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GRAVITY REPORT
FOR
FALCONBRIDGE LIMITED /PROSPECTOR'S AND EXPLORERS ALLIANCE
ON THE
HALFMOON LAKE JOINT VENTURE PROPERTY
ROBB TOWNSHIP
PROCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO



Prepared by: J.C.Grant CET, FGAC April, 1998



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#### INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. Lionel Bonhomme on behalf of Falconbridge Exploration, Prospector's Allince Inc. and Explorers Alliance Inc., called the Group, to complete the plotting and interpretation report for Gravity surveys that had been completed by Mr. F. Hussey on the Groups holdings in Robb Township.

The raw data was given to Exsics by Mr. Bonhomme for the purpose of plotting, interpretation, conclusions and recommendations. Exsics Exploration Limited was not involved with any aspect of the collection of the raw data.

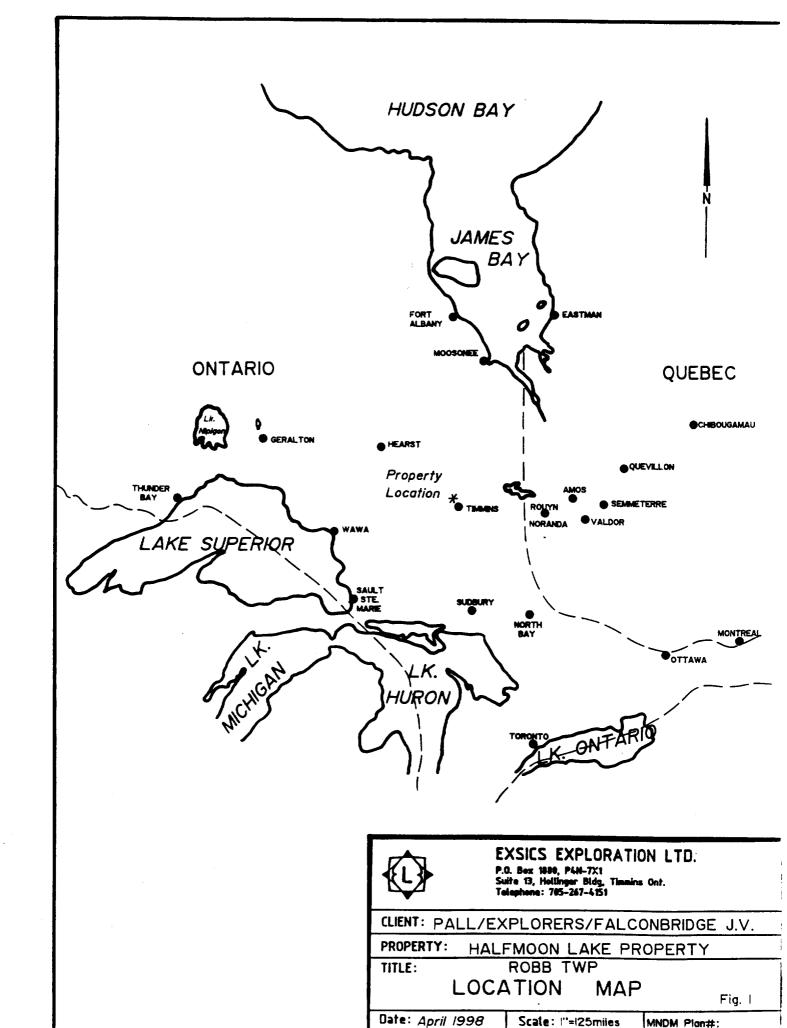
Gravity prospecting involves the measurement of variations in the gravitational field of the earth. Like magnetics, radioactivity and a few of the minor electrical techniques, this is a natural source method in which local variations in density of rocks near the surface cause minute changes in the main gravity field. In mineral exploration, it has usually been employed as a secondary method, but is becoming more popular for detailed follow-up of magnetic and electromagnetic anomalies during integrated base-metal surveys.

The ground survey were completed between the 23 of February and the 22nd of March, 1998. This report will deal with the results of the ground survey.

