REPORT ON THE 1991

EXPLORATION PROGRAM

PETER LAKE OPTION

PN 8203

CUNNINGHAM TOWNSHIP, ONTARIO

Peter Harvey

Dec. 10, 1991

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY.....1

2.0 INTRODUCTION.....2

3.0 LOCATION AND ACCESS.....2

4.0 TOPOGRAPHY, VEGETATION, AND WATER AVAILABILITY.....2

5.0 PROPERTY.....3

6.0 HISTORY.....3

7.0 EXPLORATION PROGRAM.....4

7.1 Drilling.....4
7.2 Geological Mapping and Lithogeochemical Survey....4

8.0 GEOLOGY.....4

8.1 Regional Geology.....4
8.2 Local Geology.....5
8.3 Structure.....6
8.4 Geophysics.....7
8.5 Geochemistry.....7
8.6 Mineralization.....8

9.0 ECONOMIC IMPLICATIONS.....8

10.0 DISCUSSION AND INTERPRETATION.....9

11.0 CONCLUSIONS.....10

12.0 RECOMMENDATIONS.....11

PROPOSED DRILLING.....12

REFERENCES.....13

APPENDICES

Appendix I.....Claim List, Claim Map
Appendix II.....Drill Logs
Appendix III.....Drill Sections and Plan Map
Appendix IV.....1:2000 Geology Map
Appendix V.....Lithogeochemical Data

1.0 EXECUTIVE SUMMARY

The 1991 exploration program was carried out on the Peter Lake property to evaluate its potential to host an economic base metal-deposit. Previous workers had outlined from two trenches and six shallow drill holes a zone of Zn-Pb mineralization, indicated to be 3-5 m wide, 60-90 m long, and having an average grade of 4% Zn and 1% Pb. The mineralization consists of fracture controlled sphalerite and galena within chert. In addition to this showing, the property covers about 1.0 km of strike length of a chert/argillite sedimentary package similar to that which hosts mineralization at the Shunsby deposit and the Cunningham 42 property.

The program consisted of re-cutting 38.8 km of grid lines, conducting a HLEM survey over the northern portion of the claim group, 742 m of drilling in five holes, and geological mapping and lithogeochemical sampling over the entire claim group.

Three holes tested the down-dip extent of the Zn-Pb showing, but failed to intersect any significant mineralization. The down dip extent may have been missed in two of the holes due to structural complications (i.e. the zone is not south dipping as was indicated by the earlier drilling), or the zone may be limited to a narrow east plunging shoot of limited tonnage.

The other two holes tested HLEM conductors at the base of the chert/argillite sediments south-west of the showing and intersected graphitic argillite with no significant mineralization.

Mapping identified a rhyolite unit stratigraphically below the chert/argillite sediments with vent-breccia type textures which grade laterally into a laminated ash. Lithogeochemical sampling failed to locate an anomalous low soda/high metal target area. HLEM coverage in this area did not locate any conductors.

Several conductors exist stratigraphically above the chert/argillite sediments, and one is associated with a mafic-mafic contact in an area of carbonatization and silicification.

Additional drilling totalling 600 m is required to resolve the dip/plunge orientation of the Zn-Pb showing, and to test the stronger conductors located above the chert/argillite sediments. One additional line of HLEM is necessary to trace the conductor at the showing east to where it would intersect the Isaiah Creek Fault. A detailed magnetometer survey in the area to the north of the Zn-Pb showing would supplement information from the HLEM survey to better qualify drill targets.

2.0 INTRODUCTION

The Peter Lake property was acquired because it has a Zn-Pb showing with economic potential in a similar geological setting to both the Shunsby deposit and the Cunningham 42 property.

The 1991 program was designed to drill test for base-metal mineralization within the chert/argillite sediments. The primary aim was to determine the depth extent of the Zn-Pb mineralization. Two HLEM conductors at the base of the chert/argillite sediments, located southwest of the showing, were also tested with two shallow drill holes. In addition to the drilling, the volcanic units enclosing the chert/argillite sediments were mapped and sampled with the view that mineralization within the chert may have been mobilized up stratigraphy from a rhyolite-hosted VMS deposit, or it may represent stringers feeding a deposit located at a contact stratigraphically above it.

The goal of the program was therefore not only to drill test known mineralization within chert/argillite sediments, but to also identify favourable sites outside of it.

3.0 LOCATION AND ACCESS

The Peter Lake property is located about 125 km south-west of Timmins (47° 42'N;82° 44'W), and 12 km north of Sultan, the nearest community providing food, fuel and shelter. A location map is given figure 1.

Recent logging operations have opened up the area, permitting access by most vehicles to the eastern limit of the property.

4.0 TOPOGRAPHY, VEGETATION AND WATER AVAILABILITY

Topography is typical for northern Ontario, consisting of moderate relief. The chert/argillite unit forms the highest ridge on the property, rising about 60 m above the waters of Peter Lake. Thick sandy boulder till masks much of the bedrock south of this ridge.

A mature poplar-birch forest covers most of the property, with cedar swamps typifying the lower ground.

Water is readily available from Peter Lake, which is one of the larger lakes in the area. Sultan Creek and Isaiah Creek flank the western and eastern margins of the property.

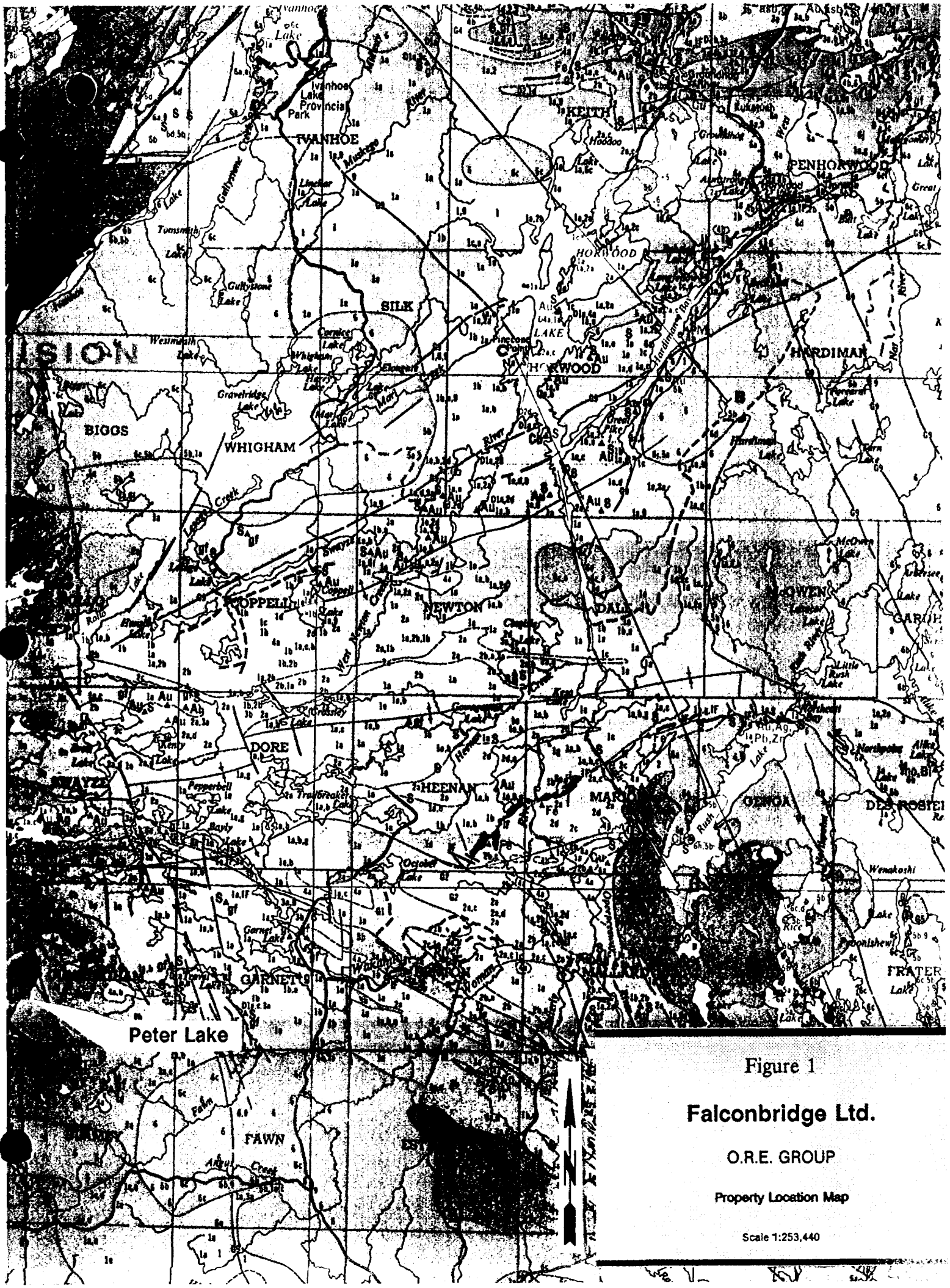


Figure 1

Falconbridge Ltd.

O.R.E. GROUP

Property Location Map

Scale 1:253,440

5.0 PROPERTY

The property consists of 20 staked claims and 4 leased claims. A listing and map are included in Appendix I. The claims consist of a block surrounding a central patented claim which is not included in the property. One claim is isolated, located about 1 km to the northeast, adjacent to the Cunningham 42 property.

R.A. MacGregor is the registered and recorded holder and owner of the full 100% interest in the twenty staked claims, and the beneficial holder of the four leases.

6.0 HISTORY

The extensive package of chert/argillite sediments occurring in Cunningham Township were first explored for iron in the early 1900's. Since 1927, when galena and sphalerite were first discovered in the chert/argillite sediments, most work in the township has been directed towards base-metal exploration.

Work at Peter Lake has focused on a Zn-Pb showing which consists of fracture controlled sphalerite and galena within the chert/argillite sediments. Two trenches and six drill holes, testing to a depth of 10-15 m, outlined a zone about 3-5 m wide, 60-90 m long, grading about 4% Zn and 1% Pb. The collar locations and core from this drilling could not be located in the field, however, the trenches still provide reasonable exposure to this zone.

In 1982-83, Kidd Creek Mines Ltd. explored these claims as part of a larger land package in the area. Geological, magnetometer, VLF, and HLEM surveys were conducted on the property. Follow up work was carried out on other properties in the area, however the Peter Lake property was returned in 1985 without additional work being performed.

7.0 EXPLORATION PROGRAM

7.1 Drilling

The diamond drilling was completed through May and June of 1991 by Norex Drilling of Timmins. The work was supervised by D. Cruji (Project Geologist) and D. Truscott, and is summarized in the chart below:

TOWNSHIP	HOLE #	LOCATION			AZ	DIP	EPTH CASED	HOLE DEPTH	START	END
		Northing	Easting	Elev. (m)			(m)	(m)		
PETER LAKE OPTION (P.N. 8203)										
CUNN.	CU32-01	143+75N	117+00E	410	360	-50	3.0m	125.0	28-May-91	30-May-91
CUNN	CU32-02	143+60N	116+00E	411	360	-50	11.0m	154.0	31-May-91	5-Jun-91
CUNN	CU32-03	143+70N	116+50E	411	360	-66	3.0m	196.0	5-Jun-91	7-Jun-91
CUNN	CU31-01	137+00N	108+00E	433	360	-50	26.0m	125.0	8-Jun-91	10-Jun-91
CUNN	CU31-02	140+98N	106+00E	450	360	-50	0.0m	140.0	11-Jun-91	14-Jun-91
TOTAL								740.0		

The drill logs are included in Appendix II, and drill sections are in Appendix III.

7.2 Geological Mapping and Lithogeochemical Survey

The mapping and lithogeochemical survey was completed through July and August, 1991. The author was capably assisted by Maurice Y. Houle, D. Truscott and C. Roussain during this work. A 1:2000 scale map of the property is included in Appendix IV.

8.0 GEOLOGY

8.1 Regional Geology

The area lies within the southern part of the Swayze portion of the Abitibi Greenstone Belt (Figure 1), and is underlain by volcanic rocks, chemical sediments, minor amounts of clastic sediments, and intrusives. Metamorphism is that of greenschist facies. Units are typically steeply dipping, faulted and folded to varying degrees, and lie on the south-west limb of the west trending Woman River Anticline.

Cunningham township (Figure 2) is underlain by massive and pillowed mafic volcanics (high magnesium tholeiitic basalts), their related intrusive equivalents, felsic volcanics, and a 6 km long package of chert/argillite sediments. This unit generally consists of silicate and sulphide facies iron formation intercalated with graphitic argillites and shales, with a minor amount of volcanic sediment at its base. Base metal sulphide mineralization is developed through this unit but is not focused, generally occurring as fracture fillings in chert, and as thin interbeds through the shales.

A biotite-quartz monzonite pluton intrudes the pile in the south-west corner of the township. The Isaiah Creek Fault is a major structural feature in the area, cutting the pluton and all other units, with an apparent left lateral displacement of about 1.6 km. A splay fault branches off the Isaiah Creek Fault, trending at about 320°. Diabase dikes are rare, and trend north to northeast.

8.2 Local Geology

The stratigraphic pile at Peter Lake consists of intercalated volcanics, their related intrusive equivalents, and a unit consisting of chert/argillite sediments which attains a maximum thickness of 600 m. Tops for the pile could only be determined at one location at the northern limit of the property, where pillow selvedges and amygdules indicate tops are to the north. This is consistent with younging information elsewhere in the immediate area (Siragusa, 1980).

The Isaiah Creek Pluton has intruded the pile, and marks the base of it. Mafic flows and gabbro intrusives dominate the lower third of the pile. Isolated blocks of chert/argillite sediments are contained within the gabbro, and may have been dilated from the main chert unit to the north.

Above the gabbro lies a felsic volcanic unit. Vent proximal features, consisting of chloritic fiamme up to 30 cm in size, are found on L108E at 134N. This unit seems to grade laterally into a laminated ash to the north-east and south-west. The splay fault cuts this rhyolite, rotating the foliation within it to 345°-70°W, as seen along L113E at 139N.

Immediately above the rhyolite is the chert/argillite sedimentary unit. The basal portion has complex internal stratigraphy, consisting of intercalated mafic flows and tuffs, chert beds, and considerable amounts of graphitic shales and argillites. This unit grades upwards into an iron formation, changing from sulphide facies at its base to oxide facies near its top. A variolitic pillow lava marker unit caps this lower chert/argillite unit. The upper chert/argillite unit is cleaner,

LEGEND

MAJOR ROCK DIVISION

- 10 DIABASE
- FELSIC INTRUSIVE ROCKS
- 8 INTERMEDIATE INTRUSIVE ROCKS
- 7 MAFIC INTRUSIVE ROCKS
- ULTRAMAFIC INTRUSIVE ROCKS
- 5 SEDIMENTARY ROCKS
- 4 FELSIC VOLCANIC ROCKS
- 3 INTERMEDIATE VOLCANIC ROCKS
- MAFIC VOLCANIC ROCKS
- 1 ULTRAMAFIC VOLCANIC ROCKS

MZ MAIN ZONE
SZ SOUTH ZONE
WZ WEST ZONE

IRON FORMATION

▲ MINERALIZED OCCURRENCE

0 2000m

Figure 2

FALCONBRIDGE LIMITED

Exploration Division Timmins ONTARIO

CUNNINGHAM TOWNSHIP

PETER LAKE OPTION

GEOLOGY AND PROPERTIES

TP'CED : del	DATE : 09/90	NTS : 41-O/10	PROJECT No : 8118
DRAWN :	DATE :	MAP No :	FILE :
SUPERVISED : DRC	DATE : 09/90	SCALE	1 : 50 000
REVISED :	DATE :		

consisting primarily of oxide facies iron formation with graphitic argillite intercalated with chert at its base. Moderate to intense iron carbonate alteration, and brecciation of the chert beds, is common throughout the entire unit.

Mineralization at Shunsby, and to a lesser extent at Cunningham 42, occurs throughout the chert/argillite unit. The highest grade copper mineralization, at both Shunsby and Cunningham 42, occurs at the base of the lower chert/argillite unit, adjacent to faults. To date, no significant mineralization has been discovered at the base of the chert/argillite unit at Peter Lake. Two holes were specifically drilled to test the base of this unit in 1991, and did not intersect any values of interest.

On the west side of the splay fault, the chert/argillite unit attains its maximum thickness of 600 m, but on the east side it is only 300 m thick. A large gabbro sill has apparently engulfed the upper chert east of this fault as gabbro is in contact with the variolitic pillow lava. A similar relationship was also observed at Cunningham 42, where the upper portion of the variolitic marker unit is also in contact with a large gabbro sill.

The chert/argillite unit which hosts the Zn-Pb showing does not appear to be part of the main chert/argillite unit on the property. It is only 10 to 30 m thick, and is enclosed by an unaltered massive mafic volcanic unit (intrusive ?). This mafic unit separates the chert hosting the showing from the main chert/argillite unit to the south by 60 m.

North of the chert/argillite sediments lies a sequence of massive and pillowed mafic flows, and thick gabbro sills which are probably their intrusive equivalents. Mapping identified an area of carbonatized and silicified mafic volcanics north of Peter lake, centred on L104E at 147N.

8.3 Structure

The Isaiah Creek Fault is the most prominent structural feature in the township, cutting all units and having an apparent left lateral displacement of about 1.6 km.

A splay off this feature trends about 320°, cutting the chert/argillite unit and possibly extending north into the mafic flows.

Folding is apparent in the laminated felsic ash (L117E at 142N), where Z style minor folds plunge steeply at about 070-70°. Folding is also present in the chert/argillite sediments, where shallow west plunging minor folds are found on L110E at 141N. A stretching lineation within the rhyolites is moderately well

developed west of the splay fault, and has an orientation of 270-60°. This feature is best seen on L108E at 134N.

8.4 Geophysics

In the spring of 1982, the Ministry of Natural Resources released a series of airborne magnetometer and electromagnetic survey results covering this property and the surrounding area.

In 1982, Kidd Creek did magnetometer and HLEM surveys on the northern portion of the property. This was followed by magnetometer, VLF-EM and HLEM surveys on the southern six claims in 1983. In early 1991, the northern portion of the property was resurveyed with HLEM (using a coil separation of 120 m, compared to the 1982 survey which used a 80 m coil separation).

The magnetometer survey was useful in outlining portions of the chert/argillite sediments in areas of deep overburden. The HLEM surveys outlined numerous conductors, with most located in the chert/argillite sediments. Several conductors, outlined north of the chert/argillite sediments, are located at mafic volcanic flow contacts.

The 1983 electromagnetic surveys failed to detect any significant conductors on the southern six claims.

It should be noted that the sulphides at the Zn-Pb showing are not conductive, as they consist of fracture fillings in chert. However, the chert is in immediate contact with an argillaceous unit which is the cause of the strong conductor at the showing.

8.5 Geochemistry

A total of 111 lithogeochemical samples were taken during the course of the mapping program representing all rock types. The rhyolite unit was sampled with the greatest density. Zr/Y ratios indicate that they represent a primitive felsic suite (mean Zr = 148, mean Y = 13). No anomalous low soda/high metal target area was outlined by this work. One sample from the area of carbonatized and silicified mafic volcanics north of the chert (L103E at 147N) returned 1070 ppm Cu. However, additional sampling from this area failed to duplicate this anomalous copper value.

The data for this survey is included in Appendix V.

8.6 Mineralization

Work to date on the Peter Lake property has indicated that base metal sulphide mineralization is concentrated at the Zn-Pb showing as fracture fillings in chert. This style of mineralization is typical of that found throughout the chert/argillite sediments of Cunningham Township. It is not clear where this particular chert unit lies in the overall chert/argillite sedimentary sequence.

Work at Shunsby and at Cunningham 42 has demonstrated that the highest grade copper mineralization is located at the base of the lowermost unit in the chert/argillite sediments, in an area where cross faulting has displaced stratigraphy.

A limited amount of work has been done on the chert/argillite sediments located south-west of the Zn-Pb showing. Several overgrown trenches are found in this area, and chalcopyrite occurring with massive pyrite in fractures was observed in a small pit on L114E at 142N. Anomalous copper values (410 ppm and 855 ppm) were returned from two samples taken from the chert/argillite unit. This may indicate that more fracture controlled mineralization may be found in this area. A trench has exposed massive pyrite, barren of base-metals, within the chert/argillite unit at 10250E, 14100N.

The 1991 drill program specifically targeted two holes at the base of the chert/argillite unit, but no significant mineralization was intersected. The conductors were explained by graphitic argillites and shears 1.0 to 3.0 m thick. The highest values from these two holes were from CU31-01, which returned 9760 ppm Zn and 1350 ppm Cu over 0.66 m.

Two quartz-calcite veins about 3-5 cm wide, mineralized with coarse galena and sphalerite, occur at the east end of Peter Lake, one on the north shore and one on the south. These veins cut typical unaltered massive mafic volcanics. Identical veining in unaltered massive mafic volcanics was also cored in in drill hole 32-02 at 43 m.

9.0 ECONOMIC IMPLICATIONS

Drilling on the Zn-Pb showing in 1991 failed to intersect mineralization at the tested vertical depth of 80-100 m along the 70° S dip which was indicated by the 1965 drilling. This suggests that either the chert in the immediate area of the showing rolls to a vertical/north dip, or that the mineralization is confined to a narrow, moderately to steeply east plunging shoot within the chert/argillite sediments. The latter scenario is preferred, as it is consistent with the east plunge of minor folds observed in the felsic volcanics 300 m to the south.

The implication of this scenario is that the potential of the showing would be limited to about 360,000 tonnes (using 100 m strike length, 4.0 m thickness, 300 m plunge length, and a density of 3.0 gm/cm^3), because it would terminate abruptly at the Isaiah Creek Fault, only 200 m to the east and about 300 m down plunge. Refer to figure 3.

10.0 DISCUSSION AND INTERPRETATION

Fracture controlled base-metal mineralization, hosted primarily in chert/argillite sediments, is the most common type of mineralization encountered to date on the property, as well on other properties in the township, including Shunsby and Cunningham 42. Although intriguing, this style of mineralization has yet to produce grade and tonnage values that would be considered economic. This mineralization is important because it indicates metal rich fluids have percolated through the cherts in large quantities. It is interpreted that these fluids may have migrated up stratigraphy from a rhyolite hosted VMS deposit, or they may be feeders to a deposit located at a contact stratigraphically above the chert/argillite sediments.

Three general models may be used in the search for an economic base-metal deposit on the Peter Lake property;

a) fracture controlled mineralization within the chert/argillite unit,

b) a rhyolite hosted VMS deposit stratigraphically below the chert/argillite, or

c) a sulphide deposit located on a favourable contact stratigraphically above the chert/argillite.

a) Mineralization within the Chert:

Extensive mechanical stripping, trenching, and drilling to date at the Shunsby property, about 4.0 km to the east of Peter Lake, has not been able to demonstrate that mineralized fractures within chert represent an economic deposit. Nothing found to date indicates that the chert/argillite sediments at Peter Lake are more likely to be economic than those at Shunsby.

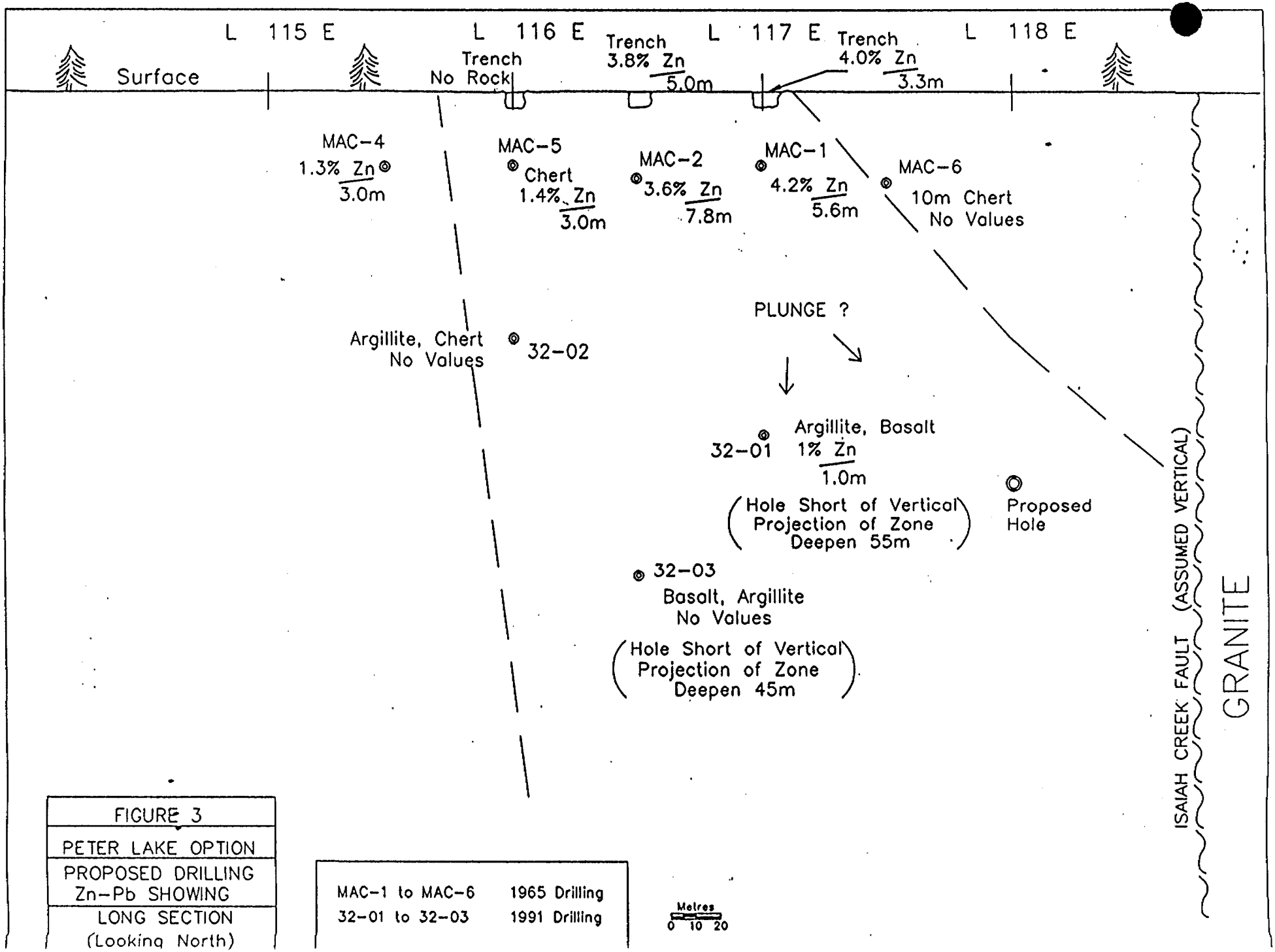


FIGURE 3

PETER LAKE OPTION

PROPOSED DRILLING
Zn-Pb SHOWING

LONG SECTION
(Looking North)

b) Rhyolite hosted VMS deposit:

The rhyolites immediately south of, and stratigraphically beneath the chert/argillite sediments, display fragmental textures, grading from vent-proximal breccias to a laminated ash over a few hundred metres. Chemically, this unit has spotty low soda values, but lacks a clear low soda/high metal target area. Also, trace element results indicate a primitive source for this unit.

c) Favourable contact above the chert:

The third model to consider is that the fracture controlled mineralization represents a stringer zone feeding a massive sulphide deposit occurring at a favourable contact stratigraphically above the chert. The quartz-calcite veins, mineralized with coarse sphalerite and galena located on the shores of Peter Lake, demonstrate that mineralization persists north of the chert/argillite sediments. Several conductors are located in this area with the more interesting ones being those near the Isaiah Creek Fault, or the splay off it, where they cross lithological contacts. One weak HLEM conductor occurs in an area of carbonatization and silicification at a massive/pillowed basalt contact in the area where the splay off the Isaiah Creek Fault projects north of the chert.

11.0 CONCLUSIONS

Work to date has eliminated the extensive chert/argillite sediments at Peter Lake as an attractive economic massive sulphide target area. The small, isolated chert unit which hosts the Zn-Pb showing has not been adequately tested to allow conclusions to be made about its potential.

Although the rhyolite unit contains vent proximal textures, lithogeochemical sampling and geophysical coverage has not outlined a specific target area.

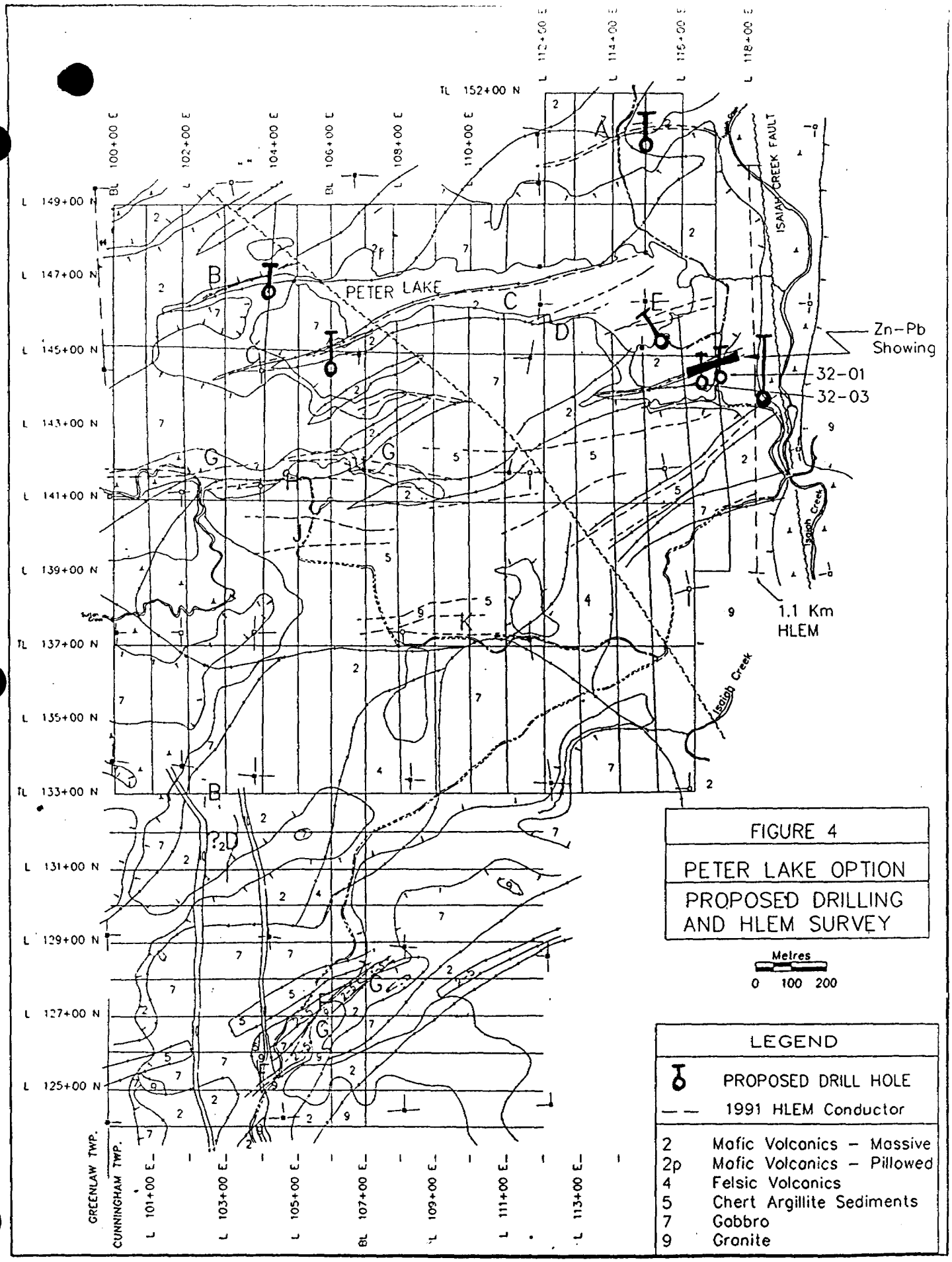
Stratigraphically above the chert/argillite sediments there are several HLEM conductors which would appear to be located at lithological contacts and represent viable drill targets, as they were not explained during the mapping. The more significant conductors exist near the Isaiah Creek Fault and the splay off it. One conductor in particular occurs at a contact between pillowed and massive mafic flows in an area of carbonatization and silicification.

