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FALCONBRIDGE LTD.

REPORT ON GEOPHYSICAL WORK WEST MACDIARMID

NTS: 42-A/12 PROJ. #8172

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MINING LANDS SECTION

S. TAYLOR TIMMINS GEOPHYSICS LTD.

JANUARY 1988

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Magnetic and HLEM surveys were carried out on the West MacDiarmid property in November 1987.

The magnetic survey mapped a gabbro intrusive and north northwest trending diabase dikes.

The HLEM survey located nine conductors striking southeast on the west half of the property and east on the eastern half. Interpretation of the anomalies is difficult because of either a quadrature inversion due to conductive clay overburden or interference from closely spaced conductors. Anomalies B, D, G, H, and I have been previously tested by diamond drilling. Most offsets in the conductors coincide with the north northwest trending diabase dikes, indicating that there has been movement along these features.

The most interesting of the conductors is represented by Anomaly E. There is a very local magnetic feature of high relief associated with the conductor, indicating the presence of pyrrhotite. Anomalies A, B and G also have a magnetic response on the most easterly lines. Anomaly G has been previously tested in the area of interest. The other anomalies should not be overlooked as potential mineralized zones, but they do not represent the primary targets. The secondary drillholes should be located to test the greatest width within each zone.

It is therefore recommended that Anomaly E be tested between Lines 600 and 700 East, and Anomalies A and B be tested on Line 1800 East.



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INTRODUCTION

Magnetic and HLEM surveys were carried out for Falconbridge Ltd. on their West MacDiarmid property in November 1987.

The property consists of 33 claims located in MacDiarmid Township, approximately 25 kilometres northwest of the city of Timmins, in the Porcupine Mining Division. The claims are numbered as follows:

> P 995387 - P 995404 inclusive P 995447 - P 995461 inclusive P 996042 - P 996051 inclusive

Part of the survey area is patented ground held by Canadian John Manville Co. Ltd. The survey lines were cut on the patented ground with permission of the owner for the purpose of providing a regular grid shape for the linecutters. The outline of the patented ground is shown on all maps.

The east edge of the property is accessible by boat along the Mattagami River.

The survey was carried out by B. Pigeon, S. Olink and J. Eull.



Figure 1: Location map

PREVIOUS WORK

The area covered by this survey has been active since 1947, when Inco drilled ten holes in search for asbestos within the gabbro intrusive. The next record of previous work occurs in 1964, when Silver Miller Mines, Mistango River Mines, North Rankin Nickel Mines and Silvertown carried out ground magnetic and horizontal loop EM surveys. The only record of diamond drilling is two holes drilled by North Rankin Mines and two holes drilled by Silvertown. The holes drilled by North Rankin Nickel Mines intersected graphite with some minor sulphides. Neither Silvertown hole intersected a conductor.

In 1969, Noranda conducted ground magnetic and HLEM surveys. No drilling was recorded.

In 1970, Hollinger carried out an airborne INPUT survey and followed up with ground magnetic and HLEM surveys. Two holes were drilled in 1973 to test EM anomalies. Altered gabbro and ultrabasics were intersected.

In 1975, Phelps Dodge conducted ground magnetic and HLEM surveys. No drilling was recorded.

In 1977, Geophysical Engineering Ltd. drilled two holes to test a Crone C.E.M. shootback anomaly. Hole P1-1 intersected 555 feet of gabbro. Hole P1-2 intersected rhyolite with some pyhrrotite, and graphite at 216 feet. Assays for base metals, gold and silver show no economic values.

In 1978, Amax filed geological mapping for a portion of the area covered by this survey.

All holes which tested a conductor are plotted on map 5. Locations are very approximate because most are plotted relative to old claim post locations.

SURVEY DESCRIPTIONS

An east-west base line was established and north-south grid lines were cut every 100 metres and picketed every 20 metres. Tie lines were cut every 400 metres. Both north-south and east-west lines were surveyed.

The magnetic readings were taken with the Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of .1 gammas. The diurnal drift was monitored every 30 seconds with the Scintrex MP-3 base station magnetometer.

The horizontal loop EM survey was carried out with an Apex Parametrics Max Min I. This instrument measures the in-phase and quadrature components of the secondary field as a percentage of the primary field. Accuracy is +/-1%. Readings were taken at 444 and 1777 Hz with a coil separation of 120m. HLEM RESULTS

The horizontal loop results are plotted on maps 1 and 2 at a scale of 1:5000. The tieline data are presented on maps 3 and 4. Nine conductive zones were outlined in the results. The strike of the conductors changes from southeast to east as one moves eastward. Dip is approximately sixty degrees north.

