

REPORT ON A MAGNETIC SURVEY AND

AN ELECTROMAGNETIC SURVEY ON THE KAMISKOTIA PROPERTY

OF LEGION RESOURCES LTD.





Prepared by:

Bill Goble

For submittal to:

The Ontario Ministry of Natural Resources and Legion Resources Ltd.





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INTRODUCTION:

This report is a compilation and assessment of the geophysical data gathered, in May and June of 1985, from the Kamiskotia Property of Legion Resources Ltd.. The property is located in the Township of Robb in the Porcupine Mining District.

The report was prepared by a Mr. Bill Goble who describes a magnetic and an electromagnetic survey. The magnetics generally reflects the local geology and the EM survey outlines a few poorly conductive zones. The terminology, units of measurements, and assumed prerequisite knowledge are those employed in the fields of geology and geophysics.

LOCATION AND ACCESS:

The Kamiskotia Property of Legion Resources Ltd., lies within the Porcupine Mining Division of the Province of Ontario. It consists of five unpatened mining claims in the southeast part of the Township of Robb (see Figure No. 1).

Kamiskotia Lake is about one half mile north of the property. The property is accessible via a cottage road which turns off the Timmins - Kam Kotia road north of the lake and travels west, around the lake, to the south end. From the end of this road it is about a one half mile walk, along claim lines, to the property.

(P)

The claims are also accessible via Kamiskotia Lake and Twenty-Six Mile Creek which traverses the easternmost claims.

Ownership of Claims:

The five unpatened claims are presently held by Legion Resources Ltd., of 5500 Tomken Road, Unit # 16, Mississauga, Ontario.

The claims are listed as follows:

Claim No.	<u>Approximate Area</u>
P724997	40 acres
P724998	40 acres
P725002	40 acres
P725003	40 acres
P725004	40 acres

The total area of the claims is about two hundres acres (see Figure No.2).

Covering Dates of Surveys:

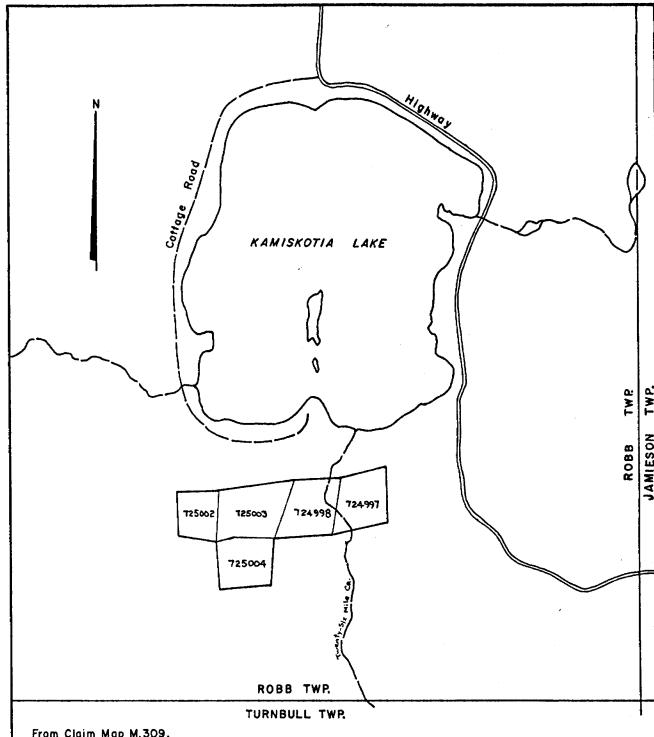
There were two seperate surveys done.

- (A) a magnetometer survey
 - started on May 25, 1985 and completed on May 27, 1985
- (B) an electromagnetic survey
 - started on June 2, 1985 and completed on June 5, 1985

Upon acceptance of this report the assessment work for these claims will be complete up to June 2, 1986. The work was done by Mr. Bill Goble, the writer of this report (see Certificate of Qualification).

SUMMARY OF EXPLORATION AND DEVELOPMENT:

The Kamiskotia Property of Legion Resources ltd., includes part of the Hill-Haggquist claim group described by Ferguson et al (1971, p. 135) as; gold occurring in a stockwork of quartz veins in a granite stock. P. Luisakoff, D. Hill and D. Haggquist did surface prospecting in 1920 to 1923. In 1924 sampling by Homestake Mining Company and later a small amount of drilling by Hollinger Consolidated Gold Mines ltd..(ibid)



From Claim Map M.309, Robb Twp., Porcupine Mining Division, Ontario, Oct. 1983.

CLAIM LOCATION PLAN OF THE KAMISKOTIA PROPERTY, ROBB TWP., ONT.

Scale: linch = 1/2 mile

Figure 2



Several mining groups have explored the Kamiskotia area, the most relevant project being the Vatco Exploration program in 1981—1983. The project originally included eighty claims which decreased to five. Ownership of these claims were then obtained by Opex Resources (Hogg, 1983, p.4). Since that time ownership has passed to Legion Resources Ltd., who is the present holder of the claims.

