067	128	8	7	180	20	84	98	82	519	78
96	NB03068	125	9	10	196	21	93	332	123	339	69
97	NB03069	62	10	10	203	31	117	214	90	79	53
98	NB03070	184	9	10	211	21	94	111	77	261	62
99	NB03071	125	9	7	196	20	78	94	73	547	74
100	NB03072	29	< 5	< 5	87	17	49	100	63	798	83
101	NB03073	710	6	6	120	15	65	85	57	637	74
102	NB03074 STANDARD	< 10	5	5	< 5	< 5	8	17	140	2919	159
103	NB03075	171	5	9	149	20	77	121	74	113	49
104	NB03076	187	7	< 5	231	15	67	81	66	687	87
105	NB03077	236	7	12	138	14	63	95	69	596	98
106	NB03078	97	7	6	147	15	69	90	75	950	98
107	NB03079	65	7	7	86	12	50	73	59	1141	104

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SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
108	NB03080	< 10	5	< 5	100	18	60	96	71	567	73
109	NB03081	17	6	< 5	116	20	64	106	67	451	75
110	NB03082 STANDARD	< 10	5	5	< 5	5	10	14	145	2938	162
111	NB03083	91	12	13	307	36	179	245	115	64	64
112	NB03084	15	7	< 5	175	24	82	149	76	317	59
113	NB03085	48	9	9	163	27	103	170	79	99	56
114	NB03086	103	13	12	310	37	178	243	117	57	67
115	NB03087	86	12	12	316	36	172	277	117	64	71
116	NB03088	< 10	< 5	< 5	38	11	32	59	30	318	31
117	NB03089	< 10	< 5	5	139	14	36	68	53	627	63
118	NB03090 STANDARD	< 10	< 5	< 5	< 5	< 5	9	16	146	2937	159
119	NB03091	32	6	6	236	24	84	147	76	108	46
120	NB03092	76	< 5	10	216	13	41	66	48	400	45
121	NB03093	19	6	< 5	220	23	84	128	77	113	53
122	NB03094	44	< 5	6	172	15	39	80	51	660	75
123	NB03095	10	< 5	< 5	164	20	60	111	66	633	83
124	NB03096	72	14	< 5	220	24	110	31	74	77	57
125	NB03097	150	8	7	187	12	55	64	49	835	82
126	NB03098 STANDARD	< 10	5	5	< 5	< 5	8	15	146	2960	161
127	NB03099	66	7	8	220	27	117	179	82	87	48
128	NB03100	66	5	5	95	20	55	117	56	609	74
129	AF09851	70	11	9	209	30	117	195	82	78	41
130	AF09852	52	9	7	201	31	115	209	87	81	46

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SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
131	AF09853	35	8	6	177	28	94	166	76	129	48
132	AF09854	< 10	< 5	< 5	62	14	38	76	63	1102	101
133	AF09855	26	6	< 5	178	26	90	159	77	126	44
134	AF09856	26	6	< 5	150	20	79	107	63	814	80
135	AF09857	33	7	< 5	221	25	107	154	74	228	59
136	AF09858 STANDARD	< 10	< 5	5	< 5	< 5	7	15	133	2634	148
137	AF09859	37	7	6	171	27	91	161	74	125	53
138	AF09860	47	9	7	209	29	109	194	70	79	46
139	AF09861	48	9	8	201	32	117	212	90	71	46
140	AF09862	10	6	6	89	20	54	104	68	780	90
141	AF09863	48	10	10	204	31	120	214	78	77	53
-- duplicates --											
142	NB03110	36	8	5	210	31	128	186	92	76	45
143	NB03120	42	9	6	193	31	108	197	76	84	49
144	NB03130	215	11	6	196	44	171	328	110	56	44
145	NB03140	50	7	6	185	29	97	295	94	112	45
146	NB03150	66	9	6	228	33	133	263	93	85	47
147	NB03160	104	11	9	183	46	174	333	121	58	54
148	NB03170	48	6	5	189	30	106	207	79	83	41
149	NB03052	171	6	21	179	20	117	232	13	416	97
150	NB03062	42	7	6	155	24	82	154	78	148	53
151	NB03072	24	< 5	5	87	19	49	97	60	791	79
152	NB03082 STANDARD	< 10	6	< 5	< 5	6	7	20	145	2896	156
153	NB03092	69	< 5	11	214	14	40	66	46	397	44

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SEP9082.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
154	AF09852	50	9	8	197	30	113	215	88	80	48
155	AF09862	< 10	5	< 5	89	17	51	102	67	793	86

  
J. R. Johnston

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association



# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

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Falconbridge - Greenland Project  
c/o Falconbridge Ltd, 21 Murray Park Rd  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Falconbridge Limited  
Lakefield, October 31, 1994

Date Rec. : September 19, 1994  
LR. Ref. : SEP9082.C94  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	S %
1	NB03101	0.97
2	NB03102	< 0.01
3	NB03103	< 0.01
4	NB03104	< 0.01
5	NB03105	0.01
6	NB03106	< 0.01
7	NB03107	< 0.01
8	NB03108	< 0.01
9	NB03109	0.03
10	NB03110	< 0.01
11	NB03111	< 0.01
12	NB03112	< 0.01
13	NB03113	< 0.01
14	NB03114	0.03
15	NB03115	< 0.01
16	NB03116	< 0.01
17	NB03117	< 0.01
18	NB03118	< 0.01
19	NB03119	< 0.01
20	NB03120	< 0.01
21	NB03121	< 0.01
22	NB03122	< 0.01
23	NB03123	< 0.01
24	NB03124	0.10
25	NB03125	< 0.01
26	NB03126	< 0.01
27	NB03127	< 0.01
28	NB03128	< 0.01
29	NB03129	< 0.01
30	NB03130	< 0.01
31	NB03131	0.02
32	NB03132	0.03

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

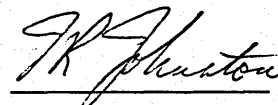
P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	S %
119	NB03091	0.02
120	NB03092	0.01
121	NB03093	0.03
122	NB03094	0.02
123	NB03095	< 0.01
124	NB03096	0.07
125	NB03097	0.06
126	NB03098	0.04
127	NB03099	0.12
128	NB03100	0.16
129	AF09851	0.01
130	AF09852	0.02
131	AF09853	0.02
132	AF09854	0.01
133	AF09855	0.03
134	AF09856	0.13
135	AF09857	0.17
136	AF09858	NSS
137	AF09859	0.01
138	AF09860	0.08
139	AF09861	0.21
140	AF09862	0.01
141	AF09863	0.02



J. R. Johnston

A MEMBER OF IAETL CANADA

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# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

TEL : 705-652-2000

FAX : 705-652-6365

SEP9082.C94

No.	Sample ID	S %
33	NB03133	0.02
34	NB03134	0.02
35	NB03135	0.01
36	NB03136	0.03
37	NB03137	0.03
38	NB03138	0.05
39	NB03139	0.02
40	NB03140	0.03
41	NB03141	0.03
42	NB03142	< 0.01
43	NB03143	0.02
44	NB03144	0.03
45	NB03145	0.03
46	NB03146	0.02
47	NB03147	< 0.01
48	NB03148	0.01
49	NB03149	0.03
50	NB03150	0.02
51	NB03151	0.02
52	NB03152	< 0.01
53	NB03153	< 0.01
54	NB03154	< 0.01
55	NB03155	0.01
56	NB03156no sample	--
57	NB03157	0.02
58	NB03158	< 0.01
59	NB03159	0.08
60	NB03160	< 0.01
61	NB03161	0.02
62	NB03162	0.03
63	NB03163	0.01
64	NB03164	0.01
65	NB03165	0.01
66	NB03166	0.03
67	NB03167	0.01
68	NB03168	0.02
69	NB03169	0.02
70	NB03170	0.02
71	NB03171	0.02
72	NB03172	< 0.01
73	NB03173	< 0.01
74	NB03174	< 0.01
75	NB03175	0.01

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A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9082.C

No.	Sample ID	S %
76	NB03176	< 0.01
77	NB03177	1.23
78	NB03178	0.02
79	NB03051	0.02
80	NB03052	0.89
81	NB03053	0.04
82	NB03054	0.15
83	NB03055	0.07
84	NB03056	0.08
85	NB03057	0.07
86	NB03058	0.01
87	NB03059	0.03
88	NB03060	0.03
89	NB03061	0.03
90	NB03062	0.01
91	NB03063	0.10
92	NB03064	0.03
93	NB03065	0.03
94	NB03066	0.02
95	NB03067	0.13
96	NB03068	0.07
97	NB03069	0.02
98	NB03070	0.10
99	NB03071	0.11
100	NB03072	0.03
101	NB03073	0.17
102	NB03074	0.04
103	NB03075	0.48
104	NB03076	0.87
105	NB03077	0.10
106	NB03078	0.10
107	NB03079	0.04
108	NB03080	0.01
109	NB03081	0.03
110	NB03082	0.02
111	NB03083	0.05
112	NB03084	0.03
113	NB03085	< 0.01
114	NB03086	0.03
115	NB03087	0.05
116	NB03088	0.04
117	NB03089	0.03
118	NB03090	0.03

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, October 14, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9092.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
1	NB03179	49.0	12.9	15.5	5.85	10.7	2.53	0.36	2.51	0.26	0.25	0.02	0.87	100.8
2	NB03180	49.2	14.6	13.1	6.83	11.9	2.49	0.37	1.87	0.18	0.22	0.03	0.18	101.0
3	NB03181	48.3	14.4	13.0	6.79	11.8	2.37	0.27	1.85	0.17	0.21	0.04	0.35	99.6
4	NB03182	48.3	14.3	12.3	7.62	11.7	2.31	0.20	1.83	0.16	0.20	0.04	1.89	100.9
5	NB03183	48.6	14.3	12.3	7.80	11.9	2.37	0.19	1.83	0.17	0.20	0.04	0.68	100.4
6	NB03184	45.6	13.3	11.3	10.7	11.5	1.75	0.10	1.37	0.11	0.18	0.16	4.15	100.2
7	NB03185	48.0	14.2	12.4	7.59	11.7	2.37	0.21	1.86	0.17	0.20	0.04	2.23	101.0
8	NB03186	47.8	14.2	12.2	7.70	11.7	2.31	0.20	1.80	0.16	0.20	0.04	2.06	100.4
9	NB03187	42.6	9.84	11.6	18.9	8.48	1.16	0.07	0.95	0.07	0.18	0.25	6.44	100.5
10	NB03188 STANDARD	36.0	1.33	12.7	35.9	0.06	< 0.05	0.03	0.17	< 0.01	0.20	1.78	11.9	100.1
11	NB03189	42.6	9.96	11.6	19.2	8.53	1.19	0.06	0.94	0.07	0.17	0.25	6.40	101.0
12	NB03190	48.6	13.9	12.5	7.73	12.0	2.27	0.16	1.83	0.15	0.20	0.06	0.73	100.1
13	NB03191	45.4	11.3	12.3	17.3	9.79	1.40	0.09	1.14	0.08	0.19	0.21	0.81	100.0
14	NB03192	48.0	14.5	12.0	7.71	12.2	2.25	0.17	1.74	0.15	0.20	0.06	1.19	100.2
15	NB03193	45.2	11.1	12.3	18.3	9.74	1.27	0.06	1.07	0.07	0.20	0.23	0.91	100.5

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Phone : 705-652-2000

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SEP9092.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
16	NB03194	44.4	10.7	12.1	19.1	9.35	1.22	0.04	1.03	0.08	0.19	0.25	1.08	99.5
17	NB03195	44.5	11.0	12.1	18.3	9.84	1.21	0.03	1.01	0.07	0.19	0.23	0.69	99.2
18	NB03196	45.6	12.6	12.0	14.4	11.1	1.43	0.04	1.19	0.08	0.19	0.17	0.62	99.4
19	NB03197	43.1	9.90	12.4	22.1	8.42	1.09	0.01	0.93	0.07	0.20	0.30	2.00	100.5
20	NB03198	45.7	11.9	13.2	13.3	10.7	1.74	0.25	1.81	0.18	0.20	0.15	1.27	100.4
21	NB03199	45.0	12.2	12.9	11.4	11.3	1.71	0.15	1.71	0.16	0.20	0.14	2.60	99.5
22	NB03200	44.8	11.6	13.2	13.5	10.6	1.62	0.15	1.80	0.18	0.20	0.15	0.49	98.3
23	NB04951	45.0	11.5	12.1	17.0	9.79	1.40	0.05	1.05	0.07	0.19	0.20	1.10	99.4
24	NB04952	44.1	10.1	12.2	21.5	8.77	1.12	0.04	0.96	0.07	0.19	0.28	1.23	100.6
25	NB04953	44.0	10.7	12.4	19.0	9.18	1.20	0.04	1.10	0.08	0.19	0.24	2.08	100.2
26	NB04954	48.7	14.3	12.4	7.46	11.9	2.30	0.19	1.82	0.17	0.20	0.05	0.80	100.3
27	NB04955	47.7	13.9	13.0	7.83	12.5	2.13	0.14	1.92	0.15	0.23	0.07	0.82	100.4
28	NB04956	45.2	11.8	12.9	15.8	10.4	1.38	0.10	1.11	0.08	0.20	0.22	0.93	100.1
29	NB04957	46.8	14.0	11.6	7.74	12.1	2.15	0.18	1.78	0.15	0.18	0.06	3.36	100.1
30	NB04958	41.9	10.3	11.1	16.0	8.99	1.23	0.09	1.03	0.07	0.18	0.22	8.78	99.9
31	NB04959	40.0	9.19	10.9	19.0	8.33	1.06	0.14	0.82	0.06	0.17	0.27	10.1	100.0
32	NB04960	42.3	9.55	11.7	19.5	7.91	0.99	0.07	0.94	0.07	0.18	0.27	6.85	100.3
33	NB04961	47.2	14.0	12.1	7.60	11.2	3.10	0.09	1.75	0.14	0.22	0.06	2.43	99.9
34	NB04962	47.9	14.6	12.1	7.71	12.2	2.20	0.14	1.71	0.15	0.20	0.06	1.04	100.0
35	NB04963	44.9	11.0	12.1	18.5	9.67	1.27	0.03	1.07	0.08	0.19	0.24	1.08	100.1
36	NB04964	44.9	11.5	12.0	17.5	9.97	1.34	0.04	1.11	0.08	0.19	0.23	1.02	99.9
37	NB04965	45.0	10.8	12.2	19.0	9.49	1.26	0.04	1.06	0.08	0.19	0.25	0.62	100.0
38	NB04966	48.1	14.5	13.1	6.44	11.9	2.41	0.26	1.90	0.18	0.22	0.04	0.77	99.8