There is an important feature to note on map 2. The background values change drastically at conductor 'G'. The high background in the north indicates conductive overburden, and in this area, it is not possible to determine depth and conductivity thickness parameters for conductors because of the reversal of the quadrature component, even in the low frequency results.

Many of the following tables below list only the anomaly location on each line. This is due to the effect of conductive clays mentioned above or because of interference caused by closely spaced conductors.

Anomalous values at 800 and 1250 South on Line 1100 West are topographic effects due to hills. This effect is also present at the western edge of TL 1400 South.

Anomaly A is obvious only on Lines 1200 to 1400 East. It has been extended in both directions because of high positive values which extend too far north to be the shoulder of Anomaly B. Depth and conductivity thicknesses cannot be determined because Anomaly B, located 60m to the south, is much stronger and causes interference. Table 1 lists the approximate location of the anomaly on each line. Based on the strength of the two components, conductor 'A' probably has a moderate conductivity thickness; no depth estimate is possible.

ANOMALY CENTER	ANOMALY WIDTH (M)	1P (%)	Q (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
160 S					
180 S					
200 S					
220 S		strong	g inter	ference	from 'B'
293 S					
320 S		on	all li	nes	
335 S					
340 S					
355 S					
360 S					
320 S					
	ANOMALY CENTER 160 S 180 S 200 S 220 S 293 S 320 S 335 S 340 S 355 S 360 S 320 S	ANOMALY CENTER ANOMALY WIDTH (M) 160 S 100 S 180 S 200 S 200 S 220 S 293 S 320 S 335 S 340 S 355 S 360 S 320 S 320 S	$\begin{array}{c} \textbf{ANOMALY}\\ \textbf{CENTER}\\ \textbf{MIDTH}\\ \textbf{(M)}\\ \textbf{(M)}$	ANOMALY CENTERANOMALY WIDTHIP Q (M)Q (%)160 S 180 S 200 S200 S 220 S220 S 320 S320 S 340 S 355 S 360 S 320 S	ANOMALY CENTERANOMALY WIDTHIP QDEPTH (M)160 S 180 S 200 S

Table 1: HLEM anomaly A, 444 Hz, 120 m coil separation.

Anomaly B strikes southeast and is seen on Lines 200 West to 2000 East. Dip is steep northward on the most westerly lines and becomes shallower as one moves eastward. Width is variable, but averages 30m on most lines. This anomaly is not as well defined on the high frequency results; the positive shoulders are low to non-existent, and the conductor has no width. Calculations for depth and conductivity cannot be done because there is an inversion of the quadrature response caused by conductive clay overburden.

A lower frequency survey (i.e. 222 Hz) may eliminate the inversion and give a more accurate interpretation. Offsets in the position of the anomaly between Lines 0 and 100 West, 0 and 100 East, 200 and 300 East, and between 500 and 600 East coincide with diabase dikes. This indicates there has been movement along these planes.

LIN	B		A (NOMAI SENTEI	LY R		ANOMA WIDT (M)	АГ. ГН }	Y (%)	Q (%)	DI	SPTH (M)	CO) TI	NDUCTIVITY HICKNESS (MHOS)	ł
200	W			1025	N		30		-6	-5					
100	W			960	N		40		-6	-1					
00	Е			768	N		4		-5	-2					
100	Ε			630	N		60		-6	0					
200	Ε			580	Ν		20		-6	+2					
300	\mathbf{E}			360	N		20		-2	+2		inv	ersi	ion of	
400	Е			280	Ν		20		-2	+1					
500	Ε			220	Ν		40		-4	+2	qua	adrat	ure	response	
600	Ε			47	N		46		-5	+3					
700	Е			12	S		25		-9	+2					
800	Ε			83	S		34		-6	0					
900	Ε			150	S		20		-4	-2					
1000	Ε			210	S		20		- 3	-1					
1100	Ε			252	S		36		-2	-2					
1200	Ε		\mathbf{S}	edge	280	S	5		interfe	rence	from	'A'			
1300	Ε		S	edge	340	S	5		interfe	rence	from	'A'			
1400	Ε		S	edge	368	S	5		interfe	rence	from	'A'			
1500	Ε			383	S		27		-16	- 3	3				
1600	E			408	S		25		-14	- 4	ł				
1700	E			417	S		25		-12	-2	2				
1800	E			432	S		31		-13	- 1	-				
1900	Ε			447	S		13		-15	-2	2				
2000	E		S	edge	380	S	5		-13	- 3	3				
TL 8	00	N		3	Е		20		-7	- 1	l				
TL 4	00	Ν		340	Ε		narro	DW	- 3	+ 2	2				
BL 0	i i			665	Ε		50		-3	+2	2				
TL 4	00	S		1600	Εt	0	2000	Ε	con	ductor	r para	allel	to	line	

Table 2: HLEM anomaly B, 444 Hz, 120 m coil separation.