#### PROPERTY LOCATION AND ACCESS:

The Halfmoon Lake Grid is located in the northeast section of Robb Township of the Porcupine Mining Division, Timmins area of Northeastern, Ontario, figures 1 and 2. More specifically the property is situated approximately 450 meters south of the Kamiskotia River and Halfmoon Lake covers the majority of the north section of the claim group. The entire property is located approximately 25 kilometers northwest of the City of Timmins. Figure 3.

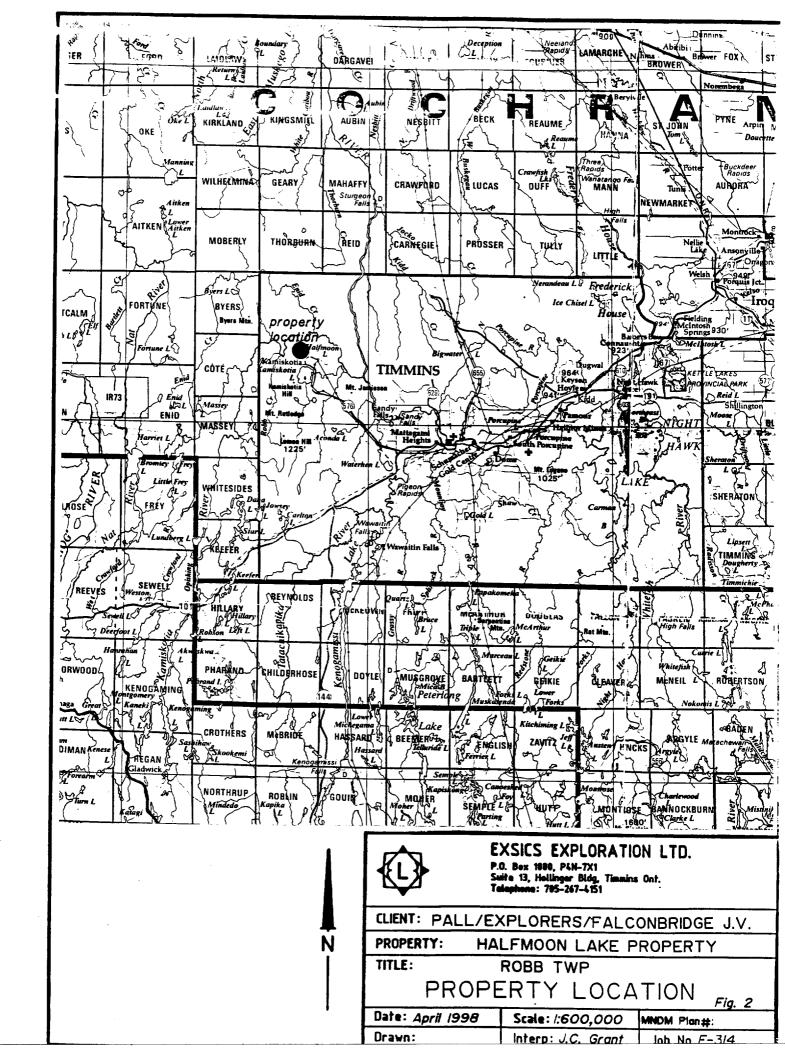
Access to the property is ideal. Highway 576 travels north-northwest off of Highway 101, approximately 5 kilometers west of the City of Timmins, and services the Community of Kamiskotial Lake about 25 kilometers to the north. A good all weather gravel road, locally called the Abitibi Access road, branches northwest off of Highway 576 about 800 meters north of Kamiskotia Lake and provides access to Halfmoon Lake. Travelling time from Timmins to the property is approximately one hour.



Drawn: P. Gauthier

Interp: J.C. Grant

lah No. F-314



#### **CLAIM NUMBERS:**

The claim numbers that make up the grids are as follows.

```
P-997525, P-997526, P-997529, P-997530, P-997531
P-997538, P-997539, P-997540, P-969269, P-969270
P-1190157, P-1190143, P-1190251, P-1190169, P-1190194
P-1190196, P-1190156, P-1190197, P-1190167, P-1190191, P-1190168, P-1190161, P-45692
```

Refer to figure 3 copied from MNDM Plan Maps G-3968, Robb Township, scale 1:20,000.

#### PERSONNEL:

The field data was collected by an independant contractor, Mr. F. Hussey and his crew. The plotting and compilation was completed by P. Gauthier of Exsics and the interpretation was completed by J.C.Grant.

