81-12:01-9978

ASSESSMENT REPORT MOE 6 Group, Atlin M.D.

G.A. Noel S. Presunka J. Wilson F. Dispirito P.A. Cartwright

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Alter William

January 23, 1982 Delta, B.C.



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GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL WORK

<u>MOE6, MOE7, Treadwel1</u> <u>Atlin M.D. NTS 114P/10E</u> <u>Lat: 59°, 34' N</u> <u>Long: 136°, 35' W</u>

OWNER: Falconbridge Nickel Mines Ltd.

OPERATOR: FALCONBRIDGE NICKEL MINES LTD.

Authors: G.A. Noel, (G.A. Noel and Associates Inc.)

- S. Presunka, (Presunka Geophysical Explorations Ltd)
- J. Wilson, (Falconbridge Nickel Mines Ltd.)
- F. Dispirito & P.A. Cartwright (Phoenix Geophysics Ltd)

Date Submitted: January 27, 1982

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43	" Zn	11 11
44	" "Ag	11 11
45	" Ni	17 17
46	" " Co	n n
47	" <u>" Mn</u>	şı 11
48	" Fe	11 11
49	" " As	
50	" " []	11 11
51		
52	" "Cd	
53	" " Sb	11 11
54	" " Bi	
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57	11		-	11	Р		- 11
58	11				La	п	
59	н			11	In	11	
60	н			11	Mg	н	n
61	11			11	Ba		11
62	11			11	Ti	11	11
63	17				В	11	п
64	17			11	Al	n	11
65	11			11	W		"
12	TP West G	rid				n	11
13	IP West G	rid Ex	tension				"





BRITISH COLUMBIA

150 0 150 300 450 Km. SCALE I: 7.500.000





INTRODUCTION

MOE 6 (20 units) and MOE 7 (20 units), were staked in 1980. A reverted, crown-granted 2-post claim that was acquired in 1980 is Treadwell (L 376). The above claims were grouped as the MOE 6 Group in 1981.

The current owner and operator is Falconbridge Nickel Mines Ltd.

The claims are in the Coast Mountains, about 18 kilometres northwest from Pleasant Camp on the Alaska - B.C. border. The Haines -Haines Junction highway is 5 kilometres east of the claims and an old mining has been upgraded to provide access onto the claims.

The claims contain several crown granted mineral claims that had been worked intermittently since about 1900. The deposits are replacement types occurring in sedimentary rocks (argillites, quartzites, limestones and gneisses) that have been intruded by a large body of granodiorite and quartz diorite. The sedimentary rocks generally strike northwesterly and dip gently to the northeast.

Most skarn deposits carry bornite, chalcocite, pyrrhotite, chalcopyrite, and pyrite. The silver content of the copper rich zones is usually significant.

Although skarn deposits are usually considered small and erratic, the grade is encouraging. For example, according to K. De P. Watson, (B.C.D.M. Bull .25, 1948), early shipments of ore from the Maid of Erin crown grant (157 tons) yielded 77,658 lb. of copper, 5849 oz. of silver and 6 oz. of gold.

PHYSICAL WORK

23 kilometres of grid (West Grid) were established by Terrex Mining Services Ltd. and company personnel, (Fig 015-81-11 and 015-81-7). Work consisted of picketing grid lines spaced at 50 metre intervals. Marked station pickets were placed every 50 metres along individual lines.

The grid and all subsequent grid based surveys were carried out mainly on the MOE 7 claim. A small portion of the grid extends onto MOE 6.

-4-

INTRODUCTION (contd)

SUMMARY OF WORK

Several surveys were conducted over the claims following establishment of the grid. 113 soil samples were collected from the B horizon and were analyzed by Bondar-Clegg and Co. Ltd. for Cu, Pb Ag, Zn, and W. They were later analyzed by ACME Analytical Laboratories Ltd. for these plus more elements. EM 16, magnetometer, and I.P. surveys were each conducted over 10.2, 16.3, and 9.6 km. of grid respectively. Geological mapping at a scale of 1:2500 used the grid for control. The area mapped was about 1 square kilometre.

john Rhubon

STATEMENT OF COSTS

PHYSICAL WORK

I.

Contractor((Terrex Mining Services Ltd.) July 20-26, 4 men, 23 kilometres of grid @ \$123.60/km Laths Paint	\$2 ,	842.80 32.00 16.00
Board for above (July 20-26) 4 men, (28 man days)@\$20.00/da Supply costs for above 28 man days @ \$20.00/day	чγ	560.00 560.00
4 x 4 Truck Expenses		
July 20-26, (7 days) @ \$240.00/week		960.00
Supervision		
July 20, (1 day) @ \$110.00/day		110.00
TOTAL PHYSICAL WORK	\$5,	080.80
GEOLOGICAL MAPPING		
Consultant (G.A. Noel)		
July 20-Aug 22, (34 days) @ \$300.00/day Board for above, 34 days @ \$20.00/day Supply costs for above @ \$20.00/day	10,	200.00 680.00 680.00
4 x 4 Truck Expenses		
July 20-Aug 22, 4 weeks @ \$240.00/week	<u></u>	960.00
TOTAL GEOLOGICAL WORK	<u>\$12,</u>	520.00
GEOCHEMISTRY		
Sampling: 1 man Aug. 5 to Aug 13 (9 days) @ \$53.00/day Board for 9 days @ \$20.00/day Supply costs for above 9 man days @ \$20.00/day	\$	477.00 180.00 180.00
Ag, Cu, Pb, Zn, W. @ \$7.75/sample 113 samples prepared @ .60¢/sample		875.75 67.80
113 samples analyzed by ACME Analytical Laboratories Ltd. @ \$5.50/sample Producing maps of soils geochemistry values (ACME's ICP		621.50
results) by computer plotting Data Input (HA Simons International Ltd)		218 00
One map showing sample number and 26 maps showing single elements (contoured) (H.A. Simons International)) <u>1</u> ,	600.00

TOTAL GEOCHEMISTRY WORK \$4,220.05

GEOPHYSICS

i.

Induced Polarization and Resistivity	(from Page	8 of	Phoenix report)
Contractor - Phoenix Geophysics Ltd. Aug 7 to Aug 21, 3 men (10.2 km)			4 725 00
2 travel days @ \$35.00/day 2 bad weather days @ \$335.00/day extra labour 12.72 days @ \$72.00/day mobilization. demobilization			670.00 670.00 918.00 1.209.64
TOTAL CONTR	ACT COSTS		\$ 8,192,64

Board for above (33 man days) @ \$20.00/day Supply costs for above 33 man days @ \$20.00/day

Magnetometer

Contractor - Presunka Geophysicsical Exploration Ltd.	
Aug 11 - Aug 15, 1 man, (5 days) @ \$75.00/day	375.00
Aug 14 - Aug 15, 1 man, (2 days) @ \$250.00/day	500.00
Board for above, 7 days @ \$20.00/day	140.00
Supply costs for above 7 man days @ \$20.00/day	140.00

GEOPHYSICS (contd)

EM

Contractor - Presunka Geophysic	al Explorations Ltd.
Aug 5 - Aug 10, 1 man (6 days)	@ \$75.00/day 450.00
Aug 6 - Aug 10, 1 man (5 days)	@ \$250.00/day 1,250.00
Board for above 11 man days @ S	20.00/day 220.00
Supply costs for above 11 man of	lays @ \$20.00/day 220.00

TOTAL GEOPHYSICAL WORK \$12,807.64

660.00 660.00

SUPERVISION AND REPORT

Planning and Supervision of Geochemistry and Geophysics

l man, (4 days) Aug 5,6 Board for above 4 days (Supply costs for above 4 Beport Preparation	,8,11 @ \$110.00/day @ \$20.00/day 4 man days @ \$20.00/day	440.00 80.00 80.00
Report Freparación		
Organizing & writing, 3 Drafting - 1 day @ \$110 - 4 days @ \$70 Typing and assembly, 1 o Printing & Copying	days @ \$110.00/day .00/day .00/day day @ \$90.00/day	330.00 110.00 280.00 90.00 50.00
TOTAL SUPERVISION & REPORTINGdistributed betweenGEOCHEMISTRY\$730.00GEOPHYSICS\$730.00		\$1,460.00

STATEMENT OF QUALIFICATIONS

John Wilson graduated from the University of British Columbia in 1972 with a BSc (honours) in geology. He has worked for Falconbridge Nickel Mines since 1972 and was supervisor of this project.