Anomaly C is a very weak anomaly seen on Lines 100 and 200 East. It is located 240m south of Anomaly B, making width determinations difficult. Table 3 summarizes the anomaly location, but like Anomaly B, no calculations for depth and conductivity thickness are given due to the effect of conductive clays.

LINE	ANOMALY CENTER	Y	ANOMALY WIDTH (M)	1P (%)	Q (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
100 E	380 N	N	?	- 3	-2	weak r	esponse
200 E	250 N	N	?	- 3	+1	quadra	ture inversion

Table 3: HLEM anomaly C, 444 Hz, 120 m coil separation.

Anomaly D strikes southeast between Lines 500 West and 800 East. The strength and width of the anomaly varies considerably. The average depth of the conductor is 50m and conductivity is good (Table 4). The profile shape indicates there are two conductors on Lines 100 East and between 400 and 600 East. The depth and conductivity thickness calculations on Line 400 East reflect the north conductor. The source of this anomaly was determined to be graphite and pyrite based on drilling by North Rankin Nickel Mines.

LINE	ANOMALY CENTER	ANOMALY WIDTH (M)	1P (%)	Q (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
500 W	550 N	20	-3	-5	36	7
400 W	445 N	50	-4	-2	78	47
300 W	340 N	3	-4	-2	78	47
200 W	205 N	30	-6	-8	36	9
100 W	85 N	10	-2	-6	12	2
00 E	40 S	narrow	-3	-6	22	5
100 E	130 S	47	-8	-6	47	24
200 E	180 S	narrow	-1	-2	36	6
300 E	225 S	narrow	-4	-4	60	19
400 E	340 S	80	-3	- 3	66	19
500 E	375 S	30	- 4	-4	60	19
600 E	398 S	23	-3	-4	48	19
700 E	410 S	narrow	- 3	-3	60	19
800 E	440 S	narrow	-4	-4	60	19
TL 400 N	375 W	50	- 4	-2	78	47
BL 0	35 W	10	-5	0	no qu	adrature
TL 400 S	790 E	narrow	-1	-1	very	weak

Table 4: HLEM anomaly D, 444 Hz, 120 m coil separation.

Anomaly E reflects a twenty meter wide conductor on Lines 600 and 700 East. The conductor response is strong, but like anomalies B and C, the conductor appears to be extremely conductive due to the effect of conductive overburden.

LINE	ANOMALY CENTER	ANOMALY WIDTH (M)	1P (%)	୍ବ (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)	ŗ
600 E 700 E	540 S 560 S	20 20	-24 -15	-6 -4	max values	not in cent	er

Table 5: HLEM anomaly E, 444 Hz, 120 m coil separation.

Anomaly F occurs only on Lines 1200 and 1300 East; it is strong only on Line 1200 East. Depth and conductivity thickness calculations are not valid due to interference from from Anomaly G, located 80m to the south. The location of the anomaly source is given in Table 6.

LINE	N EDGE ANOMAL	¦ Y	ANOMALY WIDTH (M)	1P (%)	ନ୍ଦ (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
1200 E	726	N	?	-7	-1	conduct	ive clays
1300 E	720	N	?	very	weak	interfe	rence from 'G

Table 6: HLEM anomaly F, 444 Hz, 120 m coil separation.

Anomaly G strikes east-west between Lines 1200 and 2000 East. The width (up to 35m) indicates more than one conductor in the zone. The north conductor is the strongest. Large variations in the anomaly strength, position and width suggest faults are located between Lines 1400 and 1500 West, and between Lines 1700 and 1800 West; there is a dike located between Lines 1400 and 1500 West. A third fault between 1100 and 1200 East would explain the westward truncation. There is no high magnetic response at the other two offsets, but north-south survey lines may have failed to locate the Calculations in Table 7 assume a dip north-south features. sixty degrees north. These calculations indicate a of

moderate to good conductor at various depths. The depth variation supports the theory of movement along the diabase dikes. Drilling by Geophysical Engineering Ltd. determined the source of this anomaly to be graphite and pyrrhotite with no ecomonic mineralization.