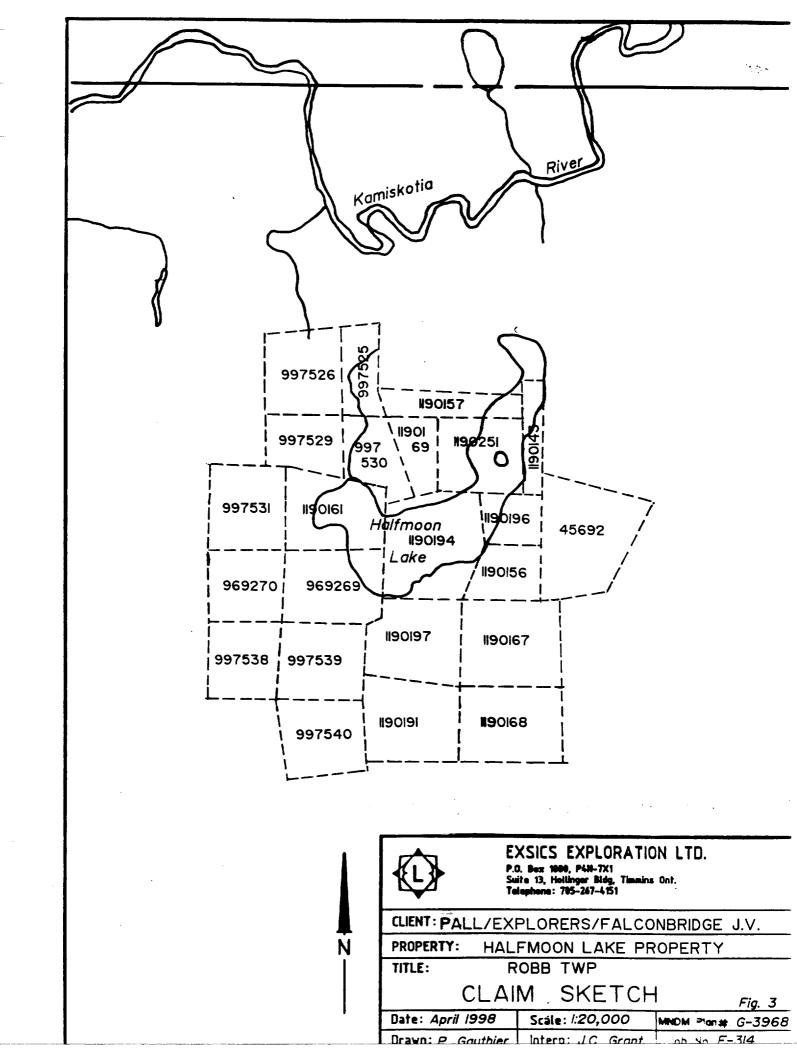
#### GROUND PROGRAM:

The ground program consisted of a detailed Gravity survey being completed over line 4500ME to and including line 5700ME which had been cut by earlierand chained earlier. The Gravity survey was done using the World Wide Gravity Meter, #33. Specifications for the unit can be found as Appendix A of this report.

The following parameters were kept constant throughout the survey procedure.

The following formulas were used to obtain the plotted instrument elevation and the gravity readings.

Instrument elevation, in ft=height of instrument+station elevation Gravity reading, mgals/ft=(readingx.09437)+(.06024xinstrument elevation)+diurnal.



These final two sets of readings were then plotted onto base maps at a scale of 1:2500 and then profiled accordingly. The base level used for the Grid is included in the accompanying legends. The profiled gravity base map is included in the back pocket of this report.

#### GRAVITY SURVEYS, GENERAL:

The magnitude of gravity on the earth's surface depends on five factors: latitude, elevation, topography of the surrounding terrain, earth tides and variations in density in the subsurface. This last factor is the only one of significance in gravity exploration and its effect is generally very much smaller than that of the other four combined. For example, the change in gravity from equatorial to polar regions amounts to about 5gals, or 0.5% of the average value of gravity,(g), 980 gals, while the effect of elevation in some cases might be as large as 0.1 gal or 0.01% of (g). A large anomaly in oil exploration would be 10 mgals(0.001% of g(980gals)), while in mineral areas the value would perhaps be one tenth of this.