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SEP9092.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
39	NB04967	47.8	12.7	15.2	5.88	10.1	2.39	0.33	2.44	0.25	0.24	0.02	1.86	99.2
40	NB04968 STANDARD	69.5	14.3	3.41	0.84	1.39	3.16	4.40	0.44	0.21	0.08	< 0.01	0.71	98.4
41	NB04969	45.9	12.2	11.8	12.1	10.7	1.72	0.20	1.71	0.15	0.18	0.12	2.87	99.7
42	AF09864	43.8	9.69	12.9	19.5	8.78	1.41	0.27	1.64	0.17	0.19	0.20	1.26	99.8
43	AF09865	44.1	9.53	12.9	20.3	8.41	1.35	0.26	1.62	0.17	0.19	0.20	1.18	100.2
44	AF09866	41.9	8.25	12.2	24.4	6.52	0.76	0.03	0.81	0.06	0.19	0.29	4.18	99.6
45	AF09867	49.1	13.0	15.6	6.04	10.5	2.54	0.40	2.50	0.26	0.25	0.02	0.25	100.5
46	AF09868 STANDARD	70.2	14.4	3.42	0.90	1.42	3.19	4.44	0.45	0.22	0.08	< 0.01	0.66	99.4
47	AF09869	48.1	13.2	15.2	5.96	10.2	2.89	0.40	2.47	0.25	0.23	0.02	1.13	100.1
48	AF09870	45.4	12.5	11.9	13.4	10.8	1.59	0.09	1.42	0.10	0.19	0.14	2.19	99.7
49	AF09871	47.2	14.3	11.8	8.25	12.6	1.98	0.14	1.73	0.13	0.20	0.07	1.32	99.7
50	AF09872	47.3	13.0	15.6	5.89	11.0	2.44	0.24	2.54	0.26	0.25	0.02	0.91	99.5
51	AF09885	46.8	13.6	13.2	6.30	10.2	2.46	0.79	2.99	0.39	0.20	0.04	3.27	100.2
52	AF09888	71.2	14.7	3.51	0.87	1.43	3.26	4.50	0.46	0.22	0.08	< 0.01	0.66	100.9
53	AF09898 STANDARD	35.0	1.30	12.4	35.5	0.06	< 0.05	0.03	0.17	< 0.01	0.20	1.72	11.8	98.2
54	AF09899	47.6	14.0	15.1	6.06	10.8	3.07	0.79	2.80	0.36	0.25	0.02	-0.10	100.8
55	AF09900	46.2	14.1	14.8	6.57	12.0	2.27	0.35	2.68	0.23	0.24	0.02	0.29	99.8
56	AF09901	46.0	14.2	14.6	6.52	12.1	2.29	0.37	2.67	0.23	0.23	0.02	0.60	99.8
57	AF09902	43.6	13.6	17.1	3.81	6.91	2.63	0.62	2.71	0.35	0.23	0.01	8.56	100.1
58	AF09903	46.3	13.8	14.8	5.74	10.7	3.17	0.82	2.76	0.36	0.24	0.01	1.32	100.0
59	AF09904	46.1	13.3	15.9	5.00	8.67	3.10	0.83	3.69	0.49	0.24	< 0.01	2.11	99.4
60	AF09905	48.4	13.7	13.7	6.48	10.9	2.36	0.60	2.75	0.32	0.21	0.02	1.37	100.8
61	AF09906	47.9	13.6	13.7	6.49	10.8	2.36	0.55	2.76	0.32	0.22	0.02	2.37	101.1

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SEP9092.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
62	AF09907	45.9	14.3	14.6	6.77	11.3	2.19	0.20	2.66	0.23	0.25	0.02	1.85	100.3
63	AF09908	45.0	10.5	13.1	19.4	9.19	1.36	0.10	1.27	0.11	0.20	0.21	0.20	100.6
64	AF09909	47.5	13.9	13.8	6.64	11.3	2.28	0.63	2.77	0.32	0.22	0.02	1.00	100.4
65	AF09910	47.1	13.5	16.2	4.99	9.89	2.92	1.00	3.35	0.42	0.26	< 0.01	1.09	100.7
66	AF09911	46.8	13.5	15.9	5.07	9.75	2.91	1.00	3.32	0.44	0.25	< 0.01	1.47	100.4
67	AF09912	47.7	13.8	14.0	6.48	11.4	2.26	0.65	2.81	0.32	0.21	0.02	0.81	100.5
68	AF09913	47.6	13.9	14.2	6.09	11.0	2.50	0.77	2.93	0.35	0.23	0.02	0.89	100.5
69	AF09914	47.5	14.1	12.7	6.03	11.4	2.70	0.58	2.91	0.37	0.21	0.03	1.69	100.2
70	AF09915	48.6	14.1	13.8	6.81	11.5	2.41	0.27	2.17	0.19	0.23	0.04	0.52	100.6
71	AF09916	46.1	14.7	11.5	5.60	12.8	2.15	0.18	1.66	0.15	0.19	0.03	5.33	100.4
72	AF09917	46.7	15.4	10.9	8.41	11.7	1.44	0.08	1.19	0.12	0.22	0.11	3.72	100.0
73	AF09918	47.0	14.3	12.3	8.82	13.0	1.72	0.05	1.44	0.11	0.19	0.06	0.86	99.8
74	AF09919	45.9	13.8	12.0	9.67	11.4	1.48	0.05	1.25	0.10	0.25	0.14	4.13	100.2
75	AF09920	48.7	14.1	13.1	6.46	11.3	2.28	0.18	2.14	0.20	0.23	0.03	1.70	100.4
76	AF09921	48.2	14.5	13.7	6.64	12.0	2.36	0.18	2.15	0.19	0.23	0.03	0.91	101.1
77	AF09922	48.1	15.0	12.4	6.60	12.4	2.21	0.23	1.69	0.15	0.22	0.04	1.08	100.1
78	AF09923	48.4	15.1	12.2	6.75	12.3	2.30	0.21	1.71	0.15	0.22	0.04	1.03	100.4
79	AF09924	48.5	15.1	11.7	6.54	12.3	2.30	0.21	1.68	0.15	0.22	0.04	1.16	99.9
80	AF09925	46.9	13.9	14.2	5.58	11.0	2.86	0.82	2.79	0.36	0.24	0.01	0.52	99.2
81	AF09926	48.5	14.7	11.4	7.64	12.4	2.01	0.23	1.63	0.14	0.19	0.05	1.63	100.5
82	AF09927	45.3	10.2	12.8	19.4	8.92	1.46	0.16	1.51	0.13	0.19	0.21	0.66	100.9
83	AF09928 STANDARD	35.7	1.33	12.5	36.3	0.06	< 0.05	0.04	0.17	< 0.01	0.20	1.71	11.9	99.9
84	AF09929	48.0	14.7	12.3	7.22	12.2	2.25	0.18	1.79	0.15	0.21	0.06	1.42	100.5



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SEP9092.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
85	AF09930	48.8	14.1	14.5	6.31	11.1	2.54	0.40	2.34	0.22	0.24	0.02	0.48	101.1
86	AF09931	46.8	12.3	16.6	5.00	9.91	2.38	1.17	3.95	0.50	0.26	< 0.01	0.64	99.5
87	AF09932	47.1	13.0	16.3	5.28	10.1	2.77	1.10	3.98	0.52	0.25	0.01	-0.01	100.4
88	AF09933	44.5	10.3	12.3	20.9	9.22	1.16	0.04	1.00	0.07	0.20	0.27	0.47	100.4
89	AF09934	44.5	10.4	12.2	20.9	9.41	1.14	0.05	0.99	0.07	0.20	0.27	0.58	100.7
90	AF09935	44.9	10.6	12.9	17.8	9.71	1.47	0.26	1.51	0.14	0.19	0.19	0.26	99.9
91	AF09936	44.6	10.5	12.4	20.3	9.26	1.15	0.02	1.03	0.08	0.20	0.25	0.66	100.5
92	AF09937	41.6	6.87	12.7	28.3	5.39	0.69	0.02	0.66	0.05	0.19	0.33	4.15	100.9
93	AF09938	43.6	9.92	12.3	20.6	8.87	1.62	0.02	0.98	0.07	0.20	0.27	2.23	100.7
94	AF09939	45.1	14.9	13.9	5.05	8.04	3.70	1.34	2.60	0.37	0.22	< 0.01	4.30	99.5
95	AF09940	45.1	10.7	12.8	18.9	9.49	1.41	0.05	1.28	0.11	0.19	0.21	0.31	100.6
96	AF09941	44.5	10.5	12.4	20.3	9.20	1.10	0.08	1.02	0.07	0.19	0.28	1.21	100.8
97	AF09942	43.9	9.98	12.5	21.6	8.78	1.08	0.04	0.97	0.07	0.19	0.30	1.03	100.4
98	AF09943	44.6	13.1	11.9	11.0	11.1	1.53	0.06	1.13	0.08	0.18	0.10	5.42	100.2
99	AF09944	44.0	10.5	11.8	20.1	8.58	1.08	0.03	0.94	0.07	0.19	0.27	2.32	99.9
100	AF09945	43.5	9.86	11.8	22.7	8.27	1.12	0.03	0.75	0.05	0.18	0.31	1.68	100.3
101	AF09946	44.7	10.4	12.1	20.3	9.07	1.25	0.04	0.95	0.07	0.19	0.26	0.93	100.3
102	AF09947	44.7	10.7	12.0	19.9	9.28	1.22	0.02	0.99	0.07	0.19	0.27	1.02	100.4
103	AF09948 STANDARD	36.0	1.38	12.5	36.4	0.08	< 0.05	0.03	0.17	0.01	0.20	1.72	11.9	100.4
104	AF09949	44.1	10.2	12.0	20.4	8.95	1.15	0.02	0.96	0.06	0.19	0.26	1.74	100.0
105	AF09950	44.6	10.2	12.2	20.7	8.92	1.15	0.01	0.98	0.07	0.20	0.27	1.25	100.6
106	AF09951	42.2	8.59	11.7	23.5	6.54	0.65	0.02	0.88	0.06	0.18	0.32	6.30	100.9
107	AF09952	48.4	14.3	13.1	6.99	11.9	2.29	0.26	2.04	0.19	0.22	0.05	0.98	100.7

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No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
108	AF09953	48.3	13.7	13.9	7.17	11.6	2.29	0.24	2.19	0.20	0.23	0.04	0.31	100.2
109	AF09954	47.6	14.7	12.1	7.34	11.3	2.69	0.18	1.67	0.14	0.19	0.05	2.03	100.0
110	AF09955	48.1	14.5	12.7	7.03	12.1	2.28	0.25	1.69	0.15	0.21	0.04	0.45	99.5
111	AF09956	47.0	13.9	14.9	5.91	10.9	2.98	0.76	2.79	0.36	0.24	0.02	-0.05	99.7
112	AF09957	44.7	11.6	12.7	13.9	9.98	1.53	0.07	1.44	0.14	0.20	0.18	3.57	100.0
113	AF09958	47.5	14.0	14.9	6.04	11.0	2.90	0.79	2.81	0.36	0.25	0.01	0.03	100.6
114	AF09959	46.6	13.3	16.5	5.43	10.3	2.70	0.86	3.60	0.46	0.26	0.01	0.34	100.4
115	AF09960	46.3	13.4	16.3	4.46	9.32	3.14	1.53	3.95	0.66	0.27	< 0.01	0.34	99.7
116	AF09961	43.2	10.5	12.0	14.1	9.58	1.17	0.10	1.43	0.13	0.24	0.20	7.84	100.5
117	AF09962	46.1	13.5	16.0	5.37	10.1	2.46	0.71	3.60	0.46	0.25	0.01	1.32	99.9
118	AF09963	46.2	13.3	16.2	4.58	9.36	3.23	1.56	3.94	0.66	0.25	< 0.01	0.52	99.8
119	AF09964	47.6	13.7	15.7	5.01	9.90	3.10	1.05	3.47	0.48	0.26	< 0.01	0.55	100.8
120	AF09965	47.4	13.8	15.7	5.16	10.2	2.78	1.04	3.71	0.46	0.24	0.01	0.30	100.8
121	AF09966	48.3	14.1	14.4	5.97	11.2	2.52	0.27	2.44	0.27	0.23	0.02	1.06	100.8
122	AF09967	48.4	14.0	14.9	6.14	11.0	2.56	0.34	2.45	0.27	0.23	0.02	0.42	100.7
123	AF09968 STANDARD	35.5	1.31	12.5	36.2	0.05	< 0.05	0.03	0.17	< 0.01	0.19	1.73	12.0	99.7
124	AF09969	48.0	14.0	15.5	4.88	9.91	2.98	1.02	3.41	0.46	0.24	< 0.01	0.02	100.4
125	AF09970	46.0	13.7	12.7	10.00	12.6	1.67	0.20	1.64	0.13	0.20	0.08	1.01	99.9
126	AF09971	44.3	9.32	12.7	20.9	8.01	1.24	0.13	1.37	0.12	0.19	0.24	1.77	100.3
127	AF09972	48.3	13.3	16.4	4.55	9.12	2.86	1.15	3.44	0.46	0.25	< 0.01	0.20	100.0
128	AF09973	48.7	14.2	14.4	6.32	11.3	2.48	0.34	2.32	0.22	0.23	0.02	0.59	101.1
129	AF09974	45.1	11.2	12.5	17.0	9.90	1.45	0.10	1.23	0.10	0.20	0.21	1.63	100.6
130	AF09975	47.6	14.5	12.3	7.66	12.6	2.12	0.16	1.87	0.15	0.20	0.06	0.56	99.8