LINE	ANOMALY CENTER	ANOMALY WIDTH (M)	IP (%)	Q (%)	CC DEPTH 3 (M)	ONDUCTIV THICKNESS (MHOS)	LTY S
1200 E	810 S	20	?	?	interferer	nce from	
1300 E	808 S	16	-9	-7	42	24	
1400 E	800 S	14	-8	-5	52	36	
1500 E	863 S	6	-16	-5	42	71	
1600 E	864 S	3	-10	-5	50	47	
1700 E	860 S	narrow	-2	- 5	14	2	
1800 E	886 S	27	-5	-10	17	5	
1900 E	882 S	35	-7	-7	42	17	
2000 E	890 S	20	-2	- 4	24	6	

Table 2: HLEM anomaly G, 444 Hz, 120 m coil separation.

LINE	N EDGE Anomaly	ANOMALY WIDTH (M)	1P (%)	Q (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
300 W	480 S	?	wea	ak		
200 W	585 S	?	-6	-5	24	28
				(interfer	ence from I)
100 W	636 S	?	-10	-7	43	28
00 E	747 S	?	?	?		
100 E	807 S	?	-21	-14	26	33
				(not pea	k values)
TL 400 \$	S Wedge	470 W	-22	- 1	very shallow	extremely high

Table 8: HLEM anomaly H, 444 Hz, 120 m coil separation.

Anomaly H is a strong anomaly, second only to Anomaly I. It is located 150m north of I, making depth and conductivity calculations unreliable due to the interference from the south. The north edge of 'H' on each line is tabled below (Table 8). Most of this conductor lies outside the claim boundaries.

Anomaly I is the strongest response. It strikes southeast between Lines 500 West and 100 East. There is interference from Anomaly H to the north and anomaly width cannot be determined on Lines 200 West to 100 East. Depth and conductivity thickness calculations are not reliable because of interference from 'H' on the most easterly lines and conductive clays on the lines in the west (Table 9). There is record of a diamond drillhole into this zone, but no particulars were found except for the location.

LINE	ANOMALY CENTER	ANOMALY WIDTH (M)	IP (%)	ନ୍ଦ (%)	CONDUCTIVITY DEPTH THICKNESS (M) (MHOS)
500 W	635 S	5	-23	-2	
400 W	610 S	narrow	-18	-3	
300 W	687 S	narrow	-34	0	conductive
200 W	S edge 884	S ?	-18	0	clays
100 W	S edge 786	S?	-36	-2	•
00 E	S edge 914	S ?	-41	-8	
100 E	S edge 987	S ?	-43	-6	
TL 400 S	E edge 22	7 W	?	?	interference from 'H'
TL 1000 S	284 N	8	-22	-8	conductive clays

Table 9: HLEM anomaly I, 444 Hz, 120 m coil separation.

Anomaly J, located on Lines 2000 and 2100 East, is very weak, and may be a surficial anomaly. Depth and conductivity values indicate a poor conductor near surface (Table 10).

LINE	ANOMALY CENTER	ANOMALY WIDTH (M)	IP (%)	Q (%)	DBPTH (M)	CONDUCTIVITY THICKNESS (MHOS)
2000 E	1140 S	?	-2	- 5	14	5
2100 E	1150 S	narrow	0	-3	<10	<1

Table 10: HLEM anomaly J, 444 Hz, 120 m coil separation.

MAGNETIC RESULTS

The magnetic results are plotted on map 5 at a scale of 1:5000. The tie line data is presented as profiles in map 6. The major feature is a large southeast trending feature of 5000 gamma relief. This maps a known gabbro intrusion. The profiles of the tieline data locate north northwest tending linear features which map diabase dikes. Most of the numerous discontinuities in the HLEM conductors correlate with the location of these dikes.

Except for Anomaly E, and the east end of Anomalies A, B and G, none of the conductors located by the HLEM survey have any obvious magnetic response. Anomalies D, H and I lie

on the north and south flanks of the magnetic high which maps the gabbro intrusion. None of the other anomalies lie along magnetic trends.

Anomaly E has a very short strike extent and is associated with a very high magnetic feature with equally short strike extent. This probably indicates there is considerable pyrrhotite in the conductive zone.

The east end of anomalies A, B and C also have associated magnetic respones, although not as high as Anomaly E. These zones probably contain some pyrrhotite also.

The tie-line survey located the north-south trending diabase dikes much better than the survey along the north-south lines. Much of the previous work in the area oriented the survey lines northeast, and this survey direction located all diabase dikes. It is recommended that previous magnetic data be reviewed before any drillholes are located to ensure they do not intersect a dike. An east-west line across the proposed drillsite is recommended if previous data is not available.