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SECTION A

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REPORT ON MAID OF ERIN MAPPING - 1981

G.A. Noel

NTS 114/P10E PN 015

December 1981

I.

Report # 14-015-81

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INDEX MAP

BRITISH COLUMBIA

150 0 150 300 450 Km.

SCALE 1: 7.500.000



REPORT ON MAID OF ERIN MAPPING - 1981

SUMMARY

From July 20 to August 20, 1981 geological mapping at a scale of 1:2500 was done on the Maid of Erin property covering an area one kilometre square. This work resulted in delineating the geological setting of five mineralized skarn zones of economic interest. The most important zone is that centered on the main Maid of Erin workings. This zone of copper-silver mineralization has been defined for about 150 metres along strike and 50 metres down-dip with a thickness of about 8 metres. It dips about 15⁰ to the northeast. The ultimate size and grade of this zone can only be determined by drilling.

INTRODUCTION

The author was engaged by Falconbridge Nickel Mines Ltd. in July 1981 for some detailed geological mapping and interpretation of the geology on the Maid of Erin property in the Rainy Hollow area, Atlin Mining Division B. C. This fieldwork was conducted out of Falconbridge's field camp on the property between July 20 and August 20, 1981. The author worked directly for John Wilson, Falconbridge's supervisor on the project. Of 31 days in the field, 22 were spent mapping surface and underground geology, 3 days were spent plotting maps and sections, 4 days were spent on geological reconnaissance and orientation and 2 days were spent on control for mapping. The purpose of this work was to determine the control and environment of the copper-silver mineralization on the Maid of Erin property.

FIELDWORK

Considerable reference data was provided by Falconbridge including reports on the property by Dr. K. D. P. Watson, Dr. Alex Smith, J. J. McDougall and C. M. Campbell, as well as numerous supporting maps. The more important of these are listed under "References" below.

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At first it seemed quite adquate to use Alex Smith's 1:2400 1949 geological maps reduced to 1:2500 as a base. Due to differences in control, geological interpretation and road location it was decided to start from scratch. Accordingly mapping was done on $8\frac{1}{2}$ " X 11" mylar field sheets at 1:2500 scale using a compass and tape road survey and the picket line geochem-geophysics grid as control. This control proved generally adequate since the grid was based on a transit and chain north-south base line. However the picket lines did show some divergence from ideal east-west lines both east and west of the baseline and required tying at the ends. Mapping of the Maid of Erin underground workings was done at a scale of 1:250. More detailed mapping of the main mineralized area was originally considered but it was felt that the small high grade pockets of ore were not as important as the entire mineralized zone in determining the minability of the deposit. As a result, the mineralization has been represented in the mapping in a stippled pattern rather than showing actual ore shapes.

The area covered by surface mapping is about one kilometre by one kilometre with a small extension to the northwest along the tractor road. In addition to geology, all surface features such as roads, drainages, sinks, claim posts, trenches, pits, tunnels, talus areas, etc. have been shown on the map .

Initially two days were spent on orientation traverses to establish lithologies and styles of alteration and mineralization. Specimens of each rock type as well as specific examples of alteration and mineralization were collected at the time of mapping.

The field sheet data was transferred to a base map and the outcrop detail was then color coded. By extrapolation and geological interence a complete geological map was eventually compiled. From the completed surface and underground maps a general cross section at a scale of 1:2500 through the south end of Mineral Mountain was constructed as well as a longitudinal section and a cross section both at 1:500 scale through the main mineralized zone on the Maid of Erin claim.

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RESULTS

Six lithologic units were defined on the property. These are from youngest to oldest as follows: quartz diorite, argillite, quartzite, limestone, biotite gneiss and hornblende diorite gneiss. The argillite is a very fine grained black well-bedded rock which is somewhat siliceous in places and commonly iron oxide-stained on weathered surfaces. It shows variable pyrite and pyrrhotite both disseminated and along fractures. The quartzite is of metamorphic origin and is generally biotitic and/or feldspathic. It is a brown, fine grained, thin bedded rock with slightly gneissic texture due to variable amounts of black biotite. It shows iron oxide coatings on weathered surfaces due to disseminated pyrite and pyrrhotite.

The limestone is generally a well-bedded grey and white rock which is in places metamorphosed to coarse grained white marble. It has a slightly fetid odor locally.

The biotite gneiss is a light to dark grey medium to coarse grained rock which shows good foliation with white quartz and feldspar bands interlayered with black biotite.

The hornblende diorite gneiss unit is grey to black, fine to coarse grained, non magnetic and generally foliated. It shows a little finely disseminated pyrite and pyrrhotite locally.

The quart diorite is a medium grained white, non-magnetic crystalline rock with biotite as an accessory mineral.

These rocks are part of the metasedimentary assemblage which constitutes the Rainy Hollow pendant. This section at the south end of Mineral Mountain and west of Inspector Creek is in the form of an open syncline which plunges to the northwest at about 20° . To the east this structure warps over into an anticline with its axis along Inspector Creek. The beds show minor warping across the synclinal structure as well as cross-folding along the west limb of the syncline (see Sections C-D and E-F). Several large northeast trending transverse faults cut the section with little apparent dislocation. Tactite alteration affects all units except the argillite and quartz diorite. The tactite alteration includes green and brown andradite garnet, diopside, monticellite, epidote, wollastonite and vesuvianite. The monticellite and vesuvianite were not identified in the field. The tactite alteration also includes a pervasive silicification which grades into the meta-quartzite. The tactite alteration can be separated into a number of mappable units as: garnet-diopside skarnboth massive and grained; banded skarn (thinly banded); skarn-altered gneiss; and silicification.

Minerals associated with the tactite alteration include : bornite, chalcopyrite, sphalerite, galena, magneite, pyrite, pyrrhotite and wittichenite (not identified in the field). The mineralization occurs in several fairly broad contact zones as well as in a number of small isolated, minor structures involving limestone and skarn. Five fairly significant mineralized zones have been defined Zone 1 is the Maid of Erin zone which has been defined for on the map. about 300 metres. In this zone bornite with minor chalcopyrite occurs as blebs and small pods in a granular brown and green garnet skarn up to 10 metres thick. This unit dips flatly (15°) to the northeast as shown in Section A-B. It is defined for about 150 metres along strike and about 50 metres down-dip by underground and surface workings and diamond drill holes. It is overlain by a banded skarn and underlain by a thick section of limestone. Along strike it shows an undulating form see Section E-F. Mineralization in the skarn unit of Zone 1 is quite variable in distribution with high grade pods, dissemination and barren sections. Sampling across the entire section is required to give some idea of average grade.