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131	AF09976	46.0	12.8	12.5	13.5	11.2	1.55	0.05	1.19	0.09	0.20	0.17	0.92	100.2
132	AF09977	42.1	8.51	12.4	23.9	6.40	1.21	0.02	0.76	0.06	0.19	0.30	4.65	100.5
133	AF09978	41.8	7.48	12.5	26.8	6.02	0.76	0.03	0.71	0.05	0.19	0.34	3.51	100.2
134	AF09979	47.5	14.5	12.4	7.76	12.6	2.06	0.15	1.77	0.15	0.20	0.06	0.88	100.0
135	AF09980	45.7	12.8	12.9	12.1	11.0	1.66	0.15	1.66	0.15	0.20	0.11	1.85	100.3
136	AF09981	44.8	10.9	13.2	17.0	9.45	1.49	0.11	1.42	0.13	0.20	0.18	1.14	100.0
137	AF09982	45.8	12.6	12.7	12.8	11.1	1.70	0.08	1.64	0.14	0.19	0.11	1.11	100.0
138	AF09983	43.7	8.90	12.4	24.1	7.75	1.21	0.19	1.22	0.11	0.19	0.29	0.60	100.7
139	AF09984	43.1	8.14	12.2	25.9	7.15	1.11	0.17	1.10	0.11	0.18	0.29	0.74	100.2
140	AF09985	43.4	8.80	12.1	24.8	7.45	1.30	0.03	0.77	0.06	0.19	0.36	1.39	100.7
141	AF09986	43.1	8.82	12.2	24.4	7.73	0.78	0.09	0.77	0.05	0.19	0.36	1.97	100.5
142	AF09987	44.6	12.6	11.3	14.0	10.5	1.47	0.08	1.13	0.07	0.18	0.15	3.85	99.9
143	AF09988 STANDARD	36.6	1.34	12.5	36.9	0.06	< 0.05	0.03	0.17	< 0.01	0.20	1.74	11.8	101.3
144	AF09989	43.3	9.21	12.1	23.9	8.05	0.93	0.08	0.77	0.06	0.20	0.35	1.31	100.3
145	AF09990	43.4	8.97	12.3	24.4	7.82	0.94	0.06	0.79	0.06	0.18	0.36	1.07	100.4
146	AF09991	43.2	9.14	12.2	23.6	8.13	0.94	0.06	0.81	0.06	0.19	0.34	2.04	100.7
147	AF09992	43.8	9.04	12.2	24.1	8.22	0.99	0.03	0.80	0.06	0.18	0.35	0.99	100.8
148	AF09993	44.0	8.95	12.3	24.0	7.90	1.09	0.03	0.82	0.06	0.19	0.35	0.65	100.3
149	AF09994	47.6	13.9	12.1	11.0	11.9	1.73	0.08	1.35	0.10	0.20	0.12	0.51	100.6
150	AF09995	46.0	12.8	12.3	13.0	11.2	1.55	0.07	1.25	0.09	0.19	0.14	1.02	99.6
151	AF09996	46.2	13.0	12.0	12.6	11.1	1.63	0.08	1.25	0.09	0.19	0.14	1.66	99.9
152	NB04986	47.5	14.3	14.9	4.95	9.72	2.63	0.96	3.42	0.42	0.23	0.01	1.44	100.5
153	NB04987	42.3	10.9	11.1	15.4	9.15	1.20	0.03	1.07	0.08	0.17	0.20	9.07	100.7

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9092.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
154	NB04988 STANDARD	70.3	14.5	3.54	0.83	1.39	3.23	4.40	0.46	0.21	0.08	< 0.01	0.68	99.6
155	NB04989	50.6	13.9	11.1	6.23	7.81	1.87	0.13	2.24	0.25	0.18	0.04	6.10	100.5
156	NB04990	50.6	14.1	11.5	6.56	8.30	2.43	0.21	2.31	0.26	0.16	0.05	4.15	100.6
157	NB04991	47.0	12.8	16.4	4.60	8.79	2.82	1.03	3.86	0.59	0.26	< 0.01	2.68	100.8
158	NB04992	44.1	13.8	14.4	5.07	11.3	2.42	0.48	2.99	0.32	0.22	0.02	5.32	100.4
159	NB04993	48.1	13.2	15.9	4.74	9.01	2.81	1.00	3.67	0.52	0.24	< 0.01	1.52	100.7
160	NB04994	46.5	12.6	16.7	4.64	8.39	2.78	0.77	3.91	0.51	0.25	< 0.01	3.69	100.7
161	NB04995	46.3	12.3	18.4	5.53	10.5	2.58	0.49	3.47	0.33	0.28	< 0.01	0.50	100.7
162	NB04996	48.1	13.8	14.3	6.27	11.6	2.32	0.23	2.11	0.20	0.26	0.03	1.07	100.3
163	NB04997	48.2	13.9	14.7	6.25	11.1	2.46	0.35	2.38	0.27	0.23	0.02	0.36	100.2
164	NB04998	47.5	14.0	15.0	5.94	11.1	2.93	0.86	2.84	0.36	0.24	0.01	-0.12	100.7
165	NB04999	47.1	13.8	15.1	6.01	11.0	2.94	0.86	2.83	0.36	0.24	0.01	0.11	100.4
166	NB05000	47.5	14.0	13.7	6.72	11.0	2.42	0.73	2.72	0.32	0.21	0.03	0.94	100.3



Roch Marion

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# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, October 21, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9092.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
1	NB03179	85	10	11	209	41	169	242	111	47	51
2	NB03180	54	9	10	216	31	116	214	74	84	47
3	NB03181	51	9	8	202	32	114	220	79	80	44
4	NB03182	99	8	7	186	30	102	169	75	120	45
5	NB03183	60	8	5	179	30	97	162	77	117	46
6	NB03184	34	5	5	124	23	69	135	70	339	56
7	NB03185	104	8	5	186	29	102	165	81	117	41
8	NB03186	97	8	6	183	29	97	161	77	113	41
9	NB03187	31	< 5	5	84	16	46	97	60	859	76
10	NB03188 STANDARD	< 10	< 5	< 5	< 5	5	6	20	135	3056	149
11	NB03189	29	< 5	5	85	18	46	96	62	847	80
12	NB03190	34	7	6	166	30	99	175	80	123	49
13	NB03191	10	< 5	< 5	105	21	59	129	71	699	82
14	NB03192	27	6	5	171	29	93	167	76	139	47
15	NB03193	22	< 5	< 5	96	20	53	115	68	754	79

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Phone : 705-652-2000 - FAX : 705-652-6365

SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
16	NB03194	< 10	5	< 5	95	19	53	113	60	819	83
17	NB03195	< 10	< 5	5	91	19	50	124	62	801	79
18	NB03196	< 10	5	< 5	106	23	57	151	66	529	70
19	NB03197	< 10	5	< 5	69	19	46	108	67	966	90
20	NB03198	54	10	5	234	21	103	132	78	441	70
21	NB03199	50	10	6	220	22	103	135	80	369	74
22	NB03200	54	10	6	241	22	105	138	83	448	68
23	NB04951	< 10	< 5	< 5	103	21	55	120	67	680	82
24	NB04952	14	< 5	< 5	84	18	47	107	66	974	85
25	NB04953	< 10	< 5	< 5	97	17	55	118	65	783	85
26	NB04954	64	8	8	184	31	102	168	79	122	52
27	NB04955	42	7	5	216	27	97	159	90	138	49
28	NB04956	13	< 5	< 5	101	18	54	115	65	524	80
29	NB04957	52	7	6	209	23	88	131	79	134	49
30	NB04958	61	< 5	6	96	18	49	106	58	707	76
31	NB04959	138	5	9	79	16	40	92	55	857	75
32	NB04960	< 10	< 5	7	73	18	45	96	60	890	88
33	NB04961	30	6	< 5	277	30	93	164	74	136	45
34	NB04962	25	6	< 5	170	28	90	161	72	148	47
35	NB04963	< 10	< 5	< 5	96	19	54	121	66	775	84
36	NB04964	< 10	< 5	< 5	101	21	56	128	63	724	74
37	NB04965	< 10	5	< 5	98	19	51	113	64	813	80
38	NB04966	42	9	8	202	31	117	206	84	85	49

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
39	NB04967	263	10	10	207	43	168	233	122	51	48
40	NB04968 <b>STANDARD</b>	481	12	171	103	27	169	< 5	76	12	< 5
41	NB04969	71	7	8	207	23	94	114	71	375	64
42	AF09864	69	9	8	211	17	93	109	71	866	88
43	AF09865	57	9	9	203	15	91	114	79	975	90
44	AF09866	< 10	< 5	< 5	59	16	40	74	62	1170	101
45	AF09867	100	10	12	201	42	171	242	107	59	44
46	AF09868 <b>STANDARD</b>	482	11	171	103	26	164	< 5	75	14	< 5
47	AF09869	259	9	9	227	39	166	230	112	60	48
48	AF09870	12	6	< 5	162	21	74	125	65	472	68
49	AF09871	23	6	5	197	25	94	157	68	176	47
50	AF09872	112	10	7	209	41	174	240	112	56	52
51	AF09885	241	29	22	353	35	240	142	96	127	41
52	AF09888	479	12	175	102	28	164	9	77	15	< 5
53	AF09898 <b>STANDARD</b>	< 10	< 5	< 5	< 5	6	9	25	140	2991	155
54	AF09899	370	28	21	349	36	203	195	102	61	59
55	AF09900	93	12	9	347	31	164	245	103	83	57
56	AF09901	97	12	9	350	31	158	221	92	80	51
57	AF09902	361	28	17	302	36	200	178	110	58	53
58	AF09903	224	29	21	317	39	206	176	109	55	52
59	AF09904	342	38	24	364	34	238	107	117	40	58
60	AF09905	232	27	18	347	33	202	127	97	78	45
61	AF09906	240	25	15	358	34	196	132	99	79	52

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
62	AF09907	83	12	7	312	33	159	205	85	78	57
63	AF09908	36	5	< 5	161	18	68	123	79	834	97
64	AF09909	167	23	18	317	33	190	163	107	90	55
65	AF09910	268	30	26	337	40	233	194	123	42	58
66	AF09911	257	30	28	337	38	247	184	124	40	56
67	AF09912	178	22	18	321	33	196	133	100	77	50
68	AF09913	204	26	22	326	32	211	150	102	83	50
69	AF09914	156	26	13	307	34	219	95	70	67	45
70	AF09915	53	9	7	190	34	132	229	83	90	50
71	AF09916	42	7	< 5	197	28	101	184	80	84	44
72	AF09917	31	7	< 5	147	22	91	55	79	194	57
73	AF09918	23	6	< 5	139	24	73	165	75	157	50
74	AF09919	15	< 5	< 5	138	23	76	104	93	328	65
75	AF09920	37	7	7	185	34	129	262	90	95	43
76	AF09921	44	9	7	190	35	128	247	93	97	45
77	AF09922	52	9	7	191	29	106	193	82	94	49
78	AF09923	50	9	6	196	27	104	191	81	88	43
79	AF09924	44	7	7	198	28	102	192	79	90	45
80	AF09925	201	29	23	310	38	212	183	118	56	55
81	AF09926	118	8	7	213	23	88	128	74	114	47
82	AF09927	20	5	< 5	151	19	80	115	77	859	87
83	AF09928 STANDARD	< 10	< 5	6	< 5	5	8	19	129	2829	150
84	AF09929	34	6	6	172	30	92	174	73	139	46



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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
85	AF09930	75	11	8	200	38	147	253	86	67	53
86	AF09931	273	37	16	318	48	318	205	146	52	47
87	AF09932	285	40	28	348	45	305	216	134	53	55
88	AF09933	< 10	5	< 5	89	18	50	113	68	937	92
89	AF09934	< 10	5	< 5	88	19	49	107	71	933	90
90	AF09935	45	11	10	193	18	86	125	75	753	80
91	AF09936	< 10	< 5	< 5	90	20	50	115	71	868	86
92	AF09937	< 10	< 5	< 5	37	14	31	123	76	1400	119
93	AF09938	< 10	5	< 5	74	17	50	115	68	924	91
94	AF09939	598	32	24	353	32	191	10	95	53	45
95	AF09940	< 10	5	< 5	136	18	67	123	77	842	89
96	AF09941	< 10	< 5	< 5	88	19	52	119	75	901	90
97	AF09942	15	< 5	< 5	86	18	49	115	68	973	100
98	AF09943	53	5	7	122	19	64	113	68	248	65
99	AF09944	< 10	< 5	< 5	79	18	47	99	68	887	80
100	AF09945	< 10	< 5	< 5	78	15	40	95	58	1048	94
101	AF09946	< 10	< 5	< 5	85	16	48	111	71	894	89
102	AF09947	16	< 5	< 5	89	18	49	121	64	854	90
103	AF09948 STANDARD	< 10	5	< 5	< 5	6	8	17	142	3288	163
104	AF09949	< 10	5	< 5	84	17	46	107	66	888	89
105	AF09950	< 10	5	< 5	83	18	46	109	66	904	95
106	AF09951	< 10	< 5	< 5	51	15	45	82	57	1161	97
107	AF09952	118	10	7	176	31	123	269	108	103	44