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APPENDIX A

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GEOPHYSICAL TECHNICAL DATA

GRO	UND SURVEY	$\underline{S} \sim If$ more than or	к з <mark>игусу, s</mark> pe	cify data for ea	ch type of surve	у	$\mathbf{\mathcal{I}}$
		3851				Mag 38	51
Numl	ber of Stations.	2004		Num	ber of Readings	HLEM 3	575
Static	on interval	20M		Line	spacing <u>10</u>	OM	
Profil	le scale	1 cm = 20%					
Conto	our interval <u>Va</u>	aries from 100 g	ammas to 10)00 gammas			
Ins Ac Din Bas Bas Ins Coi Ac Me Ers	strumentS curacy – Scale urnal correction se Station check se Station locati dise Station locati utrument il configuration curacy thod:	Scintrex 1GS-2 constant	/ MP-3 gammas station 30 second 1000s, 280 base value ics Max Min oop	ls 00W 2 58805 1 I 	ck 🖾 In li	ne	□ Parallel line
	cometers messure	ad in-phase an	(d. quadratur	specify V.L.F. stati	on)		
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Ele	vation accuracy						
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	- Radiometric			996051			995461	
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	Radiometric			995403			****	
Expenditures (excludes po	wer stripping)			05404				
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Ontario

Ministry of Northern Development and Mines

Geophysical-Geological-Geochemical Technical Data Statement

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Author of Report Shar	on Taylor			(prefix)	(number)
Address of Author P.0.	Box 1783 Sout	h Porcupine. Onta	rio	996043	995451
Covering Dates of Survey	12/9/87 to 20/	01/88		996044	995452
covering Dutes of Survey	(linecutting	to office)	[996045	005452
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line cutting) for first	Magne	ctometer 20	-	996049	995457
survey.	-Radio	metric	-	996050	995458
ENTER 20 days for each	-Other		-	006051	005450
additional survey using	Geologi	cal		990051	995459
same griu.	Geochei	mical	-	995397	995460
AIRBORNE CREDITS (Spec	ial provision credits do r	not apply to airborne surveys	.)	995398	995461
MagnetometerElectr	romagnetic	Radiometric	[''''		
(enter days per claim) 995399					
DATE: Jan 20/88	signature: 🗲	haven Taylo		995400	
		Author of Report or Agent		995401	
Res. Geol.	Qualifications			995402	
Previous Surveys				995403	
File No. Type D	ate (Claim Holder	[995404	
				995447	
				995448	
••••••				995449	
		•••••••••••••••••			·····
••••••				TOTAL CLAIMS	33

837 (85/12)

OFFICE USE ONLY

Ministry of Northern Developmen	nt Report of Wo	ork	DOOT		lostructions: -	Please type	e or print.	
Ontario and Mines (Geophysical, Geochemical and Expenditured 8								
5	#116		Minir					
Type of Survayed		•	(41(11))	42A12NE0509	2.10774 MACDI	IARMID	F 38 W 10	900
Geophysi	cal							
Falconbr	idge Limited					A 21	1647	
Address P. O. Box	1140, 571 Mon	eta Ave	nue. Tim	nins. Ontai	cio. P4N	7H9		
Survey Company				Date of Surve	y (from & to)	11 07	Total Miles of line	Cut
	Geophysics Ltd	•		20 10 Day Mo.	O/ 14 Yr. Day	11 8/ Mo. Yr.		
Sharon T	avlor P.O. Box	1783,	111 Bruce	e Avenue, S	South Por	cupine.	Ontario PON	1 1H0
Credits Requested per Each (Claim in Columns at r	ight	Mining Cl	aims Traversed	(List in num	erical seque	nce)	
Special Provisions	Geophysical	Days per Claim	Prefix	ning Claim Number	Expend. Days Cr.	Mi Prefix	ining Claim Number	Expend. Days Cr.
For first survey:	- Electromagnetic	40	Р	995462				
includes line cutting)	- Magnetometer	20						
	- Radiometric			·····			·	
using the same grid:	• Other							<u>+</u> {
Enter 20 days (for each)								
	Geological	l						
Man Dave	Geochemical			(plem			<u> </u>	
Iviati Udys	Geophysical	Days per Claim		Diff if	() 			
Complete reverse side and enter total(s) here	- Electromagnetic			in king	$\mathcal{J}^{()}$			
RECEI	/ E ⁻ Mognetometer			in aller		finin an sta Dir sendin aat		
	Radiometric			A 60			<u> </u>	
MAY 24	988 Other					•		
	Geological		n an					
MINING LANDS	SECTION.							
Airborne Credits	<u> </u> 	Days per						
Note: Special provisions	Electromagnetic			<u></u>				
credits do not apply	Macaatomatar							
to Airborne Surveys.								
Expenditures (excludes peuv	Radiometric					Tensor and		
Type of Work Performed	er stripping/]					CORD	
······································						120		
Pertormed de cleinis	MEM						ANC 1-2-000	
							TAT IJ HO	
	000						3042-2	
Calculation of Expenditures	Dav	Total s Credits						
s	─ ─ ─ ─ ─ ─					Total nun	nber of mining	
Instructions						claims cov report of	vered by this work.	1
Total Days Credits may be as choice. Enter number of days	portioned at the claim f s credits per claim select	nolder's ed	Total Dave	For Office Use	Only	Mining Be	A A	7
in columns at right.					Juti			
Man 12/88 /	Date Man 12/88 Recorded Holder or Agent (Signature)							
Certification Verifying Repo	Certification Verifying Report of Work							
I hereby certify that I have a or witnessed same during and	I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work							
Name and Postal Address of Per	son Certifying)	<u> </u>		<u> </u>	
Original signal	by Pouglas	Landy	P.O. £	Data Cartifia	South to	Cortine ,	Unterio PO	~ 1#0
	7	~			-		of (official)	
1362 (85/12)						1		