Zones 2 & 3 are about 100 and 150 metres respectively below Zone 1 and overlie and underlie a limestone band about 30 metres above the quartz diorite contact. These zones show chalcopyrite, pyrite, spahlerite and some bornite in a banded garnet skarn. Each of these zones <u>may</u> be up to 10 metres thick but the mineralization is probably extremely variable over this thickness. Surface sampling should give some indication of grade across the zones. The zones are up to

-6-

200 metres in length.

Zone 4 is associated with the southernmost limestone band in the Maid of Erin section. It consists of diopside skarn with pyrrhotite, sphalerite, chalcopyrite and pyrite trending northeasterly. The skarn-limestone contact is sheared and dips steeply southeast but the limestone bedding dips noderately northwest. The zone is at least five metres wide but has only been traced for about 30 metres in surface workings. The skarn section is underlain to the southeast by quartzite.

Zone 5 is about 600 metres northwest of the Maid of Erin workings at about the same elevation. It consists of a garnet-diopsie skarn-limestone section with finely disseminated chalcopyrite and pyrite and in places some bornite irregularly distributed through certain bands. The entire zone is at least 15 metres thick but the grade over this section is probably quite low. Careful surface sampling is required to assess its worth.

CONCLUSIONS AND RECOMMENDATIONS

The Maid of Erin property has a number of interesting mineralized skarn zones. The primary zone (Zone 1) over the main workings should be sampled over its entire width at surface as well as underground to indicate its average grade. If this zone shows worthwhile copper and silver values it should be drilled to establish its continuity both down-dip and along strike.

G. A. Noel

Maid of Erin August 21, 1981 REFERENCES

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Campbell C. M. Jr (1955 - 1956): Maid of Erin Progress Reports to October 23, 1956, Private Reports for F.N.M. Campbell C. M. Jr (1957): Work of the 1955 - 1956 Summer Seasons, Private reports for F.N.M. Smith, A. (1943): Report on the Maid of Erin Mine, Rainy Hollow, B. C., Private report for Falconbridge Nickel Mines Limited Smith, A. (1949):

Report on Maid of Erin Mine, Rainy Hollow, B. C., Private report for Falconbridge Nickel Mines Limited

Watson, K. De P. (1948):

The Squaw Creek - Rainy Hollow Area, Northern B. C., Dept. of Mines Bulletin No. 25.

STATEMENT OF QUALIFICATIONS

G.A. Noel is a graduate of the University of British Columbia and received a MASc in geological engineering from the University of Toronto. He has practiced his profession for over 25 years and is a professional engineer registered in the province of British Columbia.



V.L.F.E.M. AND MAGNETOMETER RESULTS

WEST GRID AREA

MAID OF ERIN PROPERTY, B.C.

S. Presunka

NTS 114P/10E

PN 015

December 1981

I.

Report # 16-015-81

SECTION B

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INDEX MAP



150 0 150 300 450 Km. SCALE I: 7.500.000



MAID OF ERIN

MAGNETOMETER SURVEY

Instrument: Barringer Proton Magnetometer Serial No. 6282 Model 1252

The magnetic base stations were established along the base line for diurnal control. Readings were taken every 25 metres along the lines. The corrected readings are plotted and contoured every 100 gammas.

The background magnetic field was established at 57000 gammas. All readings plotted are above 57000 gammas. Any reading below 57000 gammas is a negative reading.

The magnetic range varied from minus 318 on line 5N at 265W to a high of 2696 on line 750N at 462W, a range of 3013 gammas. The magnetic highs are spotty and cover a relatively small circular area. These magnetic highs do not have a definite pattern. There is a northeast magnetic trend east of the base line. This trend could be observed from line 0+50N, to line 6N. The magnetic anomally just west of the base line, from line 1+00S to 0+50N, covers a circular area of 150 metres in diameter. A vague northwest striking trend extends from the base line at 3N to line 8+50N, 425W and terminates about 75 metres southeast of the adit.

ELECTOMAGNETIC SURVEY

Instrument - Ronka EM 16 Serial No. 2 V.L.F. St. 23.4 TILT DIRECTION 120° (Profiled Plan)

The seven conductors selected are relatively weak. There is no E.M. response over the Maid of Erin mine area, apparently the ore zone is too small to respond to the E.M. 16 method.

<u>No. 1</u> north east striking conductor east of the base line starts on line 250 north at 50 metres east then continues northeasterly to L 750N then swings to northwest direction crossing line 8N at 135 east and continues off the grid. The inphase - quadrature response suggests a possible sulphide anomally. Depth to conductor on line 650 north at 225 east is approximately 60 to 75 metres. The <u>No. 6</u> north east striking conductor starts on line 650 north at 50 east and joins up with conductor No. 1 at 140 east. The <u>No. 2</u> north-south striking conductor extends off the grid to the north and south. This conductor crosses line 0+50N at 160 west, then swings in a westerly direction crossing line 450N at 260 west then strikes nearly north crossing line 950N at 120 west. The profile plan suggests this to be a flatly west dipping conductor. Depth to conductor on line 950 north at 120 west is approximately 60 to 70 metres. The <u>No.3</u> conductor, some 110 metres west on line 750 north, is a fair one line response which extends weakly to lines 650 and to line 850 north to join the No.2 conductor. Depth to conductor on line 750 at 110 west is approximately 60 metres and it dips to the west. The <u>No.4</u> conductor, west of the base line, crosses line 1+50N at 60 west and strikes southerly to line 0+50N at 40 west to continue off the grid. This is a very weak conductor. The <u>No.5</u>, a secondary conductor located some 450 metres east of the base line on line 250 north, is likely due to a weakly mineralized shear The very weak <u>No.7</u> conductor, located 275 metres east of the base line on lines 150, 250 and 350N is likely due to a flat east dipping conductor.

Proposed D.D.H. #1 located 175 metres east on line 6+50N, and drilled -50° east to a depth of 100metres would intercept the conductor at 90 metres.

Proposed D.D.H. #2 on line 950N at 160 metres west and drilled -50° east to a depth of 80 metres would intercept the conductor at 72 metres. CONDUCTORS No.1 and No.2 may very well be the boundary of a broad flat lying conductor. The I.P. results could confirm this broad EM-16 conductor.

V.L.F. St. 17.8 Tilt Direction 360° (Contoured Plan)

This V.L.F. St. responds to E.W. conductors if any. There were no indicated cross-overs, only a secondary conductor as shown. This secondary conductor located towards the north end of the grid meanders easterly between lines 750 and 850N. This may represent an edge of a flat lying weak conductor.