Field work is carried out on land by taking gravity readings at grid stations covering an area of interest. Since gravity varies inversly with the square of distance, it is necessary to correct for changes in elevation between stations so that all field readings are reduced to a datum surface. This is known as the <u>Free air correction</u>, since it takes no account of the material between the stations and the datum plane. The Free air correction applied to this survey's readings is a constant, (S), of 0.09437 mgals/ft.

The Bouger correction accounts for attraction of material between the station and the datum plane, which was ignored in the Free air calculation. Refer to page 18 of the Applied Geophysics Book, by W.M. Telford, L.P.Geldart, R.E.Sheriff, and D.A.Keys. Published 1976, 1977,1978, again in 1980,1981. The Bouger correction is well explained in that text. The Bouger correction and the Free air correction were combined for this survey and the resultant number of (0.06024 mgals/ft.) is the Bouger density.

The terrain correction allows for surface irregularities in the vicinity of the station, that is, hills rising above the gravity station and valleys, or lack of material, below it. Therefore, for this survey data, the instrument height plus the station elevation equals the instrument elevation which was then multiplied by the Bouger desity of 0.06024 to obtain the free air and Bouger correction.

All gravimeters change null readings with time, even when set up at a fixed station. This drift is the result mainly of creep in springs and under ideal conditions the change unidirectional. The net result of drift is that over a period of days or even hours repeated readings at one station will give a series of different gravity values. Consequently it is necessary to reoccupy some of the stations periodically during a gravity survey in order to produce a drift curve for the instrument. That time between repeat station depends on the level of accuracy desired in the survey but should seldom be greater than two or three hours.

The above brief description is rougly what is invloved in a general gravity survey procedure. The resultant value from the Free air correction x the gravity reading and Bouger density x the instrument elevation plus the drift value is the gravity reading plotted on the base maps in milligals/feet. The elevation value plotted along with the gravity value is the station elevations for each grid line read.

#### SURVEY RESULTS:

The survey results were successful in outlining a 0.6 milligal gravity high at about 9960 to 9940MN on lines 4900ME, 5100ME, 5300ME and 5500ME. It appears that this may be a regional effect suggesting a possible geological contact.

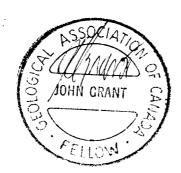
The remainder of the grid lines covered by the survey did not return any significant gravity anomalies.

#### CONCLUSIONS AND RECOMMENDATIONS:

The gravity anomaly of 0.5 to 0.6 milligals situated across lines 4900ME to 5500ME at the 9960MN to 9940MN location should be correlated to any and all geophysical results before the anomaly is drill tested or abandoned.

Respectfully submitted

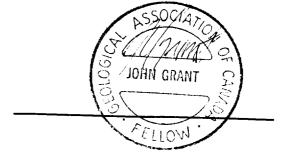
J.C.Grant, CET, FGAC March, 1998.



#### CERTIFICATE

- I, John C. Grant, hereby certify that:
- 1) I am a graduate technologist, (1975) of the three year program in Geological Technology at Cambrian College of Applied Arts and Technology, Sudbury Campus. I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years), North Bay office and currently as Exploration Manager and Geophysicist for Exsics Exploration Limited since 1980.
- 2) I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984
- 3) I am a Fellow of the Geological Association of Canada, (FGAC), since 1986.
- 4) I have been actively engaged in my profession since May of 1975, including all aspects of exploration studies, surveys and interpretation.
- 5) I have no specific or special interest in the described property. I have been retained as a Consulting Geophysicist by the Property holders.

John Charles Grant, CET, FGAC.