		, ľ	DOCUMEN	T No.		_		
Northern Developme	Northern Development Report of Work		(1) 8800		nstructions: –	Please typ	e or print.	me travarrad
and Mines	(Geophysical, (Geologica	000000	20		exceeds sc	bace on this form,	attach a list.
Ontario	Geochemical a	nd Expend	litures)	and the second	Note: -	Only day	s credits calcula	ted in the
	21077	4	Mining	A		in the "	Expend. Days Cr	Columns.
Tupe of Survey(s)	2.1011		ivitning /		-	Do not us	e shaded areas belo	w
	-				Township	or Area	л	
Geophysica	1					Diarmi	a	
Kidd One als	Md					Prospecto	010	1
Klaa Creek	Mines .	· · · · · · · · · · · · · · · · · · ·				1-1	040	
P.O. Box 1	140. 571 Moneta	Avnue	Timmine	Ontario	D/N 700			
Survey Company				Date of Survey	14N / N9		Total Miles of line	<u>Cut</u>
Timmins Ge	ophysics Ltd.			-25, 10	87 1 1 / 1	1 87	70 2 Km	Cut
Name and Address of Author (c	f Geo-Technical report)			Dav M8.	Y/. Day 1	MD. Y7.	13.2 Kii	
Sharon Tay	lor P.O. Box 1	783, 11	1 Bruce A	venue, Sou	th Porcu	oine, O	ntario PON	и іно
Credits Bequested per Each	Claim in Columns at r	aht	Mining Clai	ms Travaread (list in nume			
Special Provisions		Davs per	Mining Cla	ing Claim	Excend		lining Claim	Expand
	Geophysical	Claim	Prefix	Number	Days Cr.	Prefix	Number	Days Cr.
For first survey:	- Electromagnetic	40	Р	996042			995/52	
includes line cutting)	Magaziomotor					1.235.5		
	- Magnetometer	20		996043			995453	
For each additional survey:	- Radiometric			996044			005454	
using the same grid:	- Other			220044	<u> </u>		- 42424	
Enter 20 days (for each)			1468	996045	Į		995455	
	Geological			996046		1202	995454	
	Geochemical			230040		18-4-5		
Man Days				996047		Sec. 2	995457	-
	Geophysical	Claim		996048			995458	
Complete reverse side	- Electromagnetic							
and enter total(s) here				996049		1.576.75	995459	
RECEIVED	 Magnetometer 			996050			995460	
	Radiometric			006051		5.255		
MAR 0 7 1988			-	996051			995461	
	- Other			995397				
	Geological							
MINING LANDS SECTIO	N.			995398			<u> </u>	
	Geochemical			995399				
Airborne Credits		Days per	6.35			3.8.8		
Notes Consist newspire	-			995400		4.4		
Cretits do not sool	ciectromagnetic			995401				
TO ATTOY TO BESTING	Maphetometer			995402		1990		
						A CONTRACTOR	DDED	
				995403	F	6	OHDER	
Expenditures (excludes powe	er stripping			995404		Alexand and		
100 00 100 100 100 100 100	8	1		005//7				
Performed on Claim(s)				995447		MAN	<u>-26 1988</u>	
· ····································				995448				
					 			