These are seven plans submitted at a scale of 1:2500: a) West Grid - contoured magnetics b) West Grid - VLFEM station 23.4 profiled c) West Grid - VLFEM station 23.4 contoured d) West Grid - VLFEM station 17.8 contoured e) West Grid - Composite VLFEM and magnetics f) West Grid - Extension VLFEM station 23.4 contoured g) West Grid - Extension VLFEM station 17.8 contoured

S. Presunka

September 12, 1981

-4-

STATEMENT OF QUALIFICATIONS

The V.L.F. EM16 and magnetometer surveys were supervised and partly done by S. Presunka of Presunka Exploration Limited of Vancouver, who has worked for numerous mining companies, including Falconbridge Nickel Mines Limited, over a period of more than 25 years. He is a specialist in the use of the EM 16. SECTION C

1

PHOENIX GEOPHYSICS LIMITED

REPORT ON THE

INDUCED POLARIZATION AND RESISTIVITY SURVEY ON THE

MAID OF ERIN PROPERTY, WEST GRID RAINY HOLLOW AREA ATLIN MINING DIVISION, BRITISH COLUMBIA

FOR

FALCONBRIDGE NICKEL MINES LIMITED

NTS 114P/10E

Latitude: 59⁰34'

Longitude: 136⁰35'

ΒY

FRANK DISPIRITO, B.A.Sc., P.Eng. PAUL A. CARTWRIGHT, B.Sc.

NOVEMBER 12, 1981

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PART B: Illustrations

Plan Maps (in pockets)	Dwgs. I.P.PB-4016A &-4016B
IP Data Plots	Dwgs. I.P5816-13 to-25
Location Map	Figure 1
Claim Map	Figure 2
1. Introduction

An Induced Polarization and Resistivity survey has been carried out for Falconbridge Nickel Mines Limited on the Maid of Erin property, West Grid (Figures 1 and 2), Rainy Hollow area, Atlin Mining Division, British Columbia. The property is located at about 59°34' north latitude and 136°35' west longitude, 90 kilometers to the northwest of Haines, Alaska.

Access to the Maid of Erin, West Grid property is via old mine exploration roads that leave the Haines Highway.

The area has been investigated to a limited extent since the 1890's. Small tonnages of Cu-Ag ore have been stripped from scattered showings. The present IP survey was conducted in order to test the response of known massive mineralization and to detect similar deposits.

Field work was carried out during August of 1981 using a Phoenix Model IPV-1 IP and Resistivity receiver unit in conjunction with a Phoenix Model IPT-1 IP and Resistivity transmitter unit recording the polarizability as percent frequency effect (P.F.E.) between frequencies of 4.0 hertz and 0.25 hertz. Apparent resistivity measurements are normalized in units of ohm-meters, while metal factor values are calculated according to the formula: MF=(PFE x 1000)/Apparent Resistivity. Dipole-dipole array was used exclusively, with a basic interelectrode distance of 50 meters. Four dipole separations were recorded.

Field work was carried out under the supervision of Mr. Dave Daggett, geophysical crew leader, whose certificate is



INDEX MAP

BRITISH COLUMBIA



FIG. NO.: I



attached to this report.

2. Description of Claims

The West Grid lies on the Moe 7 claim of the Maid of Erin property. The Moe 7 claim consists of 20 units and the date recorded is December 9, 1981. The property is owned and operated by Falconbridge Nickel Mines Limited.

3. Presentation of Results

The Induced Polarization and Resistivity results are shown on the following data plots.

LINE	ELECTRODE INTERVAL	DWG. NO.
950N	50 meters	I.P5816-13
850N	50 meters	I.P5816-14
750N	50 meters	I.P5816-15
650N	50 meters	I.P5816-16
550N	50 meters	I.P5816-17
450N	50 meters	I.P5816-18
350N	50 meters	I.P5816-19
250N	50 meters	I.P5816-20
150N	50 meters	I.P5816-21
50N	50 meters	I.P5816-22
00	50 meters	I.P5816-23
Base Line		
800W	50 meters	I.P5816-24
A	50 meters	I.P5816-25

Also enclosed with this report are Dwgs. I.P.P.-B-4016A and -B-4016B, plan maps of the West Grid at a scale of 1:2,500. The definite, probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e., when using 50 m. electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 50 m. apart. In order to definitely locate, and fully evaluate, a narrow, shallow source it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The grid and geological information shown on Dwgs. I.P.P.-B-4016A and -B-4016B has been taken from maps made available by the staff of Falconbridge Nickel Mines Limited.

4. Description of Geology

The area is characterized by Jurassic granodiorite and quartz-diorite components of the Coast Crystalline Complex in contact with Permo-Carboniferous sedimentary rocks. Within the sedimentary rocks are occasional skarns bearing disseminated to massive sulphides. Argillite in the area is very fine-grained and shows variable pyrite and pyrrhotite both disseminated and

-3-

along fractures. Quartzite also carries occasional disseminated pyrite and pyrrhotite.

5. Discussion of Results

The resistivity levels under the Maid of Erin, West Grid are variable. Resistivities range from moderately low to moderately high in magnitude.

The depth to the top of the source of all the anomalies detected on the West Grid has been determined to be less than one dipole spacing, that is less than 50 meters.

A large, irregularly shaped main IP zone has been outlined by the data. In addition, parts of two more zones are present on the east end of Line 2 + 50N and on the north end of baseline 8 + 00W.

The anomaly on Line 2 + 50N, east of Station 4 + 00E, is of moderate magnitude. This anomaly lies in an area where little or no bedrock is exposed at surface.

The anomaly detected on baseline 8 + 00W extends from Station 18 + 00N to at least Station 22 + 50N, but is open towards the north end. This anomaly grades from moderate to strong in magnitude. Again, little or no surface geology is mapped in this region.

The main anomalous IP zone is discussed separately below.

<u>Main Zone</u> - The main IP zone extends at least as far north as Station 6 + 00N on Line A, but is open on all sides of the West grid except to the south where a limit of polarizable material is defined.

-4-

It is evident from the surface geology map of the area that the anomalies marked as definite on Line 9 + 50N, Line 8 + 50N and Line 7 + 50N are mainly, if not entirely, due to argillite containing pyrite and pyrrhotite. Limestone, diorite and quartzite are the major rock types mapped east of baseline -00 on Line 7 + 50N. However, pyritiferous argillite at a depth of up to 50 meters subsurface could still be part of the cause for the strong anomaly indicated on the eastern portion of Line 7 + 50N.

Also, on the West grid the skarns, which contain a suite of metallic minerals, give rise to moderate to strong IP responses. Quartzite, diorite and limestone units correlate to the remainder of the IP anomalies, which vary from weak to strong, depending on the concentration and texture of associated metallic mineralization.

The surface geology also reveals that the source of some of the IP anomalies is controlled by faulting. This is especially evident on the portion of the West gird west of baseline -00 where faults separate strong anomalies from moderate anomalies.

6. Summary and Conclusions

An Induced Polarization and Resistivity survey has been completed on the Maid of Erin property, West grid. Several IP anomalies have been detected by the survey, most of which have been grouped into one main zone. Possibly detached from this main zone is a probable anomaly on Line 2 + 50N, east of Station 4 + 00E and a probable, grading into definite, anomaly on baseline

-5-

8 + 00W, north of Station 18 + 00N.

Part of the main zone is formed by anomalies classified as definite which correspond to pyritiferous argillite. Mineralized skarns in the area give rise to anomalies marked as either probable or definite. The remainder of the main zone of anomalous IP effects has been mapped as quartzite, diorite and limestone. Only the southern extent of this main zone is defined.

The depth to the top of the source of all anomalies encountered on the West grid is less than 50 meters.

In order to fully delineate the extent and significance of the IP anomalies on the West grid, additional IP surveying is needed. Also, to better estimate the depth and width of the source of the anomalies within favorable geologic units, detailed IP surveying using shorter (i.e., less than 50 meters) dipole spacings is required.