APPENDIX A



Ministry of Northern Development and Mines

# Declaration of Assessment Work Performed on Mining Land

Mining Act. Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

Assessment Files Research Imaging



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Agent's Address

168 Alborain

ROBI

900

thority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the used to review the assessment work and correspond with the mining land holder. Mining Recorder, Ministry of Northern Development and Mines, 6th Floor,

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240. - Please type or print in ink. 1. Recorded holder(s) (Attach a list if necessary) 130679 JOHN 14689 Address elephone Number 705 2. Type of work performed: Check ( > ) and report on only ONE of the following groups for this declaration. Geotechnical: prospecting, surveys Physical: drilling, stripping, Rehabilitation assays and work under section 18 (regs) trenching and associated assays Work Type Office Use GRAVITY Survey, Returnish Grin Leveling. Commodity Total \$ Value of Work Claimed Dates Work 18 63 Day Month 98 **NTS Reference** Day Global Positioning System Data (if available) Township/Area Mining Division Robb M or G-Plan Number Resident Geologist 63968 District Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; provide a map showing contiguous mining lands that are linked for assigning work; - include two copies of your technical report. Person or companies who prepared the technical report (Attach a list if necessary) 267-4151 Address PYN 7XI -264-705 Telephone Number Address Fax Number Address Certification by Recorded Holder or Agent **PORCUPINE MINING DIVISION** (Print Name) , do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true. Signature of Recorded Holder or Agent MAY 21/98

Telephone Number

705-267-

Fax Number

705-267-3121

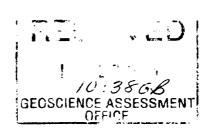


# Schedule for Declaration of Assessment Work on Mining Land

Transaction Number (office use)

	work wi mining the loca	Claim Number. Or If as done on other eligible land, show in this column tion number indicated claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
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	17	969270	1	53,			53
	18	997531	1	141.			141
}	19	997529	1	250.			250
-	20	997526	1	18,			18-
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Ministry of Northern Development and Mines

## Statement of Costs for Assessment Credit

Transaction	Number (office use)	
4.486	0 05,40	

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work  Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Refur Bish Grio.	5 0A45-	150/DM	750.
Gravity Survey.	7 DA45.	1416 /044.	2912.
Leveling.	4 DA42	380,25/ pm.	1521.
2 Sets Assement Report.	,	475/Romis	. 950.
sociated Costs (e.g. supplies,	mobilization and demobilization).		
		***************************************	
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Transpo	ortation Costs		
			1
Food an	d Lodging Costs	12:15	1008
		FDC	
		PORCUPINE MININ	G DIVISION

#### **Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.

2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

value of Assessment work. If this situation applies to	your claims, use the	e calculation below:
TOTAL VALUE OF ASSESSMENT WORK	× 0.50 =	Total \$ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.

- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Minister may reject all or part of the assessment work sub	mitted.
Certification verifying costs:	
1, him Brhame (Agar), do hereby co	ertify, that the amounts shown are as accurate as may
	ile conducting assessment work on the lands indicated on
the accompanying Declaration of Work form as 1 8 c	I am authorized
to make this certification.	
1.0.27 1009 00000 ASSESSING	Signature Date Quarte 21/98.

Ministry of Northern Development and Mines Ministère du Développement du Nord et des Mines

August 13, 1998

FALCONBRIDGE LIMITED SUITE 1200, 95 WELLINGTON STREET WEST TORONTO, ONTARIO M5J-2V4



Geoscience Assessment Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone: (888) 415-9846 Fax: (705) 670-5881

Visit our website at: www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.18547

**Status** 

Subject: Transaction Number(s):

W9860.00549 Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Bruce Gates by e-mail at gatesb2@epo.gov.on.ca or by telephone at (705) 670-5856.

Yours sincerely,

ORIGINAL SIGNED BY

Blair Kite

Supervisor, Geoscience Assessment Office

Mining Lands Section

### **Work Report Assessment Results**

**Submission Number:** 

2.18547

Date Correspondence Sent: August 13, 1998

Assessor: Bruce Gates

Transaction Number

First Claim

Number

Township(s) / Area(s)

Status

**Approval Date** 

W9860.00549

1190191

**ROBB** 

Deemed Approval

August 12, 1998

Section:

14 Geophysical GRAV

Correspondence to:

Resident Geologist

South Porcupine, ON

Assessment Files Library

Sudbury, ON

Recorded Holder(s) and/or Agent(s):

**Lionel Bonhomme** 

TIMMINS, ONTARIO, CANADA

**FALCONBRIDGE LIMITED** 

TORONTO, ONTARIO

JOHN PETER HUOT

TIMMINS, ONTARIO