			- <u>8</u> 884-	995449			· · · · · · · · · · · · · · · · · · ·	
Calculation of Expenditure Davi	Credits			995450	<u>+</u>			
Total Expenditures	T Davs	otal Credits	CINICAR	O GEOLOGICAL	SURVEY			
[[e			I AND I AND I	OFFICE		1995.00		<u></u>
<u>ې</u>	_] + [¹ 2] = [_					Total num	ber of mining	
Instructions				MAR 1 & 10	00	report of	work.	33
Total Days Credits may be ap	portioned at the claim h	older's	F.	or Office Use O		1	<u>^</u>	
in columns at right,	i credita per claim selecte		Total Days C	. Date Recorded		Mining Re	brdey /	
••••••••••••••••••••••••••••••••••••••	Hecorde		Pad		7/114	-		
Date Recorded Holder or Agent (Signature) Date Approved as Recorded					as Recorded	Branch Di	2 Minde	
Ann 20/88 Sharon Taylor 1 March 87 th allow								
Certification Verifying Report of Work								
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work								
or witnessed same during and	/or after its completion a	nd the anne	xed report is tru	Je.				
Name and Postal Address of Pers	on Certifying						·····	
DOUXLAS LONDRY P.O. Box 1783 South Porcupine, Ontario PON IHO								
	,			Date Certified		Certified b	v (Signature)	
				1	<	1	gas/ac	m
1362 (85/12)							1 1	



Ministry of Northern Development and Mines

Geophysical-Geological-Geochemical Technical Data Statement

File	_
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TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geophys:	ical					
Township or Area Mac Dia:	Township or Area Mac Diarmid					
Claim Holder(s)Kidd Cr	eek Mines	List numerically				
P.0. Bo:	x 1140 571 Moneta Ave. Timmins	<u>,</u> 0				
Survey CompanyTimmins	Geophysics	P 996042 P 995450				
Author of Report Sharon	Taylor	(prefix) (number) — 9960/3 995/51				
Address of Author P.O. Box	1783 South Porcupine, Ontari	<u>0</u>				
Covering Dates of Survey_ 12/	9/87 to 20/01/88	996044 995452				
	(linecutting to office)					
Total Miles of Line Cut	7.2 Kill.	-				
[996046 995454				
SPECIAL PROVISIONS	DAYS per claim	996047 995455				
	Geophysical 40	996048 995456				
ENTER 40 days (includes	Electromagnetic40	006040 005457				
line cutting) for first	Magnetometer <u>20</u>	990049 995457				
survey.	-Radiometric	996050 995458				
ENTER 20 days for each	-Other	996051 995459				
additional survey using	Geological					
same griu.	Geochemical	995397 995460				
AIRBORNE CREDITS (Special pr	ovision credits do not apply to airborne surveys)	995398 995461				
MagnetometerElectrom	agnetic Radiometric	- 995399				
(cm						
DATE On 20/88 SIG	NATURE: Sharm Tart	995400				
		995401				
		005402				
Res. Geol Ou	alifications 2.8510	995402 				
Previous Surveys		995403				
File No. Type Date	Claim Holder	995404				
		995447				
		995449				
·····	•••••					
······	•••••					
	·····	TOTAL CLAIMS 33				

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

2	ROUND SURVEYS – If more than one survey, specify	data for each type of survey
		Mag 3851
N	umber of Stations 3851	Number of ReadingsHLEM_3575
S	tation interval 20M	Line spacing 100M
P	rofile scale 1 cm = 20%	
C	ontour interval <u>Varies from 100 gammas to 1000</u>	gammas
	Instrument	
N	Accuracy – Scale constant 0.1 gammas	
INE	Diurnal correction method <u>base station</u>	
MAG	Base Station check-in interval (hours) 30 seconds	
~	Base Station location and value 1000s, 2800W	
	base value 5	8805
r ai	Instrument Apex Parametics Max Min I	
ETI(Coil configuration horizontal loop	
INC	Coil separation 120 m	
MA	Accuracy $\pm 1\%$	
RO	Method:	Shoot back I In line I Parallel line
5	Frequency 444 Hz and 1777 Hz	
EL	(speci	fy V.L.F. station)
	Parameters measured <u>in-phase and quadrature c</u> measured as a percentage	of the primary field.
	Instrument	
ы	Scale constant	
E	Corrections made	· · · · · · · · · · · · · · · · · · ·
VA		
ß	Base station value and location	······
	Elevation accuracy	
	Instrument	
1	Method 🔲 Time Domain	Frequency Domain
	Parameters – On time	Frequency
×	- Off time	Range
ΠΛ	– Delay time	
IIS	- Integration time	
ESI	Power	
2	Electrode array	
	Electrode spacing	
4	Type of electrode	

INDUCED POLARIZATION RESISTIVITY



SELF POTENTIAL	
Instrument	Range
Survey Method	
Corrections made	
	· · · · · · · · · · · · · · · · · · ·
RADIOMETRIC	
Instrument	
Values measured	
Energy windows (levels)	·
Height of instrument	Background Count
Size of detector	
Overburden	(type, depth - include outcron man)
OTHERS (SEISMIC, DRILL WELL LOGO	GING ETC.)
Type of survey	
Instrument	
Accuracy	
Parameters measured	
Additional information (for understanding	results)
AIRBORNE SURVEYS	
Type of survey(s)	
Instrument(s)	
Accuracy	(specify for each type of survey)
Accuracy	(specify for each type of survey)
Aircraft used	
Sensor altitude	
Navigation and flight path recovery method	d
Aircraft altitude	Line Spacing
Miles flown over total area	Over claims only