PHOENIX GEOPHYSI F. DISPIRITO BRITISH F. DiSpirito, Geophysicist.

Paul A.Cartwright, B.Sc., Geophysicist.

DATED: 12 November 1981

-6-

ASSESSMENT DETAILS

Maid of Erin, West Grid MINING DIVISION: Atlin **PROPERTY:** SPONSOR: Falconbridge Nickel Mines Limited Rainy Hollow Area PROVINCE: British Columbia LOCATION: TYPE OF SURVEY: Induced Polarization and Resistivity Survey OPERATING MAN DAYS: 21 DATE STARTED: 7 August 1981 EQUIVALENT 8 HR. MAN DAYS: 31.5 DATE FINISHED: 21 August 1981 CONSULTING MAN DAYS: 5 NUMBER OF STATIONS: 217 DRAFTING MAN DAYS: 5 NUMBER OF READINGS: 1833 KM. OF LINE SURVEYED: 10.2 TOTAL MAN DAYS: 41.5

CONSULTANTS:

P.A. Cartwright, 4238 W. 11th Avenue, Vancouver, B.C. F. DiSpirito, 2748 Oxford Street, Vancouver, B.C.

FIELD TECHNICIANS:

D. Daggett, 35 Falcon Crescent, Chelmsford, Ontario

B. Polzer, 200 Yorkland Blvd., Willowdale, Ontario

G. Montpetit, 4658 Gothard, Vancouver, B.C.

DRAUGHTSMEN:

Ron Wakaluk, 7886 Vivian Drive, Vancouver, B.C.

PHOENIX GEOPHYSLES OF F. DISPIRITO F. DiSpirito, B.A. BHEISS. Geophysicist.

DATED: 12 November 1981

STATEMENT OF COSTS

FALCONBRIDGE NICKEL MINES LIMITED Induced Polarization and Resistivity Survey Maid of Erin Property, West Grid, Atlin M.D. British Columbia

 PERIOD: 7 August 1981 - 21 August 1981

 CREW: D. Daggett - B. Polzer - G. Montpetit

 7 Operating Days @ \$675.00/day
 \$ 4,725.00

 2 Travel Days @ \$335.00/day
 670.00

 2 Bad Weather Days @ \$ 335.00/day
 670.00

 Extra labour - 12.75 days
 918.00

 Mobilization - Demobilization
 1,209.64

 \$ 8,192.64

PHOENIX GEOPHYSICS 12 OF F. DISPIRITO F. DiSpirito, B.A.Sc. P.Edguish Geophysicist.

DATED: 12 November 1981

CERTIFICATE

I, Frank DiSpirito, of the City of Vancouver, Province of British Columbia, do hereby certify that:

- 1. I am a geophysicist residing at 2748 Oxford Street, Vancouver, B.C.
- 2. I am a graduate of the University of British Columbia, Vancouver, B.C., with a B.A.Sc. Degree in Geological Engineering.
- 3. I am a Professional Engineer registered in the Province of British Columbia.
- 4. I have been practising my profession for 7 years.
- 5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly, in the property or securities of Falconbridge Nickel Mines Limited or any affiliate.
- 6. The statements made in this report are based on a study of published geological literature and unpublished private reports.
- 7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

DATED AT VANCOUVER, B.C. this 12th day of November 1981.

F. DISPIRITO DiSpirito Eng BRITISH

CERTIFICATE

I. Paul A. Cartwright, of the City of Vancouver,

Province of British Columbia, do hereby certify that:

- 1. I am a geophysicist residing at 4238 West 11th Avenue, Vancouver, B.C.
- 2. I am a graduate of the University of British Columbia, Vancouver, B.C., with a B.Sc. Degree.
- 3. I am a member of the Society of Exploration Geophysicists and the European Association of Exploration Geophysicists.
- 4. I have been practising my profession for 11 years.
- 5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly, in the property or securities of Falconbridge Nickel Mines Limited or any affiliate.
- 6. The statements made in this report are based on a study of published geological literature and unpublished private reports.
- 7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

DATED AT VANCOUVER, B.C. THIS 12th day of November 1981.

Paul A. Cartwright, B.Sc.

-10-

CERTIFICATE

I, David Daggett, of the City of Chelmsford,

Province of Ontario, do hereby certify that:

- 1. I am a geophysical crew leader residing at 35 Falcon Crescent, Chelmsford, Ontario.
- 2. I am a graduate of Cambrian College in Geological Technology.
- 3. I have been practising my vocation about three years.
- 4. I am presently employed as a geophysical crew leader by Phoenix Geophysics Limited of 200 Yorkland Blvd., Willowdale, Ontario.

DATED AT VANCOUVER, B.C. this 12th day of November 1981.

David Daggett

-11-

DHG NO -1 P-5816-

FALCONBRIDGE NICKEL MINES

MAID OF EPIN PROJUEST GRID

ATLIN M D - PAING HOLLOW & C

LINE NO -950N



SUFFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE -----PROBABLE -----POSSIBLE -----



AT LOGAFITHMIC INTERVALS 1-1.5

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DATE SUPVEYED AUGUST 198 Apppoved



DATE Nov 10/81

PHOENIX GEOPHYSICS LTD.

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PHOENIX GEOPHYSICS LTD.

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NOTE- CONTOURS

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DATE SURVEYED AUGUST 1981 APPROVED

DEFINITE -----FROBABLE POSSIBLE

SURFACE PROJECTION OF ANOMALOUS ZONE



LINE NO -350N

FALCONBRIDGE NICKEL MINES

MAID OF ERIN PROJ/WEST GRID

ATLIN M D PAINY HOLLOW B C

DWG NO -1 P-5816-19

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FALCONBRIDGE NICKEL MINES

MAID OF ERIN PROJ;WEST GRID

ATLIN M D RAINY HOLLOW B C

LINE NO -250N



SUPFACE PROJECTION OF ANOMALOUS ZONE

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NOTE- CONTOURS

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DATE SURVEYED AUGUST 1981 APPROVED

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DATE Nov. 10/81

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SUPPEY

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► H = 5																										N=5
11=5																										N=6 -

FALCONBRIDGE NICKEL MINES

MAID OF ERIN PPOJ, WEST GRID

ATLIN M D PRAINY HOLLOW B C -

LINE NO -150N

FRLCONBRIDGE WES	T GRID LISON	X=	50M RH	10 (0)	M-M)		
DIFULE NUMBER	2 3	4 5	TE	7	1 6 1	4	10
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N=1 2475/ 38	79 / 2159 2389	2639 312	5 / 2764	3610	5671/	2558	N=1
N=2 4091	2791 2143 4	722 3674	ц́эы 25	23 47	713 36	73	N=2
N=3 27	19 2571 3431	5921 445	6 2750	3282	3644		N=3
N=4	2478 3764 4	034 [°] 6398 [°]	4354 33	38 / 26	543		11 = 4
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PHOENIX GEOPHYSICS LTD.

INDUCED FOLAFIZATION

AND RESISTIVITY SURVEY





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DNG HO -1 P - 5816-2.

FALCONBRIDGE NICKEL MINES

MAID OF EPIN PROJUMEST GPID

ATLIN M D , PAINY HOLLON E C

LINE NO -50N





SUPFACE FROJECTION OF ANOMALOUS ZONE

DEFINITE PROBABLE POSSIBLE

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Ш	HTEPPPE'	<u> </u>	4			• • • • • • • • • • • • • • • • • • • •	+	•					
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-2--3--5--7 5--10

DATE NOV NO/01

PHOENIX GEOPHYSICS LTD.