12.0 RECOMMENDATIONS

A total of 600 m of diamond drilling in 6 holes is recommended for the Peter Lake property, and is detailed in Table 2.

Three holes should be used to test the better conductors (E, B, A) located in the mafic flows north of the chert/argillite sediments. Two holes drilled in 1991 at the Zn-Pb showing require deepening to resolve the dip/plunge orientation and economic potential of the showing. The remaining hole could either be used to test a fourth conductor (C), or to test the down dip/plunge continuation of the Zn-Pb showing.

One line of HLEM (totalling 1.1 km) east of the Zn-Pb showing would trace the argillite unit associated with the mineralization to where it would terminate at the Isaiah Creek Fault. A detailed magnetometer survey (totalling 5.3 km) in the area north of the showing would help to define stratigraphy, and supplement the information from the HLEM survey to better qualify drill targets along conductors E, B and A. Refer to figure 4.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L 139+00 N
TL 137+00 N
L 135+00 N
TL 133+00 N
L 131+00 N
L 129+00 N
L 127+00 N
L 125+00 N
BL 100+00 E
L 102+00 E
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L 114+00 E
L 116+00 E
L 118+00 E
L 101+00 E
L 103+00 E
L 105+00 E
BL 107+00 E
L 109+00 E
L 111+00 E
L 113+00 E
PETER LAKE
ISAIAH CREEK FAULT
Isaiah Creek
Zn-Pb Showing
32-01
32-03
1.1 Km HLEM
GREENLAW TWP.
CUNNINGHAM TWP.
FIGURE 4
PETER LAKE OPTION
PROPOSED DRILLING AND HLEM SURVEY
Metres
0 100 200
LEGEND
PROPOSED DRILL HOLE
1991 HLEM Conductor
2 Mafic Volcanics - Massive
2p Mafic Volcanics - Pillowed
4 Felsic Volcanics
5 Chert Argillite Sediments
7 Gabbro
9 Granite

PROPOSED DRILLING

Hole No.	Location	Length	Purpose
32-01	L11700E;14470N	55 m	Deepen hole to test dip/plunge of Zn-Pb showing
32-03	L11650E;14770N	45 m	Deepen hole to test dip/plunge of Zn/Pb showing
32-04	L11530E;14550N -45°N	100 m	Test conductor E
32-05	L10400E;14650N -45°N	100 m	Test conductor B
32-06	L11500E;15050N -45°N	100 m	Test conductor A
32-07	L11800E;14400N -65°N	200 m	Hole dependent on negative results from 32-01, 32-03. Used to confirm east plunge of Zn/Pb showing.
			Otherwise test conductor C (L106E;14475N, -45°N)
	Total	600 m	

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APPENDIX III

DRILL SECTIONS AND PLAN MAP

APPENDIX I

CLAIM LIST

CLAIM MAP

TABLE 1

CLAIM STATUS

Leases:

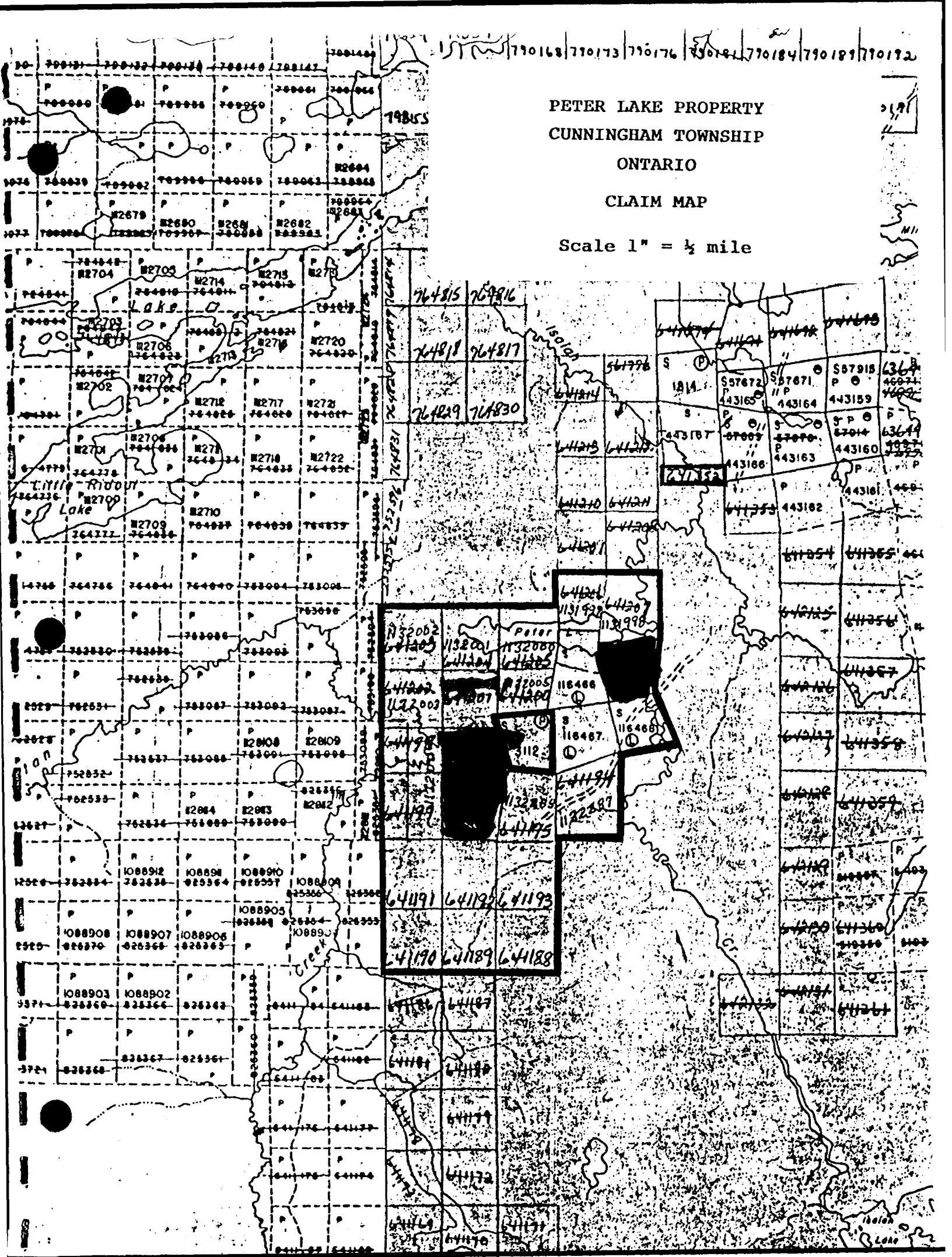
Claim No.	Leased Until
S116466	Dec. 1, 2009
S116467	Dec. 1, 2009
S116468	Dec. 1, 2009
S116469	Dec. 1, 2009

Staked:

Claim No.	Recording Date	Expiry Date
P641188	Mar. 4, 1982	Mar. 4, 1994
P641189	Mar. 4, 1982	Mar. 4, 1994
P641190	Mar. 4, 1982	Mar. 4, 1994
P641191	Mar. 4, 1982	Mar. 4, 1994
P641192	Mar. 4, 1982	Mar. 4, 1994
P641193	Mar. 4, 1982	Mar. 4, 1994
P641352	Apr. 8, 1982	Apr. 8, 1994
P1131998	Apr. 18, 1990	Apr. 18, 1992
P1131999	Apr. 18, 1990	Apr. 18, 1993
P1132000	Apr. 18, 1990	Apr. 18, 1993
P1132001	Apr. 18, 1990	Apr. 18, 1993
P1132002	Apr. 18, 1990	Apr. 18, 1993
P1132003	Apr. 18, 1990	Apr. 18, 1993
P1132004	Apr. 18, 1990	Apr. 18, 1993
P1132005	Apr. 18, 1990	Apr. 18, 1993
P1132006	Apr. 18, 1990	Apr. 18, 1993
P1132007	Apr. 18, 1990	Apr. 18, 1993
P1132287	Apr. 18, 1990	Apr. 18, 1993
P1132288	Apr. 18, 1990	Apr. 18, 1993
P1132289	Apr. 18, 1990	Apr. 18, 1993

PETER LAKE PROPERTY
CUNNINGHAM TOWNSHIP
ONTARIO
CLAIM MAP

Scale 1" = ½ mile



APPENDIX II

DRILL LOGS

HOLE NUMBER: CU31-01

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/11/1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8203
PROJECT NUMBER: 008203
CLAIM NUMBER: P1132289
LOCATION: CUNNINGHAM TWP

PLOTTING COORDS GRID: UTM
NORTH: N
EAST: E
ELEV:

ALTERNATE COORDS GRID: LINE
NORTH: 137+ N
EAST: 108+ E
ELEV: 433.00

COLLAR DIP: -50° ' "
LENGTH OF THE HOLE: 125.00M
START DEPTH: M
FINAL DEPTH: 125.00M

COLLAR ASTRONOMIC AZIMUTH: 360° ' "
GRID ASTRONOMIC AZIMUTH: 360° ' "

DATE STARTED: 06/08/1991
DATE COMPLETED: 06/10/1991
DATE LOGGED: 06/17/1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: NOREX
CASING: BW, 26m.
CORE STORAGE: MINESITE
UTM COORD.:

COMMENTS :
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
35.00	360° ' "	-48° ' "	S	OK	
95.00	344°30' "	-47°30' "	S	OK	strongly magnetic

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 26.00	CASING «{ob}»	-Sand, clay, gravel, boulders.				
26.00 TO 29.16	CHERT; DEBRIS FLOW (?) «5cht,bx»	-Weakly to moderately sheared; much ground core; generally weakly to moderately fractured with carbonate-chlorite infill. -29.00-29.16m intense leaching of iron-carbonatized interval.		-Variably carbonatized and chloritic. -Supergene.		
29.16 TO 55.59	LAPILLI TUFF; CHERT FRAGMENTAL «3t,5cht»	-dark purplish grey to dark gray to tan coloured. -29.16-30.08m intermediate lapilli tuff; 5-7% subangular to subrounded chert fragments to 2.5cm with carbonate veinlets throughout; ash tuff matrix. Rare 0.5 to 2.5cm pyrite and carbonate fragments. Moderately to well foliated at 15° to core axis. -30.08-31.42m 10-15% chert fragments, subrounded to subangular, to 4cm. Fragments poorly aligned at 60° to core axis. Gradational lower contact to lapilli tuff. -31.42-32.14m lapilli tuff as 26.16-30.08m; rare chert fragments; well foliated at 45° to core axis. -32.14-34.25m as 26.16-30.08m; 25-30% chert fragments alligned at 60° to core axis, 3mm to 3cm in size; gradational lower contact at 15° to core axis. -34.25-35.41m lapilli tuff as 31.42-32.14m with 1-2mm chloritic porphyroblasts alligned subparallel to well developed foliation at 15-25° to core axis. -35.41-36.26m chert fragmental/conglomerate as 30.08-31.42m; mafic matrix. Rounded to subangular fragments/clasts alligned at 55° to core axis, parallel to well developed foliation. -36.26-37.59m mafic lapilli tuff; 5-8% chert fragments, subrounded to subangular, to 4mm; banded/foliated at 40-45° to core axis. Banding locally contorted. -37.59-40.44m felsic lapilli tuff; predominantly plagioclase (?) and quartz lapilli; fining uphole. 39.74-39.85m ash tuff bands,		-Matrix weakly chloritic; pervasively carbonatized. -Moderately carbonatized. -Intense pervasive carbonatization. -Weakly to moderately chloritic; pervasively carbonatized. -Moderately chloritic, pervasively carbonatized. -Pervasively carbonatized, weakly to moderately chloritic. -Intensely carbonatized, strongly chloritic. -Weakly to moderately epidotized, silicified, weakly carbonatized, weakly chloritic.	-2-4% dusty to fine-grained pyrite disseminated throughout. -1-2% pyrite blebs throughout. -Semi-massive pyritic carbonate band, 1cm wide, at 50-60° to core axis. -Pyrite and carbonate fragments to 4cm, 2-3%. -Trace to 1% dusty to fine-grained pyrite disseminated throughout. -1-2% carbonate-pyrite fragments. -3-4% fine- to medium-grained euhedral to subhedral pyrite, subparallel to banding/foliation. -Trace dusty pyrite disseminated throughout.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		39.89-39.93m ash tuff bands, 40.00-40.08m ash tuff bands.				
		-40.44-42.90m ash tuff with discontinuous cherty bands from 40.98m; moderately well foliated at 40° to core axis.		-Strongly chloritic; locally weakly carbonatized, increasing downhole.		
		-42.90-44.03m felsic lapilli tuff as 37.59-40.44m.		-Bleached and strongly to intensely carbonatized; locally weakly epidotized (?) and sericitized (?); weakly chloritic.		
		-44.03-44.88m chert fragmental/conglomerate as 30.08-31.42m; intermediate-felsic matrix; 35-40% chert fragments/clasts, poorly sorted.		-Weakly chloritic, moderately carbonatized.		
		-44.88-45.56m felsic ash-lapilli tuff; banded at 80° to core axis.		-Locally moderately carbonatized, moderately epidotized (?).	-Trace fine-grained pyrite.	
		-45.56-45.74m as above.		-Moderately to strongly carbonatized.		
		-45.74-48.12m intermediate-felsic lapilli tuff; fining uphole; lower contact slumped, fractured.		-Increasingly carbonatized downhole and silicified with weak epidotization (?) and sericitization (?).		
		-48.12-48.49m as 45.56-45.74m.				
		-48.49-49.42m intermediate lapilli tuff as 26.16-30.08m, fining uphole.				
		-49.42-49.65m clast-supported debris flow (?); chert and carbonate fragments.		-Moderately chloritic.	-3-5% fine-grained pyrrhotite and 2-3% fine-grained pyrite in matrix; trace chalcopyrite (?).	-Weakly magnetic.
		-49.65-55.59m intermediate lapilli tuff as 26.16-30.08m; well foliated with lapilli alligned parallel to foliation at 55-65° to core axis.		-Moderately carbonatized.	-2-3% dusty to fine-grained pyrite ± pyrrhotite disseminated throughout.	
		-49.65-60.31m coarse fragments.		-Intensely carbonatized.	-Local blebby and possibly fragmental pyrite and pyrrhotite. Trace chalcopyrite associated with pyrrhotite.	
		-50.31-50.43m ash layer at 50° to core axis.		-51.01-52.43m silicified and weakly epidotized (?).		
		-52.93-53.00m cherty band in semi-massive fine-grained pyrite band at lower contact.				
		-55.13-55.59m fragments as 49.65-50.31m.		-Intensely carbonatized.	-Trace to 1% medium-grained euhedral pyrite, 2-3% pyrrhotite and trace chalcopyrite fragments to 1.5cm.	
55.59 TO 62.50	CHERT CONGLO-MERATE SILTSTONE «5cht,slst»	-light grey to greenish grey to dark grey; 3.5cm. -Rounded to subangular chert clasts supported by chloritic siltstone and pyrrhotite matrix. -No apparent sorting of fragments to 3.5cm.		-Variably carbonatized, moderately chloritic.	-Generally 10-15% pyrrhotite throughout in matrix and as rare blebs and fragments, rarely rimming	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Generally well banded at high angles to core axis. -Locally clast-supported.			clasts.	
		-55.59-59.00m siltstone with rare chert clasts; banded/bedded at 70° to core axis. -59.00-61.42m chert conglomerate with 10-30% clasts in siltstone and pyrrhotite matrix. -61.42-62.50m subangular to subrounded fragments in chlorite and pyrrhotite and pyrite matrix.		-Strongly chloritic, weakly to moderately carbonatized. -Weakly graphitic.	-Pyrrhotite and pyrite bands throughout to 20%.	-Moderately to strongly magnetic.
62.50 TO 98.87	CHERT BRECCIO-CONGLO-MERATE «5,cht,bx»	-light to dark grey. -Pebble to cobble-sized chert clasts in carbonate and chlorite and pyrrhotite and pyrite matrix; locally argillaceous intervals with varying amounts of chert clasts throughout. -70.10-70.35m pyrrhotitic mudstone; banded at 65° to core axis. -70.96-71.62m as above, with rare medium-grained pyrite cubes and pyrrhotite and chalcopyrite blebs to 1cm. -72.49-73.96m calcareous siltstone. -73.96-74.73 argillaceous interval as 55.59-59.00m; cherty lower contact. Unit increasingly clast-supported from 74.73m. -87.22-88.05m graphitic mudstone; upper contact at 45° to core axis, gradational; moderately well banded with occasional slumping at 50-55° to core axis. -88.37-89.34m mafic tuff/calcareous siltstone; gradational lower contact. Well bedded at 50-55° to core axis. -89.34-98.87m chert breccia as 74.73-87.22m; clast-supported; higher chloritic mudstone and siltstone content in bands to 17cm wide.		-Moderately graphitic, strongly chloritic. -As above.	-Rare specks of chalcopyrite associated with pyrrhotite throughout; pyrrhotite and pyrite locally as fracture filling. -5-8% pyrrhotite throughout, massive at upper contact; trace pyrite. -Trace fine-grained pyrite disseminated throughout. -Pyrrhotite bands and blebs to 5%. -5-8% dusty to fine-grained pyrrhotite and pyrite disseminated throughout and in narrow banding-parallel bands. -3-5% pyrrhotite disseminated and in blebs throughout; one semi-massive band. -2-4% medium-grained pyrite in matrix and locally disseminated in chert clasts; 10-15% pyrrhotite in matrix.	-Moderately to strongly magnetic.
98.87 TO 125.00	BASALT «2l»	-dark grey to greenish grey. -Moderately well foliated at 35° to core axis. -5-7% fine-grained leucoxene (?) disseminated throughout; weakly fractured and carbonate flooded. -101.30-101.85m moderately sheared and carbonate flooded at 20-45° to core axis. -118.50-119.02m amorphous orange-brown mineral as		-Strongly carbonatized; moderately chloritic. -Weakly bleached; chloritic.	-Trace pyrite in carbonate-filled fractures. -Trace pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fracture filling and staining.				
125.00 TO 125.00	E.O.H.					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04359	0.00	0.00	0.00	25	30					<10
AM04360	0.00	0.00	0.00	25	25					<10
AM04361	0.00	0.00	0.00	20	50					50
AM04362	0.00	0.00	0.00	70	1615					50
AM04363	0.00	0.00	0.00	100	725					90
AM04364	0.00	0.00	0.00	70	870					<10
AM04365	0.00	0.00	0.00	140	310					140
AM04366	0.00	0.00	0.00	90	170					50
AM04367	0.00	0.00	0.00	115	415					100
AM04368	0.00	0.00	0.00	285	2965					100
AM04369	0.00	0.00	0.00	45	1045					30
AM04370	0.00	0.00	0.00	145	415					80
AM04371	0.00	0.00	0.00	95	120					100
AM04372	0.00	0.00	0.00	20	110					<10
AM04373	0.00	0.00	0.00	75	80					100
AM04374	0.00	0.00	0.00	110	105					180
AM04375	0.00	0.00	0.00	60	110					<10
AM04376	0.00	0.00	0.00	105	215					80
AM04377	0.00	0.00	0.00	90	575					140
AM04378	0.00	0.00	0.00	120	245					120
AM04379	0.00	0.00	0.00	85	140					100
AM04380	0.00	0.00	0.00	115	1355					60
AM04381	0.00	0.00	0.00	75	5365					<10
AM04382	0.00	0.00	0.00	35	305					10
AM04383	0.00	0.00	0.00	95	160					140
AM04384	0.00	0.00	0.00	130	110					180
AM04385	0.00	0.00	0.00	110	95					130
AM04386	0.00	0.00	0.00	250	65					120
AM04387	0.00	0.00	0.00	20	115					<10
AM04388	0.00	0.00	0.00	50	80					60
AM04389	0.00	0.00	0.00	40	75					<10
AM04390	0.00	0.00	0.00	30	45					<10
AM04391	0.00	0.00	0.00	45	20					40
AM04392	0.00	0.00	0.00	20	20					20
AM04393	0.00	0.00	0.00	75	70					40
AM04394	0.00	0.00	0.00	35	275					<10
AM04395	0.00	0.00	0.00	85	605					<10
AM04396	0.00	0.00	0.00	375	3745					30
AM04397	0.00	0.00	0.00	35	150					30
AM04398	0.00	0.00	0.00	25	60					<10
AM04399	0.00	0.00	0.00	95	115					60
AM04400	0.00	0.00	0.00	35	55					<10
AM04951	0.00	0.00	0.00	20	110					<10
AM04952	0.00	0.00	0.00	85	1160					130
AM04953	0.00	0.00	0.00	40	210					<10
AM04954	0.00	0.00	0.00	15	40					<10
AM04955	0.00	0.00	0.00	60	675					<10

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04956	0.00	0.00	0.00	45	40					50
AM04957	0.00	0.00	0.00	25	20					<10
AM04958	0.00	0.00	0.00	25	1135					<10
AM04959	0.00	0.00	0.00							
AM04960	0.00	0.00	0.00	115	1100					120
AM04961	0.00	0.00	0.00	110	110					130
AM04962	0.00	0.00	0.00	120	90					100
AM04963	0.00	0.00	0.00	105	140					90
AM04964	0.00	0.00	0.00	135	80					120
AM04965	0.00	0.00	0.00	130	1195					70
AM04966	0.00	0.00	0.00	10	115					<10
AM04967	0.00	0.00	0.00	485	19580					110
AM04968	0.00	0.00	0.00	255	405					90
AM04969	0.00	0.00	0.00	130	215					150
AM04970	0.00	0.00	0.00	40	190					<10
AM04971	0.00	0.00	0.00	10	60					<10
AM04972	0.00	0.00	0.00	10	20					<10
AM04973	0.00	0.00	0.00	10	45					<10
AM04974	0.00	0.00	0.00	5	70					<10
AM04975	0.00	0.00	0.00	110	140					120
AM04976	0.00	0.00	0.00	135	445					10
AM04977	0.00	0.00	0.00	20	120					<10
AM04978	0.00	0.00	0.00	55	80					160
AM04979	0.00	0.00	0.00	115	1240					10
AM04980	0.00	0.00	0.00	85	85					90
AM06078	0.00	0.00	0.00	55	85					50
AM06079	0.00	0.00	0.00	20	105					20
AM06080	0.00	0.00	0.00	95	100					10
AM04879	26.00	29.16	3.16	24	36	<5	0.1	28		23
AM04880	29.16	30.08	0.92	47	41	14	0.1	7		31
AM04881	30.08	31.42	1.34	40	51	<5	0.1	16		28
AM04882	31.42	32.14	0.72	92	29	10	0.1	1		33
AM04883	32.14	33.50	1.36	155	41	10	0.1	3		47
AM04884	33.50	34.25	0.75	54	39	14	0.2	4		40
AM04885	34.25	35.41	1.16	36	91	10	0.1	1		27
AM04886	35.41	36.26	0.85	36	34	10	0.1	1		24
AM04887	36.26	37.59	1.33	66	83	14	0.1	1		105
AM04888	37.59	39.50	1.91	52	13	<5	0.1	1		27
AM04889	39.50	40.44	0.94	30	10	24	0.1	1		9
AM04890	40.44	42.50	2.06	151	13	10	0.1	1		34
AM04891	42.50	42.90	0.40	21	19	38	0.1	15		19
AM04892	42.90	44.03	1.13	11	6	27	0.1	1		8
AM04893	44.03	44.88	0.85	271	10	10	0.1	1		25
AM04894	44.88	45.56	0.68	92	14	14	0.1	4		46
AM04895	45.56	45.74	0.18	239	15	10	0.1	5		64
AM04896	45.74	47.00	1.26	87	12	17	0.1	1		26
AM04897	47.00	48.12	1.12	522	23	14	0.1	1		108

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04898	48.12	48.49	0.37	25	7	10	0.1	1		11
AM04899	48.49	49.42	0.93	141	17	<5	0.1	1		30
AM04900	49.42	49.65	0.23	369	22	14	0.1	6		67
AM04901	49.65	51.01	1.36	73	20	10	0.1	2		49
AM04902	51.01	52.43	1.42	18	8	24	0.1	1		13
AM04903	52.43	53.00	0.57	70	34	14	0.1	2		28
AM04904	53.00	55.13	2.13	71	84	17	0.1	2		23
AM04905	55.13	55.59	0.46	121	227	14	0.1	1		42
AM04906	55.59	56.00	0.41	96	209	34	0.1	5		45
AM04907	56.00	57.50	1.50	93	176	17	0.1	6		26
AM04908	57.50	59.00	1.50	73	157	14	0.1	3		30
AM04909	59.00	60.50	1.50	88	218	34	0.1	5		25
AM04910	60.50	61.42	0.92	77	305	72	0.1	6		31
AM04911	61.42	62.50	1.08	199	732	54	0.3	14		33
AM04912	62.50	63.50	1.00	305	774	38	0.6	19		49
AM04913	63.50	65.00	1.50	86	170	24	0.1	2		20
AM04914	65.00	66.50	1.50	137	289	21	0.3	12		26
AM04915	66.50	68.00	1.50	269	2600	72	0.8	27		42
AM04916	68.00	69.50	1.50	213	1730	51	0.5	45		30
AM04917	69.50	70.96	1.46	369	2790	24	1.3	142		68
AM04918	70.96	71.62	0.66	1350	9760	130	3.8	170		149
AM04919	71.62	72.49	0.87	322	1450	38	0.5	10		33
AM04920	72.49	73.96	1.47	42	117	14	0.1	10		20
AM04921	73.96	75.50	1.54	82	291	24	0.2	3		21
AM04922	75.50	77.00	1.50	35	18	14	0.2	1		20
AM04923	77.00	78.50	1.50	41	14	10	0.3	1		20
AM04924	78.50	80.00	1.50	22	20	247	0.2	1		14
AM04925	80.00	81.50	1.50	21	56	17	0.1	1		14
AM04926	81.50	83.00	1.50	30	49	14	0.1	1		13
AM04927	83.00	84.50	1.50	24	28	17	0.1	1		13
AM04928	84.50	84.69	0.19	17	32	41	0.1	1		13
AM04930	84.69	86.00	1.31	35	40	10	0.1	1		17
AM04931	86.00	87.22	1.22	85	149	24	0.1	1		20
AM04932	87.22	88.05	0.83	351	2300	62	1.1	68		91
AM04933	88.05	88.37	0.32	74	139	17	0.1	1		26
AM04934	88.37	89.34	0.97	61	60	165	0.2	1		32
AM04935	89.34	91.00	1.66	30	26	14	0.1	1		17
AM04936	91.00	92.00	1.00	32	50	10	0.1	2		17
AM04937	92.00	93.50	1.50	22	26	17	0.1	1		18
AM04938	93.50	95.00	1.50	24	43	27	0.2	1		20
AM04939	95.00	96.50	1.50	31	24	45	0.1	4		19
AM04940	96.50	98.00	1.50	56	19	17	0.2	1		25
AM04941	98.00	98.87	0.87	57	29	24	0.1	1		22
AM04942	98.87	99.50	0.63	86	101	17	0.1	2		69
AM04943	99.50	101.00	1.50	125	88	17	0.1	1		64
AM04944	101.00	102.23	1.23	99	78	14	0.1	1		56
AM05847	102.23	104.00	1.77	116	97	17	0.1	1		68

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM05840	104.00	105.50	1.50	121	81	<5	0.1	1		61
AM05841	105.50	107.00	1.50	119	85	10	0.1	1		69
AM05842	107.00	108.50	1.50	107	85	24	0.1	1		70
AM05843	108.50	110.00	1.50	113	76	14	0.1	1		69
AM05844	110.00	111.50	1.50	111	70	21	0.1	1		74
AM05845	111.50	113.00	1.50	111	80	10	0.1	1		71
AM05846	113.00	114.50	1.50	95	86	14	0.1	1		66
AM05848	114.50	116.00	1.50	123	75	21	0.1	1		61
AM05849	116.00	117.50	1.50	115	72	14	0.1	1		62
AM05850	117.50	119.00	1.50	99	65	14	0.1	1		80
AM05851	119.00	120.50	1.50	120	86	<5	0.1	1		59
AM05852	120.50	122.00	1.50	99	90	10	0.1	1		63
AM05853	122.00	123.50	1.50	108	85	14	0.1	1		62
AM05854	123.50	125.00	1.50	116	85	24	0.1	1		58