GEOCHEMICAL SURVEY – PROCEDURE RECORD

••

Numbers of claims from which samples takes

Total Number of Samples	ANALYTICAL METHODS						
Type of Sample(Nature of Material) Average Sample Weight	Values expressed in:per centIp. p. m.Ip. p. m.Ip. p. b.II						
Method of Collection	Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)						
Soil Horizon Sampled	Others						
Horizon Development	Field Analysis (tests)						
Sample Depth	Extraction Method						
Terrain	Analytical Method						
	Reagents Used						
Drainage Development	Field Laboratory Analysis						
Estimated Range of Overburden Thickness	No. (tests)						
	Extraction Method						
	Analytical Method						
	Reagents Used						
SAMPLE PREPARATION	Commercial Laboratory (tests)						
Mesh size of fraction used for analysis	Name of Laboratory						
	Extraction Method						
	Analytical Method						
	Reagents Used						
General	General						
	· · · · · · · · · · · · · · · · · · ·						



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025659	029060	LIC28653	1028654	997659	996500	996499	i i			
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OTHER ROADS								
TRAILS	<u></u>							
SURVEYED LINES:								
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DISPOSITION OF CROW	NN LANDS							
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PATENT, SUMPACE & MINING HIGHTS								
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LEASE, SURFACE & MINING RIGHTS								
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LICENCE OF OCCUPATION	Υ							
ORDER-IN-COUNCIL	00							
RESERVATION								
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CANCELLED	8							
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	SAND & GRAVEL							
NOTE: MINING RIGHTS IN PARCELS PATER 1913, VESTED IN ORIGINAL PATE LANDS ACT, R.S.O. 1970, CHAP. 3	NTED PRIOR TO MAY 6, NTEE BY THE PUBLIC 10, SEC. 63, SUBSEC 1.							
NOTE: MINING RIGHTS IN PARCELS PATER 1913, VESTED IN ORIGINAL PATELANDS ACT, R.S.O. 1970, CHAP. 30 SCALE: 1 INCH = 40 CHAINS	NTED PRIOR TO MAY 6, NTEE BY THE PUBLIC 30, SEC. 63, SUBSEC 1.							
NOTE: MINING RIGHTS IN PARCELS PATER 1913, VESTED IN ORIGINAL PATEL LANDS ACT, R.S.O. 1970, CHAP. 30 SCALE: 1 INCH = 40 CHAINS FEET 0 1000 2000 4000	6000 8000							
NOTE: MINING RIGHTS IN PARCELS PATER 1913, VESTED IN ORIGINAL PATEL LANDS ACT, R.S.O. 1970, CHAP. 34 SCALE: 1 INCH = 40 CHAINS FEET 0 1000 0 200 1000	6000 8000							
NOTE: MINING RIGHTS IN PARCELS PATER 1913, VESTED IN ORIGINAL PATEL LANDS ACT, R.S.O. 1970, CHAP. 34 SCALE: 1 INCH = 40 CHAINS FEET 0 1000 2000 4000 0 200 1000 METRES (1 KM1 CUPIN	6000 8000 (2 K M)							
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0 Instrument : Scintrex IGS-2/MP-4 Type : Total Field Proton Precession Profile Scale : 1cm = 1000 Gammas Datum Line : 58200 Gammas 200 W --DD-Diabase Dyke Conductor 444 Hz

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SCALE : 1:506,880 KEY MAP

Instrument : Apex Parametrics MaxMin Coil Separation : 120 m Frequency: 444 Hz Profile Scale : 1cm = 20%

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In-phase

Quadrature -**--***---Anomaly _____ Diabase Dyke — DD —

FALCONBRIDGE LTD. HLEM SURVEY WEST MACDIARMID

PROJ NO: 8172 NTS: 42-A/12 DATE : NOVEMBER 1987 SCALE : 1: 5000 Timmins Geophysics Ltd. FILE : tie.hl WORK BY :

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 FALCONBRIDGE LTD.

 HLEM SURVEY

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 WEST MACDIARMID

 NTS: 42-A/12

 PROJ NO: 8172

 SCALE : 1: 5000

 DATE : NOVENBER 1987

 FILE : tie.hl

 Shawn Taylor

 WORK BY :