INDUCED POLAPICATION

AND PESISTIVITY SUPPER

FALCONBRIDGE HEST GRID LO

4577 / 7966 4608

8092 8438 3885

7965 / /4787

4059 / 5429

DIFOLE HUMBER

N=1

N=2

N=3

11=4

14=5

H=E

INTERPPETATION

COOFDINATE 150H



RHO (OHH-H)

- 5

250E

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N=2

N=3

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11= 5

H=6

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4271) A 1136

150E

4948 \2447

4458 4923 /(1979 \ 1036

4552 6080 2245 1667

X=50M

5

3325

3938 (5114)

50E

4

4655

3814

3177

3508

50H

12245 /

4014

ENG NO -1 P-5816-2

FALCONBRIDGE NICKEL MINES

MAID OF EPIN PROJUMEST GRID

ATLIN M D - PAINY HOLLOW P C

LINE NO - 0

FALCON	BRIDGE WEST	GRID LO	X=50N FFE	
DIPULE HI	UMBER	<u> </u>		9 10
INTERPRE	TATION			70E
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N=2	3	4 3.5 2	2.9 3.9 2 2.4	N=2
N=3	3	4.4 (2.4	2.6 3.2 3.2 1.5 2	N=3
N=4		4 4 2.6	3.4 3.3 3.9 2.4	H=4
11=5				H=5
N = é			·	N=6 -



SURFACE PROJECTION OF ANOMALOUS ZONE

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<u>ç o</u>	<u> </u>	NAT	Έ	1	50	<u>اير</u>			56	W			50				150	E			25	ÛÊ	
<u>II</u>	TEPP	FET	<u> 6 T</u>	101	1										_		-		_				
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11 = i	5																						11=6

FPEQUENCY HEPT2: 4 0:0 25

-2--3--5--7.5--10

NOTE- CONTOUPS

AT LOGAPITHNIC Intervals 17-1 5 DATE SURVEYED AUGUST 1981. Apppoved

DATE Not 10/BI

PHOENIX GEOPHYSICS LTD.

INDUCED POLAFICATION

AND RESISTIVITY SUPVEY

DEFINITE ------PROBABLE ------FOSSIBLE -----

DNG NO HI P-5816-24

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FALCONBRIDGE NICKEL MINES

MAID OF ERIN PROJ.WEST GRID

ATLIN M D PAINY HOLLOW B C

LINE NO -BASELINE 800 W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE -PROBABLE POSSIBLE

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SURVEY

FFEQUENCY (HERTZ) 4 0:0 25

NOTE- CONTOURS

-2,-3.-5.-7 5.-10

1 - 1 5

AT LOGAPITHMIC

INTERVALS

DATE SURVEYED AUGUST 1981 APPROVED



















DATE NOV 10/81

FALCONBRIDGE HEST GRID BASELINE 800W X=50H RH0 (0HM-M-

DIFOR COORD INTER	E NUMBER DINATE 12000 Pretation	1 2 1 3 1 3 0 0 H	4 5 1 1400N	е і ї і е 1500н і 1	1 <u>5 10 11</u> 500n <u>1</u> 700n	12 17 14 1200n 1900	15 16 17 1 N 2000H	3 13 20 21 2100n 2200h	L.13
서#1	2415 2217	2646 3455	4057 3404	5041 5569 3984	4862 4529 4230	4405 5579 4303	3340 2595 2887 15	44 (2111	H=1 -
4=2	2656 4091 115	· 62 2148 (63	16 \ 4310 3756	6379 (4741/5		55 5262 2695 2486	2355 2668 1630	1719 1654	N=2 -
1=3	4189 4534 3634	1555 (3933)	5812 4750	4275 5680 7 0 38	5758 > 4063 - 5009	6697 / 2860 / 1613 .	2740 3311 (1600 16	st 1425 1509	N=7 -
4=4	6218 3435 4 22	45 2956 37	07 6234 5136	3886 '8313 7	600 4606 4666 57	00 3924 1834 1621	3103 2231 1740	1396 1330	11=4 -
1=5									N=5-
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ALCON	BPIDGE WEST GRI	ID BASELINE 8	00W X=	OM PFE		·····				
<u>310710</u>	NUMBER		4 5	6 7 8	11 21	11 12	12 14 15	116 117 1	13 14 20 21	
INTEFF	PETATION	13001	1400H	1500#	<u>1680H 1</u>	<u>700H 1800</u>	<u>I 1900H</u>	200811	<u>21001 22001</u>	
+= 1	11.3	1.2 1.5	1.2 1.8 / 1	.4 1 1.7 .9	1.4 1.1	1.1 1.7	2.2 2.5 3.3	4.2 4.4	6.1 5. 3	N=1
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1 = 4	1.4 1.2 1	1.9 1.5 1.5	1.2 1.9	1.3 1.5	1.5 1£ ·	2.7 2.7 3.5	5.2 14	6.6 6.5 (7.9	7.9 5.7	11=4 -
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FALCONBRIDGE WEST GRID LA X=50N RHO (OHM-M) DIFOLE NUMBER 4 ê 8 9 1.0 1 11 COORDINATE 100N 600H 2001 300H 400N 509H INTERPRETATION •N=1 N=1 1951 2007/ 1663 / 2343 / 1514 2280 2470 2598 / 1425 1453 N=2 1451 1563 2541 2875 /1992 2063 1019 N=2 1862 (2013, 1770 (1837 / 2672 /(1347 1615 2579 N=3 1425 1994 1963 1806 N=3 1900 / 2175 \ 1632 H=4 1561 1520 2104 3547 1502 N=4 N=5 -N=5 N=6 N=6

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DWG NO -1 P-5816-25

FALCONBRIDGE NICKEL MINES

MAID OF EPIN PROJUMEST GRID

ATLIN M D . PAINY HOLLOW B C

LINE NO - H





SUFFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE	
PROBABLE	**********
POSSIBLE	



FRE	QUE	NC	Y	1	HEF	r T	Z	٠
- 4	Ο.	0	25					

DATE SURVEYED AUGUST 1981 Approved

NOTE- CONTOUPS AT LOGAPITHMIC INTERVALS 1:-1 5 -2:-3:-5:-7 5:-10

JP	
DATE NOV O'A	

PHOENIX GEOPHYSICS LTD.

INDUCED POLAFIZATION

RND PESISTIVITY SURVEY

, I

SECTION D

SOIL GEOCHEMISTRY RESULTS WEST GRID AREA

Maid of Erin Property, B.C.

NTS 114P/10E PN 015

J. Wilson

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Report # 19-015-81

TABLE OF CONTENTS

Geochemical Report - West Grid

,

PAGE

FIGURES

Figure	015-81-11	West Grid	Index	Мар			1
	36	West Grid	l Soils	Geochemistry		in	pocket
	39	West Grid	l Soils	Geochemistry	(ACME)	"	"
	40	"					
	41	11			MO		**
	42	11			Cu		11
	43				Pb		11
	44				Zn		11
	45	11			Ag		11
	46				Ni	"	11
	47			"	Co	"	11
	48			"	Mn	"	11
	49	и		"	Fe	**	"
	50	"		"	As	"	
	51	**		н	U	"	"
	52	**		11	Th	"	"
	53	11		"	Cd		11
	54	"		"	Sb	"	11
	55			"	Bí	"	11
	55			11	V	"	"
	57				Ca	"	"
	59			"	Р	11	
	50				La	11	"
	59	11		"	In	"	п
	61				Mg	"	**
	62			"	Ba	11	"
	62			"	Ti	"	"
	03			"	В	"	
	64			**	Al		**
	6.0			"	W	11	"



GEOCHEMICAL REPORT - WEST GRID

Soil samples were usually collected at 75 metres intervals on lines 100 metres apart. (FIG 015-81-11). They were taken from the Bhorizon at depths from 5 to 10cm. by using mattocks. Soil was placed in Kraft paper envelopes and was sent for geochemical analysis of the minus 80 mesh fraction of air dried sample.