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL203 %	CAO %	MGO %	NA20 %	K20 %	FE203 %	TIO2 %	P205 %	MNO %	CR203 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AM04389	34.00	35.00	1.00	63.32	13.80	4.21	1.39	3.22	3.88	4.49	0.35	0.12	0.06	0.00	2.95	97.77	<2	140					40	75	<10			3?	122
AM04390	35.41	36.26	0.85	63.25	11.76	6.11	1.61	1.51	4.20	5.22	0.28	0.08	0.10	<0.00	4.61	98.37	6	156					30	45	<10			2x	99
AM04391	37.59	38.59	1.00	69.37	11.89	3.92	1.26	0.36	5.50	3.66	0.30	0.08	0.07	0.01	0.96	100.37	8	178					45	20	40			4PR	122
AM04392	51.07	52.01	0.94	66.49	14.48	4.28	0.69	0.32	6.40	2.44	0.30	0.10	0.06	<0.00	3.57	99.13	<2	102					20	20	20			3PR	132
AM04393	54.13	55.13	1.00	63.04	15.53	4.98	1.34	1.57	4.46	3.70	0.36	0.12	0.09	<0.00	4.71	99.89	6	164					75	70	40			3?	141
AM04394	59.00	60.00	1.00	58.86	7.27	2.82	2.46	0.07	1.10	21.63	0.21	0.04	0.44	<0.00	3.05	97.94	8	218					35	275	<10			2v	182
AM04395	63.50	64.50	1.00	63.41	4.79	2.41	2.33	0.08	0.60	17.03	0.20	<0.02	0.66	0.01	3.68	95.22	10	170					85	605	<10			2v	155
AM04396	70.96	71.62	0.66	72.56	5.19	1.13	1.18	0.29	0.88	11.98	0.18	0.06	0.20	<0.00	4.80	98.47	8	144					375	3745	30			4PR	226
AM04397	72.49	73.49	1.00	67.46	14.20	3.55	1.37	4.86	1.74	3.34	0.36	0.16	0.07	0.00	2.92	100.04	4	146					35	150	30			3?	140
AM04398	75.50	76.50	1.00	68.51	0.70	1.59	2.00	0.06	0.06	19.45	0.02	<0.02	1.01	<0.00	2.26	95.66	8	154					25	60	<10			4PR	41
AM04400	91.00	92.00	1.00	67.34	3.55	2.63	2.74	0.16	0.16	18.76	0.12	<0.02	0.88	<0.00	1.71	98.03	8	160					35	55	<10			2v	120
AM04399	98.87	99.87	1.00	43.67	13.76	9.08	5.21	0.79	1.24	13.61	1.00	0.06	0.24	0.03	10.48	99.16	24	174					95	115	60			2v1	124
AM04962	118.50	119.02	0.52	46.01	12.64	8.95	7.49	1.86	0.78	12.01	0.83	0.10	0.23	0.04	7.38	98.31	14	180					120	90	100			2u	109

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AM04389	34.00	35.00	1.00			10		4400																					
AM04390	35.41	36.26	0.85			5		3000																					
AM04391	37.59	38.59	1.00			5		2500																					
AM04392	51.07	52.01	0.94			<5		900																					
AM04393	54.13	55.13	1.00			10		2700																					
AM04394	59.00	60.00	1.00			<5		17800																					
AM04395	63.50	64.50	1.00			10		55000																					
AM04396	70.96	71.62	0.66			45		48100																					
AM04397	72.49	73.49	1.00			10		4300																					
AM04398	75.50	76.50	1.00			<5		52500																					
AM04400	91.00	92.00	1.00			<5		17200																					
AM04399	98.87	99.87	1.00			45		1600																					
AM04962	118.50	119.02	0.52			35		1900																					

HOLE NUMBER: CU31-02

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/11/1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8203
PROJECT NUMBER: 008203
CLAIM NUMBER:
LOCATION: CUNNINGHAM TWP

PLOTTING COORDS GRID: UTM
NORTH: N
EAST: E
ELEV:

ALTERNATE COORDS GRID: LINE
NORTH: 140+98N
EAST: 106+ E
ELEV: 450.00

COLLAR DIP: -50° ' "
LENGTH OF THE HOLE: 141.50M
START DEPTH: M
FINAL DEPTH: 141.50M

COLLAR ASTRONOMIC AZIMUTH: 360° ' "

GRID ASTRONOMIC AZIMUTH: 360° ' "

DATE STARTED: 06/11/1991
DATE COMPLETED: 06/14/1991
DATE LOGGED: 06/22/1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: NOREX
CASING: NONE
CORE STORAGE: MINESITE
UTM COORD.:

COMMENTS :
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
62.00	356° ' "	-48° ' "	S	OK	moderately magnetic
110.00	4° ' "	-47°30' "	S	OK	
143.00	4° ' "	-47° ' "	S	OK	

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 40.74	CHERT PEBBLE CONGLOMERATE; CHERT BRECCIO-CONGLOMERATE «5cht,bx»	-light grey to dark grey to yellowish green. -Oligomictic pebble orthoconglomerate, locally breccio-conglomerate to chert breccia; rare cobble-sized clasts. -Clasts locally feature ragged sutured boundaries. -Siltstone and magnetite and sulphide iron formation clasts rare. -Matrix comprised of yellowish brown carbonate (?) and silica (?) cement, silt and variable amounts of pyrrhotite. -30.94-31.50m coarse-grained lithic wacke with composition approximating 0.00-40.74m (finer-grained anologue). -38.45-40.74m silica-healed chert breccia; angular to subrounded fragments.		-Moderately to strongly silicified; clasts locally feature yellow-brown alteration as in matrix (AM04971). -Matrix moderately chloritic, strongly silicified. -Supergene alteration over upper several metres, decreasing gradually downhole.	-Pyrrhotite in matrix with rare (trace to 1%) dusty to medium-grained euhedral pyrite and trace chalcopyrite (?). -Rare pyrrhotite and pyrite sulphide iron formation pebbles. -Sphalerite possibly mixed with pyrrhotite in matrix.	-Moderately to strongly magnetic. -Locally weakly magnetic.
40.74 TO 51.50	FELSIC-INTER-MEDIATE LAPILLI TUFF AND ASH TUFF «3t»	-greenish grey to tan coloured. -Well foliated at 30° to core axis. -Locally moderately sheared. -48.37-49.45m sheared at 35° to core axis with rare angular chert fragments to 4mm. -50.03-50.14m as 48.37-49.45m, with chert fragments to 8mm. -50.34-51.50m as 48.37-49.45m; foliated at 45° to core axis; 30-40% chert fragments, resembling reworked 0.00-40.74m interval. Possibly lithic wacke.		-Argillic chlorite and clay; moderate to strong pervasive carbonatization. -Argillic alteration decreasing downhole from 49.57m. -Moderately chloritic.	-Trace to 1% dusty to fine-grained pyrite disseminated throughout. -Slightly elevated pyrite content, fine- to medium-grained euhedra. -2-3% fine- to medium-grained pyrite euhedra throughout.	
51.50 TO 53.07	GRAPHITIC CHERT; CHERT BRECCIA «5g,bx,cht»	-dark grey to light grey. -Locally sheared at high angles to core axis with development of graphitic slips; narrow intermediate-mafic lapilli tuff bands. -51.85-51.99m graphitic shear at 80-90° to core axis with carbonate and chlorite bands shearing-parallel. -51.99-52.17m chert breccia with graphitic, chloritic matrix. -52.25-52.86m as above.			-2-3% fine- to medium-grained euhedral pyrite throughout in narrow strata-bound intervals (subtle lighter grey bands). -4-5% pyrite in matrix.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
53.07 TO 72.32	CHERT «5cht»	-light to dark grey. -Locally banded at moderate to high angles to core axis; weakly fractured and carbonate and chlorite filled. -5-10% narrow magnetic and sulphide (pyrrhotite and pyrite) iron formation bands throughout; rare slumping. -Pinkish purple hue in chert may reflect sphalerite mineralization. -Intercalated lower contact at 85° to core axis. -53.15-53.45m magnetite and sulphide iron formation, banded at 60-70° to core axis. -57.87-58.05m ground core. -At 59.00m: 80cm ground core. -59.59-59.64m fractured at moderate angles to core axis. -70.42-70.67m fractured at 55-75° to core axis with argillic alteration. -70.67-70.81m sheared; chlorite and pyrite flooded. -70.85-70.96m several magnetite and pyrite iron formation bands at 85° to core axis; burgundy coloured mineral (hematite ?) associated with pyrite.		-Iron formation bands moderately to strongly carbonatized and locally weakly oxidized.	-Iron formation bands may contain some sphalerite; pyrite locally fills narrow fractures. -5-8% dusty brown sphalerite (?) and 8-10% dusty to fine-grained pyrite flooding fractures. -Trace to 1% chalcopyrite.	-Locally strongly magnetic.
72.32 TO 75.56	BASALT? «2?»	-greenish grey to dark grey. -Poorly foliated at 40° to core axis; weakly fractured, locally brecciated and carbonate-flooded. -Rare irregular-shaped cream coloured plagioclase (?) blebs. -73.76-74.35m brecciated and carbonate-flooded.		-Moderately chloritic.	-Trace fine-grained pyrite disseminated throughout. -Trace chalcopyrite, trace galena in carbonate.	
75.56 TO 78.68	GRAPHITIC SHEAR «┤FAI├,g»	-dark grey to black. -Sheared at 20° to core axis, locally variable; indistinct lower contact. -75.45-78.39m chert breccia in graphite matrix.			-3-5% pyrite in narrow bands and blebs throughout. -5-8% fine- to medium-grained pyrite in fragments throughout. Massive over 78.05-78.10m.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
78.68 TO 141.50	BASALT «2m»	-light greenish grey; fine- to medium-grained.				
		-Massive to poorly foliated at 30-35° to core axis; weakly fractured and carbonate (+ filled); locally sheared and carbonate-flooded.		-Generally intensely carbonatized, variably silicified (weakly to moderately); variably chloritic (weakly to strongly).	-Trace fine-grained pyrite.	
		-78.68-79.69m sheared.		-Intensely carbonatized, locally weakly graphitic; moderately to strongly chloritic.		
		-83.65-83.85m sheared and quartz-carbonate flooded at 20° to core axis.				
		-92.47-93.24m sheared and quartz flooded at 45° to core axis.		-Weakly silicified, strongly chloritic.	-Coarse-grained euhedral pyrite at upper contact. Alteration haloes (92.11-92.47m and 93.24-93.47m, respectively).	
		-98.09-98.94m sheared and carbonate-quartz and pyrite flooded.		-Strongly chloritic (argillic ?).	-Possible trace sphalerite; 2-3% chalcopyrite (?) associated with flooding; 5-7% fine- to coarse-grained pyrite in carbonate-chlorite matrix.	
		-104.82-105.70m sheared at 30° to core axis; quartz and carbonate flooded.			-Trace fine-grained pyrite in flooded zone.	
		-106.78-108.92m as above, partially to wholly disgested basalt rafts.			-Massive to semi-massive pyrite in quartz-carbonate matrix 107.39-107.53m.	
		-109.60-110.50m as 104.82-105.70m; numerous euhedral quartz crystals to 1.2cm, concentrically zoned.			-Locally 2-3% dusty pyrite in basalt rafts.	
		-116.08-116.22m weakly sheared and quartz-carbonate flooded.				
		-116.77-116.95m graphitic shear with fine-grained basalt (?) rafts.		-Moderately silicified.	-3-5% blebby pyrite.	
		-116.95-118.18m moderately fractured and carbonate-filled.		-Strongly carbonatized and chloritic.	-1-2% pyrite in carbonate veins.	
		-118.18-118.50m as 116.77-116.95m; sheared at 50° to core axis.				
		-118.50-118.56m as 116.95-118.18m.				
		-118.56-119.26m moderately well foliated at 55-60° to core axis; 1-2mm biotite (?) (chlorite ?) specks throughout.		-Pervasively carbonatized, weakly silicified (?).	-Trace to 1% fine-grained pyrite disseminated throughout.	
		-119.26-119.90m siliceous interval; resembles 119.90-121.20m interval, though sheared and quartz flooded; banded at 60° to core axis; weakly fractured and carbonate-filled.			-7-9% fine-grained pyrite in narrow, discontinuous bands throughout; rare pyrite nodules to 1.5cm.	
		-119.90-121.26m graphitic mudstone; rare pyrite nodules to 2cm.		-Moderately silicified and graphitic.	-3-5% pyrite in rare nodules and as fracture filling.	
		-121.26-122.89m as 118.56-119.26m; weakly sheared		-Intensely pervasively carbonatized;	-5-7% blebby pyrite to 3mm	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		at 40-50° to core axis; carbonate flooded. -122.89-123.83m as 119.90-121.26m; pyrite nodules, locally weakly boudinaged, to 2cm. -At 131.38m amorphous orange-brown mineral filling narrow fracture. -140.77-141.25m bleached and pervasively carbonatized. -141.25-141.48m sheared and quartz flooded at 40° to core axis; weakly silicified downhole.		weakly graphitic.	disseminated throughout, locally as fracture filling. -3-5% pyrite in nodules, fractures and rare, semi-massive bands. -2-3% dusty to fine-grained pyrite.	
141.50 TO 141.50	E.O.H.					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM05957	0.00	1.00	1.00	35	54	10	0.1	12		20
AM05958	1.00	2.00	1.00	20	38	<5	0.1	1		21
AM05959	2.00	3.50	1.50	23	31	70	0.1	1		17
AM05960	3.50	5.00	1.50	33	45	<5	0.1	1		24
AM05961	5.00	6.50	1.50	16	42	<5	0.1	1		19
AM05962	6.50	8.00	1.50	22	27	<5	0.1	1		18
AM05963	8.00	9.50	1.50	30	33	<5	0.1	1		20
AM05964	9.50	11.00	1.50	18	35	<5	0.1	1		19
AM05965	11.00	12.50	1.50	23	32	<5	0.1	1		25
AM05966	12.50	14.00	1.50	24	57	<5	0.1	1		17
AM05967	14.00	15.50	1.50	20	41	<5	0.1	1		19
AM05968	15.50	17.00	1.50	24	39	<5	0.1	1		19
AM05969	17.00	18.50	1.50	27	33	<5	0.1	1		15
AM05970	18.50	20.00	1.50	21	35	14	0.1	2		17
AM05971	20.00	21.50	1.50	25	28	<5	0.1	1		22
AM05972	21.50	23.00	1.50	29	39	<5	0.2	4		18
AM05973	23.00	24.50	1.50	23	34	17	0.3	2		15
AM05974	24.50	26.00	1.50	25	23	7	0.1	1		30
AM05975	26.00	27.50	1.50	25	22	<5	0.1	3		25
AM05976	27.50	29.00	1.50	17	14	21	0.1	1		17
AM05977	29.00	30.50	1.50	20	30	<5	0.1	1		17
AM05978	30.50	30.94	0.44	23	39	<5	0.1	1		18
AM05979	30.94	31.50	0.56	22	54	<5	0.1	1		20
AM05980	31.50	32.00	0.50	24	21	<5	0.1	4		23
AM05981	32.00	33.50	1.50	29	17	45	0.1	1		25
AM05982	33.50	35.00	1.50	19	12	38	0.4	9		23
AM05983	35.00	36.50	1.50	23	15	10	0.1	1		19
AM05984	36.50	38.00	1.50	28	14	<5	0.1	1		21
AM05985	38.00	39.50	1.50	19	14	34	0.2	1		19
AM05986	39.50	40.74	1.24	30	88	14	0.1	6		24
AM05987	40.74	42.00	1.26	91	93	<5	0.1	3		80
AM05988	42.00	42.50	0.50	114	177	<5	0.1	13		106
AM05989	42.50	44.00	1.50	102	107	<5	0.1	6		125
AM05990	44.00	45.50	1.50	93	464	<5	0.2	121		126
AM05991	45.50	47.00	1.50	104	200	<5	0.2	19		153
AM05992	47.00	48.50	1.50	97	94	<5	0.3	7		135
AM05993	48.50	50.00	1.50	107	140	<5	0.5	24		122
AM05994	50.00	51.50	1.50	82	252	<5	0.3	8		116
AM05995	51.50	52.30	0.80	410	1350	24	1.3	214		66
AM05997	52.30	53.07	0.77	111	864	<5	0.7	145		38
AM05998	53.07	54.50	1.43	55	212	45	1.0	35		21
AM05999	54.50	56.00	1.50	31	16	21	0.5	2		16
AM06000	56.00	57.50	1.50	47	10	7	0.5	2		16
AM06001	57.50	59.59	2.09	68	303	7	0.5	5		24
AM06002	59.59	60.50	0.91	41	63	<5	0.7	4		16
AM06003	60.50	62.00	1.50	55	358	<5	0.6	22		14
AM06004	62.00	63.50	1.50	47	143	<5	1.3	1		12

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM06005	63.50	64.33	0.83	57	13	38	1.8	3		15
AM06006	64.33	65.00	0.67	63	11	<5	1.4	1		12
AM06007	65.00	66.50	1.50	31	24	<5	1.0	1		16
AM06008	66.50	68.00	1.50	30	9	<5	0.4	1		13
AM06009	68.00	70.00	2.00	46	12	<5	0.5	6		14
AM06010	70.00	71.00	1.00	59	208	34	1.5	18		24
AM06011	71.00	72.32	1.32	38	13	38	1.0	4		11
AM06012	72.32	74.00	1.68	34	109	<5	0.1	10		108
AM06013	74.00	75.56	1.56	185	217	<5	0.5	626		133
AM06014	75.56	77.00	1.44	576	1950	24	2.0	84		131
AM06015	77.00	78.68	1.68	322	2790	38	2.5	95		84
AM06016	78.68	80.00	1.32	85	98	<5	0.1	4		149
AM06017	80.00	81.50	1.50	111	79	<5	0.1	1		82
AM06018	81.50	83.00	1.50	119	81	<5	0.1	4		81
AM06019	83.00	84.50	1.50	137	60	<5	0.1	1		63
AM06022	84.50	86.00	1.50	99	57	<5	0.1	1		89
AM06020	86.00	87.50	1.50	104	67	<5	0.1	1		84
AM06023	87.50	89.00	1.50	104	58	<5	0.1	1		78
AM06024	89.00	90.50	1.50	87	72	<5	0.1	1		80
AM06025	90.50	92.00	1.50	80	204	<5	0.2	1		93
AM06026	92.00	93.50	1.50	92	375	10	0.2	1		100
AM06027	93.50	95.00	1.50	100	177	<5	0.1	1		90
AM06028	95.00	96.50	1.50	125	62	<5	0.1	1		73
AM06029	96.50	98.09	1.59	111	75	<5	0.1	1		88
AM06030	98.09	98.94	0.85	423	229	<5	0.3	5		124
AM06031	98.94	99.50	0.56	137	109	<5	0.1	1		109
AM06032	99.50	101.00	1.50	136	71	<5	0.1	1		90
AM06033	101.00	102.50	1.50	124	86	<5	0.1	1		91
AM06034	102.50	104.00	1.50	101	76	<5	0.1	1		84
AM06035	104.00	104.82	0.82	146	71	<5	0.2	1		87
AM06036	104.82	105.70	0.88	140	43	<5	0.1	1		43
AM06037	105.70	106.78	1.08	128	101	<5	0.1	1		84
AM06038	106.78	108.50	1.72	83	44	<5	0.2	2		36
AM06039	108.50	108.92	0.42	141	52	<5	0.2	1		52
AM06040	108.92	109.60	0.68	141	78	<5	0.2	1		70
AM06041	109.60	110.50	0.90	39	33	<5	0.1	1		23
AM06042	110.50	111.50	1.00	121	72	<5	0.1	1		60
AM06043	111.50	113.00	1.50	130	65	<5	0.1	1		67
AM06044	113.00	114.50	1.50	139	51	<5	0.1	1		73
AM06045	114.50	116.00	1.50	121	64	<5	0.1	1		93
AM06046	116.00	116.77	0.77	104	117	<5	0.1	3		98
AM06047	116.77	116.95	0.18	180	308	<5	0.4	18		125
AM06048	116.95	118.18	1.23	162	222	<5	0.1	8		124
AM06049	118.18	118.50	0.32	149	507	7	0.4	67		100
AM06050	118.50	119.28	0.78	70	266	<5	0.1	27		49
AM06051	119.28	119.90	0.62	133	631	<5	0.8	31		35
AM06052	119.90	121.26	1.36	244	1360	<5	1.3	63		127

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM06053	121.26	122.85	1.59	227	261	<5	0.3	8		95
AM06054	122.85	123.83	0.98	559	2910	14	1.5	111		185
AM06055	123.83	125.00	1.17	132	164	<5	0.1	8		103
AM06056	125.00	126.50	1.50	128	78	<5	0.1	1		89
AM06057	126.50	128.00	1.50	140	59	<5	0.1	1		85
AM06058	128.00	129.50	1.50	127	49	<5	0.1	1		76
AM06059	129.50	131.00	1.50	129	369	<5	0.1	1		74
AM06060	131.00	132.50	1.50	133	52	<5	0.1	1		76
AM06061	132.50	134.00	1.50	142	41	7	0.1	1		74
AM06062	134.00	135.50	1.50	135	55	<5	0.1	10		71
AM06063	135.50	137.00	1.50	164	83	<5	0.1	19		81
AM06064	137.00	138.50	1.50	129	46	<5	0.1	2		70
AM06065	138.50	140.00	1.50	130	102	<5	0.1	1		91
AM06066	140.00	141.50	1.50	89	71	<5	0.9	201		73

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL203 %	CAO %	MGO %	NA20 %	K20 %	FE203 %	TIO2 %	P205 %	MNO %	CR203 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AM04971	3.74	4.89	1.15	53.08	0.79	0.71	2.16	0.14	0.04	27.42	0.02	<0.02	1.29	<0.00	12.74	98.30	12	182					10	60	<10			1!	89
AM04972	16.65	17.35	0.70	53.78	1.03	0.70	2.05	<0.01	0.06	26.13	0.04	<0.02	1.31	<0.00	12.87	97.89	8	210					10	20	<10			1!	134
AM04973	29.58	30.41	0.83	46.00	0.81	1.12	2.79	0.02	0.06	32.88	0.05	<0.02	1.48	<0.00	13.46	98.58	8	208					10	45	<10			1!	68
AM04974	30.94	31.50	0.56	31.75	6.41	0.88	4.03	<0.01	<0.02	40.93	0.09	<0.02	1.88	<0.00	13.68	99.53	12	270					5	70	<10			2v*!	704
AM04975	45.50	46.30	0.80	47.67	14.09	8.51	4.47	1.00	1.40	9.97	0.76	0.10	0.32	0.06	9.24	97.59	20	148					110	140	120			2w	129
AM04976	52.38	53.07	0.69	82.82	3.90	0.31	0.53	0.13	0.64	5.67	0.13	<0.02	0.06	0.01	3.80	98.00	<2	80					135	445	10			4PR*	361
AM04978	74.33	75.18	0.85	50.10	11.52	10.04	6.28	3.29	0.68	6.78	0.66	0.52	0.16	0.08	9.36	99.46	16	218					55	80	160			2y	82
AM04979	77.45	78.39	0.94	57.38	3.23	1.02	0.97	0.05	1.02	13.55	0.14	<0.02	0.05	<0.00	14.99	92.39	6	150					115	1240	10			2v!	155
AM04980	78.68	79.68	1.00	46.36	12.67	10.96	6.24	0.08	1.66	9.13	0.57	0.04	0.18	0.05	12.32	99.25	14	116					85	85	90			2u!	100
AM06078	102.00	104.00	2.00	44.65	12.72	12.22	6.20	3.18	0.18	9.71	0.62	0.04	0.29	0.04	7.95	97.77	12	118					55	85	50			2u	82

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	NF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AM04971	3.74	4.89	1.15			<5		17700																					
AM04972	16.65	17.35	0.70			<5		7800																					
AM04973	29.58	30.41	0.83			<5		29500																					
AM04974	30.94	31.50	0.56			<5		20000																					
AM04975	45.50	46.30	0.80			50		900																					
AM04976	52.38	53.07	0.69			15		15900																					
AM04978	74.33	75.18	0.85			15		1700																					
AM04979	77.45	78.39	0.94			15		113000																					
AM04980	78.68	79.68	1.00			35		2500																					
AM06078	102.00	104.00	2.00			25		17000																					

HOLE NUMBER: CU32-01

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/11/1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8203
PROJECT NUMBER: 008203
CLAIM NUMBER: P116469
LOCATION: CUNNINGHAM TWP

PLOTTING COORDS GRID: UTM
NORTH: 0.00N
EAST: 0.00E
ELEV: 0.00

ALTERNATE COORDS GRID: LINE
NORTH: 143+75N
EAST: 116+60E
ELEV: 410.00

COLLAR DIP: -50° ' "
LENGTH OF THE HOLE: 125.00M
START DEPTH: M
FINAL DEPTH: 125.00M

COLLAR ASTRONOMIC AZIMUTH: 360° ' "

GRID ASTRONOMIC AZIMUTH: 360° ' 0"

DATE STARTED: 05/28/1991
DATE COMPLETED: 05/30/1991
DATE LOGGED: 06/01/1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: NOREX
CASING: BW, 2m.
CORE STORAGE: MINESITE
UTM COORD.:

COMMENTS :
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
17.00	347° ' "	-49° ' "	S	OK	
74.00	358° ' "	-48° ' "	S	OK	
119.00	359° ' "	-48° ' "	S	OK	

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 2.00	OVERBURDEN «¦ob¦»	-sand, clay, boulders.				
2.00 TO 30.64	SILTSTONE + MAFIC TUFF; CHERT; MAGNETITE IRON FORMATION; SULPHIDE IRON FORMATION; INTER-MEDIATE TUFF «5,2t»	-medium grey to greenish grey; dark to light grey; black; medium to light grey. -Well banded/bedded at 35° to core axis. -Contacts approximately conformable to bedding. -Units alternate frequently, over narrow intervals. -Weak fracturing with calcite-chlorite in-fill. -Moderately to well foliated parallel bedding. -11.54-12.20m silicified and epidotized chert (?).		-Pervasive moderate chloritization with exception of chert intervals. -Variably silicified throughout. -Siltstone intervals generally moderately to strongly chloritized (epidotized ?).	-Trace to 1% pyrite throughout. 3-5% pyrrhotite in bedding-parallel bands, generally associated with siltstone; occasionally in fractures.	-Locally moderately magnetic.
		-12.98-15.89m light grey to greenish grey chert; moderately fractured and chlorite-pyrrhotite-calcite filled. Fractures generally trend at low angles to core axis.		-14.60-14.89m and 15.00-15.73m light grey to cream-coloured with "grass" green chlorite (?) spots to 1.5mm throughout.	-Trace to 1% pyrite associated with pyrrhotite.	
		-18.76-19.95m intermediate ash tuff/siltstone. Well banded at 30° to core axis with development of slip planes (slickensides).		-Moderately to strongly chloritic.	-Pyrite smeared along chloritic slip planes. 1-3% fine-grained sphalerite in quartz-chlorite fractures, 118.10-118.17m.	
		-19.95-21.50m intermediate ash-lapilli tuff. Moderately sheared at 20° to core axis and chlorite-calcite-pyrite-pyrrhotite flooded along anastomosing hairline fractures.		-Weakly bleached, moderately to strongly chloritic. Weakly silicified and epidotized.	-3-5% pyrrhotite, 2-3% pyrite parallel to schistosity.	-Weakly to moderately magnetic.
		-21.50-24.00m much broken core; siltstone and mafic tuff; fractured and calcite flooded with orange-brown amorphous mineral at wallrock contact.			-Blebby chalcopyrite to 2% in narrow calcite vein.	
		-24.21-24.41m 0.5 to 1.0cm wide quartz-chlorite veins with orange-brown mineral (staining) as above.			-Fine-grained sphalerite to 8% of vein composition.	
		-24.41-26.58m bleached siltstone/lapilli tuff. Well foliated at 35° to core axis. Generally schistose.			-Trace pyrite throughout. Pyrrhotite in foliation-parallel losenges throughout; possible sphalerite at 26.26m with 1 speck at 25.16m.	-Moderately magnetic.
		-26.58-29.50m felsic lapilli tuff; locally cherty (silicified ?). Chlorite and pyrrhotite ± pyrite flooding throughout fractures at 35° to core axis. Appears brecciated/clastic, and silicified 27.00-27.27m.		-Weakly to moderately carbonatized, bleached.	-5-10% pyrrhotite in chlorite fractures with trace chalcopyrite, trace to 1% pyrite; possibly fine-grained sphalerite at 27.16m.	-Moderately magnetic.
		-29.50-30.64m weakly to moderately fractured chert with calcite and chlorite flooding;		-Locally weakly carbonatized.	-Pyrrhotite and pyrite in veins and chloritic matrix.	-Moderately magnetic.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		locally sheared with cataclasite development and chloritic matrix. Calcite vein 29.56-29.65m at 30° to core axis.				
30.64 TO 35.28	BRECCIA ZONE «5bx»	-Chert, graphitic chert and mafic lapilli tuff. -Weakly to moderately fractured with calcite and chlorite in stockwork. -Brecciated matrix = chlorite and pyrite (10-15%) and pyrrhotite (2-3%). -Mafic tuff may be cherty cataclasite. -Breccia fragments generally appear to be in place (hydrothermal).		-Moderately to strongly graphitic, chloritic, carbonatized.	-2-3% pyrite, 1% pyrrhotite, trace sphalerite. Sphalerite generally dusty to fine-grained in breccia matrix with calcite and "banker's" green chlorite (?) and in narrow calcite stringers.	
35.28 TO 35.28	CHERT AND SILTSTONE «5bx»	-light to medium grey and yellowish green. chlorite in stockwork. -Brecciated matrix = chlorite and pyrite (10-15%)		chloritic, carbonatized.	sphalerite. Sphalerite generally dusty to fine-grained in breccia	
47.95	«5cht/slst»	-Chert 70%, siltstone 30%. Siltstone in bands throughout and gradually increasing in unit composition downhole. -Local offsets to 4cm. -Weakly fractured and calcite and chlorite and pyrrhotite filled. -36.41-36.43m quartz-calcite vein with angular chert fragments; at 60° to core axis. -36.48-37.14m chert breccia with chlorite-calcite matrix. -37.56-37.64m as 36.48-37.14m. -37.84-37.99m as above. -40.20-40.38m chert with 1-2mm wide chlorite-filled tension fractures (?) at 50° to core axis and crosscutting chloritic veins with angular calcite fragments as 36.41-36.43m at 45-50° to core axis.		-Chert locally weakly carbonatized; siltstone moderately to strongly carbonatized.	-1-2% pyrite, 8-10% pyrrhotite in calcite-chlorite fractures/matrix. Pyrite and pyrrhotite occasionally smeared along slip planes. -Trace to 1% pyrrhotite in matrix. -8-12% pyrrhotite in matrix. -1-2% pyrrhotite in matrix.	-Moderately magnetic. -Moderately to strongly magnetic. -Weakly magnetic.
47.95 TO 50.97	CHERT «5cht»	-Weakly fractured and sheared with intercalated graphitic intervals; numerous 0.5 to 1.5cm offsets in bedding/banding. -47.95-48.00m cataclasite (?); rubbly core; subrounded to subangular chloritic cherty fragments to 0.5cm with pyrite-chlorite-sericite (?) matrix to 40% at 60° to core axis. -48.08-48.17m weakly brecciated and sheared with chlorite-pyrrhotite-pyrite flooding. -48.21-48.27m as above. -48.52m few specks of chalcopyrite in narrow,		-Moderately to strongly graphitic.	-3-5% pyrrhotite, 1% pyrite, dusty to fine-grained, disseminated throughout. -10-15% pyrrotite, 3-5% pyrite. -15-20% dusty to fine-grained	-Weakly to locally moderately magnetic. -Moderately to strongly magnetic. -Strongly magnetic.

