



42A06SE1027 2.3771 LANGMUIR

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UTAH MINES LTD.

ASSESSMENT REPORT

ON A

MAGNETOMETER SURVEY

LANGMUIR TOWNSHIP

BY

Louis Godbout

March 4, 1981



Utah Mines Ltd.
Magnetometer Survey

GERMAN
Kettle Lakes Provincial Park
Night Hawk Centre

90 South Porcupine
Gold Centre
Schumacher

BLACKSTOCK

McARTHUR

DOUGLAS

FALLON

PASKEN

MICHELLE

GEIKIE

CLEAVER

McNEILS

ROBERTSON

ENGLISH

ZAVITZ

ARGYLE

BADEN

INTRODUCTION

This is a report on a magnetometer survey completed on the Forks River Property of Utah Mines Ltd. in Langmuir Township, 18 miles south-east of Timmins.

The northern half of the property is nine claims, which were optioned from A.B. McLennan on January 31, 1980. Mr. McLennan's claims have been brought to lease and are as follows:

<u>Lease 103139</u>	<u>Lease 103140</u>
P. 215229	P. 215772
P. 216831	P. 216814
P. 217076	P. 215168
P. 217077	
P. 217090	
P. 217091	

An additional 12 claims were staked for Utah Mines Ltd., which constitutes the south 1/2 of the property, as shown on the accompanying claim sketch. These claims are numbered as follows:

P. 553484	P. 553598
P. 553485	P. 553599
P. 553486	P. 553600
P. 553487	P. 553601
P. 553488	P. 553602
P. 553597	P. 594847

A forty mile grid was cut and chained by H.T. Gonzalez, of Timmins, between October 29, 1980 and November 6, 1980. As shown on the accompanying magnetometer plan maps, the grid base line runs east-west and is 9400 feet in length. On the west side of the Forks River at Line 24-E, the base line is offset 500 feet to the south and continues on from this point 2200 feet to the west. Cross picket lines are established at every 200 foot spacing along the base line. They extend north and south of the base line in most cases.

I. INTRODUCTION

Tie lines for end control were cut near the south boundary of the property and the lease survey line was rechaind on the north boundary of the lease part of the property. Picket line spacings were chained in along these tie lines for end control.

A magnetometer survey was done on the grid between January 10 and January 24, 1981. The survey was done by Utah Mines Ltd. personnel, Roger Ord and George Wahl under the supervision of Michel Godbout.

II. PROPERTY DISCRIPTION AND AREA

The property is located in southwest Langmuir Township at the mouth of the Forks River, which flows into St. Peter Bay of Nighthawk Lake. The Forks River and the Forks River mouth flow from the southeast corner of the property to its northeast corner. The Forks River unites with the Nighthawk River at the entrance to St. Peter Bay.

Most of the property is thickly wooded, with a mixture of black spruce, poplar, minor birch and cedar. The mouth of the Forks River, occupying the eastern half of the property is a low lying area and is really a subsidiary bay of St. Peter Bay. The shorelines are several hundred feet in width and are marshes. The topography outside of the Forks River mouth area is hilly, with topographic relief as much as 30 to 40 feet. There are no vehicle roads on the property but there are two bush trails, one from the southwest starting at the Stringer Road near the Forks River and a second from the northwest which passes through the MacWatters Property.

Access to the property in winter is best by ski-doo from the Stringer Road. In summer, access can be by boat from the Langmuir Mine site dock to the shoreline of the mouth of the Forks River.

III.

MAGNETOMETER SURVEY

A.

Survey Procedure

The survey was done with the Barringer GM-122 Proton Precession Magnetometer. This instrument is portable and consists of a monitoring unit and a staff connected to the monitor. The staff supports a liquid container which is filled with a hydrocarbon compound. The liquid in the staff container has to have hydrogen in its molecular structure. By energizing the liquid in the container the protons of hydrogen are oriented into a synthetic field produced by the magnetometer. When this field is turned off the protons precess or return to the earth's magnetic field orientation. This rotational variation is monitored by the magnetometer. The return of the protons to the earth's field is directly proportional to the strength of the field at that location or the magnetic susceptibility of the ground. The result is a measure of the earth's total magnetic field where the reading is taken.