A total of 113 samples were taken and analyzed by Bondar Clegg and Co. Ltd. by standard chemical analysis procedures:

- for Cu, Pb, Zn, and Ag extraction was by hot HNO₃-HCL and analysis was by Atomic Absorption.
- for W, extraction was by Basic Oxidizing Fusion and the analysis was colorimetric.

Samples were reanalyzed by ACME Analytical Laboratories Ltd. of Vancouver, B.C. by ICP geochemical analysis for Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, Th, Cd, Sb, Bi, V, Ca, P, La, In, Mg, Ba, Ti, B, Al, W, and U.

A 0.500 gram sample is digested with 3 ml. of 3:1:3 nitric acid to hydrochloric acid to water at 90 degree C for one hour. The sample is then diluted to 10.0 mls. and is aspirated by Inductively Coupled Argon Plasma (I.C.P.). Determination is by a direct reading ICP emission spectrometer.

This leach is partial for Ca, P, Mg, Al, Ti, La, and W. Very little Ba is dissolved.

Figure 015-81-36 is a plan map of the Bondar-Clegg results.

A concentration of multielement anomalies is located in the west part of the grid from lines 500 N to 800 N, high Cu, Ag, Pb, Zn, and W values occur here and coincide with the general location of most of the known skarn bands on the grid.

Interestingly, the high W values here are all at the extreme western end of the grid, very close to the intrusive contact, but the higher Cu, Zn, and Ag values are further from the contact.

A Pb, Zn rich zone appears on lines 800 N and 1000 N, adjacent to the previous anomaly, and coincides with extensions of the same skarn. However, no Pb or Zn mineralization was seen here. Elsewhere on the grid erratic single point/single element highs occur that

GEOCHEMICAL REPORT - WEST GRID (contd)

show no trend or known relation to bedrock.

Figures 015-81-39 to 015-81-65 are computer plots of ACME results. These maps, unlike the hand drafted Bondar-Clegg results, show perfectly squared grid lines. The location of samples plotted by hand is more accurate.

Fig 015-81-39 is a plot of sample numbers.

- 015-81-40(ppm Mo) identifies the "main skarn zone" centred about L 800 N, 400 W. It also emphasises the northwest trend of this zone.
- 015-81-41 (ppm Cu) also indicates the main skarn zone by a threefold increase in values over background.

-42 (ppm Pb) clearly locates the main skarn zone. Other isolated anomalies lie close to the intrusive contact.

-43 (ppm Zn) indicated the main skarn zone by a twofold increase over background and indicates two "highs" to the east (near Line 700 N, 50 E and Line 300 N, 450 E).

-44 (ppm Ag) has a nearly perfect anomaly fit over the main skarn zone. Some scattered high values relate to other skarns.

-45 (ppm Ni) shows nothing meaningful

-46 (ppm Co) shows a possible "low" over the main skarn zone. Otherwise no consistent relationship can be seen

- -47 (ppm Mn) indicates the main skarn zone and other known mineralization (e.g. L 600 N on the base line; L 300 N, 250W).
- -48 (%Fe) has a slight anomaly over the main skarn zone.
- -49 (ppm As) located most mineralized skarns.
- -50 (ppm U) has no relation to known mineralization. Small anomalies near 600 N at the base line, 500 N at 350 W.
- -51 (ppm Th) shows a fourfold increase over the main skarn zone and also follows a possible eastward extension of this

zone. Interestingly, there is no comparable U distribution.

- -52 (ppm Cd) locates the main skarn zone
- -53 (ppm Sb) located the main skarn zone.
- -54 (ppm Bi) located the main skarn zone and didn't produce any erratic highs through the rest of the map.
- -55 (ppm V) shows nothing obvious. However, a "low" response may fall over the main skarn zone.
- -56 (% Ca) indicated a trend of isolated high values close to the mapped skarn band from L 900 N, 650 W to L 500 N, 250W, to L 800 N, 150 E

-57 (ppm P) has a vague association with a limestone band

- -58 (ppm La) has a twofold response over the main skarn zone and a line of high responses on L 600 N following a skarn band. Two other "highs" are at L 300 N, 250 W, and L 500 N, 350 E.
- -59 (ppm In) shows nothing meaningful

GEOCHEMICAL REPORT - WEST GRID (contd)

- -60 (% Mg) locates the main skarn zone by an eightfold increase over background (e.g. L 900 N, 650 W to L 700 N, 350 W) and two smaller anomalies (L 400 N, at baseline and L 200 N at 275 E) thus giving a northwest trend.
- -61 (% Ba) indicates only one small significant anomaly near L 700 N, 50 E.
- -62 (ppm Ti) shows nothing meaningful
- -63 (ppm B) shows nothing meaningful. The pattern of contours is probably computer induced.
- -64 (% Al) doesn't locate the main skarn zone other than a low Al response here.
- -65 (ppm W) has patchy values but mostly near the intrusive contact near the main skarn zone.


e gneiss: light to dark medium to coarse grained, well foliated with quartz and feldspar bands interlayered with black biotite & minor hornblende
Jende diorite gneiss & diorite: grey to black, fine to coarse grained, generally foliated but in places crystalline, non magnetic, little finely disseminated pyrite and pyrrhotite locally 3A Hornblende biotite gneiss
diorite medium grained white, biotite quartz diorite, very light brown weathering non-magnetic
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GE NICKEL MINES LIMITED
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9 B.C.

FIG. NO.: N.T.S. ND.: 114- P-10 015-81-32

5 arg. Argillite: very fine grained, black, well bedded, variable pyrite & pyrrhotite both disseminated & along fractures somewhat siliceous in places commonly iron oxide stained on weathered surfaces

6 qtzite. Quartzite(metamorphic) generally biotitic & or feldspathic, brown or more rarely white, fine grained, thin bedded, gneissic texture due to variable amount of black biotite, iron oxide coatings on weathered surfaces due to disseminated pyrite & pyrrhotite

7 Is. Limestone generally well bedded, grey and white, locally fetid, in places metamorphosed to coarse grained white marble with no evidence of primary structure