LOGGED BY: D. TRUSCOTT PAGE: 3

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		vuggy quartz-calcite vein. -48.58-48.84m sulphide iron formation; contacts at 60° to core axis. -48.84-50.23m numerous narrow chlorite-pyrite-pyrrhotite flooded intervals. Sheared at 25-30° to core axis. -50.23-50.52m as 48.58-48.84m. -50.52-50.97m as 48.84-50.23m.			pyrrhotite, 1-2% fine- to medium-grained pyrite euhedra. -Occasional 2-3mm pyrite-calcite veins at moderate to high angles to core axis; 5-10% pyrite, 3-4% pyrrhotite.	-Moderately magnetic.
50.97 TO 86.97	ANDESITE ? «2»	-grey to greenish grey. -Weakly fractured and calcite ± quartz filled; moderately well foliated at 45° to core axis; numerous 1-3mm chlorite spots throughout. -50.97-51.13m sheared contact zone at 55° to core axis; quartz-chlorite flooded. -51.13-51.60m intensely carbonatized. -53.67-54.13m fractured and calcite-quartz flooded with orange-brown amorphous mineral as vein lining at wallrock contact. -64.54-65.08m moderately fractured with calcite fill and amorphous orange-brown mineral to 35% of vein matter. -65.55-66.45m as above. -67.05-68.79m bleached and strongly fractured with quartz-calcite flooding. -68.54-68.79 quartz-calcite flooded along shear (?) at 10-20° to core axis. -68.79-70.29m graphitic chert (foliated and silicified mudstone ?); sheared at 25° to core axis, becoming subparallel downhole; variably fractured; quartz-calcite flooding pervasive and increasing in intensity downhole from 69.50m. -70.30-70.43m ground and broken core. -72.43-74.40m weakly to moderately brecciated and bleached; numerous hairline calcite fractures throughout. -74.40-85.52m strongly to intensly carbonatized. -83.56-83.78m bull white calcite-quartz vein at 35° to core axis. -83.99-84.33m quartz-calcite flooded shear as		-Moderately to strongly chloritic, variably carbonatized; locally weakly sericitized (?). -Moderately chloritic. -Moderately to strongly chloritic. -67.05-67.17m weak epidotization at vein/wallrock contact. -Weakly silicified, intensely carbonatized. -Moderately to strongly carbonatized and silicified, increasing downhole; strongly graphitic; moderately to strongly chloritic. -Strongly to intensely carbonatized throughout with more strongly carbonatized portions forming breccia matrix (bleached). -As 67.05-67.17m.	-Trace to 1% pyrite and trace pyrrhotite disseminated throughout. -Trace sphalerite and galena in pressure shadow of cherty losenge at 57.03m. -2-3% pyrite disseminated throughout. -Trace medium-grained euhedral pyrite. -67.05-67.17m semi-massive fine-grained pyrite halo at vein/wallrock contact. -3-5% pyrite in and around quartz-calcite flooding. -10-15% dusty to fine-grained pyrite decreasing inversely with intensity of alteration. -5-8% dusty to medium-grained	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		67.05-67.17m. -84.76-84.83m calcite-quartz vein at 50° to core axis; pinkish tinge. -85.52-85.76m quartz-calcite vein at 25° to core axis.			(euhedral) pyrite 83.99-84.17m.	
		-85.76-86.16m moderately to strongly fractured siltstone (?). Black chlorite and calcite filled and flooded at high angles (65-85°) to core axis; fractures locally appear anastomosing (augen).		-Variably carbonatized and correspondingly bleached. Moderately chloritic.	-3-4% medium-grained euhedral and dusty pyrite disseminated throughout, with preference to fracture planes.	
86.97 TO 89.63	GRAPHITIC MUDSTONE «5g(2?)»	-dark grey to black. -Moderately to well bedded at 65-70° to core axis. Fractured and calcite-filled (crosscutting bedding at moderate angles). -Local narrow bedding-parallel calcite bands. Bedding wraps around pyrite nodules with calcite in pressure shadows.		-Moderately to strongly graphitic, locally weakly to moderately carbonatized.	-15-18% pyrite, disseminated, in bedding-parallel bands and in calcite-rimmed nodules to 2.0cm.	
89.63 TO 125.00	ANDESITE(?) «2l»	-As 50.97-86.97m. -Becoming increasingly chlorite-spotted and andesitic in appearance downhole. -89.63-90.93m intermediate feldspar porphyry; moderately porphyritic in sub- to euhedral plagioclase (?) to 4mm. Moderately fractured and quartz-calcite filled.		-Moderately chloritic; strongly bleached and silicified 89.63-90.34m; moderately to strongly chloritic; moderately carbonatized 90.34-90.93m.	-89.63-90.34m trace to 1% galena, trace to 1% medium-grained sphalerite in quartz veins. -90.34-90.93m trace dusty to fine-grained pyrite disseminated throughout.	
		-91.63-91.91m moderately sheared and quartz-calcite flooded at 50-55° to core axis. -95.77-95.80m smokey-grey quartz vein at 25° to core axis.		-Moderately chloritic; strongly carbonatized.	-3-4% dusty to fine-grained pyrite disseminated throughout. -1% medium-grained pyrite. 1% Fe-carbonate (oxidized sphalerite ?).	
		-96.17-97.21m graphitic mudstone (chert ?) as 86.97-89.63m, without nodular pyrite. -100.52-101.12m as 96.17-97.21m; cherty. 6cm calcite-chlorite flooded zone at upper contact at 40° to core axis.		-Strongly to locally intensely graphitic.	-5-8% banding-parallel pyrite and dusty disseminations. Trace chalcopyrite (?) at lower contact.	
		-109.10-109.88m strongly fractured and calcite-quartz flooded with amorphous orange-brown mineral lining vein walls subparallel to core axis.			-2-3% fine-grained pyrite, locally along vein contact with wallrock.	
		-110.92-111.27m calcite-quartz flooded shear at 15° to core axis with amorphous orange-brown mineral in wallrock.			-Trace to 1% pyrite at wallrock/vein contact.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-113.76-114.01m moderately sheared and calcite-quartz flooded at moderate to high angles to core axis.		-Moderately carbonatized and chloritic.	-Trace fine-grained pyrite at wallrock/vein contact.	
125.00 TO 125.00	E.O.H.					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04645	2.00	3.50	1.50	32	10	17	0.1	25		24
AM04646	3.50	5.00	1.50	38	10	14	0.1	9		26
AM04647	5.00	6.50	1.50	21	9	<5	0.1	1		22
AM04648	6.50	8.00	1.50	35	10	21	0.2	3		31
AM04649	8.00	8.51	0.51	90	19	110	0.5	5		33
AM04650	8.51	9.61	1.10	61	14	38	0.2	1		18
AM04651	9.61	11.54	1.93	20	9	21	0.1	1		12
AM04652	11.54	12.20	0.66	36	7	14	0.1	1		15
AM04653	12.20	12.98	0.78	21	16	<5	0.2	1		16
AM04654	12.98	14.00	1.02	63	20	<5	1.2	1		21
AM04655	14.00	14.63	0.63	38	9	<5	0.3	1		14
AM04656	14.63	15.89	1.26	43	12	<5	0.7	1		18
AM04657	15.89	17.00	1.11	45	18	10	0.7	2		18
AM04658	17.00	18.43	1.43	68	322	10	1.3	10		18
AM04659	18.43	18.76	0.33	152	547	10	2.3	12		31
AM04660	18.76	19.95	1.19	103	8560	<5	1.9	251		27
AM04661	19.95	21.50	1.55	177	1310	17	2.2	58		62
AM04662	21.50	23.00	1.50	165	68	<5	0.3	7		100
AM04663	23.00	24.00	1.00	266	77	<5	0.4	20		142
AM04664	24.00	24.50	0.50	196	12900	<5	0.7	459		120
AM04665	24.50	26.00	1.50	113	402	10	0.5	13		132
AM04666	26.00	26.58	0.58	134	315	<5	0.9	38		92
AM04667	26.58	27.27	0.69	249	203	14	2.2	21		80
AM04668	27.27	27.87	0.60	107	5320	10	1.6	669		20
AM04669	27.87	29.00	1.13	37	50	14	0.4	11		16
AM04670	29.00	29.53	0.53	33	14	<5	0.1	1		15
AM04671	29.53	30.64	1.11	48	123	<5	0.3	6		21
AM04672	30.64	32.00	1.36	123	4860	17	1.0	141		29
AM04673	32.00	33.50	1.50	127	491	10	1.3	43		34
AM04674	33.50	35.03	1.53	49	361	14	0.6	10		20
AM04675	35.03	35.28	0.25	209	35	24	1.7	4		29
AM04676	35.28	36.50	1.22	36	12	<5	0.2	1		15
AM04677	36.50	37.14	0.64	22	26	10	0.1	3		13
AM04678	37.14	38.00	0.86	43	9	14	0.3	1		20
AM04679	38.00	39.00	1.00	34	10	10	0.2	1		17
AM04680	39.00	41.00	2.00	24	10	<5	0.3	1		13
AM04681	41.00	42.50	1.50	24	6	14	0.2	1		17
AM04682	42.50	44.00	1.50	34	11	<5	0.2	1		17
AM04683	44.00	45.50	1.50	48	11	14	0.5	1		16
AM04684	45.50	47.00	1.50	24	5	10	0.1	1		17
AM04685	47.00	47.95	0.95	28	6	10	0.1	1		13
AM04686	47.95	48.50	0.55	536	817	213	3.2	52		43
AM04687	48.50	48.84	0.34	262	1850	10	1.8	103		50
AM04688	48.84	49.34	0.50	261	247	10	1.6	6		43
AM04689	49.34	49.84	0.50	226	479	<5	1.3	19		37
AM04690	49.84	50.23	0.39	178	611	<5	1.1	15		43
AM04691	50.23	50.52	0.29	216	3000	<5	2.4	104		104

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04692	50.52	50.97	0.45	252	602	<5	2.1	256		68
AM04693	50.97	51.60	0.63	187	627	10	0.8	349		131
AM04694	51.60	53.00	1.40	129	55	<5	0.2	11		105
AM04695	53.00	54.50	1.50	158	374	<5	0.2	32		91
AM04696	54.50	56.00	1.50	139	378	<5	0.1	59		105
AM04697	56.00	57.50	1.50	101	119	<5	0.1	34		121
AM04698	57.50	58.54	1.04	136	492	<5	0.1	2		86
AM04699	58.54	59.00	0.46	142	70	<5	0.1	1		76
AM04700	59.00	60.50	1.50	127	105	10	0.1	12		53
AM04701	60.50	62.00	1.50	141	537	<5	0.3	328		36
AM04702	62.00	63.50	1.50	118	107	<5	0.2	17		35
AM04703	63.50	64.54	1.04	106	131	<5	0.1	10		52
AM04704	64.54	65.08	0.54	109	1170	<5	0.3	139		71
AM04705	65.08	66.45	1.37	94	58	<5	0.1	8		81
AM04706	66.45	67.05	0.60	122	68	7	0.1	6		79
AM04707	67.05	68.00	0.95	167	712	<5	0.2	120		99
AM04708	68.00	68.79	0.79	177	372	<5	0.7	172		100
AM04709	68.79	69.50	0.71	237	276	17	1.2	101		145
AM04710	69.50	70.29	0.79	35	268	14	0.9	87		56
AM04711	70.29	72.41	2.12	146	697	<5	0.6	262		83
AM04712	72.41	74.00	1.59	135	358	<5	0.2	48		84
AM04713	74.00	74.40	0.40	101	93	10	0.2	36		85
AM04714	74.40	75.50	1.10	85	627	<5	0.3	259		100
AM04715	75.50	77.00	1.50	99	3000	<5	0.4	354		113
AM04716	77.00	78.50	1.50	89	363	<5	0.4	59		125
AM04717	78.50	80.00	1.50	112	2010	<5	0.3	402		117
AM04718	80.00	81.50	1.50	100	156	<5	0.2	43		116
AM04719	81.50	83.00	1.50	114	142	<5	0.3	38		99
AM04720	83.00	83.56	0.56	127	148	<5	0.6	23		105
AM04721	83.56	83.78	0.22	31	347	<5	0.1	2		29
AM04722	83.78	83.99	0.21	77	140	<5	0.1	2		106
AM04723	83.99	84.17	0.18	72	62	10	0.6	29		57
AM04726	84.17	85.52	1.35	143	151	10	0.2	38		89
AM04724	85.52	86.16	0.64	102	87	14	0.5	72		83
AM04725	86.16	86.97	0.81	188	10600	14	0.9	2400		102
AM04727	86.97	87.50	0.53	272	306	21	0.7	87		100
AM04728	87.50	89.00	1.50	621	3640	113	5.1	148		183
AM04729	89.00	89.63	0.63	642	4660	110	4.9	143		216
AM04730	89.63	90.34	0.71	116	1900	14	1.2	2860		46
AM04731	90.34	90.70	0.36	78	2620	<5	1.8	478		58
AM04732	90.70	91.63	0.93	89	465	<5	0.6	45		53
AM04734	91.63	91.91	0.28	637	4200	27	4.5	134		265
AM04735	91.91	93.50	1.59	43	55	<5	0.1	8		28
AM04736	93.50	95.00	1.50	43	35	10	0.1	4		30
AM04737	95.00	96.17	1.17	140	570	10	1.1	201		67
AM04738	96.17	97.21	1.04	187	771	14	1.8	58		91
AM04739	97.21	98.00	0.79	275	381	<5	0.8	27		143

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AN04740	98.00	99.50	1.50	124	233	<5	0.3	21		114
AN04741	99.50	100.52	1.02	57	67	<5	0.1	7		83
AN04742	100.52	101.12	0.60	305	1510	14	1.2	40		86
AN04743	101.12	102.50	1.38	58	172	<5	0.1	6		94
AN04744	102.50	104.00	1.50	63	51	<5	0.1	3		86
AN04746	104.00	105.50	1.50	93	68	10	0.2	13		95
AN04747	105.50	107.00	1.50	109	64	10	0.2	1		92
AN04748	107.00	108.50	1.50	209	77	<5	0.3	5		87
AN04749	108.50	109.10	0.60	111	39	<5	0.1	2		101
AN04745	109.10	109.88	0.78	95	41	34	0.1	76		85
AN04750	109.88	110.92	1.04	130	48	27	0.1	7		110
AN04751	110.92	111.27	0.35	180	41	<5	0.1	15		103
AN04752	111.27	112.65	1.38	127	40	<5	0.1	1		80
AN04753	112.65	113.76	1.11	225	48	10	0.1	1		88
AN04754	113.76	114.01	0.25	76	86	27	0.1	1		85
AN04755	114.01	114.50	0.49	82	49	<5	0.1	1		97
AN04756	114.50	116.00	1.50	81	66	7	0.1	1		90
AN04757	116.00	117.50	1.50	126	125	7	0.1	1		73
AN04758	117.50	119.00	1.50	106	45	<5	0.1	1		90
AN04759	119.00	120.50	1.50	102	52	<5	0.1	1		80
AN04760	120.50	122.00	1.50	101	43	<5	0.1	1		93
AN04761	122.00	123.50	1.50	95	46	10	0.1	2		111
AN04762	123.50	124.60	1.10	86	31	<5	0.1	1		91
AN04763	124.60	125.00	0.40	83	39	<5	0.1	10		95

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AM04359	5.40	6.80	1.40	76.61	0.57	1.55	1.10	0.11	0.10	19.42	0.03	<0.02	0.28	<0.00	0.62	100.38	6	146					25	30	<10			4PR	32
AM04360	11.54	12.01	0.47	80.29	0.39	0.85	0.97	0.06	0.06	15.38	0.02	<0.02	0.41	0.00	0.65	99.04	<2	128					25	25	<10			4PR	40
AM04361	15.22	15.63	0.41	86.27	0.56	0.59	0.72	0.03	0.08	10.72	0.02	<0.02	0.25	<0.00	1.01	100.25	<2	106					20	50	50			4PR	80
AM04362	20.72	21.26	0.54	77.77	6.32	0.11	0.98	0.14	1.08	10.22	0.23	0.02	0.10	0.00	2.64	99.70	6	180					70	1615	50			4PR*	475
AM04363	25.82	26.50	0.68	55.12	17.90	0.61	3.42	0.19	3.64	14.34	1.00	0.08	0.32	0.09	3.85	100.56	14	174					100	725	90			2w*	403
AM04364	48.01	48.50	0.49	80.45	1.51	0.32	0.87	0.16	0.20	10.92	0.06	<0.02	1.07	<0.00	3.00	97.66	6	134					70	870	<10			4PR	222
AM04365	53.00	54.00	1.00	47.85	14.34	7.48	8.31	2.53	1.26	12.38	0.79	0.04	0.23	0.03	4.44	99.68	16	156					140	310	140			2u	127
AM04366	68.95	69.57	0.62	51.97	7.52	13.77	2.65	2.31	0.52	8.83	0.43	<0.02	0.07	0.01	8.49	96.58	6	110					90	170	50			2v	45
AM04367	73.00	74.00	1.00	47.58	13.65	8.35	7.14	3.56	0.42	12.08	0.84	0.06	0.22	0.03	5.11	99.04	18	172					115	415	100			2u	111
AM04368	88.20	89.00	0.80	34.73	7.64	5.59	1.66	1.28	1.34	17.02	0.35	0.04	0.07	0.03	22.43	92.48	14	188					285	2965	100			2vl	93
AM04369	89.76	90.26	0.50	67.69	12.28	4.38	1.39	5.00	0.88	3.50	0.25	0.10	0.06	0.05	4.25	99.82	<2	138					45	1045	30			3PR	120
AM04370	96.45	97.00	0.55	57.97	7.55	3.44	2.43	1.28	0.90	11.82	0.29	0.06	0.10	0.01	12.05	97.89	12	164					145	415	80			2vl	134
AM04371	104.00	105.50	1.50	47.93	14.53	7.34	6.43	2.57	1.20	13.01	0.86	0.10	0.26	0.04	4.73	98.97	20	178					95	120	100			2u	131
AM04373	110.00	113.00	3.00	46.54	13.13	10.22	5.58	2.58	1.52	11.27	0.63	0.04	0.24	0.05	6.26	98.04	20	152					75	80	100			2u	92
AM04374	119.00	122.00	3.00	49.30	15.01	9.59	8.33	2.03	1.30	11.28	0.63	0.04	0.21	0.05	2.88	100.63	16	116					110	105	180			2u	116

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AM04359	5.40	6.80	1.40			<5		12000																					
AM04360	11.54	12.01	0.47			<5		21600																					
AM04361	15.22	15.63	0.41			<5		19400																					
AM04362	20.72	21.26	0.54			25		22000																					
AM04363	25.82	26.50	0.68			45		1800																					
AM04364	48.01	48.50	0.49			5		30800																					
AM04365	53.00	54.00	1.00			45		1200																					
AM04366	68.95	69.57	0.62			50		47800																					
AM04367	73.00	74.00	1.00			45		1000																					
AM04368	88.20	89.00	0.80			50		135000																					
AM04369	89.76	90.26	0.50			10		3700																					
AM04370	96.45	97.00	0.55			65		58200																					
AM04371	104.00	105.50	1.50			40		3200																					
AM04373	110.00	113.00	3.00			65		8900																					
AM04374	119.00	122.00	3.00			50		600																					

HOLE NUMBER: CU32-02

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/11/1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8203
PROJECT NUMBER: 008203
CLAIM NUMBER:
LOCATION: CUNNINGHAM TWP

PLOTTING COORDS GRID: UTM
NORTH: 0.00N
EAST: 0.00E
ELEV: 0.00

ALTERNATE COORDS GRID: LINE
NORTH: 143+60N
EAST: 115+60E
ELEV: 411.00

COLLAR DIP: -46° ' "
LENGTH OF THE HOLE: 154.00M
START DEPTH: M
FINAL DEPTH: 154.00M

COLLAR ASTRONOMIC AZIMUTH: 360° ' "
GRID ASTRONOMIC AZIMUTH: 360° ' 0"

DATE STARTED: 05/30/1991
DATE COMPLETED: 06/05/1991
DATE LOGGED: 06/09/1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: NOREX
CASING: BW.
CORE STORAGE: MINESITE
UTM COORD.:

COMMENTS :
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
17.00	357°30' "	-46° ' "	S	OK		-	-	-	-	-	
68.00	°30' "	-46° ' "	S	OK		-	-	-	-	-	
137.00	°30' "	-46° ' "	S	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.09	OVERBURDEN «{ob}»	-silty clay, boulders.				
9.09 TO 11.00	CHERT «5cht»	-light grey to greenish grey. -Locally weakly fractured and carbonate-filled. -9.09-9.34m "dirty", argillaceous chert with narrow bands at 25° to core axis. -9.34-10.70m "clean" white to light grey chert.		-Locally weakly chloritic.	-1-3% pyrrhotite, trace pyrite. -3-5% pyrite in patches throughout and in hairline fractures. -9.75-9.79m massive pyrite band at 25° to core axis. -9.85-9.92m as above.	
		-10.70-11.00m graphitic mudstone (?) (shear ?) poorly banded at 10-15° to core axis. Schistose. Narrow banding-parallel Fe-carbonate (?) bands; chert fragments/ discontinuous bands. Gradational upper contact at 30° to core axis; lower contact broken core.		-Strongly graphitic.	-2-3% reddish brown and locally honey coloured fine-grained sphalerite in narrow bands and as rims on chert fragments. Large blebs of pyrite to 5%.	
11.00 TO 55.87	ANDESITIC BASALT ? «2»	-greenish grey to dark grey/black. -Poorly to moderately well foliated at 20-30° to core axis. Locally moderately fractured and calcite and quartz flooded (increasing downhole). Locally spotted with chlorite. Carbonate veins locally host orange-brown amorphous mineral. -15.26-15.98m graphitic shear (?) similar to 10.70-11.00m; upper contact at 25°, lower contact at 35° to core axis. -23.73-23.78m carbonate vein at 40° to core axis with few specks of galena. -25.25-25.31m as above, with 3-5% sphalerite, 2-3% galena, trace to 1% chalcopyrite and trace pyrite; narrow bands of amorphous orange-brown mineral. -26.63m as 23.73-23.78m with trace sphalerite, chalcopyrite and galena. -42.55-43.09m weakly sheared and quartz-carbonate flooded; 2-3% vein-hosted and disseminated sphalerite; dragfold at 42.59m. -43.09-43.14m carbonate band at 60° to core axis.		-Moderately chloritic; variably carbonatized, locally intensely. -38.36-42.13m weakly to moderately silicified.	-Trace pyrite disseminated throughout with narrow bands at contacts with carbonate veins. -Pyrite content increases slightly in intensely carbonatized areas; locally dusty pyrite in carbonate veins.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				-43.14-43.22m weakly carbonatized, moderately to strongly epidotized.	-Trace to 1% chalcopyrite.	
		-45.22-45.30m carbonate-quartz vein at 35° to core axis.				
		-45.50-45.95m quartz-calcite flooded shear with partially digested chloritic host rock.				
		-45.95-49.72m increasingly fractured, locally brecciated and quartz-carbonate veined.			-46.72-46.81m quartz-carbonate veins with sphalerite and galena in carbonate portion. -47.19-47.53m as 46.72-46.81m. -48.47m as above. -49.25-49.28m as above.	
		-49.72-50.28m graphitic quartz-carbonate flooded shear at 35° to core axis.			-Trace sphalerite, pyrite.	
		-50.32-51.53m strongly fractured and silicified; fault gouge at 50.60m.		-Locally moderately to strongly graphitic.	-Trace pyrite.	
		-52.54-53.44m as 49.72-50.28m, sheared at 40° to core axis.			-1-2% pyrite, trace to 1% sphalerite in carbonate veins at lower contact.	
		-53.44-54.28m moderately to strongly fractured, locally brecciated and quartz-carbonate flooded. Quartz in vein brecciated, with fragments in carbonate matrix.				
		-54.60-54.66m quartz-carbonate vein and plagioclase (?, secondary ?) vein at 30° to core axis.				
		-55.08-55.22m quartz-carbonate flooded zone at 45° to core axis.			-3-5% sphalerite associated with carbonate.	
		-55.22-55.50m weakly sheared, silicified and carbonatized with pyrite and discontinuous pyrrhotite bands subparallel to foliation; ptygmatic quartz vein at lower contact.			-2-3% pyrite, 3-5% pyrrhotite.	-moderately magnetic.
55.87 TO 67.40	CHERT «5cht»	-light grey.				
		-Generally weakly fractured and carbonate filled.		-Locally weakly carbonatized, chloritic.	-Pyrite in carbonate fractures (locally massive) to 4%; pyrrhotite locally associated with pyrite to 2%. Sphalerite and galena veining and void filling with carbonate, trace to 1%.	
				-59.17-59.41m moderately carbonatized and epidotized.		
		-61.65-62.61m graphitic chert; upper contact at 40° to core axis.		-Strongly graphitic, locally moderately to strongly chloritic.	-2-3% pyrite, 3-4% pyrrhotite; trace chalcopyrite and sphalerite (?).	-Moderately magnetic.
		-62.61-64.42m graphitic shear (?) as 10.70-11.00m.		-Strongly graphitic, moderately chloritic.	-2-3% pyrite, 5-8% pyrrhotite with local concentrations to 20%. Trace	-Moderately to strongly magnetic.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-64.07-64.42m chert breccia with graphite, pyrrhotite and pyrite matrix.			chalcopyrite (?), trace sphalerite (?).	
		-64.42-64.86m moderately fractured chert with carbonate fill.			-2-3% pyrrhotite, 1% pyrite in fractures and voids.	-Weakly magnetic.
		-64.86-65.24m siltstone with minor chert; upper contact at 75° to core axis.		-Weakly epidotized (?).		
		-65.38-65.45m as above.				
		-65.45-66.11m fractured as 64.42-64.86m.		-Weakly epidotized (?), Fe-carbonatized (?).	-3-5% pyrite in fractures with carbonate; 1-2% pyrrhotite.	
		-66.11-67.40m weakly sheared and fractured at 50° to core axis.		-Locally graphitic. -67.31-67.40m strongly carbonatized lower contact.	-Pyrite and pyrrhotite locally flooding along shear plane.	
67.40 TO 71.81	GRAPHITIC SHEAR ZONE (CHERT ?) «5g,chtFAI»	-Strongly sheared at 40° to core axis (possibly sheared lower contact of chert unit); chert and pyrite bands and rafts locally discontinuous and ptygmatic with fold axes alligned in shear plane; locally appears to be brecciated graphitic chert; shear angle increasing to 80° to core axis at lower contact, graphite contact decreasing.			-5-10% pyrite, generally in shear-parallel bands. Sphalerite, galena and chalcopyrite associated with chert intervals.	
71.81 TO 74.09	ANDESITIC BASALT «2l»	-greenish grey, fine- to medium-grained.				
		-Foliation masked by alteration; ghosts of chlorite spots throughout; weakly fractured and quartz-carbonate filled.		-Moderately carbonatized, weakly silicified (?) and weakly chloritic.	-1-2% fine-grained pyrite disseminated throughout. Trace sphalearite associated with quartz banding at 72.27m.	
74.09 TO 77.00	CHERT «5cht»	-light to medium grey.				
		-Variably fractured and sheared.		-Locally moderately to strongly carbonatized.	-5-8% fine-grained pyrite in irregular bands and hairline fractures throughout. 3-5% pyrrhotite associated with pyrite. Sphalerite and galena hosted in carbonate flooded zone 75.54-75.83m.	-Locally weakly magnetic.
		-75.54-77.00m increasingly graphitic downhole, locally weakly brecciated.				
77.00 TO 154.00	BASALT «2m»	-dark grey, fine-grained.				
		-Generally massive to weakly foliated, locally amygdular; rare plagioclase (?) amygdules/ phenocrysts.		-Variably carbonatized, weakly to moderately chloritic; variably silicified.	-Trace fine-grained pyrite throughout.	-Locally weakly magnetic.
		-77.31-79.30m weakly sheared and carbonate-chlorite flooded at moderate to high angles to core axis. Locally anastamosing carbonate-		-Moderately carbonatized and chloritic; moderately to strongly silicified.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		chlorite veins wrap around silicic losenges. -82.21-82.41m carbonate amygdules. -83.51-83.92m as above. -85.52-85.75m as 82.21-82.41m, alligned at 30° to core axis. -87.07-87.67m as 77.31-79.30m at 10-15° to core axis. -87.88-88.24m strongly silicified, weakly carbonatized. -89.32-89.95m as above; weakly brecciated with chloritic matrix. -89.95-132.50m medium-grained flow; increasing grain size and increasing degree of foliation downhole at 20-25° to core axis. -94.13-94.77m as 87.88-88.24m. -132.50m fine-grained flow (upper contact). -133.68-134.14m quartz-carbonate vein at 20° to core axis. -138.50-138.64m moderately to strongly fractured and carbonate-quartz flooded. -142.98-143.90m anhedral to subhedral quartz and plagioclase (?) phenocrysts (?) to 3mm; weakly biotite and hornblende phyric. -145.09-145.35m carbonate-quartz vein at 10° to core axis, 0.5cm wide. -149.70-151.01m moderately sheared and chlorite and carbonate flooded.		-Weakly epidotized (?). -Medium-grained biotite plates - ragged, medium-grained chlorite spots. -Weakly chloritic. -Strongly carbonatized, weakly bleached. -Strongly carbonatized. -Intensely carbonatized and bleached host rock. -Strongly chloritic.	-1-2% disseminated pyrite. -Trace pyrite. -2-3% fine-grained pyrite disseminated throughout. -1-2% fine-grained pyrite in quartz-carbonate stringers and veins. -5-8% dusty to fine-grained pyrite disseminated throughout. -2-4% fine-grained pyrite disseminated throughout, with 1-3% pyrrhotite.	-Moderately magnetic. -Weakly magnetic.
154.00 TO 154.00	E.O.H.					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04764	9.08	9.70	0.62	68	231	<5	0.9	91		22
AM04765	9.70	10.70	1.00	280	96	<5	1.6	231		89
AM04766	10.70	11.00	0.30	481	11300	17	7.3	3590		71
AM04767	11.00	12.50	1.50	155	2430	10	1.8	988		114
AM04768	12.50	14.00	1.50	117	127	<5	0.3	48		105
AM04769	14.00	15.26	1.26	119	804	<5	0.8	89		121
AM04770	15.26	15.98	0.72	219	419	10	3.5	143		155
AM04771	15.98	17.00	1.02	193	219	7	2.8	85		133
AM04772	17.00	18.50	1.50	109	101	<5	0.2	10		99
AM04773	18.50	20.00	1.50	115	66	<5	0.1	1		90
AM04774	20.00	21.50	1.50	131	152	<5	0.2	23		95
AM04775	21.50	23.00	1.50	112	141	7	0.1	19		89
AM04776	23.00	24.50	1.50	117	551	<5	0.1	121		108
AM04777	24.50	26.00	1.50	143	1650	<5	0.3	1020		90
AM04778	26.00	27.50	1.50	79	601	<5	0.2	16		102
AM04779	27.50	29.00	1.50	86	279	<5	0.1	8		103
AM04780	29.00	30.50	1.50	127	554	10	0.2	68		89
AM04781	30.50	32.00	1.50	139	369	7	0.2	20		69
AM04782	32.00	33.50	1.50	114	97	7	0.2	14		50
AM04783	33.50	35.00	1.50	142	175	10	0.1	20		41
AM04785	35.00	35.87	0.87	108	96	<5	0.2	8		57
AM04786	35.87	37.26	1.39	106	75	14	0.1	97		61
AM04787	37.26	38.36	1.10	63	73	<5	0.4	2		65
AM04788	38.36	39.50	1.14	139	81	10	0.1	10		81
AM04789	39.50	41.00	1.50	70	162	10	0.1	21		72
AM04790	41.00	42.13	1.13	55	68	<5	0.1	2		61
AM04791	42.13	42.93	0.80	169	181	<5	0.9	18		137
AM04792	42.93	43.22	0.29	571	17800	<5	5.7	1070		181
AM04793	43.22	44.00	0.78	331	581	<5	1.5	129		166
AM04794	44.00	45.50	1.50	124	100	10	0.3	6		114
AM04795	45.50	47.00	1.50	79	1880	10	0.3	284		72
AM04796	47.00	48.50	1.50	105	2060	<5	0.2	103		89
AM04797	48.50	49.72	1.22	187	1610	<5	0.7	508		110
AM04798	49.72	50.28	0.56	316	13800	10	6.4	1100		92
AM04799	50.28	50.52	0.24	211	1310	10	5.8	336		121
AM04800	50.52	51.53	1.01	112	2550	<5	3.0	610		66
AM04801	51.53	52.54	1.01	88	287	<5	3.3	54		141
AM04802	52.54	53.44	0.90	149	972	10	4.0	326		149
AM04803	53.44	54.50	1.06	74	691	10	0.3	88		107
AM04804	54.50	55.87	1.37	329	3970	14	5.0	596		159
AM04805	55.87	57.50	1.63	181	6400	14	1.9	1610		37
AM04806	57.50	59.00	1.50	241	1790	171	2.1	698		27
AM04807	59.00	60.05	1.05	202	41	158	2.3	22		28
AM04808	60.05	61.65	1.60	323	210	151	2.2	40		27
AM04809	61.65	62.52	0.87	123	255	75	1.7	88		28
AM04810	62.52	63.50	0.98	115	2170	55	6.0	206		46
AM04811	63.50	64.42	0.92	288	1970	147	4.8	1150		64