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
108	AF09953	79	10	8	182	33	124	284	93	83	47
109	AF09954	59	10	5	208	29	103	215	85	96	51
110	AF09955	67	8	9	192	29	99	219	76	86	44
111	AF09956	309	27	22	348	38	205	202	110	57	53
112	AF09957	46	5	< 5	155	23	73	144	78	495	75
113	AF09958	245	28	21	319	36	201	206	104	59	51
114	AF09959	310	34	21	365	42	274	221	118	51	50
115	AF09960	451	50	42	403	46	358	229	131	36	46
116	AF09961	84	8	< 5	197	19	79	112	72	710	78
117	AF09962	251	32	18	353	41	273	203	129	59	61
118	AF09963	521	49	42	454	44	351	197	128	37	51
119	AF09964	338	37	29	397	39	253	172	120	46	62
120	AF09965	280	34	26	378	42	274	204	125	53	54
121	AF09966	95	16	7	240	37	156	237	105	84	56
122	AF09967	102	14	11	237	37	155	238	103	78	47
123	AF09968 STANDARD	< 10	< 5	< 5	< 5	5	7	23	140	3083	151
124	AF09969	272	34	27	369	41	276	185	116	41	52
125	AF09970	47	8	< 5	189	24	94	149	77	232	62
126	AF09971	17	7	6	135	18	73	116	68	983	91
127	AF09972	270	35	26	336	42	295	169	134	42	53
128	AF09973	61	10	8	200	35	143	242	92	70	51
129	AF09974	26	< 5	< 5	125	20	63	126	72	666	77
130	AF09975	32	7	5	213	25	92	238	98	174	53

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
131	AF09976	< 10	< 5	< 5	109	20	59	155	75	434	74
132	AF09977	< 10	5	< 5	46	14	36	91	71	1120	101
133	AF09978	< 10	< 5	< 5	53	14	35	85	68	1304	119
134	AF09979	59	7	5	223	24	88	149	73	148	48
135	AF09980	31	7	< 5	186	23	93	156	72	443	67
136	AF09981	38	7	5	162	19	79	134	81	694	82
137	AF09982	23	8	5	190	21	93	148	76	440	71
138	AF09983	28	8	6	148	16	79	101	69	1196	99
139	AF09984	40	7	< 5	132	18	68	85	64	1284	102
140	AF09985	16	< 5	< 5	66	16	38	83	63	1187	101
141	AF09986	17	< 5	6	78	16	39	86	65	1159	101
142	AF09987	27	5	5	115	21	60	114	68	425	65
143	AF09988 STANDARD	< 10	5	< 5	< 5	7	7	22	145	3158	160
144	AF09989	18	< 5	5	70	14	39	88	67	1136	94
145	AF09990	10	< 5	5	70	14	38	87	64	1167	98
146	AF09991	< 10	5	< 5	122	16	40	83	64	1107	101
147	AF09992	< 10	< 5	< 5	74	17	41	138	69	1173	102
148	AF09993	< 10	< 5	< 5	72	15	39	88	64	1139	103
149	AF09994	22	6	5	137	24	76	138	77	265	64
150	AF09995	18	5	< 5	125	21	70	125	66	378	68
151	AF09996	36	6	< 5	129	24	68	123	73	353	61
152	NB04986	288	32	7	355	41	274	173	109	49	50
153	NB04987	71	5	< 5	162	18	58	106	63	612	67

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
154	NB04988	499	11	163	98	25	162	15	76	15	< 5
155	NB04989	168	11	< 5	354	26	175	15	87	28	33
156	NB04990	260	12	8	349	27	179	23	95	34	39
157	NB04991	390	43	28	393	48	330	128	127	39	55
158	NB04992	186	18	14	529	33	215	254	105	70	51
159	NB04993	305	39	27	384	44	307	113	115	43	54
160	NB04994	324	39	23	430	43	293	159	130	37	53
161	NB04995	145	19	12	303	43	236	295	127	57	63
162	NB04996	57	9	7	170	32	125	222	90	71	52
163	NB04997	105	14	12	239	36	153	233	94	85	53
164	NB04998	227	27	23	301	37	204	185	107	60	46
165	NB04999	222	28	25	308	35	207	188	102	60	52
166	NB05000	194	24	20	319	31	198	141	94	101	48
-- duplicates --											
167	NB03188	< 10	6	< 5	< 5	6	7	19	119	2692	132
168	NB03198	66	12	6	235	21	104	132	82	443	70
169	NB04958	73	< 5	6	99	18	52	104	60	720	80
170	NB04968	478	11	172	105	28	159	7	79	10	< 5
171	AF09872	109	10	5	212	42	175	248	111	56	50
172	AF09905	222	27	19	350	33	202	123	91	81	47
173	AF09915	58	8	8	190	32	130	224	87	92	46
174	AF09925	208	29	23	312	37	209	183	112	60	52
175	AF09935	47	12	8	193	20	86	124	75	748	84
176	AF09945	< 10	< 5	< 5	75	15	40	94	68	1043	98

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SEP9092.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm
177	AF09955	59	8	8	185	27	101	196	70	87	49
178	AF09965	296	34	26	375	43	271	204	115	52	53
179	AF09975	41	7	< 5	217	25	90	181	89	134	48
180	AF09985	< 10	< 5	< 5	66	14	38	83	67	1186	98
181	AF09995	23	6	< 5	125	22	72	125	71	373	65
182	NB04994	314	38	25	431	43	295	158	119	40	51
183	NB05000	185	25	19	321	33	199	149	98	103	49



Russ Calow

A MEMBER OF IAETL CANADA

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Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, October 14, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9092.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	S %
1	NB03179	0.20
2	NB03180	0.04
3	NB03181	0.16
4	NB03182	0.04
5	NB03183	0.07
6	NB03184	0.10
7	NB03185	0.05
8	NB03186	0.05
9	NB03187	0.03
10	NB03188	0.05
11	NB03189	0.09
12	NB03190	0.13
13	NB03191	< 0.01
14	NB03192	0.09
15	NB03193	0.09
16	NB03194	0.03
17	NB03195	< 0.01
18	NB03196	0.04
19	NB03197	0.06
20	NB03198	0.03
21	NB03199	0.07
22	NB03200	0.16
23	NB04951	0.06
24	NB04952	0.09
25	NB04953	0.10
26	NB04954	0.07
27	NB04955	0.07
28	NB04956	0.11
29	NB04957	0.14
30	NB04958	0.10
31	NB04959	0.06
32	NB04960	0.18
33	NB04961	0.14
34	NB04962	0.14
35	NB04963	0.06

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

FAX : 705-652-6365

SEP9092.C94

No.	Sample ID	S %
36	NB04964	0.11
37	NB04965	0.05
38	NB04966	0.04
39	NB04967	0.13
40	NB04968	0.05
41	NB04969	0.03
42	AF09864	0.05
43	AF09865	0.11
44	AF09866	0.02
45	AF09867	0.06
46	AF09868	0.02
47	AF09869	0.51
48	AF09870	0.09
49	AF09871	0.15
50	AF09872	0.07
51	AF09885	0.14
52	AF09888	< 0.01
53	AF09898	0.07
54	AF09899	0.09
55	AF09900	0.13
56	AF09901	0.18
57	AF09902	2.21
58	AF09903	0.25
59	AF09904	0.43
60	AF09905	0.16
61	AF09906	0.14
62	AF09907	0.79
63	AF09908	0.05
64	AF09909	0.06
65	AF09910	0.11
66	AF09911	0.16
67	AF09912	0.12
68	AF09913	0.09
69	AF09914	0.04
70	AF09915	0.07
71	AF09916	0.03
72	AF09917	0.06
73	AF09918	0.08
74	AF09919	0.37
75	AF09920	0.06
76	AF09921	0.04
77	AF09922	0.06
78	AF09923	0.04

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SEP9092.

No.	Sample ID	S %
79	AF09924	0.04
80	AF09925	0.06
81	AF09926	0.03
82	AF09927	0.01
83	AF09928	0.04
84	AF09929	0.02
85	AF09930	0.05
86	AF09931	0.08
87	AF09932	0.13
88	AF09933	< 0.01
89	AF09934	0.04
90	AF09935	0.01
91	AF09936	0.03
92	AF09937	0.06
93	AF09938	0.04
94	AF09939	0.14
95	AF09940	0.04
96	AF09941	0.01
97	AF09942	0.04
98	AF09943	0.12
99	AF09944	0.02
100	AF09945	< 0.01
101	AF09946	0.03
102	AF09947	0.02
103	AF09948	< 0.01
104	AF09949	0.01
105	AF09950	< 0.01
106	AF09951	< 0.01
107	AF09952	0.04
108	AF09953	0.02
109	AF09954	0.03
110	AF09955	0.03
111	AF09956	0.04
112	AF09957	0.04
113	AF09958	0.04
114	AF09959	0.04
115	AF09960	0.07
116	AF09961	0.04
117	AF09962	0.09
118	AF09963	0.09
119	AF09964	0.20
120	AF09965	0.12
121	AF09966	0.02



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No.	Sample ID	S %
122	AF09967	0.03
123	AF09968	0.01
124	AF09969	0.03
125	AF09970	0.05
126	AF09971	0.03
127	AF09972	0.04
128	AF09973	0.01
129	AF09974	0.02
130	AF09975	0.02
131	AF09976	< 0.01
132	AF09977	< 0.01
133	AF09978	< 0.01
134	AF09979	< 0.01
135	AF09980	0.04
136	AF09981	0.02
137	AF09982	0.06
138	AF09983	0.03
139	AF09984	< 0.01
140	AF09985	0.01
141	AF09986	< 0.01
142	AF09987	0.05
143	AF09988	< 0.01
144	AF09989	0.02
145	AF09990	< 0.01
146	AF09991	0.02
147	AF09992	0.02
148	AF09993	0.03
149	AF09994	0.03
150	AF09995	0.02
151	AF09996	0.02
152	NB04986	0.29
153	NB04987	0.02
154	NB04988	< 0.01
155	NB04989	0.28
156	NB04990	0.04
157	NB04991	0.39
158	NB04992	0.28
159	NB04993	0.27
160	NB04994	0.26
161	NB04995	0.08
162	NB04996	0.02
163	NB04997	0.02
164	NB04998	0.05

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SEP9092.C

No.	Sample ID	S
165	NB04999	0.03
166	NB05000	0.04



Roch Marion

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, November 3, 1994

Date Rec. : September 20, 1994  
LR. Ref. : **SEP9093.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
1	AF09873	47.9	13.3	15.5	6.18	11.2	2.44	0.19	2.75	0.29	0.24	0.02	0.78	100.8
2	AF09874	47.2	13.4	16.0	6.01	11.2	2.49	0.25	2.88	0.31	0.24	0.02	1.09	101.1
3	AF09875	47.6	13.3	15.8	6.03	11.1	2.43	0.20	2.80	0.30	0.23	0.02	0.80	100.6
4	AF09876	48.0	12.9	15.9	6.10	11.1	2.51	0.18	2.70	0.24	0.24	0.02	1.04	100.9
5	AF09877	48.5	14.1	13.5	7.17	11.8	2.27	0.12	2.07	0.18	0.21	0.04	0.48	100.4
6	AF09878 STANDARD	35.1	1.27	12.2	35.6	0.07	< 0.05	0.03	0.16	< 0.01	0.19	1.68	12.0	98.3
7	AF09879	47.7	14.1	13.6	6.82	12.0	2.27	0.07	2.12	0.20	0.22	0.03	1.27	100.4
8	AF09880	47.5	14.1	13.6	6.62	11.9	2.30	0.07	2.11	0.19	0.21	0.04	1.35	100.0
9	AF09881	45.4	12.2	16.0	4.44	8.56	2.73	1.13	3.71	0.51	0.22	< 0.01	5.15	100.1
10	AF09882	46.0	13.3	15.5	5.89	9.29	2.46	0.82	3.21	0.46	0.22	< 0.01	3.60	100.7
11	AF09883	47.8	13.7	14.6	5.15	10.5	2.56	0.76	3.10	0.35	0.20	0.02	1.05	99.8
12	AF09884	48.3	14.2	13.0	6.61	12.0	2.31	0.27	1.99	0.18	0.20	0.05	1.84	101.0
13	AF09886	46.6	12.9	16.4	4.45	8.36	2.61	0.88	3.96	0.59	0.26	< 0.01	3.25	100.3
14	AF09887	44.8	13.4	13.4	6.95	11.5	2.23	0.50	2.27	0.25	0.21	0.02	4.35	99.9

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SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
15	AF09889	47.5	13.4	14.2	6.25	10.6	2.27	0.64	3.06	0.36	0.23	0.03	2.42	101.0
16	AF09890	51.7	25.5	7.62	1.38	0.89	1.37	1.77	0.96	0.25	0.04	0.02	8.84	100.3
17	AF09891	46.1	14.0	14.8	6.50	11.9	2.33	0.37	2.68	0.24	0.22	0.02	1.21	100.4
18	AF09892	46.4	13.1	16.3	5.18	10.2	2.62	0.93	3.60	0.47	0.25	0.01	1.70	100.8
19	AF09893	44.6	13.5	10.2	9.51	9.66	1.45	0.14	1.20	0.11	0.15	0.11	9.74	100.4
20	AF09894	47.1	13.9	14.8	5.90	10.9	2.84	0.78	2.79	0.36	0.24	0.01	0.80	100.4
21	AF09895	47.4	14.6	13.1	5.09	10.7	2.52	0.74	3.02	0.35	0.21	0.01	1.81	99.6
22	AF09896	46.3	13.4	14.8	5.87	10.7	2.81	0.77	2.77	0.34	0.24	0.01	0.13	98.1
23	AF09897	47.5	13.5	15.7	5.24	10.1	3.04	0.96	3.19	0.42	0.24	< 0.01	0.05	99.9
24	NB04970	48.2	13.8	12.9	6.53	11.2	2.42	0.17	2.23	0.17	0.20	0.03	1.69	99.5
25	NB04971	43.9	12.9	11.0	4.13	11.6	2.45	1.00	3.61	0.48	0.17	< 0.01	7.46	98.7
26	NB04972	46.5	14.1	13.2	6.59	11.0	2.54	0.15	2.77	0.29	0.35	0.02	2.77	100.3
27	NB04973	46.5	14.4	10.4	7.54	12.4	2.00	0.32	2.13	0.20	0.25	0.06	3.45	99.7
28	NB04974	46.6	12.6	15.3	4.45	8.84	2.77	1.16	3.86	0.53	0.30	< 0.01	1.91	98.3
29	NB04975	47.4	13.3	14.6	5.19	10.3	2.32	0.95	3.29	0.43	0.21	0.01	2.10	100.1
30	NB04976	47.9	12.9	15.8	4.65	8.50	2.80	0.82	3.42	0.44	0.24	< 0.01	2.13	99.6
31	NB04977	42.6	10.7	10.8	15.2	9.26	1.17	0.05	1.00	0.07	0.17	0.22	8.64	99.9
32	NB04978	46.4	13.4	14.0	5.15	8.75	2.60	0.45	2.86	0.40	0.22	0.02	5.50	99.8
33	NB04979	43.7	12.2	11.8	12.6	10.4	1.25	0.03	1.19	0.09	0.18	0.15	6.01	99.6
34	NB04980	48.0	12.7	16.2	5.00	9.15	2.62	0.80	3.71	0.47	0.23	< 0.01	1.21	100.1
35	NB04981	47.7	12.8	16.4	4.47	8.80	2.83	1.05	3.48	0.65	0.26	< 0.01	2.02	100.5
36	NB04982	46.1	14.1	14.8	5.25	10.4	2.69	1.12	3.56	0.47	0.24	0.01	1.34	100.1