4 S · 4 W



• LION L 9 N 11 2 C L 8 N 222. ICE 037 162 4 034 [00 3 98 0.3 1.3 053, 109 4 680 0.2 34 035 89 5 L 7 N 0.3 10 0.28 66 3 79 4 L 6 N 144 0 0a1 (0) **18** 208 58 2 69 0.2 13 203 60 2 100 0.1 16 203 262 3 د ادا 21 2-0 L 5 N 205 304 184
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O SCALE: I: RIDGE I	50 2.500 NICKEL	100 MINE	15 S L	0 m.	FED	27 No.:
O SCALE: I: IDGE I f Erin Hollow 8	50 2.500 NICKEL	100 MINE	15 5 L	0 m.	PROJEC	2T NO.:
O SCALE: I: PIDGE I f Erin Hollow 8	50 2.500 NICKEL 3. C.	100 MINE	15 5 L	0 m.	PROJEC	2T No.:
O SCALE: I: IDGE f Erin Hollow &	50 2.500 NICKEL 3. C.	100 MINE	15 S L		PROJEC	27 No.:
O SCALE: I: IDGE Erin Hollow West Gri	50 2.500 NICKEL B. C.	100 - MINE	15 S L		PROJEC	
O SCALE: I: IDGE F Erin Hollow & West Gri	50 2.500 NICKEL B. C.	100 _ MINE EF. ND.:	S L		FIG.	CT NO.:

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY PLAN MAP

NOTE TO ACCOMPANY GEOPHYSICAL REPORT FOR FALCONBRIDGE NICKEL MINES LTD. MAID OF ERIN PROJECT, RAINY HOLLOW B.C. BY FRANK DI SPIRITO B.A.Sc., P.Eng., AND PAUL CARTWRIGHT B.A.Sc. DATED NOV. 12, 1981.

> SURFACE PROJECTION OF ANOMALOUS ZONE DEFINITE PROBABLE POSSIBLE

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LEGEND

Electromagnetic Survey Instrument-Ronka E.M. 16, Serlat No. 2 V.L.F. St. 17–8 Tilt Direction 360° Inphase Contours every 10% Conductors — 0 — 0 — 0 — 0 Only two very weak Conductors indicated

one on B.L. 11+25N and the other between lines 13 and 14N



SCALE: 1:2-500

FALCONBRIDGE NICKEL MINES LTD.

PROPERTY: Moid of Erin

22 A-1

TITICAL REIGURCES BRANCH

LOCATION: Roiny Hollow B.C.

TYPE OF MAP:E.M.16 Contoured St. 17·8

BASED ON: Fieldwork by S.P.

DATE OF WORK: Sept. 1981

WORKING PLACE: West Grid

DRAWN BY: S.P. Sept. 1981

N.T.S. NO.: 114-P-10E FIG. NO.: 015-81-30



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L6+00 N

____ 4S 1W

LEGEND Magnetometer Survey Inst-Barringer Proton Magnetometer

582 592 488 591 491 491 550

494 456

Model No. GM122 Ser. No. 6733 Total Field Intensity- 57450 Gammas Operator - P. P

SCALE : 1:2.500

HOMASS PRANCH

FALCONBRIDGE NICKEL MINES LTD. PROPERTY: Maid of Erin LOCATION: Rainy Hollow B.C. TYPE OF MAP! Magnetometer Contoured BASED ON: Fieldwork by P.P. DATE OF WORK: Aug. 1981 WORKING PLACE: West Grid DRAWN BY P.P. Aug. 1981 N.T.S. NO.: 114-P-10E FIG. NO.: 015-81-31

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i		1	Skarn (unmineraliz	ed)	
IB		IB	Banded Skarn		
	10.75	<u>[C_</u>]	Mineralized Skarn	(Sulphides)	
		2	Quartz diorite		
7					
•• •		5	Argillite		
		7	Limestone	h	
	1005		NC	9978	
			10 0	10 <u>30</u> m	
			SCALE: 1:5	500	
		FAL	CONBRIDGE N	ICKEL MINES LIM	ITED
		PROPERTY:	Maid of Erin		
	9 75	LOCATION:			
			Rainy Hollow B.	С.	
		TYPE OF MAP:		_1	
			Long Section A. E	3 looking N 35°W	
		WORKING BASED UN	PLACE: West Gri	d	
		DATE OF	WORK: Aug. 1981	MAP REF. ND.:	FIG. ND.:
		DRAWN BY	/: G.T.	N.T.S. NO.:114-P - 10F	015-81-33
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	4	Biotite gneiss		
	5	Argillite		
	6	Quartzite		
	7	Limestone		
		Silicification		
U		Smemcanon		
	<u>۱</u>			
		Mineralization		
		East-West Sect	ion 8+00 N	
		across Maid of	Erin Workings	
		and Mineral Mo	untain	
		50 0	<u>50 100 150</u> m.	
		SCALE: 1:2	-500	
	FALC	CONBRIDGE N	ICKEL MINES LIM	IITED
	PROPERTY:	· · · · · · · · · · · · · · · · · · ·		
		Maid of Erin		
	DEATION:			
		Rainy Hollow	B. C.	
	TYPE OF MAP:			
	Ľ	Section $C - D^{\dagger}$	(Looking North)	
	RASED DN	-LALE: West Gri	d	
	DATE OF W	VORK: Aun 1981	MAP REF. ND	
	DRAWN BY	: G.T.		
	DATE: Nov.	1981	N.T.S. ND.:114-P-10E	015-81-34

LCONBRIDGE NICKEL MINES LIMITED										
Maid of Erin										
Rainy Hollow B.	c'.	· · · · · · · · · · · · · · · · · · ·								
AP: Long Section E — F (looking N58°E)										
IG PLACE: West Grid										
DN: G.N.										
F WORK: Aug. 1981	MAP REF. ND.:	FIG. ND.:								
ВҮ: G. T.										
Nov. 1981	N.T.S. NO.:114 - P-10E	015-81-35								

SCALE: 1:500

Sulphide mineralization

7 Limestone

Mineralized skarn

1B Banded skarn (includes skarn altered gneiss)

LEGEND

from earlier reports and map M.E.17 19498,56

Drill and assay data

															• •				
_1000	63284 A	63285 ∆	63286 A	63287 ∆	63288 A	63289 A				·									
_900	85231 A	65232 ∆	65233 Д	65234 Δ	65235 Д	65236 ∆	65237 Δ	65238 A	65239 Δ	65240 ∆	65241 A	65242 ∆							
_800					85230 A	65229 A	65228 Д	65227 A	65226 Δ	65225 ∆	65224 A	6522Э Д	65222 A	65221 ∆	65220 ∆	65219 A			
_700							63027 A	63028 A	63029 A	63030 A	63031 A	63032 ▲	63033 A	63034 A	63035 A	63037 ⁴ A			
_800							65069 A	65068 A	65067 ∆	65066 A	65024 A	65025 ∆	65027 Д	65028 A	65029 A				
_500							65212 A	65211 A	65210 A	65209 ∆	65208 A	85207 ∆	65206 A	65205 A	65204 A	65203 ∆	65202 ∆		
_400							85213 Δ	65214 A	85215 Δ	85216 A	65217 A	65195 ∆	65196 ∆	65197 ∆	65198 A	65199 A	65200 ▲	65201 Δ	
_300	·						65019 Δ	65018 A	65017 Δ	65016 A	65015 Δ	65014 ∆	65013 A	65012 ∆	65011 A	65009 A	65008 A	65007 Δ	
_200			•				۹.	65020 Å	65021 A	65022 ∆	65023 A	65001 A	65010 A	65002 A	65003 Å	65004 A	65005 A	65006 A	Miner
_100										65062 Å	65061 A	65060 A	65059 A	65058 A	65057 ▲	65056 A			
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2 ^{.500} E NICKEL MINES LTD.		
P.N. 022 ISTRY: PPM Pb WEST GRID E DEC 1981		
FIG. NO. 015-81-42 (INTERNATIONAL) LTD. TING ENGINEERS		

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