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04812	64.42	64.86	0.44	51	413	31	0.2	107		22
AM04813	64.86	65.24	0.38	28	11	10	0.1	2		16
AM04814	65.24	66.50	1.26	200	881	14	1.6	422		41
AM04815	66.50	67.40	0.90	218	4720	14	1.0	1050		36
AM04816	67.40	68.00	0.60	67	543	<5	1.4	388		70
AM04817	68.00	69.50	1.50	101	779	14	1.0	183		69
AM04818	69.50	71.00	1.50	103	5400	10	1.7	1390		66
AM04819	71.00	71.81	0.81	224	4110	17	2.3	1050		109
AM04820	71.81	72.81	1.00	41	141	7	0.2	11		30
AM04821	72.81	74.09	1.28	53	296	10	0.1	12		29
AM04822	74.09	75.50	1.41	249	591	<5	1.0	23		125
AM04823	75.50	77.00	1.50	248	2910	10	0.9	2440		95
AM04824	77.00	78.50	1.50	122	211	<5	0.4	48		122
AM04825	78.50	80.00	1.50	135	48	<5	0.1	2		95
AM04826	80.00	81.50	1.50	155	63	10	0.1	9		117
AM04827	81.50	83.00	1.50	99	37	<5	0.1	1		106
AM04828	83.00	84.00	1.00	110	33	14	0.1	1		97
AM04829	84.00	86.00	2.00	139	25	10	0.1	1		82
AM04830	86.00	87.50	1.50	154	34	21	0.1	1		77
AM04831	87.50	89.00	1.50	153	44	24	0.1	1		105
AM04832	89.00	90.50	1.50	139	33	10	0.1	1		81
AM04833	90.50	92.00	1.50	146	41	10	0.1	1		69
AM04834	92.00	93.50	1.50	144	29	14	0.1	1		44
AM04835	93.50	94.13	0.63	152	183	10	0.1	11		128
AM04836	94.13	94.77	0.64	132	60	17	0.1	1		92
AM04837	94.77	97.00	2.23	113	48	10	0.1	1		58
AM04838	97.00	98.00	1.00	176	35	17	0.1	1		56
AM04840	98.00	99.50	1.50	134	41	10	0.1	1		76
AM04841	99.50	101.00	1.50	135	48	<5	0.1	1		96
AM04842	101.00	102.13	1.13	161	46	14	0.1	1		116
AM04843	102.13	104.00	1.87	63	43	10	0.1	1		63
AM04844	104.00	105.50	1.50	162	40	17	0.1	1		77
AM04845	105.50	107.00	1.50	136	36	<5	0.1	1		70
AM04846	107.00	108.50	1.50	121	34	10	0.1	1		81
AM04847	108.50	110.00	1.50	89	25	<5	0.1	1		57
AM04848	110.00	111.50	1.50	496	31	<5	0.2	1		86
AM04849	111.50	113.00	1.50	106	31	14	0.3	1		105
AM04850	113.00	114.50	1.50	94	37	<5	0.1	1		91
AM04851	114.50	116.00	1.50	83	49	7	0.1	1		104
AM04852	116.00	117.50	1.50	121	38	<5	0.1	1		76
AM04853	117.50	119.00	1.50	125	31	<5	0.1	1		66
AM04854	119.00	120.50	1.50	121	37	14	0.1	1		71
AM04855	120.50	122.00	1.50	107	38	10	0.1	1		67
AM04856	122.00	123.50	1.50	155	41	10	0.1	1		55
AM04857	123.50	125.00	1.50	126	63	7	0.1	1		88
AM04858	125.00	126.50	1.50	149	43	17	0.1	1		54
AM04859	126.50	128.00	1.50	144	32	7	0.1	2		42

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04860	128.00	129.50	1.50	142	29	<5	0.1	1		42
AM04861	129.50	131.00	1.50	145	37	10	0.1	1		44
AM04862	131.00	132.50	1.50	197	34	10	0.1	1		55
AM04863	132.50	134.00	1.50	140	45	21	0.2	1		68
AM04864	134.00	135.50	1.50	135	26	17	0.2	2		58
AM04865	135.50	136.27	0.77	135	21	10	0.1	1		60
AM04866	136.27	137.00	0.73	131	25	14	0.1	1		55
AM04867	137.00	138.50	1.50	133	33	17	0.1	1		68
AM04868	138.50	140.00	1.50	141	27	24	0.1	1		57
AM04869	140.00	142.98	2.98	133	29	17	0.1	1		54
AM04870	142.98	143.90	0.92	47	42	21	0.1	5		54
AM04871	143.90	144.50	0.60	138	22	24	0.1	1		52
AM04872	144.50	146.00	1.50	135	25	17	0.1	1		55
AM04873	146.00	147.50	1.50	181	32	14	0.1	1		63
AM04874	147.50	149.00	1.50	141	25	10	0.1	1		51
AM04875	149.00	149.70	0.70	128	27	<5	0.1	1		51
AM04876	149.70	151.01	1.31	189	53	14	0.1	1		84
AM04877	151.01	152.00	0.99	157	29	10	0.1	1		70
AM04878	152.00	154.00	2.00	149	27	7	0.1	1		65

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AM04375	9.70	10.70	1.00	77.36	0.33	0.43	0.70	0.05	0.04	14.24	0.01	0.04	0.18	<0.00	4.54	97.94	4	120					60	110	<10			4PR	63
AM04376	14.00	15.00	1.00	46.80	14.79	8.90	5.69	1.32	0.96	11.06	0.90	0.08	0.16	0.04	7.89	98.58	18	152					105	215	80			2v	132
AM04377	15.98	17.00	1.02	47.68	14.29	9.37	6.21	0.90	1.68	11.92	0.79	0.06	0.21	0.03	5.60	98.73	16	146					90	575	140			2u	120
AM04378	29.00	30.00	1.00	48.82	14.22	8.59	7.92	2.08	1.02	12.94	0.86	0.08	0.23	0.03	2.83	99.60	22	164					120	245	120			2u	122
AM04379	40.00	41.00	1.00	48.02	13.27	8.80	7.72	2.17	0.68	12.58	0.85	0.06	0.21	0.03	4.07	98.46	24	168					85	140	100			2u	114
AM04380	50.32	51.53	1.21	54.09	12.99	8.44	3.66	2.85	1.28	7.39	0.54	0.10	0.13	0.01	7.30	98.78	16	128					115	1355	60			2w	103
AM04381	55.87	56.87	1.00	84.82	1.38	2.33	0.91	0.08	0.06	5.58	0.03	0.04	0.06	<0.00	2.22	97.50	2	70					75	5365	<10			4PR	56
AM06080	59.00	60.00	1.00	75.48	0.77	2.44	0.96	0.06	0.14	12.54	0.02	<0.02	0.11	<0.00	5.00	97.52	8	104					95	100	10			4PR	29
AM04382	71.81	72.81	1.00	66.51	14.84	3.74	1.45	5.04	1.24	3.48	0.34	0.12	0.04	0.00	3.11	99.94	<2	116					35	305	10			3?	148
AM04383	77.00	77.70	0.70	41.93	13.07	12.84	6.33	1.67	0.48	13.71	0.67	0.02	0.28	0.05	8.81	99.85	14	124					95	160	140			2u	87
AM04384	83.50	84.50	1.00	50.56	16.47	10.98	4.12	1.93	0.80	11.22	0.77	0.06	0.21	0.05	3.05	100.23	14	144					130	110	180			2w	120
AM04385	87.50	88.50	1.00	46.97	15.09	11.83	5.04	1.98	0.78	12.88	0.69	0.06	0.25	0.05	3.93	99.54	16	134					110	95	130			2w	103
AM04386	110.00	111.00	1.00	48.09	16.46	11.37	5.01	1.73	0.98	11.66	0.63	0.06	0.21	0.08	2.80	99.08	20	166					250	65	120			2w	117
AM04388	142.98	143.90	0.92	60.94	14.16	6.06	4.97	5.11	0.86	5.95	0.44	0.18	0.10	0.05	2.02	100.83	8	174					50	80	60			2w	118

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AM04375	9.70	10.70	1.00			<5		52600																					
AM04376	14.00	15.00	1.00			45		17600																					
AM04377	15.98	17.00	1.02			45		1300																					
AM04378	29.00	30.00	1.00			50		1900																					
AM04379	40.00	41.00	1.00			40		4500																					
AM04380	50.32	51.53	1.21			25		6400																					
AM04381	55.87	56.87	1.00			5		25500																					
AM06080	59.00	60.00	1.00			<5		59000																					
AM04382	71.81	72.81	1.00			5		3600																					
AM04383	77.00	77.70	0.70			40		2800																					
AM04384	83.50	84.50	1.00			55		1000																					
AM04385	87.50	88.50	1.00			45		3500																					
AM04386	110.00	111.00	1.00			50		4000																					
AM04388	142.98	143.90	0.92			20		2500																					

HOLE NUMBER: CU32-03

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/11/1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8203
PROJECT NUMBER: 008203
CLAIM NUMBER:
LOCATION: CUNNINGHAM TWP

PLOTTING COORDS GRID: UTM
NORTH: 0.00N
EAST: 0.00E
ELEV: 0.00

ALTERNATE COORDS GRID: LINE
NORTH: 143+70N
EAST: 116+10E
ELEV: 411.00

COLLAR DIP: -66° ' "
LENGTH OF THE HOLE: 196.00M
START DEPTH: M
FINAL DEPTH: 196.00M

COLLAR ASTRONOMIC AZIMUTH: 360° ' "

GRID ASTRONOMIC AZIMUTH: 360° ' "

DATE STARTED: 06/05/1991
DATE COMPLETED: 06/07/1991
DATE LOGGED: 06/22/1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: NOREX
CASING: BW, 3m.
CORE STORAGE: MINESITE
UTM COORD.:

COMMENTS :
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
14.00	352° ' "	-66° ' "	S	OK	moderate magnetics
74.00	359° ' "	-64° ' "	S	OK	
134.00	1° ' "	-64°30' "	S	OK	
191.00	280° ' "	-66° ' "	S		error azimuth

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.00	OVERBURDEN «|ob|»	-sandy clay, organics, boulders, casing.				
3.00 TO 9.22	CHLORITE-GRAPHITE SCHIST «Sg,Ch»	-greenish grey. -Strongly sheared with schistosity developed at low angles to core axis. Possibly altered argillaceous chert. -Lower contact at 15-20° to core axis.		-Strongly chloritic; weakly graphitic; talcose (?).	-3-5% pyrite throughout, along schistosity and in occasional chert rafts/quartz veins; trace to 1% pyrrhotite in chert.	-Moderately magnetic.
9.22 TO 31.57	CHERT «Scht»	-medium grey. -Moderately fractured and black chlorite filled at 10-15° and 100-105° to core axis. -Weakly sheared and green chlorite and pyrrhotite flooded. -Narrow chloritic bands throughout at 25° to core axis. -13.01-13.24m felsic lapilli tuff (?); moderately chloritic and epidotized. -17.12-19.51m intermediate lapilli tuff/sheared cataclastic argillaceous chert (?); sheared at 25° to core axis with shear direction rotating into core axis downhole with increasing cataclasis. -19.51-20.60m fractures variably chorite, pyrite, sphalerite, galena and chalcopyrite filled. -20.60-22.20m moderately sheared and chlorite + pyrrhotite ± chalcopyrite flooded, with rare sphalerite + chalcopyrite + galena mineralization associated with narrow chlorite veins.		-Locally moderately chloritic and epidotized (?); chloritic bands may represent sheared intermediate tuff or siltstone. -Moderately to strongly graphitic; moderately chloritic. -Weakly carbonatized in shear-parallel bands.	-2-3% pyrrhotite disseminated throughout; 4-6% pyrrhotite associated with chlorite and as massive fracture filling with trace pyrite. -3-5% pyrite in narrow shear-parallel bands; 1-3% pyrrhotite in chlorite-graphite bands; local sphalerite to 3% and trace galena, trace chalcopyrite in chloritic matrix in cataclastite bands and veins cross-cutting shear at high angles to core axis.	-Locally moderately magnetic.
31.57 TO 35.45	SILTSTONE «Sg,Slst»	-dark grey. -Well banded at 25° to core axis, with gradational upper and lower contacts; cherty intervals throughout. Strongly chloritic and epidotitic (?) bands host dusty pyrrhotite ± chalcopyrite to 8%.		-Moderately chloritic, moderately to strongly silicified.	-Trace pyrite, indeterminate pyrrhotite. -33.64-33.78m 2-3% sphalerite in narrow carbonate fractures in cherty interval.	-Weakly, locally strongly, magnetic.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
35.45 TO 41.30	CHERT «5cht»	-As 9.22-31.57m; argillaceous bands, generally narrow, at 25° to core axis host dusty to medium-grained locally semi-massive pyrite; weakly fractured and carbonate filled.				
41.30 TO 44.44	GRAPHITIC SHEAR «5g,┤FAI├»	-grey to black. -Graphitic shear with rafts of downhole unit; schistosity at 15-20° to core axis; narrow pyrite-carbonate bands at 65° to core axis. -43.00-44.00m ground core.		-Strongly graphitic.	-Narrow bands and blebs of pyrite throughout.	
44.44 TO 90.50	BASALT «2l»	-greenish grey, fine- to medium-grained. -Increasingly coarse-grained downhole; variably fractured and carbonate ± quartz filled.		-Moderately to strongly chloritic; variably carbonatized.	-Rare fine-grained sphalerite (?) associated with carbonate veining; trace fine-grained pyrite disseminated throughout.	
		-45.10-45.53m carbonate-quartz flooded with 5-7% blebby sphalerite throughout, trace galena. -46.18-46.36m carbonate-quartz flooded shear as above; 2mm wide sphalerite and trace galena in carbonate at host rock contact. -59.11-59.52m carbonate veining hosting 1-2% spotty sphalerite. -59.63-59.92m carbonate veining at 10-15° to core axis, hosting 5-8% sphalerite at wallrock contacts and along carbonate margins.				
		-68.17-68.38m sheared and quartz-carbonate flooded at 40° to core axis.			-Trace fine-grained pyrite associated with flooding.	
		-68.91-69.83m moderately to strongly pervasively carbonatized with quartz-carbonate veins and carbonate veinlets throughout.		-Bleached and carbonatized.	-2-3% fine- to medium-grained subhedral pyrite at upper contact in vein.	
		-73.37-74.70m as above. Locally weakly to moderately sheared and quartz-carbonate flooded. Strong shear at 73.74-73.82m at 45° to core axis.				
		-77.45-78.58m as 68.91-69.83m with quartz-carbonate vien 77.97-78.09 at 40-45° to core axis.			-Trace to 1% fine-grained pyrite in halo around vein.	
		-80.72-81.47m as 68.91-69.83m. -81.47-82.16m weakly silicified and moderately hairline fractured; quartz-carbonate vein 81.96-82.10m; lower contact graphitic.				
		-82.16-82.32m carbonatized with carbonate band at upper contact with graphitic band.		-Intensely chloritic.		

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Branch
Geoscience Approvals Section
159 Cedar Street, 4th Floor
Sudbury, Ontario
P3E 6A5

Telephone: (705) 670-7264
Fax: (705) 670-7262

June 17, 1992

Our File: 2.14596
Transaction #W9260.0026
W9260.0036

Mining Recorder
Ministry of Northern Development
and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir/Madam:

SUBJECT: APPROVAL OF ASSESSMENT WORK SUBMITTED ON MINING CLAIMS P116466 ET AL. IN CUNNINGHAM TOWNSHIP

The assessment work credits for the Geological Survey and Assays, Sections 12 and 17 of the Mining Act Regulations have been approved as outlined on the attached Assessment Work Credit Form.

The approval date is June 17, 1992.

Please indicate this approval on the claim record sheet.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Branch
Mines and Minerals Division

LJ/jl
Enclosures:

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Timmins, Ontario

ASSESSMENT WORK CREDIT FORM

FILE NUMBER: 2.14596
DATE: JUNE 17, 1992
RECORDER'S REPORT NUMBER: W9260.0026

RECORDED HOLDER: Falconbridge Ltd.

CLIENT NUMBER: 130679

TOWNSHIP OR AREA: Cunningham Township

CLAIM NUMBER	VALUE OF WORK DONE ON THIS CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	RESERVE
P116466	$1430	0	0	1430
116467	1430	0	0	1430
116468	1430	0	0	1430
116469	1430	0	0	1430
641188	1430	0	0	1430
641189	1430	0	0	1430
641190	1430	0	0	1430
641191	1430	0	0	1430
641192	1430	0	0	1430
641193	1430	0	0	1430
1131998	1430	540	0	890
1131999	1430	320	0	1110
1132000	1430	320	0	1110
1132001	1430	320	0	1110
1132002	1430	320	0	1110
1132003	1430	320	0	1110
1132004	1430	320	0	1110
1132005	1430	320	0	1110
1132006	1430	320	0	1110
1132007	1430	320	0	1110
1132287	1430	320	0	1110
1132288	1430	320	0	1110
1132289	1443	320	0	1123
23 claims	32,903	4,380		28,523

ASSESSMENT WORK CREDIT FORM

FILE NUMBER: 2.14596
DATE: JUNE 17, 1992
RECORDER'S REPORT NUMBER: W9260.0036

RECORDED HOLDER: Falconbridge Ltd.

CLIENT NUMBER: 130679

TOWNSHIP OR AREA: Cunningham Township

CLAIM NO.	VALUE OF WORK DONE ON CLAIM	RESERVE
P116469	$2649	$2650
1132006	1359	1359
1132289	1223	1223
3 claims	$5231	$5231

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-82.70-83.63m weakly sheared and carbonate-black chlorite-amorphous orange-brown mineral flooded.				
		-83.72-83.99m weakly to moderately sheared and quartz-carbonate-chlorite flooded at 40° to core axis.			-2-4% fine-grained pyrite associated with flooding.	
		-85.55-85.71m carbonate-quartz vein at high angle to core axis.			-Weakly pyritic, carbonatized halo downhole.	
		-85.97-87.50m weakly to moderately sheared at moderate angles to core axis with carbonate (pink at upper contact) and quartz flooding. -87.25-87.50m moderately to strongly sheared/ brecciated and chlorite healed with trace sphalerite in matrix.		-Moderately carbonatized and chloritic, increasing downhole with intervals of shearing; weakly to moderately silicified.		
		-87.50-90.50m as 87.25-87.50m; strongly sheared at 25-35° to core axis; locally carbonate-quartz flooded. Lower contact at 50° to core axis.		-Strongly silicified.	-2-3% dusty to fine-grained pyrite disseminated throughout, 10-40% to 87.94m. Sphalerite and trace galena in carbonate veins along contacts with wallrock as specks and locally massive fining to 3mm.	
90.50 TO 93.15	GRAPHITIC SHEAR «5g,┤FA├»	-Shear banding at 30° to core axis with carbonate flooding shear plane and filling stockwork; banding locally contorted.			-2-3% fine- to medium-grained light brown to honey coloured sphalerite and trace fine- to medium-grained galena in contorted bands and associated with carbonate flooding.	
93.15 TO 143.15	BASALT «2l»	-greenish grey, fine- to medium grained.				
		-As 44.44-90.50m; occasional amorphous orange-brown veining associated with carbonate veins; variably chlorite-spotted and calcite spotted to 3mm.				
		-101.86-102.56m moderately to strongly silicified, weakly carbonatized.			-Trace fine-grained pyrite.	
		-104.18-104.35m porphyritic in plagioclase (?).		-Strongly silicified.		
		-109.23-109.40m graphitic; carbonate flooded shear at 45-50° to core axis.			-Fractured pyritic band at lower contact.	
		-111.96-113.14m amygdular interval; amygdules to 1.6mm.		-Moderately silicified, weakly pervasively carbonatized.	-Trace fine-grained pyrite.	
143.15 TO 146.15	GABBRO «7l»	-greenish grey; medium-grained.				
		-Massive to weakly foliated, equigranular.		-Moderately to strongly silicified.	-Trace fine-grained pyrite.	
		-144.50-145.03m sheared and quartz flooded.			-Trace pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
146.15 TO 196.00	BASALT «2l»	-greenish grey; fine- to medium-grained.				
		-As 93.15-143.15m; increasingly coarse-grained flows downhole with black chlorite spots to 0.5cm common; poorly foliated at 30-35° to core axis.		-Generally moderately silicified; biotite - chlorite and calcite.	-Rare blebs pyrrhotite and void-filling pyrrhotite and trace chalcopyrite at 148.58m. Trace pyrite throughout.	-Generally weakly magnetic.
		-154.85-155.55m weakly brecciated and quartz-flooded; weakly bleached halo 153.86-154.85m.				
		-163.27-163.62m carbonate-flooded shear at 25° to core axis.		-50cm carbonatized alteration halo.	-Slightly elevated pyrite content at upper contact.	
		-172.90-174.03m feldspar (-quartz) porphyry dyke; weakly fractured and black chlorite filled; generally buff to grey coloured and poorly foliated with weak alignment of phenocrysts (flow banded) at 30° to core axis; rare zoned plagioclase (?) phenocrysts; plagioclase (?) and K-feldspar (?) phenocrysts to 45%, from 1 to 4mm, sub- to euhedral; rare quartz phenocrysts; narrow chilled contacts.		-Moderately to strongly silicified; weakly chloritic groundmass.	-Trace to 1% dusty to fine-grained, rarely medium-grained pyrite disseminated throughout.	
		-174.26-174.33m as above.				
		-176.32-196.00m fine-grained, generally massive flows; few quartz veins.		-Bleached haloes around quartz veins weakly carbonatized; locally strongly chloritic.	-Slightly elevated pyrite content in bleached haloes; trace to 1% pyrite in quartz veins. Trace fine-grained pyrite throughout.	-Locally weakly magnetic.
196.00 TO 196.00	E.O.H.					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM04945	3.00	4.00	1.00	119	115	10	0.1	1		168
AM04946	4.00	5.00	1.00	81	140	<5	0.1	1		167
AM04947	5.00	6.50	1.50	134	112	17	0.2	2		211
AM04948	6.50	8.00	1.50	92	110	<5	0.3	4		162
AM04949	8.00	8.30	0.30	196	110	<5	0.5	9		180
AM04950	8.30	9.22	0.92	158	587	<5	0.4	154		172
AM05801	9.22	11.00	1.78	66	57	10	0.6	1		40
AM05802	11.00	12.50	1.50	61	147	17	0.2	1		28
AM05803	12.50	14.00	1.50	52	56	21	0.3	1		20
AM05804	14.00	15.50	1.50	52	74	72	0.4	1		16
AM05805	15.50	17.12	1.62	42	86	17	0.4	10		17
AM05806	17.12	18.12	1.00	136	4620	<5	1.3	1730		29
AM05807	18.12	19.51	1.39	105	4280	<5	0.8	1050		20
AM05808	19.51	20.60	1.09	97	3750	24	1.3	1710		19
AM05809	20.60	22.20	1.60	151	1210	24	3.2	274		28
AM05810	22.20	23.00	0.80	124	2930	10	2.2	518		21
AM05811	23.00	24.50	1.50	56	50	10	0.3	13		21
AM05812	24.50	26.00	1.50	25	25	<5	0.2	2		15
AM05813	26.00	27.50	1.50	21	18	21	0.1	2		21
AM05814	27.50	29.00	1.50	39	12	55	0.4	1		19
AM05815	29.00	30.50	1.50	30	13	<5	0.2	1		14
AM05816	30.50	31.57	1.07	26	15	<5	0.1	1		15
AM05817	31.57	33.50	1.93	48	24	<5	0.2	1		22
AM05818	33.50	34.50	1.00	33	139	<5	0.2	1		30
AM05819	34.50	35.45	0.95	22	55	<5	0.2	1		14
AM05821	35.45	37.20	1.75	82	103	17	1.3	4		19
AM05822	37.20	37.45	0.25	23	103	10	0.3	11		11
AM05823	37.45	38.84	1.39	29	33	24	0.5	15		15
AM05824	38.84	39.56	0.72	55	7	27	0.4	10		20
AM05825	39.56	41.30	1.74	184	113	96	1.0	43		26
AM05826	41.30	42.43	1.13	337	1620	27	5.9	303		112
AM05827	42.43	44.44	2.01	247	306	21	1.2	65		113
AM05828	44.44	45.10	0.66	164	105	10	0.6	44		126
AM05829	45.10	45.53	0.43	89	17200	10	0.4	1510		75
AM05830	45.53	46.18	0.65	137	3070	14	0.7	425		110
AM05838	46.18	46.36	0.18	71	41800	10	1.0	911		72
AM05831	46.36	47.15	0.79	129	995	65	0.6	135		152
AM05832	47.15	47.68	0.53	171	17900	10	0.8	518		94
AM05833	47.68	48.50	0.82	112	1140	<5	0.2	102		126
AM05834	48.50	50.50	2.00	85	200	<5	0.1	66		121
AM05835	50.50	51.50	1.00	114	1290	<5	0.4	550		130
AM05836	51.50	53.00	1.50	128	63	<5	0.2	3		100
AM05837	53.00	54.50	1.50	105	131	10	0.2	405		106
AM05839	54.50	56.00	1.50	124	152	<5	0.1	94		91
AM05855	56.00	57.50	1.50	95	85	<5	0.1	4		95
AM05856	57.50	59.00	1.50	88	288	<5	0.2	23		102
AM05857	59.00	60.50	1.50	86	2150	<5	0.2	16		95

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM05858	60.50	62.00	1.50	115	116	<5	0.2	60		93
AM05859	62.00	63.50	1.50	96	192	<5	0.2	15		92
AM05860	63.50	65.00	1.50	130	938	<5	0.2	17		66
AM05861	65.00	66.50	1.50	115	91	<5	0.1	7		56
AM05862	66.50	68.00	1.50	127	67	<5	0.1	25		36
AM05863	68.00	69.50	1.50	112	58	<5	0.3	3		52
AM05864	69.50	71.00	1.50	149	61	<5	0.1	4		53
AM05865	71.00	72.50	1.50	128	99	10	0.1	7		42
AM05866	72.50	74.00	1.50	113	478	<5	0.2	33		63
AM05867	74.00	75.50	1.50	84	65	<5	0.2	2		67
AM05868	75.50	77.00	1.50	127	45	<5	0.2	2		43
AM05869	77.00	78.50	1.50	116	82	<5	0.1	1		63
AM05870	78.50	80.00	1.50	134	51	<5	0.2	3		51
AM05871	80.00	81.50	1.50	113	71	<5	0.2	11		71
AM05872	81.50	83.00	1.50	133	214	<5	0.4	204		108
AM05873	83.00	84.50	1.50	101	62	<5	0.1	4		103
AM05874	84.50	85.97	1.47	102	87	<5	0.1	1		94
AM05875	85.97	87.50	1.53	113	2140	<5	0.9	68		94
AM05876	87.50	89.00	1.50	81	1250	21	1.4	291		57
AM05878	89.00	90.50	1.50	183	7520	24	2.2	2620		75
AM05879	90.50	92.00	1.50	603	36400	<5	4.7	8240		154
AM05880	92.00	93.00	1.00	167	20900	34	2.0	4800		70
AM05881	93.00	95.00	2.00	93	629	<5	0.1	151		131
AM05882	95.00	96.50	1.50	79	371	14	0.3	73		88
AM05883	96.50	98.00	1.50	66	310	<5	0.1	72		107
AM05884	98.00	99.50	1.50	91	951	<5	0.1	85		126
AM05885	99.50	101.00	1.50	93	1750	<5	0.1	335		93
AM05886	101.00	101.86	0.86	155	329	<5	0.2	86		105
AM05898	101.86	102.56	0.70	42	458	<5	0.2	90		31
AM05887	102.56	104.00	1.44	126	384	<5	0.2	57		89
AM05888	104.00	105.50	1.50	92	94	<5	0.1	277		85
AM05889	105.50	107.00	1.50	123	197	<5	0.1	16		106
AM05890	107.00	108.50	1.50	134	92	<5	0.2	8		146
AM05891	108.50	110.00	1.50	117	120	<5	0.2	4		108
AM05892	110.00	111.50	1.50	99	56	<5	0.1	1		78
AM05893	111.50	111.96	0.46	177	177	<5	0.1	4		92
AM05894	111.96	113.14	1.18	44	59	<5	0.1	5		62
AM05895	113.14	114.00	0.86	113	47	<5	0.2	2		86
AM05896	114.00	116.00	2.00	187	1380	<5	0.4	179		93
AM05897	116.00	117.50	1.50	127	87	<5	0.3	5		84
AM05899	117.50	119.00	1.50	130	59	<5	0.2	8		64
AM05900	119.00	120.50	1.50	128	40	<5	0.1	2		72
AM05901	120.50	122.00	1.50	123	44	7	0.2	16		73
AM05902	122.00	123.50	1.50	134	58	<5	0.2	21		72
AM05903	123.50	125.00	1.50	107	67	14	0.2	7		91
AM05904	125.00	126.50	1.50	119	70	10	0.1	1		80
AM05905	126.50	128.00	1.50	138	59	17	0.2	3		63