A central base station was established for the mag survey. This was at the base line on Line 56-E. The total field measurement at this station was 59,000 gammas. All readings were taken, corrected and plotted to the nearest 10 (ten) gammas. Only the four digits from the 10 gamma to the 10000gamma digit were plotted on the plan. (i.e. 59000 gammas would be plotted as 5900 gammas). This base station is indicated on the magnetometer plan maps by a large circle and written identity. It is located 200 feet south of the Forks River near the beginning of the Forks River Bay. From the mag base station, additional base stations were established at all cross picket lines from 0-E to 94-E inclusive. Additional base stations at all cross lines enabled the completion of mag loops within a period of less than two hours. Two hours was the maximum time allowed during the loop between base station readings because of diurnal

III. MAGNETOMETER SURVEY

A. Survey Procedure

change in the earth's magnetic field. Readings were recorded at all picket line stations at 100 foot spacings.

The data was recorded in field notebooks and was corrected for magnetic diurnal variation using the linear closed loop method.

The linear closed loops were done by starting the survey at a mag base station on the base line proceeding up a picket line taking readings at every station and returning on an adjacent picket line back to a base station. This resulted in a closed loop survey with tie ins at the beginning and ending of each loop. The diurnal variation in the earth's magnetic field during the period of the loop was accounted for and each reading along the loop was corrected to remove diurnal variation during the loop. The total number of readings taken during the survey was 2050. The data was plotted up daily on 1" = 200 foot plan maps after being corrected. It was then contoured at 250 gamma intervals. Only the first four digits of each corrected reading are plotted on the plan map. In order to get the absolute magnetic susceptibility at each station each reading is multiplied by ten (10). The accuracy of this survey is only to the nearest 10 gammas of the total earth's magnetic field.

B. Results and Interpretation

The magnetic relief over the property is relatively flat with magnetic susceptibility ranging from 58,080 gammas to 61,810 gammas.

There is very little outcrop known on the property, apart from that along the shores of the Forks River and on the north side of Forks River Bay. There does appear to be at least two north-south striking mag high ridges, one at Line 34-E and a second near Line 50-E. These are interpreted as diabase dykes which have been mapped further to the southwest in Langmuir

III. MAGNETOMETER SURVEY

B. Results and Interpretation

Township. A third, somewhat irregular, north-south mag ridge is present in the southeast corner of the property. This also is interpreted as a diabase dyke. The region along the Forks River appears to be a magnetic boundary. The mag relief south of it is somewhat more variable and of higher susceptibility. North of the Forks River area the mag relief is flatter, except for the area of the two north-south striking diabase dykes.

The diabase dykes appear to have the strongest magnetic susceptibility. This is probably because of magnetite content in the diabase and less overburden over the dykes which usually occur as bedrock ridges. There may be a moderate mag relief depicting a belt of serpentinized ultramafic rocks immediately south of the Forks River between lines 30 and 82-E. The general strike of this magnetic relief, however uncertain, appears to be east-west.

IV. CONCLUSIONS

Because of outcrop scarcity on the property, the magnetic survey will prove valuable in interpreting the bedrock geology. The diabase dykes appear to have the strongest magnetic relief with ultramafics second and volcanics third. It is interpreted that the diabase dykes occur as sub-cropping bedrock ridges and that they contain a certain amount of magnetic material, i.e. magnetite, pyrrhotite.

The mag survey did not reveal the presence of magnetic type iron formations. There are no magnetic anomalies which merit diamond drill testing by themselves at this date. MaxMin and Pulse E.M. surveys will be run in the future. Any ground conductors found will be rated according to their magnetic susceptibility for diamond drill testing.

Per Louis Godbout
Louis Godbout, District Geologist

PROFESSIONAL QUALIFICATIONS OF AUTHOR

I, Louis Godbout, residing at 1357 Chenier Avenue, Timmins, Ontario, do attest to the following professional credentials.