# LAKEFIELD RESEARCH

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P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
37	NB04983	48.5	13.4	10.7	5.46	9.69	2.05	0.14	2.17	0.24	0.15	0.04	7.62	100.2
38	NB04984	48.0	12.7	16.9	4.57	9.05	2.78	1.04	4.22	0.58	0.26	0.01	1.22	101.3
39	NB04985	47.4	12.7	16.1	5.25	9.51	2.59	0.95	4.09	0.56	0.24	0.02	1.04	100.5
40	LB04601	45.7	11.5	13.2	15.9	10.5	1.55	0.11	1.46	0.12	0.20	0.19	0.39	100.8
41	LB04602	48.6	13.8	13.7	6.54	11.2	2.29	0.27	2.53	0.23	0.21	0.03	0.91	100.3
42	LB04603	46.3	14.1	11.5	9.14	12.1	1.81	0.07	1.42	0.11	0.18	0.07	4.36	101.2
43	LB04604	46.9	14.4	11.9	8.84	12.4	1.87	0.07	1.46	0.11	0.19	0.06	2.57	100.8
44	LB04605	45.1	10.6	12.2	19.3	8.90	1.46	0.06	1.22	0.12	0.18	0.21	0.92	100.3
45	LB04606	49.3	13.7	14.5	6.40	11.3	2.38	0.22	2.40	0.21	0.23	0.02	0.75	101.4
46	LB04607	48.9	13.6	14.5	6.39	11.2	2.37	0.23	2.39	0.21	0.22	0.02	0.78	100.8
47	LB04608 STANDARD	35.6	1.30	12.4	36.0	0.06	< 0.05	0.03	0.17	< 0.01	0.19	1.72	11.7	99.2
48	LB04609	49.1	13.1	16.7	6.30	10.8	2.37	0.32	2.67	0.26	0.25	0.02	0.80	102.7
49	LB04610	48.3	12.6	16.9	6.03	10.5	2.41	0.20	2.75	0.27	0.26	0.02	0.74	101.0
50	LB04611	48.7	13.7	13.5	7.22	11.6	2.42	0.22	2.24	0.19	0.20	0.04	0.58	100.6
51	LB04612	48.5	13.6	13.3	7.10	11.6	2.30	0.20	2.23	0.19	0.21	0.04	0.57	99.8
52	LB04613	48.5	13.6	13.3	7.21	11.5	2.42	0.23	2.24	0.19	0.22	0.03	0.42	99.9
53	LB04614	49.1	13.6	13.9	6.73	10.8	2.55	0.30	2.74	0.24	0.22	0.03	1.03	101.2
54	LB04615	48.7	13.6	14.4	6.41	11.2	2.49	0.26	2.38	0.21	0.22	0.02	1.05	100.9
55	LB04616	49.8	14.2	10.4	10.7	8.64	1.54	0.52	1.25	0.14	0.18	0.19	2.53	100.1
56	LB04617	48.2	13.7	13.7	6.72	11.5	2.35	0.21	2.13	0.19	0.23	0.03	0.91	99.9
57	LB04618	49.0	14.0	11.9	9.00	11.0	2.03	0.30	1.82	0.16	0.19	0.08	0.85	100.3
58	LB04619	52.2	14.4	10.5	8.44	9.22	2.07	0.24	1.32	0.13	0.17	0.10	1.56	100.4

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SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
59	NS02892	54.3	12.9	11.3	2.66	6.98	2.49	1.38	2.06	0.22	0.18	0.01	3.77	98.3
60	NS02893	52.7	14.1	10.4	4.77	8.97	2.28	0.89	1.51	0.17	0.17	0.06	3.20	99.2
61	NS02894	51.8	15.2	8.88	5.48	9.43	2.08	0.78	1.27	0.13	0.16	0.10	2.68	98.0
62	NS02895	51.3	15.8	9.20	8.11	9.08	1.76	0.42	1.01	0.11	0.12	0.17	2.41	99.5
63	NS02896	52.8	15.1	9.16	5.71	8.80	2.03	0.74	1.30	0.12	0.15	0.11	3.16	99.2
64	NS02897	51.9	15.1	8.92	5.45	8.69	1.97	0.68	1.23	0.12	0.13	0.11	3.57	97.9
65	NS02898	53.3	15.0	9.37	6.65	8.17	2.17	0.74	1.30	0.14	0.12	0.11	3.06	100.1
66	NS02899	45.3	11.5	12.9	15.6	9.93	1.56	0.12	1.31	0.11	0.19	0.20	1.71	100.4
67	NS02900	39.3	5.64	12.8	28.8	4.90	0.63	0.03	0.59	0.05	0.19	0.43	6.99	100.4
68	NB03458	41.4	7.01	13.0	26.9	6.09	0.97	0.06	0.75	0.06	0.19	0.36	3.26	100.1
69	NB03459	41.7	7.45	13.1	25.9	6.55	0.93	0.06	0.78	0.07	0.19	0.35	3.69	100.8
70	NB03460	43.4	8.77	13.0	22.9	7.46	1.12	0.10	0.99	0.08	0.20	0.27	2.12	100.4
71	NB03461	49.2	15.1	9.84	6.46	9.64	1.81	0.37	1.43	0.10	0.14	0.12	5.58	99.8
72	NB03462	51.7	15.3	9.32	6.15	9.39	1.92	0.41	1.24	0.12	0.14	0.12	3.60	99.4
73	NB03463	53.9	14.7	9.98	5.71	8.39	2.43	0.93	1.50	0.16	0.15	0.08	2.42	100.4
74	NB03464	53.4	14.5	10.1	5.86	9.10	2.24	0.78	1.44	0.15	0.16	0.10	2.42	100.2
75	NB03465	54.9	14.3	9.81	4.54	8.07	2.51	1.03	1.35	0.15	0.15	0.06	2.27	99.1
76	NB03466	54.4	14.4	10.7	4.66	8.12	2.58	0.95	1.67	0.17	0.16	0.05	2.55	100.4
77	NB03467	54.6	14.2	10.4	5.13	8.61	2.47	1.00	1.48	0.15	0.16	0.07	1.67	99.9
78	NB03468 <b>STANDARD</b>	35.6	1.28	12.4	35.8	0.06	< 0.05	0.03	0.17	< 0.01	0.19	1.76	11.8	99.1
79	NB03469	54.6	14.3	10.2	5.23	8.63	2.50	0.97	1.48	0.15	0.16	0.08	1.82	100.1
80	NB03470	51.5	14.5	9.17	6.53	9.97	2.21	0.66	1.36	0.12	0.15	0.15	2.82	99.1

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SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
81	NB03471	53.5	15.7	8.83	6.99	9.04	2.06	0.80	1.08	0.12	0.14	0.12	1.90	100.3
82	NB03472	51.5	15.7	9.20	6.58	8.88	2.07	0.65	1.23	0.10	0.15	0.10	3.28	99.4
83	NB03473	52.0	16.3	9.08	7.05	9.34	2.07	0.62	1.25	0.12	0.15	0.12	1.85	100.0
84	NB03474	50.4	15.2	8.85	7.09	9.15	2.23	0.54	1.04	0.09	0.15	0.13	4.73	99.6
85	NB03475	54.2	15.0	9.30	6.12	8.68	2.17	0.90	1.30	0.13	0.15	0.11	1.49	99.6
86	NB03476	52.6	15.0	9.37	6.70	8.14	2.07	0.61	1.21	0.13	0.15	0.11	3.81	99.9
87	NB03477	52.5	15.0	9.43	6.76	7.36	2.19	0.60	1.22	0.13	0.14	0.11	3.89	99.3
88	NB03478	52.0	15.0	9.06	5.70	8.58	2.24	0.53	1.18	0.14	0.15	0.11	3.45	98.1
89	NB03479	51.8	14.8	9.54	6.23	6.76	3.15	0.57	1.23	0.14	0.15	0.10	3.83	98.3
90	NS03101	46.6	12.7	12.4	11.6	10.5	1.77	0.14	1.56	0.15	0.20	0.11	2.63	100.4
91	NS03102	45.7	12.3	12.3	11.5	10.3	1.73	0.15	1.55	0.15	0.18	0.11	3.49	99.5
92	NS03103	47.1	13.1	11.8	12.7	10.5	1.51	0.11	1.19	0.08	0.19	0.14	1.76	100.2
93	NS03104	47.5	13.2	11.0	11.8	9.67	1.56	0.09	1.22	0.09	0.13	0.16	3.17	99.6
94	NS03105	46.9	13.5	15.6	5.15	10.3	2.75	0.85	3.60	0.45	0.23	0.01	0.77	100.1
95	NS03106	44.4	16.7	9.63	6.81	10.4	3.88	1.54	1.80	0.55	0.17	0.02	3.76	99.7
96	NS03107	43.6	14.6	9.85	11.1	9.78	2.91	1.24	1.52	0.46	0.18	0.05	4.17	99.5
97	NS03108	42.9	13.7	10.3	12.1	8.82	2.67	1.20	1.41	0.42	0.18	0.06	4.30	98.1
98	NS03109	43.5	15.0	9.65	9.43	10.1	2.66	1.20	1.54	0.45	0.15	0.06	5.20	98.9
99	NS03110	47.3	12.7	16.3	4.87	9.66	2.48	0.74	3.75	0.48	0.25	0.01	1.63	100.2
100	NS03111	49.4	13.7	10.1	9.96	8.43	1.75	0.18	1.15	0.12	0.15	0.13	3.95	99.0
101	NS03112	49.4	13.5	10.3	10.2	8.63	1.69	0.17	1.12	0.12	0.14	0.13	3.77	99.2
102	NS03113	49.2	13.2	10.1	10.9	8.17	1.67	0.17	1.07	0.12	0.14	0.14	4.18	99.1

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Phone : 705-652-2000 - FAX : 705-652-6365

SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
103	NS03114	49.9	13.2	10.3	11.3	8.64	1.81	0.22	1.08	0.12	0.15	0.14	3.42	100.3
104	NS03115	45.7	13.0	16.2	5.02	9.56	2.86	0.89	4.14	0.72	0.28	< 0.01	1.53	99.9
105	NS03116	46.7	14.2	15.0	6.59	12.0	2.36	0.40	2.72	0.24	0.23	0.03	0.30	100.8
106	NS03117	46.8	14.5	14.7	6.48	11.8	2.38	0.41	2.68	0.23	0.23	0.03	0.29	100.5
107	NS03118	46.6	14.3	14.8	6.61	11.9	2.34	0.41	2.68	0.23	0.23	0.03	0.49	100.6
108	NS03119	46.2	14.3	14.5	6.45	11.8	2.38	0.38	2.61	0.22	0.22	0.02	0.86	99.9
109	NS03120	46.5	14.5	14.2	6.61	12.1	2.30	0.37	2.47	0.22	0.21	0.03	0.38	99.9
110	NS03121	46.3	14.2	14.8	6.54	11.9	2.38	0.40	2.67	0.23	0.23	0.02	0.16	99.8
111	NS03122	47.0	13.3	15.3	5.05	10.2	2.75	0.98	3.33	0.40	0.19	< 0.01	1.65	100.2
112	NS03123	47.5	13.3	15.1	4.87	10.2	2.79	0.99	3.36	0.41	0.22	0.01	1.44	100.2
113	NS03124	47.0	13.4	14.7	5.08	10.1	2.72	0.99	3.40	0.41	0.23	< 0.01	1.83	99.9
114	NS03125	47.2	13.2	15.6	5.22	10.1	2.75	0.98	3.36	0.41	0.21	0.01	1.51	100.6
115	NS03126	47.0	13.1	16.0	4.92	10.0	2.77	0.98	3.34	0.40	0.25	0.01	1.40	100.2
116	NS03127	47.0	13.4	14.8	4.88	10.2	2.81	1.01	3.42	0.42	0.25	0.01	2.08	100.3
117	NS03128	47.4	13.2	16.1	5.09	10.1	2.75	1.00	3.34	0.41	0.24	< 0.01	0.80	100.4
118	NS03129	47.5	13.5	15.2	4.92	10.3	2.84	1.01	3.37	0.42	0.21	0.01	1.22	100.5
119	NS03130	47.5	13.3	15.9	5.11	10.2	2.80	1.00	3.37	0.41	0.24	< 0.01	0.76	100.6
120	NS03131	47.2	13.1	16.3	5.23	10.0	2.81	0.97	3.33	0.40	0.24	0.01	0.59	100.2
121	NS03132	47.3	13.2	16.1	5.05	10.1	2.78	0.99	3.32	0.41	0.27	0.01	0.77	100.3
122	NS03133	46.5	14.3	13.7	5.68	10.5	2.47	0.86	2.89	0.36	0.27	0.01	2.44	100.0
123	NS03134	46.8	14.4	14.0	5.84	10.5	2.46	0.87	2.94	0.37	0.30	< 0.01	2.79	101.3
124	NS03135	46.2	13.2	15.7	5.61	9.67	2.61	0.93	3.34	0.38	0.29	0.01	2.55	100.5