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM05906	128.00	129.50	1.50	129	191	14	0.2	21		54
AM05907	129.50	131.00	1.50	140	975	10	0.2	75		50
AM05908	131.00	132.50	1.50	124	125	7	0.2	12		51
AM05909	132.50	134.00	1.50	157	41	14	0.1	5		61
AM05910	134.00	135.50	1.50	131	42	<5	0.1	2		69
AM05911	135.50	137.00	1.50	134	39	14	0.1	2		66
AM05912	137.00	138.50	1.50	167	147	21	0.2	22		75
AM05913	138.50	140.00	1.50	130	32	10	0.2	3		68
AM05914	140.00	141.50	1.50	124	39	7	0.1	2		77
AM05915	141.50	143.15	1.65	156	177	10	0.2	48		91
AM05916	143.15	144.50	1.35	125	36	17	0.1	1		64
AM05917	144.50	145.03	0.53	117	43	21	0.1	5		41
AM05918	145.03	146.15	1.12	141	37	10	0.1	1		60
AM05919	146.15	147.50	1.35	186	38	7	0.1	1		67
AM05921	147.50	149.00	1.50	118	36	14	0.1	1		51
AM05922	149.00	150.50	1.50	159	31	<5	0.1	1		66
AM05923	150.50	152.00	1.50	147	48	10	0.2	10		78
AM05924	152.00	153.50	1.50	116	39	14	0.2	1		78
AM05925	153.50	154.85	1.35	127	209	10	0.7	44		105
AM05926	154.85	155.55	0.70	132	147	<5	0.4	47		80
AM05927	155.55	157.00	1.45	139	38	17	0.1	1		87
AM05928	157.00	158.00	1.00	137	34	17	0.1	1		82
AM05929	158.00	159.50	1.50	125	35	<5	0.1	1		79
AM05930	159.50	161.00	1.50	83	34	<5	0.1	1		77
AM05931	161.00	162.50	1.50	99	77	10	0.1	6		101
AM05932	162.50	164.00	1.50	229	347	7	0.8	68		113
AM05933	164.00	165.50	1.50	187	55	<5	0.7	2		83
AM05934	165.50	167.00	1.50	176	37	<5	0.1	1		56
AM05935	167.00	168.50	1.50	154	40	<5	0.1	2		45
AM05936	168.50	170.00	1.50	153	36	<5	0.1	2		42
AM05937	170.00	171.50	1.50	146	35	<5	0.1	1		50
AM05938	171.50	172.90	1.40	131	89	<5	0.2	13		49
AM05939	172.90	174.03	1.13	30	332	10	0.1	94		13
AM05940	174.03	175.00	0.97	178	65	<5	0.2	56		58
AM05941	175.00	176.32	1.32	139	87	14	0.2	11		51
AM05942	176.32	177.50	1.18	121	521	<5	0.9	28		56
AM05943	177.50	179.00	1.50	139	282	14	0.1	67		60
AM05944	179.00	180.50	1.50	126	37	10	0.2	3		52
AM05945	180.50	182.00	1.50	138	31	7	0.1	1		53
AM05946	182.00	183.50	1.50	149	28	<5	0.1	1		59
AM05947	183.50	185.00	1.50	141	55	10	0.1	9		64
AM05948	185.00	186.50	1.50	137	39	10	0.2	14		65
AM05949	186.50	188.00	1.50	150	93	10	0.2	19		65
AM05950	188.00	189.50	1.50	128	58	<5	0.1	43		67
AM05951	189.50	191.00	1.50	129	550	<5	0.2	128		73
AM05952	191.00	192.50	1.50	161	85	<5	0.2	20		81
AM05953	192.50	194.00	1.50	147	50	<5	0.1	3		74

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Au ppb	Ag ppm	Pb ppm	As ppm	Ni ppm
AM05954	194.00	195.50	1.50	125	348	<5	0.1	28		69
AM05955	195.50	196.00	0.50	139	61	<5	0.2	18		83

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AM04952	8.30	9.22	0.92	65.00	17.87	0.69	0.85	0.89	3.28	6.12	0.99	0.12	0.05	0.09	3.37	99.34	10	156					85	1160	130			3?*	368
AM04953	11.61	12.31	0.70	75.77	1.02	1.03	1.37	0.04	0.14	20.31	0.05	<0.02	0.44	0.00	0.32	100.48	8	146					40	210	<10			4PR	84
AM04954	15.50	16.30	0.80	94.10	0.14	0.55	0.12	0.03	0.04	4.75	0.02	<0.02	0.08	<0.00	0.67	100.49	2	94					15	40	<10			4PR	23
AM04955	21.20	22.20	1.00	87.65	0.73	0.43	0.38	0.03	0.08	6.52	0.03	<0.02	0.05	<0.00	1.95	97.84	<2	68					60	675	<10			4PR	135
AM04956	24.00	25.33	1.33	85.72	0.53	1.05	0.82	0.04	0.12	11.64	0.03	<0.02	0.21	<0.00	0.46	100.62	6	134					45	40	50			4PR	44
AM04957	30.50	31.00	0.50	82.58	0.08	0.54	1.02	0.02	<0.02	15.84	<0.01	<0.02	0.28	<0.00	0.06	100.41	6	134					25	20	<10			4PR	14
AM04958	32.50	33.50	1.00	77.77	1.02	0.98	1.67	0.01	0.04	16.35	0.06	<0.02	0.28	0.00	1.13	99.32	4	162					25	1135	<10			4PR	99
AM04959	43.44	44.44	1.00	54.93	8.01	2.19	4.01	0.86	0.48	13.29	0.35	0.04	0.16	0.01	13.36	97.69	12	160					210	935	50			2vl	227
AM04960	48.90	49.90	1.00	45.19	13.94	6.93	8.41	1.21	0.90	11.91	0.74	0.04	0.19	0.03	8.42	97.91	10	136					115	1100	120			2u	154
AM04961	53.00	54.00	1.00	49.29	15.14	8.32	7.64	1.87	1.32	12.29	0.82	0.06	0.24	0.03	2.56	99.58	12	162					110	110	130			2u	132
AM04963	80.50	81.50	1.00	50.63	13.19	7.05	6.57	2.70	0.74	10.59	0.76	0.06	0.20	0.03	6.18	98.70	12	130					105	140	90			2u	126
AM04964	83.00	83.63	0.63	47.88	13.60	7.17	8.45	2.87	0.92	11.62	0.87	0.06	0.26	0.03	5.27	98.98	14	140					135	80	120			2u	124
AM04965	88.00	89.00	1.00	56.67	11.40	7.55	4.92	1.65	1.24	8.19	0.60	0.06	0.16	0.02	6.87	99.35	12	114					130	1195	70			2u	109
AM04967	91.00	92.00	1.00	61.11	5.32	6.30	1.22	0.32	1.40	5.37	0.19	0.06	0.06	0.01	15.11	96.49	6	96					485	19580	110			2wl	66
AM04968	143.15	144.15	1.00	51.51	12.88	9.24	7.90	1.75	1.00	10.85	0.61	0.04	0.21	0.05	2.92	98.95	10	156					255	405	90			2u	107
AM04969	153.86	154.85	0.99	48.46	13.96	8.58	8.71	2.40	1.04	11.10	0.63	0.04	0.20	0.04	4.11	99.26	12	134					130	215	150			2u	116
AM04970	172.90	173.90	1.00	69.37	15.60	2.48	0.67	6.80	1.62	2.24	0.18	0.08	0.03	<0.00	1.11	100.19	4	142					40	190	<10			4PR	143

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AM04952	8.30	9.22	0.92			45		11700																					
AM04953	11.61	12.31	0.70			<5		14500																					
AM04954	15.50	16.30	0.80			<5		11700																					
AM04955	21.20	22.20	1.00			5		33400																					
AM04956	24.00	25.33	1.33			<5		3900																					
AM04957	30.50	31.00	0.50			<5		4400																					
AM04958	32.50	33.50	1.00			<5		10400																					
AM04959	43.44	44.44	1.00			35		44200																					
AM04960	48.90	49.90	1.00			40		2400																					
AM04961	53.00	54.00	1.00			45		1700																					
AM04963	80.50	81.50	1.00			35		3200																					
AM04964	83.00	83.63	0.63			35		2000																					
AM04965	88.00	89.00	1.00			30		8300																					
AM04967	91.00	92.00	1.00			125		30000																					
AM04968	143.15	144.15	1.00			35		2000																					
AM04969	153.86	154.85	0.99			40		2900																					
AM04970	172.90	173.90	1.00			<5		900																					

APPENDIX V

LITHOGEOCHEMICAL DATA

SWASTIKA LABORATORIES
P.O. BOX 10, SWASTIKA, ONTARIO
PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

FALCONBRIDGE
D. CRUJI
PROJ:8118-8203

1W-3446-RG1

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

REPORT No. : M9392
Page No. : 1 of 1
File No. : JL25RA
Date : JUL-29-1991
Oxides in % - Minors ppm

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM04982	45.91	14.68	13.58	8.20	8.82	2.44	0.78	0.82	0.20	0.06	0.050	128	16	90	105	150	35	2.38	97.93
AM04983	54.72	18.96	8.57	2.60	3.09	4.96	3.16	0.91	0.21	0.30	0.010	220	24	55	65	30	25	2.56	100.06
AM04984	70.11	15.53	2.80	1.63	0.69	6.58	1.14	0.38	0.05	0.10	0.010	146	10	40	5	< 10	< 5	1.26	100.28
AM04985	69.27	14.63	4.29	1.51	1.12	3.53	2.58	0.38	0.08	0.10	0.005	138	12	60	45	10	10	1.82	99.31
AM04986	70.15	13.64	4.61	1.02	1.62	1.63	3.26	0.36	0.10	0.08	0.005	122	10	25	115	< 10	5	1.98	98.46
AM04987	58.03	18.86	6.69	3.41	1.77	5.06	1.98	0.93	0.16	0.20	0.005	184	12	65	55	40	20	2.24	99.35
AM04988	64.33	14.29	8.52	1.98	1.50	2.71	1.58	0.64	0.17	0.12	0.020	158	14	80	800	190	45	2.68	98.54
AM04989	79.01	10.45	3.03	0.81	0.70	3.61	1.10	0.31	0.08	0.08	0.010	124	10	65	150	20	20	0.98	100.15
AM04990	64.01	13.10	11.52	1.69	2.99	1.73	1.56	0.66	0.23	0.18	0.005	238	26	30	45	< 10	15	2.70	100.37
AM04991	70.84	15.30	2.61	1.53	0.57	5.92	1.84	0.18	0.04	0.08	0.005	100	< 2	45	15	10	10	1.13	100.04
AM04992	68.27	15.41	2.58	2.52	0.84	5.76	2.06	0.19	0.03	0.08	0.005	98	2	30	65	40	5	1.44	99.20
AM04993	69.19	15.43	1.91	1.82	0.48	5.82	2.24	0.15	0.02	0.08	0.005	122	< 2	30	135	40	< 5	0.87	98.00
AM06831	79.12	10.37	2.64	0.20	0.35	1.54	6.14	0.23	0.03	0.04	0.005	292	120	45	30	< 10	< 5	0.05	100.71

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FALCONBRIDGE

PROJ:8118-8203

1W-3709-RG1

SWASTIKA LABORATORIES

P.O. BOX 10, SWASTIKA, ONTARIO

PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

REPORT No. : M9509
Page No. : 1 of 2
File No. : AU23RA
Date : AUG-27-1991
Oxides in % - Minors ppm

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM06081	82.72	2.87	9.15	0.20	0.61	0.29	0.16	0.25	0.07	<0.02	0.055	322	10	25	75	30	15	1.55	97.92
AM06082	47.88	14.50	13.01	10.05	8.41	2.04	0.54	0.76	0.19	0.06	0.050	146	18	90	130	290	65	1.99	99.50
AM06083	46.03	13.87	15.86	6.76	7.10	2.57	0.16	1.41	0.24	0.10	0.015	156	22	140	105	80	70	4.98	99.07
AM06084	50.10	11.45	20.03	6.68	5.27	2.30	0.30	1.71	0.31	0.10	0.005	216	38	105	130	30	65	1.78	100.01
AM06085	88.68	0.39	8.99	0.11	0.19	0.04	0.02	0.02	0.23	<0.02	0.010	72	8	20	65	< 10	10	1.20	99.88
AM06086	49.60	14.83	13.52	8.35	6.45	2.84	0.26	0.94	0.18	0.06	0.045	134	24	135	115	160	60	2.53	99.60
AM06087	47.82	14.09	14.68	8.33	7.75	1.78	0.80	0.92	0.22	0.06	0.040	136	20	135	135	150	65	2.54	99.05
AM06088	60.85	11.22	10.39	2.73	6.79	2.10	0.24	0.51	0.17	0.02	0.025	92	14	200	40	210	55	5.10	100.16
AM06089	48.05	13.92	13.38	8.40	7.70	2.46	0.84	0.72	0.21	0.04	0.060	136	18	160	105	120	60	2.51	98.28
AM06090	49.25	12.98	12.94	10.89	7.79	1.96	0.34	0.70	0.22	0.04	0.060	138	22	130	65	120	55	1.93	99.10
AM06175	66.39	15.11	7.11	2.14	1.70	4.69	1.28	0.52	0.17	0.16	0.015	154	14	50	40	50	20	1.02	100.30
AM06176	72.13	14.19	3.77	1.03	0.63	7.24	0.22	0.44	0.10	0.20	0.015	142	16	65	30	40	15	<0.01	99.92
AM06177	65.20	11.23	12.60	3.32	2.28	0.24	2.44	0.44	0.23	0.04	0.010	156	14	70	65	30	20	2.24	100.26
AM06178	65.86	14.51	5.52	3.53	1.47	5.03	2.26	0.39	0.08	0.14	0.015	114	10	65	40	70	20	1.73	100.53
AM06179	61.83	15.01	10.41	1.62	2.24	1.42	1.88	0.82	0.22	0.28	0.010	224	22	40	85	20	15	2.76	98.48
AM06180	66.76	15.91	3.64	2.49	1.33	6.93	0.58	0.38	0.11	0.16	0.010	122	16	30	10	20	10	1.86	100.18
AM06181	42.71	13.80	25.76	4.95	4.89	1.19	0.36	0.34	0.84	0.06	0.010	250	22	320	190	50	25	3.43	98.34
AM06182	69.64	16.59	4.99	0.30	0.82	0.57	3.64	0.50	0.10	0.22	0.005	136	14	40	55	40	25	2.50	99.87
AM06183	68.08	13.16	2.83	4.32	0.54	1.26	3.52	0.31	0.15	0.10	0.010	114	12	25	160	40	15	4.85	99.12
AM06184	66.06	14.04	7.76	3.16	1.31	2.09	1.74	0.74	0.20	0.26	0.015	168	22	50	50	30	20	2.13	99.50
AM06185	49.99	13.99	14.17	10.24	6.67	1.54	0.34	1.02	0.25	0.06	0.035	134	22	135	75	100	55	2.12	100.41

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PROJ:8118-8203

1W-3709-RG1

PETER LUK

SWASTIKA LABORATORIES

P.O. BOX 10, SWASTIKA, ONTARIO

PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

REPORT No. : M9569

File No. : AU23RA

Date : AUG-27-1991

Oxides in % - Minors ppm

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM06186	59.04	15.60	6.02	4.97	1.41	1.56	4.18	1.79	0.14	0.26	0.025	168	26	25	90	150	55	4.79	99.79
AM06187	60.05	15.86	6.36	1.25	4.04	2.02	5.38	0.74	0.09	0.20	0.025	152	20	30	80	80	30	2.95	98.97
AM06188	48.66	12.61	16.12	7.93	6.41	2.70	0.58	1.13	0.25	0.08	0.005	174	30	120	105	40	65	1.60	98.06
AM06189	47.41	14.24	15.46	11.98	6.38	1.10	0.36	0.87	0.25	0.12	0.050	132	22	1070	110	160	65	2.11	100.32
AM06190	49.70	13.71	14.68	7.70	5.37	2.18	0.16	1.36	0.23	0.10	0.015	154	26	190	125	70	60	5.01	100.20
AM06191	49.26	13.75	16.39	3.25	5.44	2.19	0.20	1.38	0.19	0.12	0.010	188	26	110	125	50	55	6.30	98.48
AM06192	46.88	12.74	14.21	6.72	5.25	2.37	0.14	1.28	0.25	0.10	0.005	176	26	100	140	60	60	8.56	98.49
AM06193	34.11	19.78	20.24	2.70	11.41	1.23	1.34	1.29	0.30	0.10	0.070	184	32	< 5	210	180	90	7.14	99.73

FALCONBRIDGE

IW-4263-RG1

PROJ:8203-8210

SWASTIKA LABORATORIES

P.O. BOX 10, SWASTIKA, ONTARIO

PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

REPORT No. : [illegible]

Page No. : 1 of [illegible]

File No. : OC30RA

Date : NOV-04-1991

Oxides in % - Minors ppm

PETER LK

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr PPM	Y PPM	Cu PPM	Zn PPM	Ni PPM	Co PPM	LOI %	TOTAL %
M06455	45.75	15.20	13.20	8.89	6.73	2.75	0.58	0.93	0.20	0.12	0.040	122	16	215	65	210	50	6.18	100.52
M06456	75.12	15.45	2.33	1.11	0.67	0.92	1.92	0.45	0.04	0.18	0.070	136	12	20	20	80	10	2.55	100.74
M06457	47.48	15.00	12.71	9.08	8.41	2.29	0.82	0.72	0.24	0.08	0.065	142	14	115	75	250	50	2.75	99.59
M06458	49.57	14.28	12.28	10.69	8.74	1.64	0.52	0.67	0.20	0.10	0.100	144	16	110	65	160	45	1.73	100.42
M06459	49.12	14.31	13.08	10.45	8.22	1.74	0.20	0.68	0.20	0.10	0.055	116	14	110	30	130	45	2.35	100.44
M06460	46.82	14.17	12.44	11.19	5.64	1.22	0.04	1.02	0.18	0.12	0.045	170	18	60	60	140	50	8.10	100.93
M06461	48.82	13.92	12.78	7.40	7.01	3.61	0.32	0.77	0.22	0.10	0.045	160	16	90	55	160	45	3.38	98.33
M06462	47.95	15.47	13.00	7.87	6.83	2.32	0.40	0.87	0.19	0.10	0.055	154	18	85	60	150	50	5.18	100.17
M06463	49.83	15.06	13.25	7.94	7.57	2.67	0.82	0.82	0.19	0.10	0.045	144	18	150	25	140	45	2.30	100.54
M06464	48.03	16.45	12.75	7.97	5.67	3.01	0.06	1.03	0.19	0.10	0.055	140	20	85	80	210	55	5.11	100.38
M06465	46.54	15.85	10.38	8.22	4.61	3.53	0.26	0.84	0.17	0.10	0.045	140	16	125	70	130	55	8.51	99.03

FALCONBRIDGE

PROJ:8203

1W-3651-RG1

SWASTIKA LABORATORIES

P.O. BOX 10, SWASTIKA, ONTARIO

PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

REPORT No. : M9692

Page No. : 1 of 3

File No. : SE09R

Date : SEP-11-1991

Oxides in % - Minors ppm

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM6576	72.01	14.43	1.77	0.96	0.61	4.97	3.52	0.15	0.02	0.10	0.045	106	6	10	30	< 10	15	0.80	99.38
AM6577	69.35	2.04	20.32	2.31	2.52	0.13	0.10	0.07	0.24	<0.02	0.190	166	14	75	210	10	20	0.66	97.92
AM6578	70.40	14.67	4.33	0.52	1.36	5.92	1.44	0.15	0.06	0.08	0.040	124	2	15	25	< 10	20	1.34	100.31
AM6579	49.50	14.34	11.79	10.86	6.75	2.36	0.84	0.72	0.23	0.04	0.080	136	18	130	255	140	50	2.42	99.95
AM6580	51.04	13.72	13.06	9.33	7.47	2.59	0.60	0.81	0.22	0.04	0.050	150	20	130	75	80	50	1.49	100.41
AM6581	45.12	13.82	14.73	11.15	7.83	1.83	1.06	0.84	0.28	0.16	0.040	182	24	75	110	140	50	3.37	100.23
AM6582	61.60	0.42	32.65	0.91	3.27	0.06	0.08	0.03	0.52	<0.02	0.020	208	14	40	595	< 10	10	<0.01	99.31
AM6583	39.19	6.72	25.04	7.24	12.45	0.38	0.54	0.79	0.18	<0.02	0.575	216	6	180	230	640	110	5.57	98.63
AM6584	90.58	0.30	4.39	2.62	1.05	0.02	0.04	0.01	0.05	<0.02	0.080	62	4	25	45	40	30	1.04	100.16
AM6585	77.05	12.34	1.42	1.21	0.61	5.19	2.02	0.13	0.03	0.08	0.050	112	2	35	30	< 10	10	0.67	100.79
AM6586	87.25	0.45	7.42	0.28	0.36	0.07	0.06	0.02	0.03	<0.02	0.100	66	4	410	60	< 10	95	3.48	99.50
AM6587	72.57	0.10	21.36	0.74	0.80	0.01	<0.02	<0.01	0.20	<0.02	0.065	156	12	855	60	80	30	1.77	97.62
AM6588	58.63	15.24	7.36	7.00	4.94	3.17	0.72	0.83	0.12	0.08	0.110	124	22	105	105	170	60	1.78	99.98
AM6589	47.59	9.34	30.39	0.18	3.45	0.06	0.12	0.47	0.21	<0.02	0.065	260	20	90	250	30	15	8.87	100.75
AM6590	76.88	0.27	18.06	0.08	0.54	0.01	<0.02	0.02	0.45	<0.02	0.045	124	8	20	25	10	20	4.25	100.55
AM6591	48.68	14.94	13.98	7.84	7.72	3.13	0.58	0.91	0.21	0.06	0.045	178	22	90	95	140	50	2.40	100.50
AM6592	47.64	15.40	11.58	7.57	5.11	3.29	0.06	0.88	0.21	0.08	0.045	144	20	115	75	140	50	6.93	98.77
AM6593	45.41	20.78	13.76	1.42	4.99	0.31	8.12	1.02	0.12	0.08	0.075	164	30	10	75	180	65	4.47	100.57
AM6594	87.52	0.11	10.74	0.05	0.05	0.02	0.02	0.01	0.07	<0.02	0.015	100	6	10	< 5	< 10	10	1.86	100.46
AM6595	49.29	14.28	10.15	8.44	4.72	1.98	0.70	0.78	0.18	0.06	0.075	160	22	90	65	110	50	7.78	98.44
AM6596	49.04	15.06	10.06	7.00	4.54	0.94	1.80	0.82	0.15	0.08	0.080	148	18	110	50	200	80	8.65	98.22
AM6597	85.77	0.41	11.81	0.26	0.96	0.04	0.04	0.02	0.47	<0.02	0.050	86	8	10	10	20	25	0.96	100.75
AM6598	47.98	15.05	12.56	8.76	7.60	1.75	0.28	0.84	0.24	0.08	0.095	178	26	125	100	200	75	3.06	98.29
AM6599	53.64	13.20	11.62	7.94	7.67	3.64	0.28	0.67	0.20	<0.02	0.070	122	16	75	115	100	45	1.57	100.52
AM6600	47.66	13.85	11.91	11.35	7.18	1.91	0.58	0.68	0.21	0.04	0.060	122	18	110	90	90	50	3.58	99.01
AM6601	75.42	12.67	2.26	1.30	0.55	0.08	4.92	0.30	0.05	0.08	0.055	174	16	10	25	20	15	2.30	99.97
AM6602	64.95	0.18	30.71	0.06	2.19	0.02	0.06	0.01	0.92	<0.02	0.035	226	10	5	105	< 10	10	0.75	99.88
AM6603	71.86	14.71	2.48	0.90	1.01	6.00	2.28	0.21	0.04	0.08	0.050	130	8	20	20	30	30	0.94	100.56

PETER LK

TSL/91

SIGNED :

FALCONBRIDGE

PROJ:8203

1W-3851-RG1

SWASTIKA LABORATORIES

P.O. BOX 10 SWASTIKA, ONTARIO

PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

REPORT No. : M9692

Page No. : 2 of 3

File No. : SE09R

Date : SEP-11-1991

Oxides in % - Minors ppm

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM6604	68.83	16.78	2.12	1.37	0.82	6.91	2.08	0.23	0.03	0.10	0.070	126	4	5	30	< 10	15	1.06	100.40
AM6615	51.25	13.65	11.64	6.38	8.34	3.08	1.94	0.66	0.23	0.06	0.060	128	18	60	125	100	55	2.21	99.51
AM6616	57.76	18.08	9.88	2.10	2.73	1.65	2.14	0.97	0.24	0.14	0.055	128	20	145	80	50	35	3.32	99.06
AM6617	59.10	17.91	6.95	6.09	1.60	2.94	1.56	0.91	0.14	0.40	0.060	174	18	125	75	10	20	2.37	100.03
AM6618	46.28	13.86	12.79	7.94	7.55	2.49	0.18	0.83	0.21	0.04	0.050	130	20	185	115	90	50	7.97	100.18
AM6619	60.53	14.06	9.47	0.76	4.61	1.45	3.98	0.83	0.18	0.12	0.045	160	12	45	50	40	40	3.62	99.59
AM6620	68.76	11.10	8.24	0.43	4.17	1.58	1.64	0.34	0.14	0.14	0.040	186	14	60	290	< 10	10	2.95	99.56
AM6621	71.20	14.43	2.08	1.23	0.83	6.16	1.84	0.19	0.04	0.08	0.045	92	4	25	265	< 10	10	1.33	99.44
AM6622	68.48	12.31	9.04	0.35	2.39	1.08	2.62	0.38	0.11	0.10	0.080	162	10	205	615	20	30	3.45	100.38
AM6623	51.26	13.52	11.96	8.72	7.46	3.26	0.76	0.80	0.22	0.06	0.055	138	16	175	135	100	45	1.77	99.82
AM6624	70.18	0.63	5.96	7.16	0.43	0.06	0.02	0.02	0.07	<0.02	0.150	54	8	275	23760	20	30	4.72	89.40
AM6625	48.29	14.22	12.86	9.98	7.37	2.39	0.40	0.81	0.22	0.06	0.055	132	20	205	220	120	55	2.30	98.94
AM6626	50.72	14.41	12.29	9.05	6.70	3.17	0.94	0.84	0.22	0.06	0.055	128	20	155	85	130	55	2.48	100.93
AM6627	52.01	13.94	12.34	6.77	7.37	3.34	0.56	0.85	0.22	0.06	0.070	118	16	135	155	130	50	2.81	100.34
AM6628	46.57	14.55	12.05	8.05	6.66	2.20	0.52	0.80	0.20	0.08	0.045	142	22	165	100	120	50	8.16	99.88
AM6629	46.21	15.35	13.93	11.51	7.18	1.36	0.28	0.89	0.23	0.06	0.070	146	22	175	90	140	50	2.87	99.95
AM6630	47.17	17.23	18.01	1.29	6.75	0.56	1.14	0.98	0.39	0.06	0.055	174	16	95	145	160	65	5.87	99.49
AM6631	45.79	14.72	13.26	7.27	6.29	1.39	0.66	0.83	0.22	0.06	0.045	154	20	130	95	120	55	8.60	99.16
AM6632	48.02	14.97	11.62	10.30	4.79	2.28	0.18	0.85	0.22	0.06	0.050	106	18	155	80	130	55	6.49	99.82
AM6633	44.83	16.27	11.59	7.43	4.78	3.83	0.42	0.90	0.18	0.08	0.060	120	18	160	90	130	55	8.80	99.16
AM6634	48.17	15.38	12.34	11.36	5.22	1.77	0.22	0.83	0.22	0.08	0.065	128	20	190	95	140	55	3.81	99.46
AM6635	48.77	14.84	12.77	8.50	7.93	3.10	0.34	0.82	0.21	0.08	0.050	120	20	175	85	120	55	2.60	100.01
AM6636	44.94	14.50	12.52	8.22	9.25	1.86	0.50	0.74	0.19	0.06	0.040	134	14	190	105	210	60	5.31	98.12
AM6637	47.51	14.16	12.95	6.51	6.67	3.42	0.40	0.97	0.24	0.06	0.040	142	18	165	100	70	50	7.18	100.12
AM6638	49.68	15.23	11.97	10.55	6.47	1.60	0.36	0.75	0.24	0.06	0.080	132	18	165	100	130	55	2.66	99.63

PETER LK.

TSL/91

SIGNED :

FALCONBRIDGE

PROJ:8203

1W-3851-RG1

SWASTIKA LABORATORIES

P.O. BOX 10, SWASTIKA, ONTARIO
PHONE #: (705) - 642 - 3244 FAX #: (705) - 642 - 3300

REPORT No. : M9692
Page No. : 3 of 3
File No. : SE09R
Date : SEP-11-1991
Oxides in % - Minors ppm

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Cr2O3 %	Zr ppm	Y ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	LOI %	TOTAL %
AM6639	50.43	14.77	10.97	10.19	7.24	1.91	0.76	0.75	0.21	0.06	0.075	138	16	130	180	120	50	1.94	99.28

TSL/91

SIGNED :

Ministry of Northern Development and Mines

Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W9260.00006

(AMENDMENT TO W-9260002)

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.14596

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for r
  Recorder.
- A separate copy of this form must be comple
- Technical reports and maps must accompan
- A sketch, showing the claims the work is ass

41010NE0089 2.14596 CUNNINGHAM

900

Recorded Holder(s): FALCONBRIDGE LTD P4N 7H9 TIMMINS ONT.		Client No.: 130679
Address: P.O. BOX 1140 571 MONETA AVE		Telephone No.: 705-267-1188
Mining Division: PORCUPINE	Township/Area: CUNNINGHAM	M or G Plan No.:
Dates Work Performed — From: JULY 1/91	To: OCT 1/91	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	GEOLOGICAL MAPPING LITHOGEOCHEMICAL SURVEY
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECEIVED
MAY 27 1992
MINING LANDS BRANCH

RECORDED
MAR - 4 1992
Receipt

Total Assessment Work Claimed on the Attached Statement of Costs $ 32,903.00 (ROUNDED TO NEAREST DOLLAR)

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
PETER HARVEY	P.O. BOX 1555 149 BLOOR ST SOUTH PORCUPINE ONT P0H 1H0
MAURICE HOULE	
DAVID TRUSCOTT	
CHRIS ROUSSAIN	

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date	Recorded Holder or Agent (Signature): Bruce Jeffery

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying		
Bruce Jeffery 571 Moneta Ave. Box 1140 Timmins Ont. P4N 7H9		
Telepone No.: 267-1188	Date:	Certified By (Signature): Bruce Jeffery

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$ 32,903.00	MARCH 4/92		RECEIVED APR 16 1992
	Deemed Approval Date: JUNE 2/92	Date Approved	
	Date Notice for Amendments Sent: APRIL 13th/92		

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
SEE	ATTACHED	SHEET(S).				
Total Number of Claims			Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☒ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

ote 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

ote 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

Claim Number	Type	Claim Units	Description of Work	Assessment Credits To Date ($)	Value of Assessment Done on this Claim	Value of Assessment Applied to this Claim	Value of Assessment Assigned from this Claim	Reserve Added From This work
116466	L	1	Geological Mapping, Sampling	4400	~~1371~~ 1370	0	0	~~1371~~ 1370
116467	L	1	Geological Mapping, Sampling	4400	1371	0	0	1371
116468	L	1	Geological Mapping, Sampling	4400	1371	0	0	1371
116469	L	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641188	U*	1	Geological Mapping, Sampling	4400	1371 1371	0	0	1371 1371
641189	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641190	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641191	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641192	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641193	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
641352	U*	1	Geological Mapping, Sampling	4400	1371	0	0	1371
1131998	U	1	Geological Mapping, Sampling	260	1371	540	0	831
1131999	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132000	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132001	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132002	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132003	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132004	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132005	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132006	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132007	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132287	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132288	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
1132289	U	1	Geological Mapping, Sampling	80	1371	320	0	1051
		24	Total	32020	32904 32903	4380	0	$ 28524 28523

Notes; -Cost Breakdown as follows;

Amount claimed as Assessment Dollars (see Statement of Costs)	$	32903
Work Value per claim (total 24)	$	1371

Valeur des travaux d'évaluation exécutés sur ce claim

Valeur totale des travaux exécutés

Nombre d'unités

Numéro de claim

Nombre total de claims

Numéro de rapport sur les travaux exécutés pour l'affectation de la réserve

0241 (05/91)

Ontario

Northern Development and Mines

Ministère du Développement du Nord des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W9260.00026

AMENDMENT TO W-9260.00026

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	10992	
	Field Supervision Supervision sur le terrain	8778	19770
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type DRAFTING CHARGES	3210	
			3210
Supplies Used Fournitures utilisées	Type ASSAYS GEOCHEM	4440	
	RECORDED		4440
Equipment Rental Location de matériel	Type MAR - 4 1992		
	Receipt		
	Total Direct Costs Total des coûts directs		27419

ROUNDING COSTS ERROR.