- (1) Graduated from the University of New Brunswick in 1970 with a Bachelor of Science degree, majoring in geology.
- (2) Worked in mining exploration during the summer periods of my Bachelor program at university.
- (3) Worked as a mine geologist at the Sullivan Mine, in Kimberly, British Columbia for two years.
- (4) Worked for one year on Potash exploration in New Brunswick.
- (5) Have worked six years in mining exploration in eastern Canada.
- (6) Have written assessment reports in Ontario, Quebec, and Nova Scotia.

Per

Louis Godbout

Louis Godbout, District Geologist



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File _____

RECEIVED

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TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT **MINING LANDS SECTION**
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Magnetometer
 Township or Area Langmuir
 Claim Holder(s) Utah Mines Ltd. Lic. T-793
 Survey Company Henry T. Gonzalez
 Author of Report Louis Godbout
 Address of Author 1357 Chenier Avenue, Timmins, P4R 1A8
 Covering Dates of Survey October 29/80 - January 25/81
 (linecutting to office)
 Total Miles of Line Cut Forty (40)

MINING CLAIMS TRAVERSED
List numerically

P.	553484	✓
(prefix)	(number)	
P.	553485	✓
P.	553486	✓
P.	553487	✓
P.	553488	✓
P.	553597	✓
P.	553598	✓
P.	553599	✓
P.	553600	✓
P.	553601	✓
P.	553602	✓
P.	594847	⊖

If space insufficient, attach list

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

ENTER 40 days (includes
line cutting) for first
survey.

ENTER 20 days for each
additional survey using
same grid.

Geophysical	
-Electromagnetic	
-Magnetometer	40
-Radiometric	
-Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: March 6, 1981 SIGNATURE: Louis Godbout
Author of Report or Agent

OK
sh

Res. Geol. _____ Qualifications 2.2876

Previous Surveys

File No.	Type	Date	Claim Holder
			<u>L.P.</u>

TOTAL CLAIMS Twelve (12)

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS -- If more than one survey, specify data for each type of survey

Number of Stations: 2050 Number of Readings 2050
Station interval 100 feet Line spacing 200 feet
Profile scale Plans 1" = 200 feet.
Contour interval 250 Gammas

MAGNETIC

Instrument Barringer Proton Precession Magnetometer Total Field
Accuracy - Scale constant 10 gammas
Diurnal correction method Linear loop base station control
Base Station check-in interval (hours) 1.5 hours
Base Station location and value L-56-E, base station 0 + 00 ; 59000 gammas

ELECTROMAGNETIC

Instrument
Coil configuration
Coil separation
Accuracy
Method: [] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency (specify V.L.F. station)
Parameters measured

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument
Method [] Time Domain [] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

17,000 N

16,000 N

15,000 N

14,000 N

13,000 N

12,000 N

11,000 N

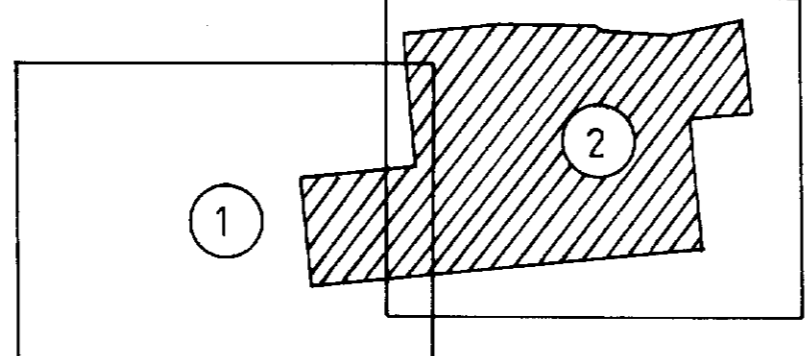
10,000 N

20 N

10 N

10 S

20 S



DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
				42 A 6		1 OF 2

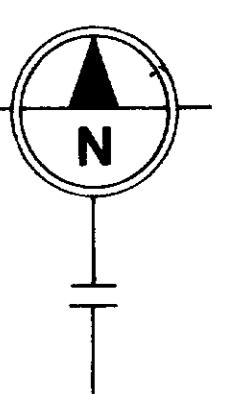
UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

FORKS RIVER
Magnetometer Survey

Scale 1" = 200
Sheet # 1

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
				42 A 6		1 OF 2

SCALE 0 200 400 600



Francis Blisset