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SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
125	NS03136	46.6	13.3	15.0	5.13	9.69	2.73	1.00	3.36	0.40	0.27	0.01	2.54	100.0
126	NS03137	47.1	13.1	15.4	5.29	9.94	2.67	0.99	3.38	0.40	0.26	0.02	2.02	100.6
127	NS03138	46.8	13.0	15.8	5.43	9.84	2.64	0.97	3.38	0.40	0.23	0.01	1.82	100.3
128	NS03139	46.8	13.1	15.7	5.32	9.81	2.65	0.98	3.35	0.41	0.23	< 0.01	1.87	100.2
129	NS03140	46.6	13.2	15.5	5.44	9.82	2.69	0.96	3.35	0.40	0.36	< 0.01	2.26	100.6
130	NS03141	46.6	13.1	15.8	5.36	9.77	2.66	0.98	3.34	0.40	0.33	0.01	2.21	100.6
131	NS03142	47.1	13.2	15.7	5.13	9.99	2.75	0.98	3.34	0.41	0.22	0.01	1.66	100.5
132	NS03143	46.8	13.2	15.8	5.22	9.91	2.68	0.97	3.41	0.40	0.27	< 0.01	1.90	100.6
133	NS03144	47.0	13.0	16.3	5.43	9.95	2.72	0.98	3.36	0.40	0.24	< 0.01	0.86	100.2
134	NS03145	47.3	13.2	15.7	5.14	10.1	2.79	0.98	3.34	0.40	0.24	0.01	1.30	100.5
135	NS03146	47.3	13.2	15.9	5.10	10.0	2.75	1.00	3.38	0.41	0.24	< 0.01	1.36	100.6
136	NS03147	47.1	13.1	16.3	5.44	9.94	2.73	0.96	3.33	0.40	0.24	< 0.01	0.92	100.5
137	NS03148 STANDARD	36.3	1.30	12.4	36.4	0.06	< 0.05	0.03	0.17	< 0.01	0.19	1.74	11.8	100.4
138	NS03149	47.2	13.3	15.3	5.11	10.1	2.75	1.00	3.34	0.40	0.23	0.01	1.32	100.1
139	NS03150	47.4	13.2	16.2	5.09	10.1	2.81	1.00	3.35	0.41	0.27	0.01	0.92	100.8
-- duplicates --														
140	AF09882	45.6	13.2	15.5	5.90	9.24	2.48	0.81	3.19	0.46	0.21	< 0.01	3.58	100.2
141	AF09894	47.2	13.9	14.7	5.87	10.9	2.89	0.79	2.79	0.36	0.24	0.01	0.79	100.4
142	NB04976	47.0	12.6	15.6	4.53	8.39	2.78	0.80	3.36	0.42	0.23	< 0.01	2.15	97.9
143	LB04601	45.7	11.5	13.1	15.9	10.5	1.54	0.11	1.47	0.12	0.19	0.19	0.35	100.7
144	LB04611	48.8	13.8	13.4	7.20	11.6	2.51	0.22	2.25	0.20	0.19	0.04	0.59	100.8
145	NS02893	52.5	14.0	10.6	4.72	8.91	2.24	0.90	1.54	0.17	0.17	0.07	3.18	99.0
146	NB03460	43.7	8.88	13.2	23.0	7.49	1.13	0.10	1.01	0.08	0.21	0.28	2.11	101.2

# LAKEFIELD RESEARCH

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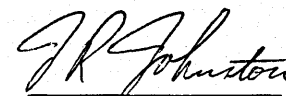
P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000

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SEP9093.C94

No.	Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	LOI %	SUM %
147	NB03470	52.2	14.7	9.07	6.60	10.0	2.24	0.67	1.33	0.12	0.16	0.15	2.82	100.1
148	NS03101	46.5	12.6	12.5	11.6	10.5	1.74	0.14	1.58	0.15	0.19	0.12	2.65	100.3
149	NS03111	49.6	13.9	10.3	10.2	8.45	1.78	0.17	1.14	0.12	0.15	0.14	3.93	99.9
150	NS03121	46.4	14.3	14.8	6.51	11.9	2.33	0.39	2.67	0.23	0.22	0.03	0.15	99.9
151	NS03131	47.2	13.2	16.3	5.26	10.1	2.79	0.97	3.31	0.40	0.25	< 0.01	0.59	100.4
152	NS03141	46.5	13.2	15.7	5.34	9.69	2.66	0.97	3.32	0.40	0.33	< 0.01	2.27	100.4
153	NS03150	47.1	13.2	16.1	5.07	10.0	2.78	1.00	3.32	0.40	0.28	0.01	0.94	100.2



J. R. Johnston

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

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Phone : 705-652-2000 - FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, November 3, 1994

Date Rec. : September 20, 1994  
LR. Ref. : **SEP9093.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
1	AF09873	81	8	6	223	38	168	243	483	63	51	0.02
2	AF09874	54	9	5	226	38	172	262	232	70	60	0.01
3	AF09875	84	8	6	221	38	167	259	210	67	52	0.02
4	AF09876	50	8	5	233	35	158	216	162	71	54	0.03
5	AF09877	45	6	5	189	27	108	191	258	95	52	0.02
6	AF09878 STANDARD	19	< 5	< 5	< 5	5	9	23	209	3285	158	0.02
7	AF09879	26	6	< 5	195	30	112	199	195	102	49	< 0.01
8	AF09880	24	7	< 5	191	30	113	194	138	102	51	< 0.01
9	AF09881	336	41	32	341	42	304	164	160	32	49	0.15
10	AF09882	286	37	21	376	37	262	142	140	92	64	0.10
11	AF09883	190	26	21	337	36	225	166	142	67	49	0.01
12	AF09884	58	9	6	186	33	119	220	105	104	49	0.02
13	AF09886	569	44	22	411	48	320	133	146	42	50	0.31
14	AF09887	284	19	11	355	25	115	136	111	86	46	0.31

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SEP9093.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
15	AF09889	201	28	19	316	36	224	161	131	99	51	0.19
16	AF09890	773	14	57	274	26	167	49	108	90	28	3.69
17	AF09891	131	12	8	350	33	160	215	110	86	54	0.15
18	AF09892	286	33	24	354	41	275	198	139	49	55	0.13
19	AF09893	159	6	5	217	21	82	64	58	190	41	0.10
20	AF09894	244	28	24	311	36	206	187	118	68	51	0.04
21	AF09895	213	27	19	357	35	238	148	120	58	48	0.04
22	AF09896	272	29	23	337	36	208	191	106	62	52	0.05
23	AF09897	324	33	25	379	39	220	164	129	50	59	0.05
24	NB04970	51	8	6	246	26	116	172	103	84	49	0.04
25	NB04971	300	36	19	430	36	234	100	125	40	47	0.36
26	NB04972	49	8	< 5	224	38	167	245	145	71	49	0.04
27	NB04973	103	10	< 5	284	23	133	145	97	154	45	0.02
28	NB04974	313	40	31	341	44	315	172	140	41	51	0.14
29	NB04975	246	32	19	321	41	264	150	111	52	50	0.07
30	NB04976	381	33	24	373	43	282	126	141	42	52	0.15
31	NB04977	111	< 5	< 5	164	17	52	97	234	715	71	0.03
32	NB04978	266	26	14	432	40	240	138	153	79	47	0.11
33	NB04979	65	< 5	5	172	22	60	126	81	437	64	0.08
34	NB04980	292	36	21	360	43	299	179	116	50	60	0.18
35	NB04981	338	37	29	374	46	307	139	141	39	49	0.13
36	NB04982	348	36	28	413	41	266	187	123	52	50	0.12

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SEP9093.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
37	NB04983	169	11	6	411	23	173	7	94	27	32	0.33
38	NB04984	388	48	30	411	48	345	214	138	44	54	0.22
39	NB04985	290	43	26	359	51	340	241	149	73	48	0.15
40	LB04601	20	5	< 5	158	20	79	128	88	592	85	0.02
41	LB04602	72	8	6	223	38	157	221	528	105	53	0.01
42	LB04603	40	< 5	6	156	24	66	142	165	202	51	0.01
43	LB04604	35	5	< 5	159	23	69	143	128	183	52	0.02
44	LB04605	25	5	6	124	18	61	105	151	911	85	0.01
45	LB04606	42	7	8	213	33	143	213	153	93	49	0.01
46	LB04607	36	7	7	219	34	145	212	123	80	54	0.02
47	LB04608 STANDARD	< 10	< 5	5	< 5	6	8	22	155	3536	158	0.02
48	LB04609	86	12	12	177	43	166	339	139	70	59	0.04
49	LB04610	98	11	15	180	47	173	344	114	67	58	0.01
50	LB04611	46	7	5	198	33	131	237	91	128	47	0.05
51	LB04612	39	7	8	194	34	133	227	93	118	43	0.02
52	LB04613	52	6	6	193	33	135	236	92	112	50	0.02
53	LB04614	46	7	7	234	37	164	215	99	93	49	0.01
54	LB04615	51	6	7	228	33	144	211	91	76	56	0.02
55	LB04616	143	7	16	155	23	123	18	80	29	37	0.03
56	LB04617	38	8	6	192	35	124	296	126	95	44	0.02
57	LB04618	54	6	9	180	27	108	117	109	157	46	0.07
58	LB04619	160	6	9	181	23	120	39	78	42	39	0.04

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No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
59	NS02892	325	10	42	198	36	217	13	94	10	20	0.85
60	NS02893	223	6	29	210	26	147	13	80	12	21	0.69
61	NS02894	209	8	23	203	23	134	6	63	8	22	0.45
62	NS02895	115	5	13	199	18	81	10	63	9	26	0.19
63	NS02896	205	7	26	211	22	137	10	65	18	25	0.76
64	NS02897	193	7	22	214	20	123	11	64	24	22	1.39
65	NS02898	193	6	25	206	22	125	8	67	16	24	0.27
66	NS02899	29	5	5	150	17	68	114	69	641	77	0.27
67	NS02900	< 10	6	< 5	77	9	30	56	68	1529	118	0.01
68	NB03458	21	5	< 5	93	13	36	65	65	1385	118	0.02
69	NB03459	20	< 5	< 5	109	14	37	76	67	1305	117	0.01
70	NB03460	24	6	5	110	16	54	94	74	1148	106	0.05
71	NB03461	135	6	12	221	17	84	< 5	59	18	23	0.08
72	NB03462	130	7	13	199	20	111	< 5	63	9	27	0.55
73	NB03463	226	6	28	186	26	145	< 5	68	10	26	0.29
74	NB03464	216	7	24	190	24	134	< 5	77	11	21	0.39
75	NB03465	246	8	35	188	29	175	< 5	76	7	21	0.61
76	NB03466	218	8	30	194	30	160	6	85	12	21	0.39
77	NB03467	246	7	30	190	29	159	< 5	84	19	23	0.17
78	NB03468 STANDARD	< 10	< 5	< 5	< 5	< 5	7	18	112	3242	118	0.05
79	NB03469	254	8	29	194	27	157	< 5	81	15	27	0.41
80	NB03470	195	7	20	184	20	111	< 5	63	14	27	0.12

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No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
81	NB03471	216	6	23	196	23	121	7	63	10	23	0.08
82	NB03472	178	7	22	215	20	103	7	69	12	25	0.13
83	NB03473	181	7	20	202	21	101	6	62	8	24	0.26
84	NB03474	175	6	16	195	19	91	< 5	64	9	29	0.05
85	NB03475	254	6	30	194	26	144	< 5	72	9	20	0.02
86	NB03476	179	6	19	198	23	122	< 5	63	12	22	0.29
87	NB03477	189	7	20	190	21	124	7	65	9	20	0.67
88	NB03478	178	7	17	195	22	127	7	67	10	22	1.41
89	NB03479	240	7	14	217	22	128	6	40	< 5	18	1.65
90	NS03101	112	9	6	204	22	93	108	75	336	68	0.12
91	NS03102	106	10	8	208	21	93	101	80	342	66	0.08
92	NS03103	56	5	6	131	20	67	101	63	365	60	0.05
93	NS03104	62	5	6	171	21	71	104	67	411	63	0.13
94	NS03105	260	34	23	389	39	265	183	118	57	55	0.15
95	NS03106	661	60	47	831	28	186	80	59	77	32	0.13
96	NS03107	548	51	41	730	25	155	63	54	256	57	0.06
97	NS03108	503	49	44	628	23	150	52	60	351	56	0.08
98	NS03109	470	48	43	697	25	160	61	62	226	49	0.14
99	NS03110	212	34	24	347	43	289	206	131	51	50	0.24
100	NS03111	207	13	8	293	20	103	26	71	100	42	0.39
101	NS03112	197	14	7	281	20	97	155	72	101	43	0.19
102	NS03113	216	11	8	300	20	95	33	72	132	48	0.11