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type RECEIVED MAY 27 1992 MINING LANDS BRANCH		
Food and Lodging Nourriture et hébergement	ROOM & BOARD & TRUCK RENTAL	8566	8566
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		8566
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		5484
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)		32903

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Senior Geologist (Recorded Holder, Agent, Position in Company) I am authorized

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé

à faire cette attestation.

Signature	Date

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Ministry of Northern Development and Mines

Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W9260.00036

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.14596

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s): FALCONBRIDGE LTD		Client No.: 130679
Address: PO BOX 1140 571 MONETA AVE TIMMINS ONT.		Telephone No.: 705 267 1188
Mining Division: PORCUPINE	Township/Area: CUNNINGHAM TWP	M or G Plan No.:
Dates Work Performed — From: MAY 27/92	To: JUNE 12/92	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	GEOCHEMISTRY
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

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MAY 27 1992
MINING LANDS BRANCH

RECORDED
MAR - 4 1992
Receipt

Total Assessment Work Claimed on the Attached Statement of Costs $ 5231 (SEE COST SHEET)

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
P. NARVEY D TRESCOTT	PO BOX 1140 571 MONETA AVE TIMMINS ONT.

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	MAY 26/92	

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying

Telepone No.	Date	Certified By (Signature)
267 1188	MAY 26/92	

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
5231	MAR. 4th/92	D White	RECORDED MAR - 4 1992 Receipt
	Deemed Approval Date: JUNE 2/92	Date Approved	
	Date Notice for Amendments Sent		

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
1	116466	1	0	NIL	NIL	NIL
	116467	1	0			
	116468	1	0			
	116469	1	2650			2650
	641188	1	0			NIL
	641189	1	0			
	641190	1	0			
	641191	1	0			
	641192	1	0			
	641193	1	0			
	641352	1	0			
	1131998	1	0			
	1131999	1	0			
	1132000	1	0			
	1132001	1	0			
	1132002	1	0			
	1132003	1	0			
			1	0		2650
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

RECEIVED
MAY 27 1992
MINING LANDS BRANCH

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature: [signature] Date: MAY 26/92

0241 (03/91)

Numéro de rapport sur les travaux exécutés pour l'affectation de la réserve	Numéro de claim	Nombre d'unités	Valeur des travaux d'évaluation exécutés sur ce claim	Valeur affectée à ce claim	Valeur transférée de ce claim	Réserve : travaux à réclamer à une date ultérieure
	1132004	1	1359	NIL	NIL	1359
	1132005	1	0			
	1132006	1	0			
	1132007	1	0			
	1132287	1	0			
	1132288	1	0			
	1132289	1	1223			1223
	2		5231	Ø		5231
	Nombre total de claims		Valeur totale des travaux exécutés	Valeur totale des travaux qui a été affectée	Total transféré	Réserve totale

RECEIVED
MAY 27 1992
MINING LANDS BRANCH

0241 (05/91)

Les crédits que vous réclamez dans le présent rapport peuvent être réduits. Afin de diminuer les conséquences défavorables de telles réductions, veuillez indiquer l'ordre dans lequel vous désirez au'elles soient appliquées à vos claims. Veuillez cocher (✓) l'une des options suivantes :

1. ☐ Les crédits doivent être réduits en commençant par le dernier claim sur la liste.
2. ☐ Les crédits doivent être réduits également entre tous les claims figurant dans le présent rapport.
3. ☐ Les crédits doivent être réduits selon l'ordre donné en annexe.

Si vous n'avez pas choisi d'option, la première sera appliquée.

Note 1 : Examples d'intérêts bénéficiaires : cessions non enregistrées, ententes sur des options, protocoles d'entente, etc. relatifs aux claims.

Note 2: Si des travaux ont été exécutés sur un terrain faisant l'objet de lettres patentes ou d'un bail, veuillez remplir ce qui suit:

Je certifie que le titulaire enregistré possédait un intérêt bénéficiaire sur le terrain faisant l'objet de lettres patentes ou d'un bail, au moment où les travaux ont été exécutés.	Signature	Date

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W9260.00027
4
W9260.00036

AMENDMENT TO W9260.00027

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain	10319	7502
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type DRILLING	39537	28743
	GEOCHEM	7195	(5231) W9260.00036
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		41476

RECORDED
MAR - 4 1992
Receipt

RECEIVED
MAY 27 1992
MINING LANDS BRANCH

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement	TRUCK RENTAL LODGING	6518	4740
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		4740
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			4740
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)	**Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles**		46216

Note: *The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.*

Note : *Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.*

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as _____ I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
	MAY 26/92

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Assess[redacted] Cost Sheet PN8203 Peter Lake Option

Cost Breakdown as follows;

Cost per metre $ 63,569/740 metres $ 85.90

From Mining Act Section 7.(4)

1 claim unit (400m X 400m) is 16 hectares

Maximum value of assessment work that may be assigned from a leased claim $ 750.00 per hectare

Maximum value allowable that may be assigned from leased claim P116469 $12,000

Can only claim DDH costs on Patented or Leased Claims on or after June 3, 1991

Note: Drilling was carried out as follows.

DDH-31-01	06\08\91 to 06\10\91	in claim 1132289	
DDH-31-02	06\11\91 to 06\14\91	in claim 1132004	
DDH-32-01	05\28\91 to 05\30\91	in claim 116469	Cannot claim costs prior to June 3, 1991
DDH-32-02	05\30\91 to 06\05\91	in claim 116469	Hole was approximately half completed by June 3, 1991
DDH-32-03	06\05\91 to 06\07\91	in claim 116469	

Total drilling costs to be claimed for assessment

DDH-31-01	125 metres	(all of 125m)	$ 10738
DDH-31-02	140 metres	(all of 140m)	$ 12027
DDH-32-01	125 metres	(none of 125m)	$ 0
DDH-32-02	154 metres	(1/2 of 154m)	$ 6615
DDH-32-03	196 metres	(all of 196m)	$ 16837
Total Metres	740	Total Claimed	$ 46216

Total allowable costs to be claimed (per Claim)

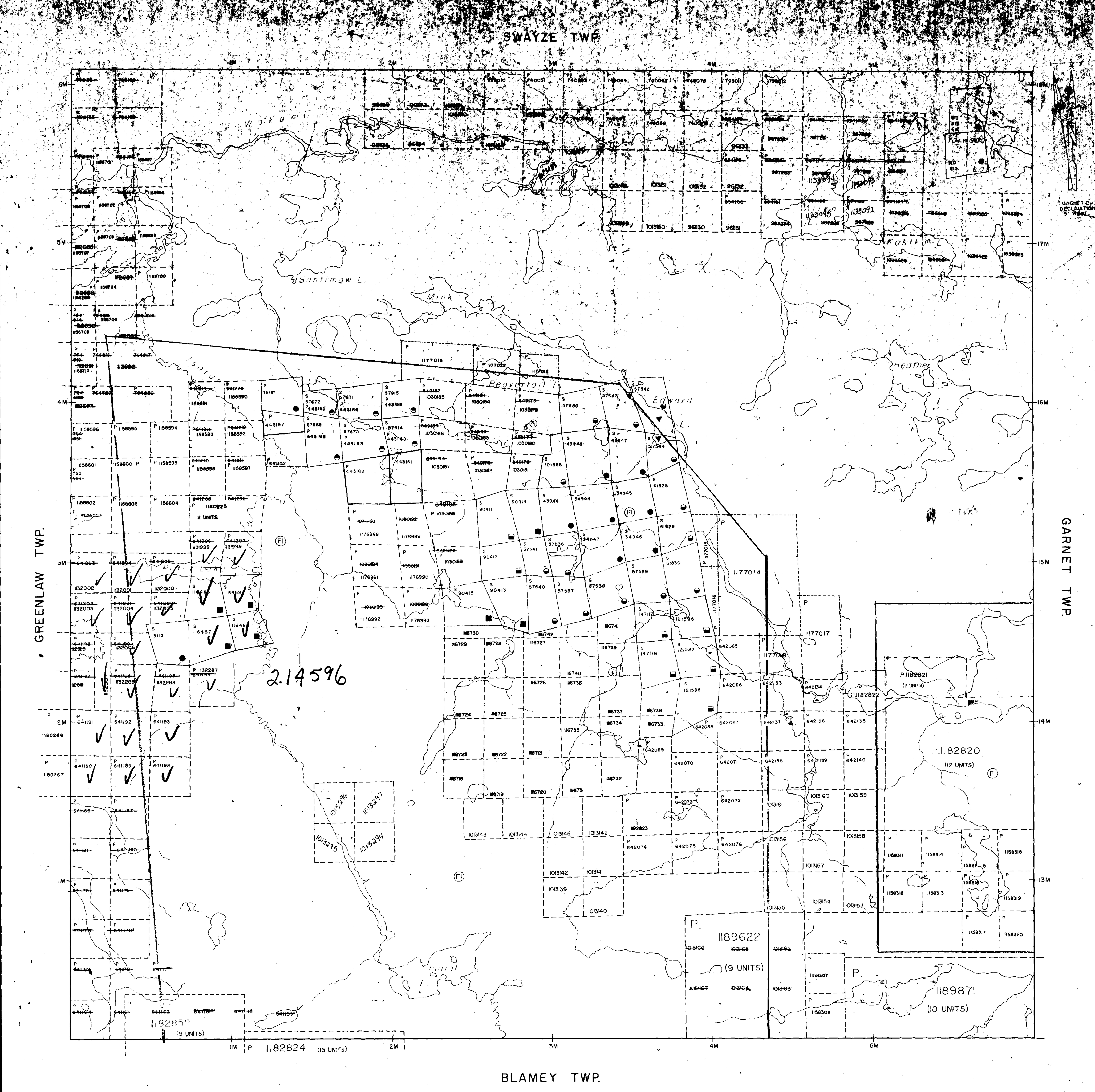
Total for claim 116469		$ 23452
Total for claim 1132004 .		$ 12027
Total for claim 1132289		$ 10738
	Total Claimed	$ 46216

$ $ (40,985 + 5,231 GCHEM)

AMENDMENT TO W9260.00027 P1

RECORDED
MAR - 4 1992
Receipt

RECEIVED
MAY 27 1992
MINING LANDS BRANCH



FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

MAGNETIC DECLINATION 9° WEST

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1

SCALE 1:20 000

THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1992/93. FURTHER INFORMATION AVAILABLE ON FILE.

RECEIVED
MAY 27 1992
MINING LANDS BRANCH

RECEIVED
MAY 26 1992

TOWNSHIP
CUNNINGHAM

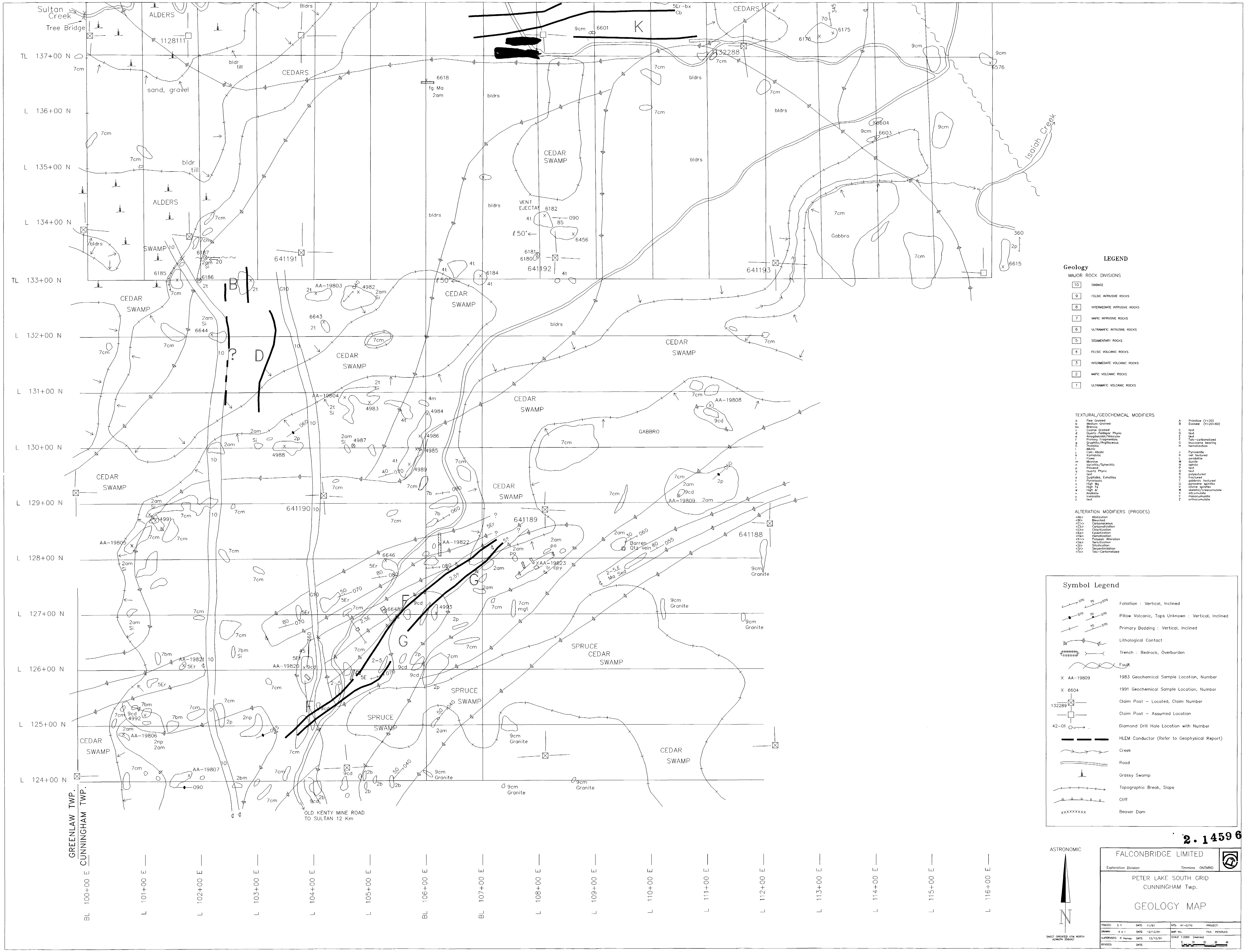
M.N.R. ADMINISTRATIVE DISTRICT
CHAPLEAU
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
SUDBURY
Received Sept 15/86

Ontario — Ministry of Natural Resources — Ministry of Northern Development and Mines

Date AUGUST, 1986
Number G-1095
CK-Aggie Sept 15/86

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

41013NE0089 2.14596 CUNNINGHAM 200



Sultan Creek
Tree Bridge
Isaiah Creek
ALDERS
CEDARS
CEDAR SWAMP
SPRUCE CEDAR SWAMP
SPRUCE SWAMP
GABBRO
OLD KENTY MINE ROAD TO SULTAN 12 Km
GREENLAW TWP.
CUNNINGHAM TWP.
TL 137+00 N
L 136+00 N
L 135+00 N
L 134+00 N
TL 133+00 N
L 132+00 N
L 131+00 N
L 130+00 N
L 129+00 N
L 128+00 N
L 127+00 N
L 126+00 N
L 125+00 N
L 124+00 N
BL 100+00 E
L 101+00 E
L 102+00 E
L 103+00 E
L 104+00 E
L 105+00 E
BL 106+00 E
BL 107+00 E
L 108+00 E
L 109+00 E
L 110+00 E
L 111+00 E
L 112+00 E
L 113+00 E
L 114+00 E
L 115+00 E
L 116+00 E
LEGEND
Geology
MAJOR ROCK DIVISIONS
10 DIABASE
9 FELSIC INTRUSIVE ROCKS
8 INTERMEDIATE INTRUSIVE ROCKS
7 MAFIC INTRUSIVE ROCKS
6 ULTRAMAFIC INTRUSIVE ROCKS
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3 INTERMEDIATE VOLCANIC ROCKS
2 MAFIC VOLCANIC ROCKS
1 ULTRAMAFIC VOLCANIC ROCKS
TEXTURAL/GEOCHEMICAL MODIFIERS
ALTERATION MODIFIERS (PRODES)
Symbol Legend
Foliation : Vertical, Inclined
Pillow Volcanic, Tops Unknown : Vertical, Inclined
Primary Bedding : Vertical, Inclined
Lithological Contact
Trench : Bedrock, Overburden
Fault
1983 Geochemical Sample Location, Number
1991 Geochemical Sample Location, Number
Claim Post - Located, Claim Number
Claim Post - Assumed Location
Diamond Drill Hole Location with Number
HLEM Conductor (Refer to Geophysical Report)
Creek
Road
Grassy Swamp
Topographic Break, Slope
Cliff
Beaver Dam
2.14596
ASTRONOMIC
N
SHEET ORIENTED UTM NORTH AZIMUTH 358d42'
FALCONBRIDGE LIMITED
Exploration Division
Timmins ONTARIO
PETER LAKE SOUTH GRID
CUNNINGHAM Twp.
GEOLOGY MAP
TRACED: S Y DATE: 11/91
DRAWN: d e l DATE: 12/12/91
SUPERVISED: P Harvey DATE: 12/12/91
REVISED: DATE:
NTS: 41-O/10
PROJECT:
MAP No:
FILE: PETERLKS
SCALE 1:2000 (metres)
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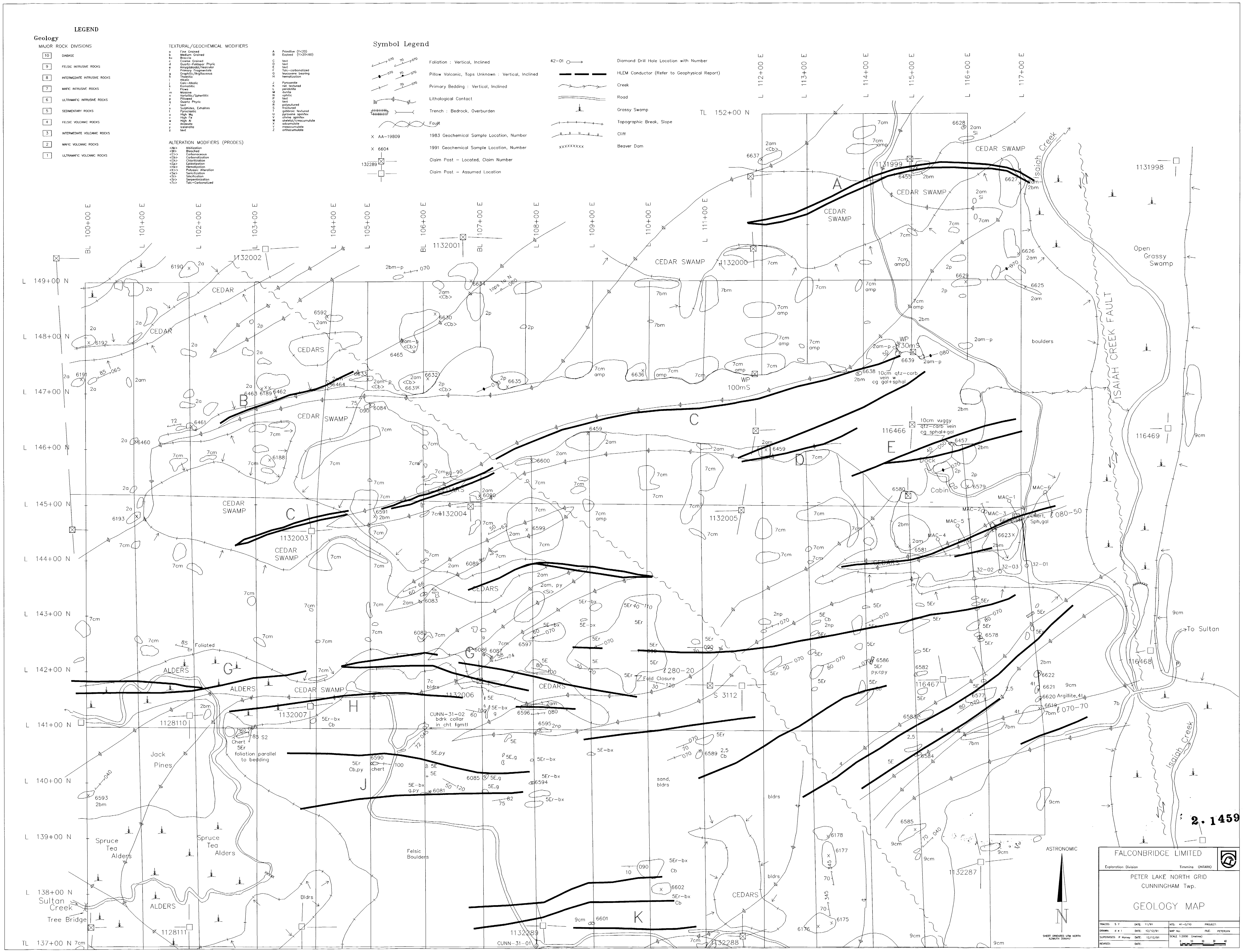
2.14596
FALCONBRIDGE LIMITED
Exploration Division
Timmins ONTARIO
PETER LAKE NORTH GRID
CUNNINGHAM Twp.
GEOLOGY MAP
LEGEND
Geology
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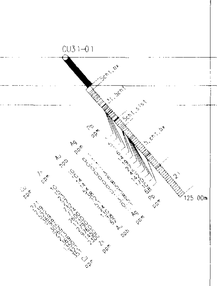
Claim Post - Located, Claim Number
Claim Post - Assumed Location
Diamond Drill Hole Location with Number
HLEM Conductor (Refer to Geophysical Report)
Creek
Road
Grassy Swamp
Topographic Break, Slope
Cliff
Beaver Dam
ISAIAH CREEK FAULT
Isaiah Creek
To Sultan
Open Grassy Swamp
CEDAR SWAMP
ALDERS
Jack Pines
Spruce Tea Alders
Sultan Creek
Tree Bridge
Felsic Boulders
ASTRONOMIC
TL 152+00 N
TL 137+00 N
BL 100+00 E
L 117+00 E

DRILL PLAN

GEOPHYSICS



LEGEND

Geology

MAJOR ROCK DIVISIONS

10	DIABASE
9	FELSIC INTRUSIVE ROCKS
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Cu > 100 ppm
Zn > 500 ppm
Au > 2500 ppb
Ag > 2.4 ppm
Pt > 75 ppm

TEXTURAL/GEOCHEMICAL MODIFIERS

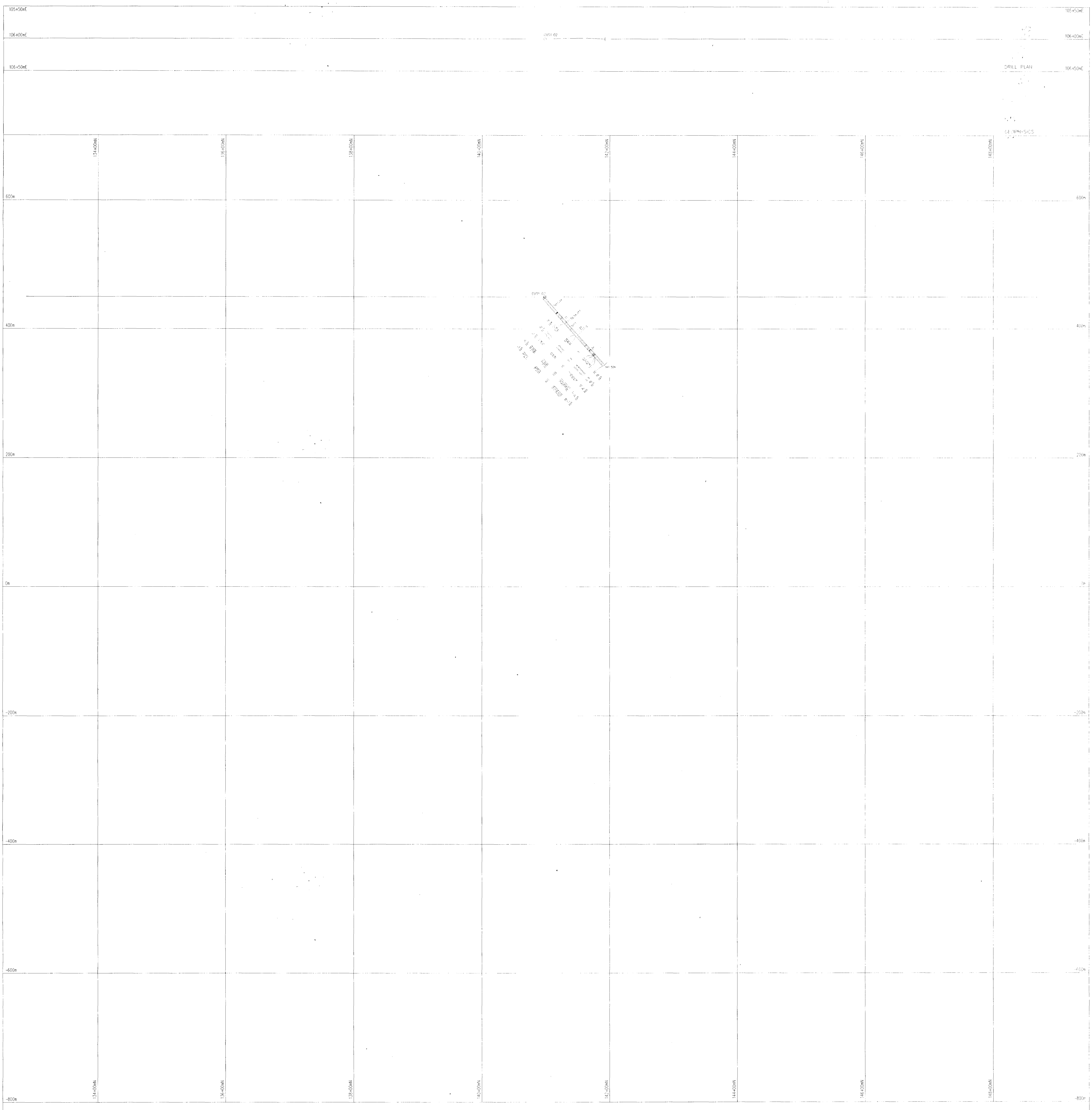
a	Fine Grained	A	Primitive (Y<20)
b	Medium Grained	B	Evolved (Y>20<60)
bx	Breccia		
c	Coarse Grained	C	text
d	Quartz-Feldspar Phyric	D	text
e	Amygdaloidal/Vesicular	E	text
f	Primary Fragmentals	F	Talc-carbonatized
g	Graphitic/Argillaceous	G	leucoxene bearing
h	Tholeiitic	H	hematization
'	Alkalic	'	
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	net textured
l	Flows	L	peridotite
m	Massive	M	dunite
n	Variolitic/Spherulitic	N	ophitic
o	Pillowed	P	text
q	Quartz Phyric	Q	text
r	text	R	polysutured
s	Sulphides, Exhalites	S	fractured
t	Pyroclastic	T	gabbroic textured
u	High Mg	U	pyroxene spinifex
v	High Fe	V	olivine spinifex
w	High Al	W	skeletal/crescumulate
x	Andesite	X	adcumulate
y	Felsite	Y	mesocumulate
z	text	Z	orthocumulate

ALTERATION MODIFIERS (PRODES)

<Ab>	Albitization
<Bl>	Bleached
<C>	Carbonaceous
<Cb>	Carbonatization
<Chl>	Chloritization
<Ep>	Epidotization
<He>	Hematization
<k>	Potassic Alteration
<Ser>	Sericitization
<Si>	Silicification
<Srp>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED			
Exploration Division		Timmins, ONTARIO	
PETER LAKE OPTION (CUNNINGHAM 31 & 32)			
DIAMOND DRILL SECTION L 108+00 E (+/-50m)			
LOOKING WEST		CUNNINGHAM Twp.	
Traced: PRODES 12/08/91	NTS: 41-O/10	PROJECT No: 8001	
Drawn: Jim Campbell 21/11/91	MAP No:	FILE: 8001H	
Supervised: D.R. Cruft 12/08/91	Scale: 1:2000 (metres)		
Revised:	0 20 40 60 80		



LEGEND

Geology

MAJOR ROCK DIVISIONS

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Cu > 200 ppm
Zn > 500 ppm
Au > 2500 ppb
Ag > 2.4 ppm
Pb > 75 ppm

TEXTURAL/GEOCHEMICAL MODIFIERS

a	Fine Grained	A	Primitive (Y<20)
b	Medium Grained	B	Evolved (Y>20<60)
bx	Breccia		
c	Coarse Grained	C	text
d	Quartz-Feldspar Phyric	D	text
e	Amygdaloidal/Vesicular	E	text
f	Primary Fragmentals	F	Talc-carbonatized
g	Graphitic/Argillaceous	G	leucoxene bearing
h	Tholeiitic	H	hematization
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	net textured
l	Flows	L	peridotite
m	Massive	M	dunite
n	Variolitic/Spherilitic	N	ophitic
p	Pillowed	P	text
q	Quartz Phyric	Q	text
r	text	R	polysutured
s	Sulphides, Exhalites	S	fractured
t	Pyroclastic	T	gabbroic textured
u	High Mg	U	pyroxene spinifex
v	High Fe	V	olivine spinifex
w	High Al	W	skeletal/crescumulate
x	Andesite	X	adcumulate
y	Icelandite	Y	mesocumulate
z	text	Z	orthocumulate

ALTERATION MODIFIERS (PRODES)

<Ab>	Albitization
<Bl>	Bleached
<C>>	Carbonaceous
<Cb>	Carbonatization
<Ch>	Chloritization
<Ep>	Epidotization
<He>	Hematization
<K>>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED
Exploration Division — Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)
DIAMOND DRILL SECTION L 106+00 E (+/-50m)
LOOKING WEST — CUNNINGHAM Twp.

Traced : PRODES	12/09/91	NTS : 41-O-10	PROJECT No: 8227
Drawn : Jim Campbell	21/11/91	MAP No:	FILE: 82271
Supervised : D.R. Cruji	12/09/91	Scale : 1 : 2000 (metres)	0 20 40 60 80
Revised :			

41010NE0089 2.14596 CUNNINGHAM

240

114+75mE
115+00mE
115+25mE

DRILL PLAN

GEOPHYSICS

134+00mN
136+00mN
138+00mN
140+00mN
142+00mN
144+00mN
146+00mN
148+00mN

600m
400m
200m
0m
-200m
-400m
-600m
-800m

LEGEND

Geology

MAJOR ROCK DIVISIONS

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Zn > 500 ppm
Au > 1500 ppb
Ag > 2.4 ppm
Pb > 75 ppm

TEXTURAL/GEOCHEMICAL MODIFIERS

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e	Amygdaloidal/Vesicular	E	text
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g	Graphitic/Argillaceous	G	leucoxene bearing
h	Tholeiitic	H	hematization
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	ewt textured
l	Flows	L	peridotite
m	Massive	M	dunite
n	Variolitic/Spherulitic	N	ophitic
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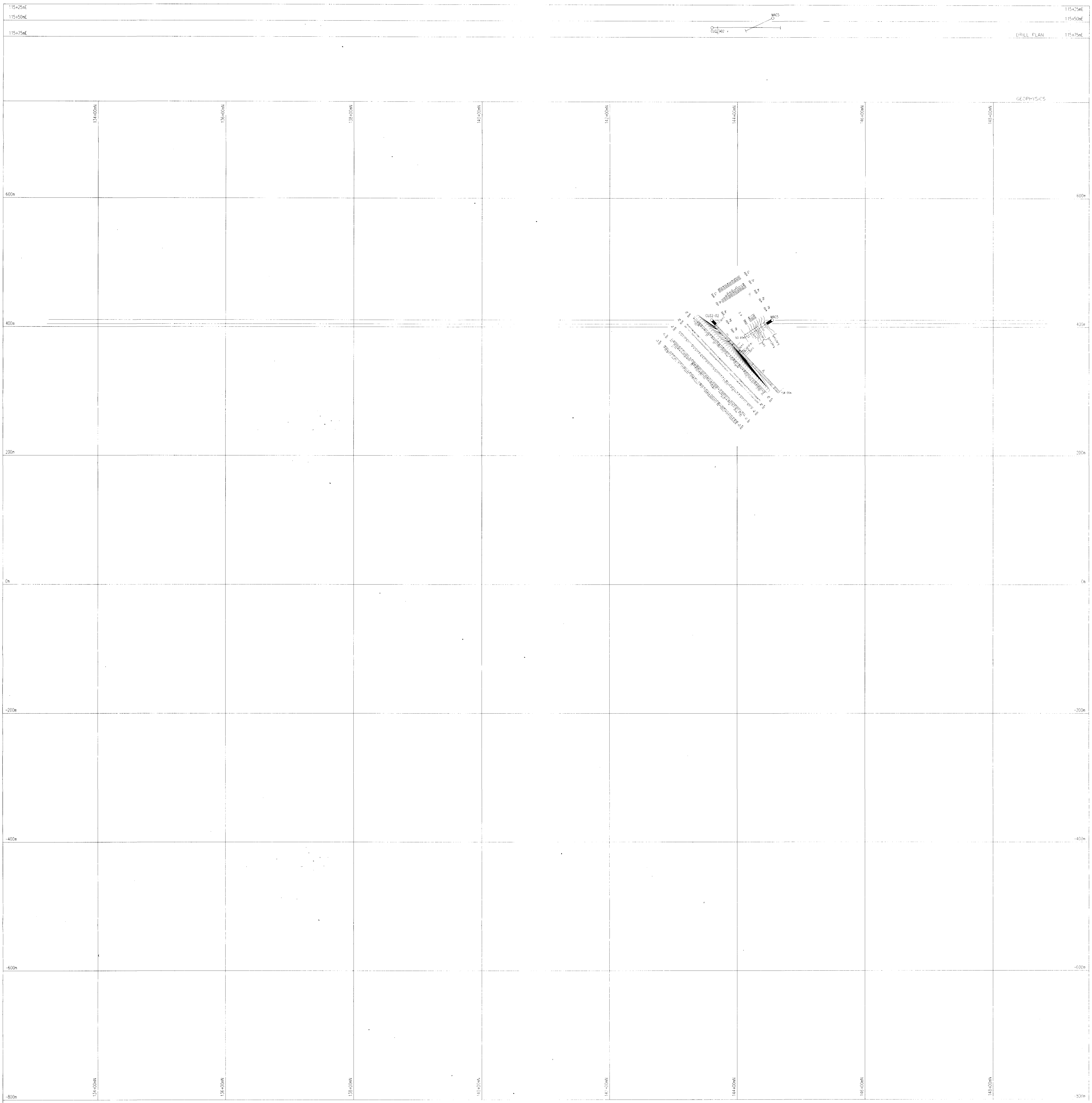
<Ep>	Epidotization
<He>	Hematization
<K>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED
Exploration Division — Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)
DIAMOND DRILL SECTION L 115+00 E (+/-25m)
LOOKING WEST — CUNNINGHAM Twp.

Traced : PRODES 12/09/91	NTS : 41-O/10	PROJECT No.: 8203
Drawn : Jim Campbell 21/11/91	MAP No.:	FILE: 8203F
Supervised : D.F. Cruji 12/09/91	Scale : 1 : 2000 (metres)	
Revised :	0 20 40 60 80	



LEGEND

Geology

MAJOR ROCK DIVISIONS

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f	Primary Fragmentals	F	Talc-carbonatized
g	Graphitic/Argillaceous	G	leucoxene bearing
h	Tholeiitic	H	hematization
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	net textured
l	Flows	L	peridotite
m	Massive	M	dunite
n	Variolitic/Spherilitic	N	ophitic
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q	Quartz Phyric	Q	text
r	text	R	polysutured
s	Sulphides, Exhalites	S	fractured
t	Pyroclastic	T	gabbroic textured
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x	Andesite	X	adcumulate
y	Icelandite	Y	mesocumulate
z	text	Z	orthocumulate

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<He>	Hematization
<K>>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED

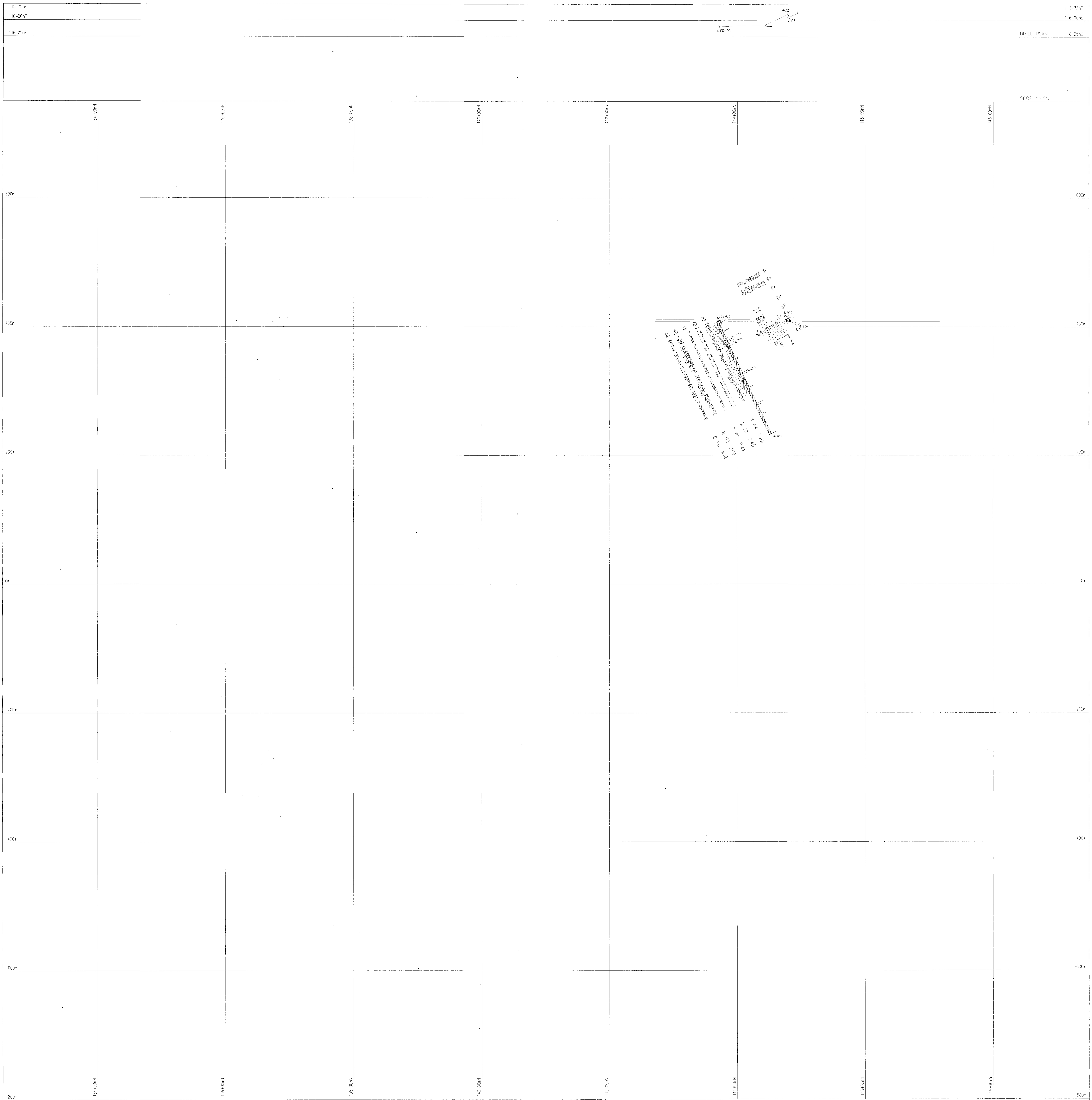
Exploration Division — Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)

DIAMOND DRILL SECTION L 115+50 E (+/-25m)

LOOKING WEST — CUNNINGHAM Twp.

Traced	PRODES	12/09/91	NTS: 41-O/10	PROJECT No: 8225
Drawn	Jim Campbell	21/11/91	MAP No:	FILE: 82036
Supervised	D.R. Cruji	12/09/91	Scale: 1 : 2000 (metres)	
Revised				



LEGEND

Geology

MAJOR ROCK DIVISIONS

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u	High Mg	W	skeletal/crescumulate
v	High Fe	X	adcumulate
w	High Al	Y	mesocumulate
x	Andesite	Z	orthocumulate
y	Icelandite		
z	text		

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<K>>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED

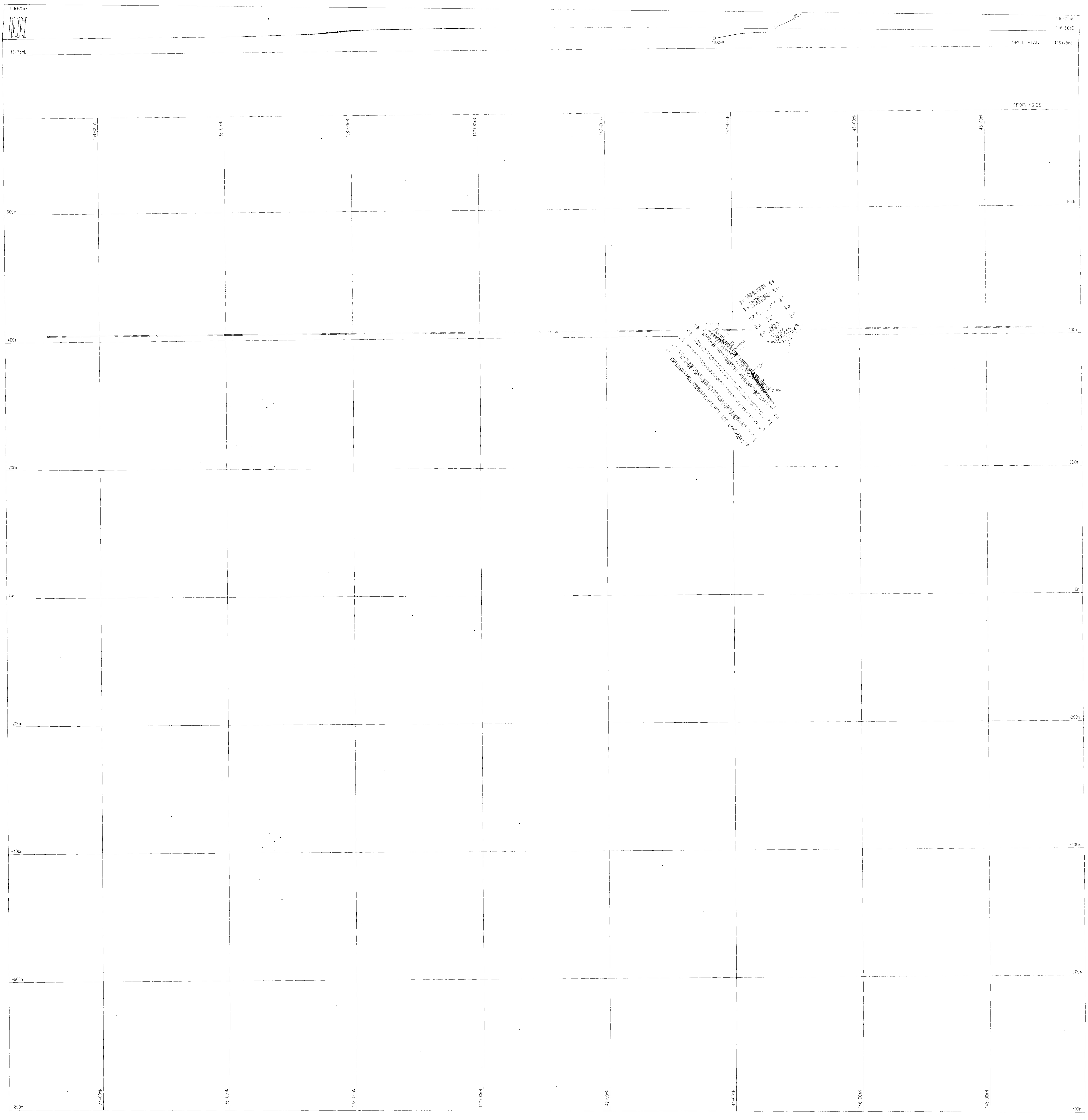
Exploration Division   Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)

DIAMOND DRILL SECTION L 116+00 E (+/-25m)

LOOKING WEST   CUNNINGHAM Twp.

Traced : PRODES 12/09/91	NTS : 41-O/10	PROJECT No: 8221
Drawn : Jim Campbell 21/11/91	MAP No:	FILE: 8221E
Supervised : D.R. Cruji 12/09/91	Scale : 1 : 2000 (metres)	
Revised :	0 20 40 60 80	



LEGEND

Geology

MAJOR ROCK DIVISIONS

10	DIABASE
9	FELSIC INTRUSIVE ROCKS
8	INTERMEDIATE INTRUSIVE ROCKS
7	MAFIC INTRUSIVE ROCKS
6	ULTRAMAFIC INTRUSIVE ROCKS
5	SEDIMENTARY ROCKS
4	FELSIC VOLCANIC ROCKS
3	INTERMEDIATE VOLCANIC ROCKS
2	MAFIC VOLCANIC ROCKS
1	ULTRAMAFIC VOLCANIC ROCKS

Cu > 200 ppm
Zn > 500 ppm
Au > 2500 ppb
Ag > 2.4 ppm
Pb > 75 ppm

TEXTURAL/GEOCHEMICAL MODIFIERS

a	Fine Grained	A	Primitive (Y<20)
b	Medium Grained	B	Evolved (Y>20<60)
bx	Breccia		
c	Coarse Grained	C	text
d	Quartz-Feldspar Phyric	D	text
e	Amygdaloidal/Vesicular	E	text
f	Primary Fragmentals	F	Talc-carbonatized
g	Graphitic/Argillaceous	G	leucoxene bearing
h	Tholeiitic	H	hematization
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	net textured
l	Flows	L	peridotite
m	Massive	M	dunite
n	Variolitic/Spherulitic	N	ophitic
p	Pillowed	P	text
q	Quartz Phyric	Q	text
r	text	R	polysutured
s	Sulphides, Exhalites	S	fractured
t	Pyroclastic	T	gabbroic textured
u	High Mg	U	pyroxene spinifex
v	High Fe	V	olivine spinifex
w	High Al	W	skeletal/crescumulate
x	Andesite	X	adcumulate
y	Icelandite	Y	mesocumulate
z	text	Z	orthocumulate

ALTERATION MODIFIERS (PRODES)

<Ab>	Albitization
<Bl>	Bleached
<C>>	Carbonaceous
<Cb>	Carbonatization
<Ch>	Chloritization
<Ep>	Epidotization
<He>	Hematization
<K>>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

2.14596

FALCONBRIDGE LIMITED

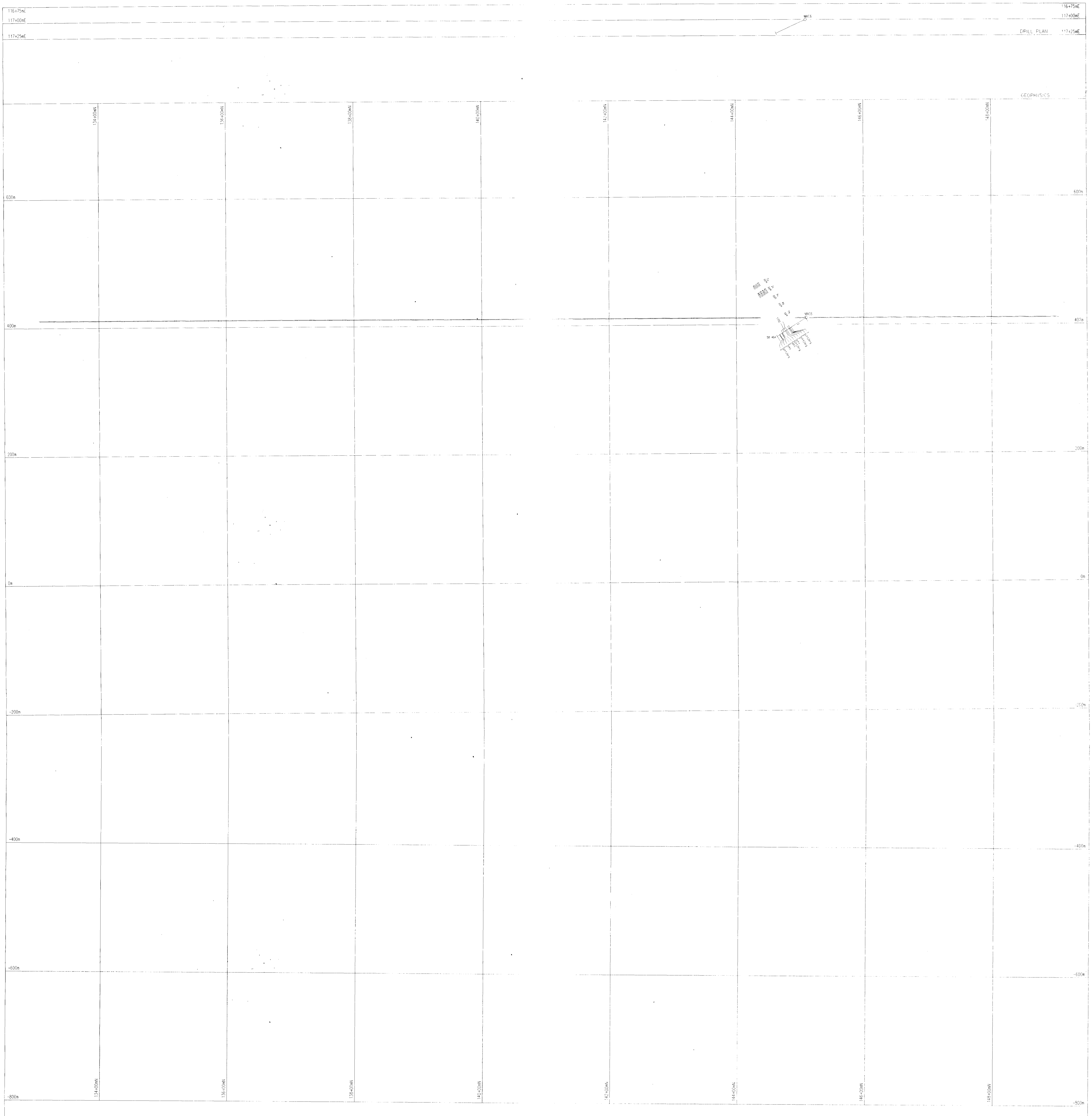
Exploration Division   Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)

DIAMOND DRILL SECTION L 116+50 E (+/-25m)

LOOKING WEST   CUNNINGHAM Twp.

Traced	PRODES	12/09/91	NTS : 41-O 10	PROJECT No: 8203
Drawn	Jim Campbell	21/11/91	MAP No:	FILE: 82030
Supervised	D.R. Cruji	12/09/91	Scale : 1 : 2000 (metres)	
Revised			0 20 40 60 80	



LEGEND

Geology

MAJOR ROCK DIVISIONS

10	DIABASE
9	FELSIC INTRUSIVE ROCKS
8	INTERMEDIATE INTRUSIVE ROCKS
7	MAFIC INTRUSIVE ROCKS
6	ULTRAMAFIC INTRUSIVE ROCKS
5	SEDIMENTARY ROCKS
4	FELSIC VOLCANIC ROCKS
3	INTERMEDIATE VOLCANIC ROCKS
2	MAFIC VOLCANIC ROCKS
1	ULTRAMAFIC VOLCANIC ROCKS

Cu > 200 ppm
Zn > 500 ppm
Au > 2500 ppb
Ag > 2.4 ppm
Pb > 75 ppm

TEXTURAL/GEOCHEMICAL MODIFIERS

a	Fine Grained	A	Primitive (Y<20)
b	Medium Grained	B	Evolved (Y>20<60)
bx	Breccia	C	text
c	Coarse Grained	D	text
d	Quartz-Feldspar Phyric	E	text
e	Amygdaloidal/Vesicular	F	Talc-carbonatized
f	Primary Fragmentals	G	leucoxene bearing
g	Graphitic/Argillaceous	H	hematization
h	Tholeiitic	J	Pyroxenite
i	Alkalic	K	net textured
j	Calc-Alkalic	L	peridotite
k	Komatiitic	M	dunite
l	Flows	N	ophitic
m	Massive	P	text
n	Variolitic/Spherulitic	Q	text
p	Pillowed	R	polysutured
q	Quartz Phyric	S	fractured
r	text	T	gabbroic textured
s	Sulphides, Exhalites	U	pyroxene spinifex
t	Pyroclastic	V	olivine spinifex
u	High Mg	W	skeletal/crescumulate
v	High Fe	X	adcumulate
w	High Al	Y	mesocumulate
x	Andesite	Z	orthocumulate
y	Icelandite		
z	text		

ALTERATION MODIFIERS (PRODES)

<Ab>	Albitization
<Bl>	Bleached
<C>>	Carbonaceous
<Cb>	Carbonatization
<Ch>	Chloritization
<Ep>	Epidotization
<He>	Hematization
<K>>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification
<Sr>	Serpentinization
<Tc>	Talc-Carbonatized

41010NE0089 2.14596 CUNNINGHAM

290

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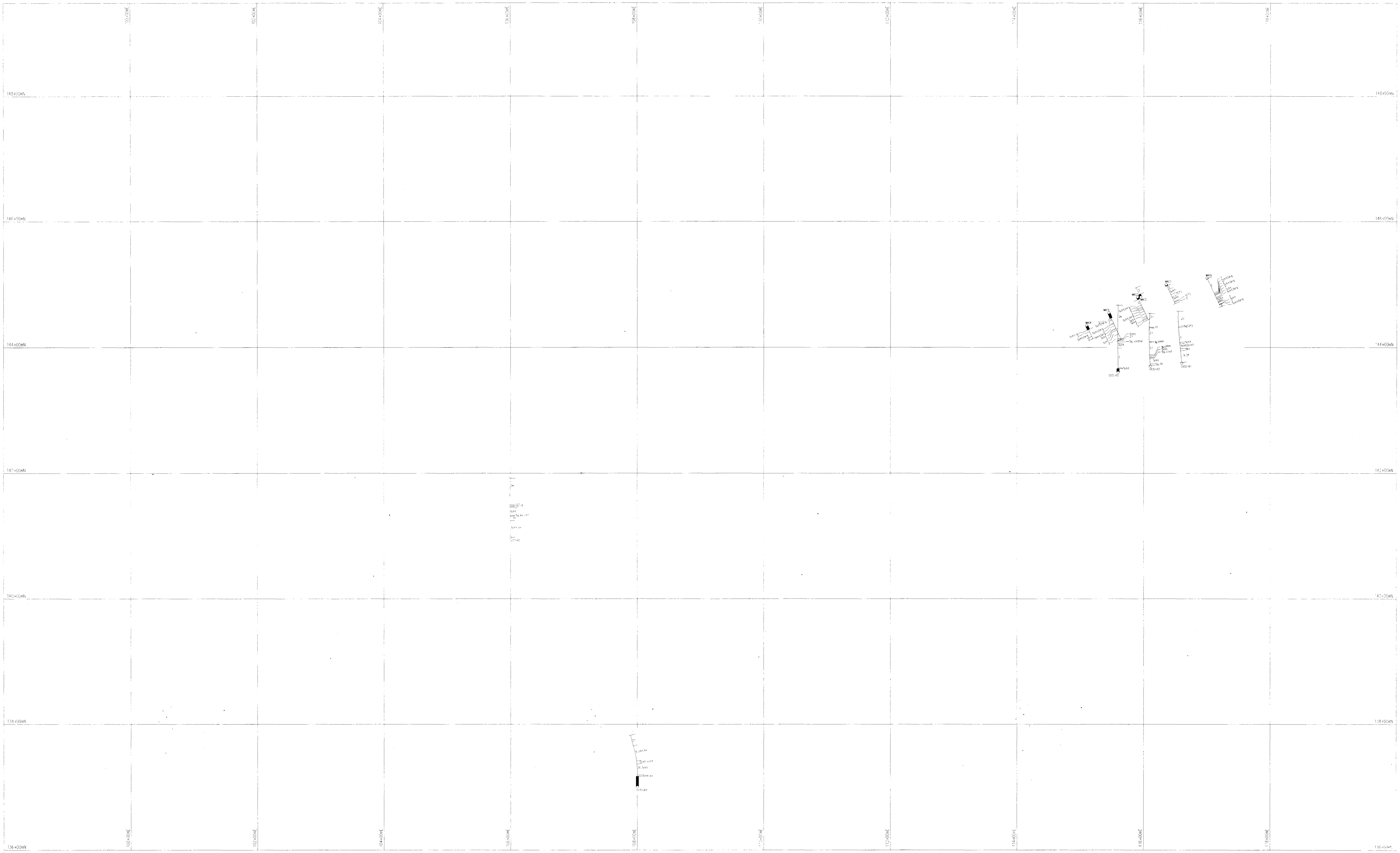
FALCONBRIDGE LIMITED
Exploration Division — Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)
DIAMOND DRILL SECTION L 117+00 E (+/-25m)
LOOKING WEST — CUNNINGHAM Twp.

Traced	PRODES	12/09/91	NTS: 41-0/10	PROJECT No: 8203
Drawn	Jim Campbell	21/11/91	MAP No:	FILE: 8203
Supervised	D.R. Croft	12/09/91	Scale: 1:2000 (metres)	
Revised				



LEGEND

Geology

MAJOR ROCK DIVISIONS

10	DIABASE
9	FELSIC INTRUSIVE ROCKS
8	INTERMEDIATE INTRUSIVE ROCKS
7	MAFIC INTRUSIVE ROCKS
6	ULTRAMAFIC INTRUSIVE ROCKS
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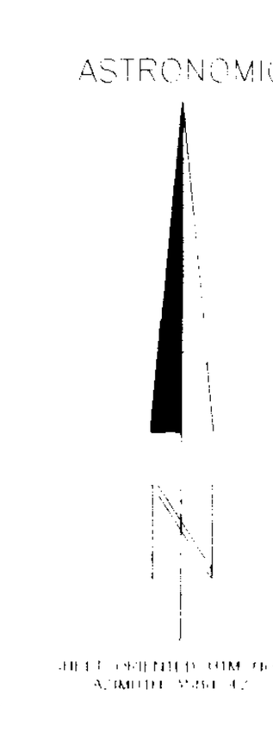
f	Primary Fragmentals
g	Graphitic/Argillaceous
h	Tholeiitic
i	Alkalic
j	Calc-Alkalic
k	Komatiitic
l	Flows
m	Massive
n	Variolitic/Spherilitic
p	Pillowed
q	Quartz Phyric
r	text
s	Sulphides, Exhalites
t	Pyroclastic
u	High Mg
v	High Fe
w	High Al
x	Andesite
y	Icelandite
z	text
A	Primitive (Y<20)
B	Evolved (Y>20<60)
C	text
D	text
E	text
F	Talc - carbonatized
G	leucoxene bearing
H	hematization
J	Pyroxenite
K	net textured
L	peridotite
M	dunite
N	ophitic
P	text
Q	text
R	polysutured
S	fractured
T	gabbroic textured
U	pyroxene spinifex
V	olivine spinifex
W	skeletal/crescumulate
X	adcumulate
Y	mesocumulate
Z	orthocumulate

ALTERATION MODIFIERS (PREFIXES)

<Ab>	Albitization
<Bl>	Bleached
<Cs>	Carbonaceous
<Cb>	Carbonatization
<Ch>	Chloritization
<Ep>	Epidotization
<He>	Hematization
<K>	Potassic Alteration
<Se>	Sericitization
<Si>	Silicification

41010NE0089 2.14596 CUNNINGHAM

300



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FALCONBRIDGE LIMITED
Exploration Division — Timmins, ONTARIO

PETER LAKE OPTION (CUNNINGHAM 31 & 32)
DIAMOND DRILL PLAN (ASSAYS & GEOLOGY)
CUNNINGHAM Twp.

Traced	12/08/91	NTS : 41-O/10 PROJECT No: 8203
Drawn ... Campbell	19/11/91	MAP No: FILE: 8203A
Supervised ... Cruz	12/08/91	Scale : 1 : 2000 (metres)
Revised		0 20 40 60 80