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, KOL 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9093.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
103	NS03114	277	12	9	263	22	97	23	75	133	48	0.17
104	NS03115	344	39	26	512	41	229	96	115	33	56	0.22
105	NS03116	93	11	10	358	32	157	217	88	74	53	0.08
106	NS03117	113	12	11	376	32	159	218	91	83	57	0.05
107	NS03118	98	11	10	361	29	155	213	92	88	53	0.05
108	NS03119	106	12	11	374	31	157	212	91	83	61	0.04
109	NS03120	90	12	12	352	29	155	202	89	93	54	0.26
110	NS03121	88	12	14	357	31	158	215	95	84	61	0.07
111	NS03122	257	29	22	310	41	237	199	111	55	54	< 0.01
112	NS03123	273	28	26	328	40	242	203	109	52	48	0.04
113	NS03124	271	29	25	321	43	236	206	116	47	51	0.04
114	NS03125	272	28	23	318	41	234	194	104	48	45	0.03
115	NS03126	272	28	26	316	40	235	195	105	46	51	0.04
116	NS03127	295	30	30	324	39	250	207	110	46	45	0.02
117	NS03128	274	29	27	326	41	237	201	108	47	56	0.01
118	NS03129	265	30	25	326	41	246	206	107	46	53	0.02
119	NS03130	265	29	25	328	41	242	204	114	46	52	0.02
120	NS03131	277	27	27	322	38	239	199	107	46	51	0.06
121	NS03132	270	29	24	322	38	235	200	104	46	54	0.03
122	NS03133	217	27	23	333	34	221	158	100	51	51	0.02
123	NS03134	220	28	22	328	35	216	152	96	50	48	0.04
124	NS03135	253	29	21	302	39	230	187	109	48	54	0.02



# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9093.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
125	NS03136	268	27	26	305	41	239	194	113	46	53	0.03
126	NS03137	258	30	25	305	41	237	227	133	54	58	0.03
127	NS03138	255	27	26	299	40	230	213	112	51	52	0.02
128	NS03139	258	28	25	300	41	236	207	118	51	54	0.04
129	NS03140	257	30	23	294	40	234	200	120	50	58	0.03
130	NS03141	258	30	26	298	39	237	196	118	50	48	0.01
131	NS03142	278	29	22	313	40	241	207	121	59	48	0.02
132	NS03143	266	30	23	302	39	241	198	119	52	54	0.02
133	NS03144	264	28	25	308	42	234	198	119	48	58	0.04
134	NS03145	275	30	25	316	43	235	187	124	57	48	0.05
135	NS03146	267	29	27	313	40	237	201	114	65	55	0.03
136	NS03147	263	29	25	311	40	235	200	119	52	60	0.05
137	NS03148 STANDARD	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	0.03
138	NS03149	271	30	27	312	41	240	202	108	57	49	0.03
139	NS03150	256	30	26	317	41	245	202	121	53	50	0.03
-- duplicates --												
140	AF09882	272	36	20	369	37	260	141	192	89	52	0.09
141	AF09894	229	27	24	309	36	207	186	110	61	52	0.04
142	NB04976	375	37	24	375	42	279	123	281	37	49	0.15
143	LB04601	21	6	< 5	162	24	78	123	86	618	81	< 0.01
144	LB04611	42	6	8	191	32	135	236	93	122	43	0.06
145	NS02893	226	7	28	208	28	148	< 5	78	10	25	0.67
146	NB03460	30	5	< 5	106	16	51	98	69	1104	105	0.07

# LAKEFIELD RESEARCH

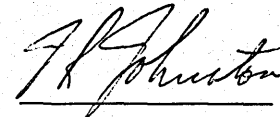
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P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - FAX : 705-652-6365

SEP9093.C94

No.	Sample ID	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	S %
147	NB03470	191	6	22	193	21	113	< 5	64	8	24	0.12
148	NS03101	108	9	6	204	20	94	103	76	337	68	0.10
149	NS03111	199	13	8	295	19	102	40	74	97	41	0.40
150	NS03121	93	13	11	361	31	162	214	98	86	52	0.07
151	NS03131	274	30	23	326	40	240	207	112	47	58	0.04
152	NS03141	293	28	25	293	41	235	196	133	52	60	0.02
153	NS03150	265	30	25	323	43	238	206	122	55	59	0.02



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**APPENDIX V**

**1994 Geochemical & Assay Analysis**

# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2000 - . . . FAX : 705-652-6365

Falconbridge Limited (Winnipeg)  
21 Murray Park Road  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, November 3, 1994

Date Rec. : September 19, 1994  
LR. Ref. : **SEP9095.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Cu ppm	Ni ppm	Co ppm	As ppm	S %
1	NS03066	< 5	8	20	< 10	0.72
2	NS03067	< 5	6	24	< 10	0.69
3	NS03068 STANDARD	608	14640	217	40	2.36
4	NS03069	< 5	7	18	< 10	0.49
5	NS03070	< 5	5	19	< 10	0.64
6	NS03071	< 5	< 5	25	< 10	0.26
7	NS03072	5	< 5	19	< 10	1.15
8	NS03073	< 5	< 5	19	< 10	1.47
9	NS03074	< 5	6	21	< 10	0.62
10	NS03075	< 5	< 5	23	< 10	0.53
11	NS03076	11	5	19	< 10	0.23
12	NS03077	< 5	7	26	< 10	0.46
13	NS03078	< 5	7	27	< 10	0.12
14	NS03079	< 5	8	26	< 10	0.14
15	NS03080	< 5	< 5	17	< 10	0.32
16	NS03081	< 5	< 5	20	< 10	0.84
17	NS03082	< 5	< 5	15	< 10	1.42
18	NS03083	30	37	30	16	3.40
19	NS03084	20	30	14	27	3.77
20	NS03201	36	52	43	62	10.6
21	NS03202	< 5	17	< 5	< 10	0.10
22	NS03203	20	59	26	22	14.3
23	NS03204	7	18	< 5	< 10	0.07
24	NS03205	24	39	15	17	4.59
25	NS03206	7	18	< 5	< 10	0.04
26	NS03207	25	34	10	12	0.21
27	NS03208 STANDARD	588	15539	215	40	2.20
28	NS03209	15	31	9	< 10	0.90
29	NS03051	8	9	22	< 10	0.94
30	NS03052	7	9	21	< 10	0.05
31	NS03053	12	10	21	< 10	0.10
32	NS03054	6	8	21	< 10	0.14
33	NS03055	7	7	24	< 10	0.11
34	NS03056	< 5	9	27	< 10	0.12
35	NS03057	6	10	20	< 10	0.13

# LAKEFIELD RESEARCH


A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone: 705-652-2000 - FAX: 705-652-6365

SEP9095.C94

No.	Sample ID	Cu ppm	Ni ppm	Co ppm	As ppm	S %
36	NS03058	< 5	6	22	< 10	0.09
37	NS03059	< 5	5	23	< 10	0.12
38	NS03060	6	7	20	< 10	0.16
39	NS03061	< 5	8	21	< 10	0.16
40	NS03062	< 5	18	24	< 10	0.15
41	NS03063	< 5	< 5	27	< 10	0.08
42	NS03064	7	9	24	< 10	0.07
43	NS03065	151	123	45	< 10	0.03
44	NS03213	226	475	75	< 10	0.82
-- duplicates --						
45	NS03075	< 5	< 5	23	< 10	0.52
46	NS03201	39	52	47	61	10.5
47	NS03052	6	10	21	< 10	0.05
48	NS03062	7	12	22	< 10	0.15

  
J. R. Johnston

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# LAKEFIELD RESEARCH

A Division of Falconbridge Limited

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

TEL : 705-652-2000 FAX : 705-652-6365

Falconbridge - Greenland Project  
c/o Falconbridge Ltd, 21. Murray Park Rd  
Winnipeg, Manitoba, R3J 3S2 - Canada

Attn : Kevin Olshefsky  
Fax : 204-885-4152

Lakefield, December 6, 1994

Date Rec. : November 25, 1994  
LR. Ref. : **NOV9093.C94**  
Reference : Greenland Rock Shipment  
Project : LR9447229

## CERTIFICATE OF ANALYSIS

No.	Sample ID	Cu ppm	Ni ppm	Co ppm	As ppm	S %	Au g/t
1	NS3210	255	510	74	< 10	0.78	< 0.02
2	NS3211	235	514	81	14	1.01	< 0.02
3	NS3212	230	445	78	< 10	1.04	< 0.02
4	NS3214	212	278	60	< 10	0.90	< 0.02
5	NS3215	239	489	92	< 10	1.01	< 0.02
6	NS3216	229	427	74	14	0.86	< 0.02
7	NS3217	250	471	120	15	0.91	< 0.02
8	NS3218	443	15715	222	47	2.28	--
9	NS3219	223	460	87	< 10	0.89	< 0.02
10	NS3220	233	464	84	10	0.91	< 0.02
11	NS3221	223	443	90	13	0.90	< 0.02
12	NS3222	220	440	88	< 10	0.88	< 0.02
13	NS3223	210	381	74	12	0.88	< 0.02
14	NS3224	221	415	70	< 10	0.87	< 0.02
15	NS3225	207	373	79	12	0.90	< 0.02
16	NS3226	199	321	80	< 10	0.80	< 0.02
17	NS3085	234	538	79	14	0.95	< 0.02
--	duplicates --						
18	NS3220	229	469	84	12	0.89	< 0.02



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**APPENDIX VI**

**West Greenland Incident Report**

## WEST GREENLAND INCIDENT REPORT

At approximately 0400hrs on August 4/94, the drill crew on night shift (Jeff Upward and Barry Tizzard) at the Serfat drill site FP94-11-4 (2160N,5460E) had just pulled their third drill rod in preparation for a tropari test. At that time, a burst of flame approximately three feet in height shot up from the hole and a second fire erupted from a rubber hose venting off the gas diverter about fifteen feet away. The crew quickly put out both fires with a fire extinguisher. Once the excitement had settled, the crew could still see a grey vapour/mist coming from the end of the hose and bubbles of gas/water being discharged around the casing. The crew contacted the barge using the VHF radio notifying Dave Matthews of the situation and their decision to suspend drilling operations pending an inspection of the site by Murray Jerome, Dave Matthews and the Petro day shift crew.

At 0700hrs, Murray, Dave, Hector and Dennis observed periodic exhalations of gas vapour from the rubber hose off the gas diverter and bubbles of gas/water escaping from around the casing. By far, the greatest volume of gas was being discharged from the venting hose. At times, the smell of the gas could be compared to propane or rotten eggs. The decision was made to leave the hole as it was and to note any changes which might occur over the next few hours. Murray returned to the boat and Dave was to contact him by VHF should there be any changes.

At approximately 0800hrs, the Petro crew extended and propped up the diverter hose to clear the gas away from the area and the drill shack was torn down. At this time, it was decided to try and pull the drill rods from the hole. After the fourth rod was pulled, water from the hole began to gush from the rod end (comparable to a steady flow of water from a fountain). At that point, the drill crew could here the rumbling of gas and water rising up the hole. The crew quickly evacuated the drill site and within seconds, a gusher of water and gas was propelled at least fifty feet into the air. It was thought that perhaps the gas seam might be at a depth of about 1050ft (drill hole depth of 1117ft less 70ft of rods pulled). The discharge of gas now was continuous, exiting directly up through the rod string. Any attempt to remove further rods was felt to be risky because of the high probability of another flash fire (ie. combustion from engine, spark from rods) due to the high gas levels. Murray was informed of the change in the status of the hole at which time he proceeded to the drill site.

At about 1100hrs, the drill crew reattached the water swivel to the rods, routing the hole pressure through the water pump pressure guage. A reading of slightly over 200psi was registered and then the water swivel was disconnected. All personnel left the site during the mid-afternoon. The water and gas continued to spout every 5-20 seconds over the next twenty hours, occasionally rising to heights of twenty feet above the drill mast. Over this time frame, the volume of water discharged decreased but not the apparent volume of gas.

At approximately 1700hrs, Dave Matthews contacted Petro informing them of the situation and looking for direction. Gerald Butt of Petro mentioned that he had no experience with this and advised Dave to be careful. Cementing the hole off was ruled out by Dave because of the high downhole pressure and the danger in reconnecting the water swivel. Shortly after, Murray Jerome contacted Bob Stewart of Falconbridge and informed him of the drill situation, the

procedures which had been followed and the fact that Petro had already been contacted. No specific suggestions as to how the situation might be dealt with or whether further technical support might be forthcoming arose from these two communications.

At this time, the situation was under control, however, solutions to this problem were uncertain. No further work was carried out on the site until the hole had been inspected once again the following morning.

At 0700hrs on August 5/94, Murray, Mike, Dave and Hector arrived at the site and noted that the gas pressure did not appear to have subsided. The decision was made to release the 1040ft of remaining BQ rods in the hole in an attempt to seal off the gas seam. Within one minute of this action, only minor quantities of gas/water were being emitted from the hole. Over the next hour all discharges seemed to have ended. A decision was made at this point to tear down and move the drill and this was accomplished during the next three hours. Thirty feet of NQ rods (casing) were left in the hole. Over the next 72hrs no signs of discharging gas or water were noted from the drill collar. A metal cap has been screwed into the casing closing the hole and allowing future access for continued work (ie. GGU).



**APPENDIX VII**

**Magnetic Separation Testing Results and Petrographic & SEM-EDS Analysis Results**

**Magnetic Separation Test**

**Test: 1**

**Project: 4370-113 Date: Sep. 28/94**

**Operator: B.W.**

**Purpose:**

To investigate Magnetic Separation on Falconbridge Exploration native Fe bearing samples and to determine the heads of this material.

**Apparatus:**

Jeffrey

**Feed:**

NS 03217

**Procedures:**

The unground sample (-10 mesh) was feed into the Jeffrey magnetic separator. The Mag product was labelled Mag pass 1. The non-mags were passed through the Jeffrey again as a scavenger with this magnetic product labelled Mags pass 2. The tails from this were ground 5 minutes in a lab ball mill. The ground product was passed through the Jeffrey a final time for recovery of fine Fe.

Product	Weight		Assays, %							% Distribution						
	g	%	Co	Cu	Fe	Ni	Au	Pt	Pd	Co	Cu	Fe	Ni	Au	Pt	Pd
1 Mags 1	40.3	9.7	0.03	0.05	13.8	0.10	1.05	0.04	0.02	13.9	9.7	17.6	18.3	7.5	12.6	9.7
2 Mags 1	38.0	9.2	0.02	0.05	9.11	0.06	0.71	0.02	0.02	8.8	9.2	11.0	10.3	4.8	5.9	9.2
3 Mags 1	38.5	9.3	0.02	0.05	13.2	0.10	2.58	0.04	0.02	8.9	9.3	16.1	17.5	17.5	12.0	9.3
4 Non-Mags	297	71.8	0.02	0.05	5.87	0.04	1.34	0.03	0.02	68.5	71.8	55.3	53.9	70.3	69.5	71.8
Head (calc.)	414.0	100.0	0.02	0.05	7.62	0.05	1.37	0.03	0.02	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Combined Products																
Mags 1 & 2	18.9	0.03	0.05	11.52	0.08	0.88	0.03	0.02	22.7	18.9	28.6	28.6	12.2	18.5	18.9	
Mags 1 & 2 & 3	28.2	0.02	0.05	12.08	0.09	1.44	0.03	0.02	31.5	28.2	44.7	46.1	29.7	30.5	28.2	

## Magnetic Separation Test

Test: 2      Project: 4370-113      Date: Sep. 28/94      Operator: B.W.

Purpose: To investigate Magnetic Separation on Falconbridge Exploration native Fe bearing samples and to determine the heads of this material.

Apparatus: Jeffrey

Feed: NS 03226

Procedure: The unground sample (-10 mesh) was feed into the Jeffrey magnetic separator. The Mag product was labelled Mag pass 1. The non-mags were passed through the Jeffrey again as a scavenger with this magnetic product labelled Mags pass 2. The tails from this were ground 5 minutes in a lab ball mill. The ground product was passed through the Jeffrey a final time for recovery of fine Fe.

Product	Weight		Assays, %							% Distribution						
	g	%	Co	Cu	Fe	Ni	Au	Pt	Pd	Co	Cu	Fe	Ni	Au	Pt	Pd
1 Mags 1	45.9	18.2	0.02	0.05	8.41	0.06	1.49	0.03	0.02	18.0	18.1	22.3	20.3	36.0	23.5	18.5
2 Mags 2	10.9	4.3	0.02	0.05	8.20	0.06	0.25	0.06	0.02	4.3	4.3	5.2	4.8	1.4	11.2	4.4
3 Mags 3	4.4	1.7	0.03	0.06	14.6	0.14				2.6	2.1	3.7	4.5	0.0	0.0	0.0
4 Non-Mags	191	75.8	0.02	0.05	6.22	0.05	0.62	0.02	0.02	75.1	75.5	68.8	70.4	62.5	65.3	77.1
Head (calc.)	253	100	0.02	0.05	6.85	0.05	0.75	0.02	0.02	100	100	100	100	100	100	100
Combined Products																
Mags 1 & 2		22.5	0.02	0.05	8.37	0.06	1.25	0.04	0.02	22.3	22.4	27.5	25.1	37.5	34.7	22.9
Mags 1 & 2 & 3		24.2	0.02	0.05	8.82	0.07	1.16	0.03	0.02	24.9	24.5	31.2	29.6	37.5	34.7	22.9

**Magnetic Separation Test**

**Test: 3**      **Project: 4370-113**      **Date: Sep. 28/94**      **Operator: B.W.**

**Purpose:** To investigate Magnetic Separation on Falconbridge Exploration native Fe bearing samples and to determine the heads of this material.

**Apparatus:** Jeffrey

**Feed:** NS 3214

**Procedure:** The unground sample (-10 mesh) was feed into the Jeffrey magnetic separator. The Mag product was labelled Mag pass 1. The non-mags were passed through the Jeffrey again as a scavenger with this magnetic product labelled Mags pass 2. The tails from this were ground 5 minutes in a lab ball mill. The ground product was passed through the Jeffrey a final time for recovery of fine Fe.

Product	Weight		Assays, %							% Distribution						
	g	%	Co	Cu	Fe	Ni	Au	Pt	Pd	Co	Cu	Fe	Ni	Au	Pt	Pd
1 Mags 1	76.2	18.1	0.02	0.05	8.41	0.06	0.07	0.03	0.02	17.8	18.0	21.9	19.8	2.9	22.3	17.3
2 Mags 2	20.4	4.9	0.02	0.05	8.20	0.06	0.30	0.03	0.02	4.8	4.8	5.7	5.3	3.3	6.0	4.6
3 Mags 3	12.8	3.0	0.03	0.06	14.6	0.14	4.83	0.09	0.05	4.5	3.6	6.4	7.7	33.4	11.2	7.3
4 Non-Mags	311.1	74.0	0.02	0.05	6.22	0.05	0.36	0.02	0.02	72.9	73.5	66.0	67.2	60.4	60.6	70.8
Head (calc.)	420.5	100.0	0.02	0.05	6.97	0.06	0.44	0.02	0.02	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Combined Products</b>																
Mags 1 & 2	23.0	0.02	0.05	8.37	0.06	0.12	0.03	0.02	22.6	22.8	27.6	25.0	6.2	28.2	22.0	
Mags 1 & 2 & 3	26.0	0.02	0.05	9.10	0.07	0.67	0.04	0.02	27.1	26.5	34.0	32.8	39.6	39.4	29.2	



Test 4      Project No. 4370-113    Operator: B.W.      Date: Oct. 21, 1994

Purpose:      To investigate the removal of Fe and Au by magnetic separation on a Jeffrey Magnetic Separator.

Procedure:    The dry sample was pulped in water to a density of 20% solids. The pulp was passed slowly through the Jeffrey Magnetic Separator and the magnetics were collected separately from the non-magnetics. Each of the two products were filtered, dried and weighed before being sub for Fe and Au assay.

Feed:        500 grams of NS 03226.

Grind:       N/A

Amperage:   2.5 Amps.

#### Metallurgical Balance

Product	Weight		Assays %		% Distribution	
	g	%	Fe	Au	Fe	Au
1 Magnetics	32.1	6.7	11.1	14.8	10.3	94.6
2 Non-Magneti	448.6	93.3	6.95	0.06	89.7	5.4
Head ( calc. )	480.7	100.0	7.23	1.04	100.0	100.0

Test 5 Project No. 4370-113 Operator: B.W. Date: Nov. 15, 1994

Purpose: To investigate the removal of Fe and Au by magnetic separation on a Jeffery Magnetic Separator.

Procedure: The dry sample was pulped in water to a density of 20% solids. The pulp was passed slowly through the Jeffery Magnetic Separator and the magnetics were collected separately from the non-magnetics. The magnetics were ground in a laboratory pebble mill for 15 minutes at a density of 50 percent solids and then repassed through the Jeffery Magnetic Separator. All of the products were filtered, dried and weighed before being submitted for Fe and Au assay.

Feed: 400 grams of Sample NSO3226.

Grind: N/A

Amperage: 2.5 Amps.

#### Metallurgical Balance

Product	Weight		Assays %		% Distribution	
	g	%	Fe	Au	Fe	Au
1 Repass Magnetics	27.3	6.7	24.9	38.3	22.5	79.4
2 Repass Non-Magnetic	64.2	15.8	5.22	4.14	11.1	20.2
3 First Pass Non-Magne	313.7	77.4	6.41	0.02	66.5	0.5
Head ( calc. )	405.2	100.0	7.47	3.25	100.0	100.0
<b>Combined Products</b>						
First Pass Magnetics	91.5	22.6	11.1	14.3	33.5	99.5

Test 6      Project No. 4370-113      Operator: B.W.      Date: Nov. 15, 1994

Purpose:      To investigate the removal of Fe and Au by magnetic separation on a Jeffrey Magnetic Separator.

Procedure:      The dry sample was pulped in water to a density of 20% solids. The pulp was passed slowly through the Jeffrey Magnetic Separator and the magnetics were collected separately from the non-magnetics. The magnetics were ground in a laboratory pebble mill for 15 minutes at a density of 50 percent solids and then repassed through the Jeffrey Magnetic Separator. All of the products were filtered, dried and weighed before being submitted for Fe and Au assay.

Feed:      500 grams of Sample NS3214.

Grind:      N/A

Amperage:      2.5 Amps.

#### Metallurgical Balance

Product	Weight		Assays %		% Distribution	
	g	%	Fe	Au	Fe	Au
1 Repass Magnetics	24.8	5.2	38.1	6.04	26.4	66.3
2 Repass Non-Magnetic	74.4	15.5	4.74	0.92	9.9	30.3
3 First Pass Non-Magne	381.4	79.4	5.98	0.02	63.7	3.4
Head ( calc. )	480.6	100.0	7.45	0.47	100.0	100.0
<b>Combined Products</b>						
First Pass Magnetics	99.2	20.6	13.1	2.20	36.3	96.6

LR Project # 4370-113

Lakefield Research Mineralogy

Mineralogy Report

January 16, 1995

LR Project # 4370-113

J.G. Davison, M.Sc.  
Senior Mineralogist

E. C. Walker, Ph.D.  
Mineralogist

### Mineralogical Examination of Magnetic Concentrates

#### Introduction

Two magnetic concentrate samples, identified as T-7 (sample NS03214) and T-13 (sample NS03223), were submitted to the Lakefield Research mineralogical laboratory for identification of gold occurrences.

#### Procedures

The samples were prepared into 25mm polished sections; two sections for sample T-7 and four sections for sample T-13 were prepared. The sections were examined in detail on the ore microscope using standard and oil immersion objectives with magnifications of 25x to 600x. Gold assays were completed for all of the magnetic and nonmagnetic products.

#### Results

##### General Mineralogy

The polished sections contained abundant particles of metallic iron commonly associated with iron oxides, pyrrhotite/troilite, nonopaque minerals and carbonaceous material including graphite. The metallic grains occurred as liberated aggregates comprised of Fe metal and binaries of Fe metal with pyrrhotite, Fe metal with graphite and Fe metal with iron oxides. Graphite locally occurred at the periphery of both metallic/sulphide particles and nonopaque mineral aggregates. The nonopaque particles typically contained fine-grained, disseminated metallic, sulphide and oxide grains and aggregate. The T-7 magnetic concentrate was characterized by fewer and finer-grained metallic particles; an increased proportion of binary associations was identified.

*LR Project # 4370-113**Lakefield Research Mineralogy***Gold Occurrences**

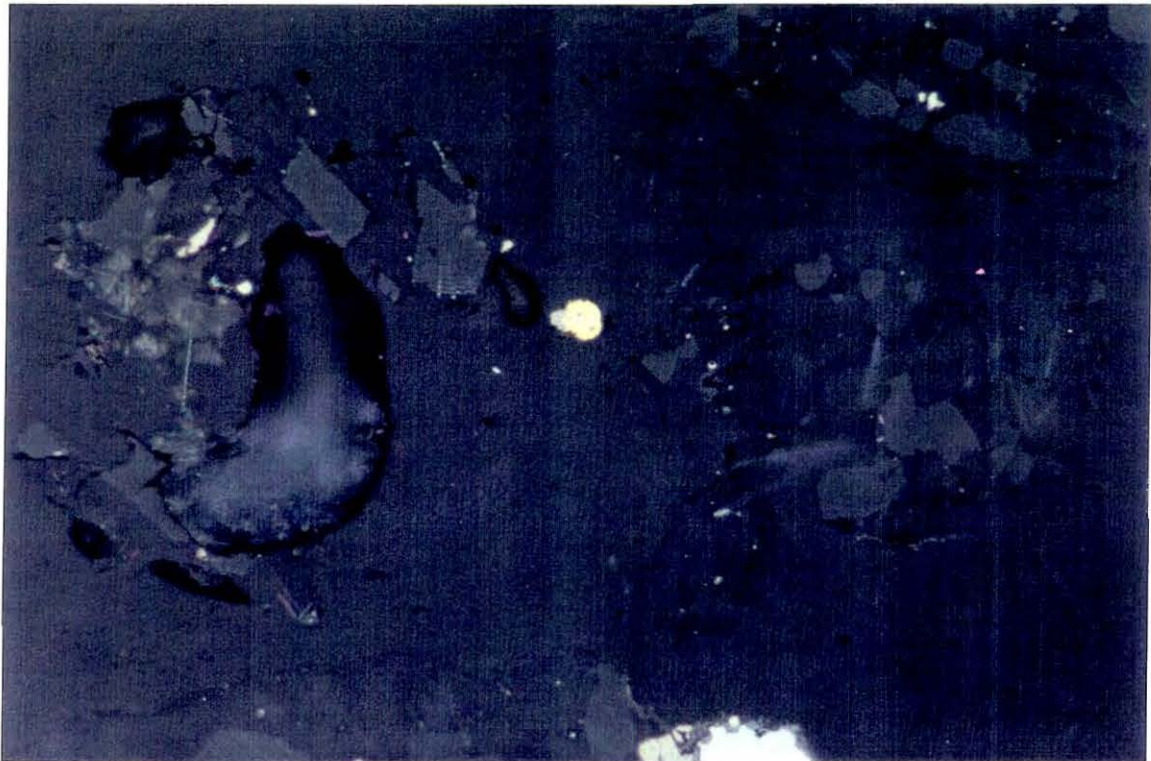
No gold particles were identified with the T-7 (sample NS03214) magnetic concentrate.

A single particle of gold, attached to a minute particle of pyrrhotite, and measuring 10 micrometres in diameter, was identified within the T-13 (sample NS03223) magnetic concentrate.

**Analytical Data**

The fire assay data are as follows:

T-7 NS03214	Magnetic	0.80 g/t Au
	Nonmagnetic	0.51 g/t Au
T-13 NS03223	Magnetic	0.17 g/t Au
	Nonmagnetic	<0.02 g/t Au



**Illustration #2**

Magnetic Concentrate  
Magnification 500x

PTS 4946  
Reflected Light

55  $\mu$ m

Same gold grain in Illustration #1 at 500x magnification located near the center of the photomicrograph. Attached pyrrhotite grain is located on left side of gold grain.