In 1981 Mcgill Exploration ltd., was asked to do some work on the property. This involved VLF-EM and Magnetic surveys and limited sampling and mapping. In 1983 R. Sproule geologically mapped the five claims for Vatco Exploration (ibid).

SURVEY METHODS:

Magnetic Survey:

The magnetic survey was conducted with a Geometrics G826 proton precession magnetometer. The baseline was surveyed twice during a period of little maganetic diurnal change, and baseline values were determined. The survey lines were read with a looping technique which required a tie-in at the baseline after each loop. In this way the diurnal change was recorded and then removed, mathematically, from the survey readings. Due to the severe magnetic gradients on the property, readings were taken at 12.5 meter intervals whenever there was a fifty gamma change in

25 meters. Finally, 58900 gammas were subtracted from each reading to facilitate plotting.

The data was plotted on a 1:2500 scale, with a contour interval of 100 gammas. The survey is believed to be accurate to plus or minus 10 gammas. It should be noted that parts of lines 500 E and 600 E were unreadable due to flooding.

Horizontal Loop Electromagnetic Survey:

The HLEM system used was the Apex Parametrics MAX MIN 11 EM several tests were made at 100, 150, and 200 meters coil spacings and it was found that the best response was achieved at 200 meters on the three highest frequencies (3555 Hz,1777 Hz, 888 Hz). There were little or no responses on lower frequencies.

The reference cable was marked at 200 meters and used as a chain to maintain the proper coil seperation. The grid was then read at frequiencies of 3555 Hz, 1777 Hz and 888 Hz.

Care was taken at all times to maintain a proper coil geometry and seperation of 200 meters. This survey is believed to be repeatable to within plus or minus one percent. It should be noted that line 1000 E was not read due to its short length.

DESCRIPTION OF ANOMALIES:

Magnetic Anomalies:

There is an anomaly (see MAP NO.1) of up to 1500 gammas along the northern boundary of the property. It goes from 600 W to about 350 E and stops at a magnetic depression. Along lines 300 E and 400 E are several anomalies which appear to have been faulted and displaced along the lines.

Just to the south of the northern boundary is an area that is about 150 meters wide and has magnetic values of one hundred to two hundred gammas. South of this zone the background drops to less than one hundred gammas.

To the east of Twenty-Six Mile Creek it is very flat magnetically, with the exception of the south half of line 900 E. These readings vary from one hundred to six hundred gammas.

There are six other anomalies on the grid. They are all very localized; having no strike length. They range in magnitude from three hundred to one thousand gammas in magnitude and do not seem to indicate any sort of geological event or structure.

Electromagnetic Anomalies:

(see MAPS NO. 2, 3 and 4) At 600 W - 400 N there is a conductor with no strike length, which may extend to the west.

At 100 W - 150 S to 400 W - 150 S there is a flat lying conductor coincident with the filtered VLM - EM conductor presented by Hogg (1983, MAP NO.3) and with an old trench that showed minor gold values which is located at 250 W - 175 S (Hogg, 1983, MAP NO.1).

The response which goes from 100 W - 325 N to 400 E - 100 N indicates two conductors. These are fifty meters apart at the west and spread to about seventy five meters apart to the east. These profiles are coincident with the inferred contacts described by Hogg between the Gabrro and the recrystallized rocks.

At 200 W - 150 N to 100 W - 75 N there are two responses divided by about seventy five meters.

There appears to be an indication of something on line 900 E but the survey line is not long enough to allow anything definitive to be said.

CONCLUSIONS:

The EM conductors that are shown on maps no. 2, 3 and 4 generally agree with the Fraser filtered VLF - EM data presented by Hogg (1983, MAP NO. 3). However it should be noted that none of the conductors shows a good conductor response. The ratio of in phase minima/out of phase minima is much less than unity in all cases. This could be partially caused by conductive burden, but the overburden on this property is very thin in most places. It

probably means that the profiles are caused by sources that are poorly conductive. The responses are not very broad (less than one coil spacing) and so are probably caused by very thin conductors. The maximum depth to each would be about one hundred meters.

At about 350 E the magnetics (MAP NO.1) supports the idea of an approximately north — south striking fault, with a right — hand strike slip of about two hundred meters. A Gabbro unit (hogg, 1973, MAP NO.1) is reflected by a magnetic zone of 1500 gammas in magnitude along the northern boundary. To the south of the Gabbro and paralled to it is an area where the background is one hundred to two hundred gammas. This covers the same area as the EM anomalies that run from 100 W — 325 N to 400 E — 100 N. Supporting the idea that this is a continuous zone but, as mentioned previously, these EM responses are those of poor conductors.

CERTIFICATE OF QUALIFICATION:

I BILL GOBLE, of the Ville de Pierrefonds, Province de Quebec, Canada, do hereby certify that:

- (1) I am a practicing Geoscience Data Technician, consulting from my residence at 9860 Boul. Gouin Ouest, Pierrefonds, Quebec.
- (2) I am a graduate of Sir Sandford Fleming College, Lindsay, Ontario, having received a diploma in Geoscience data in 1985. I have been practicing in the fields of exploration and development, particularly in the field of geophysics since 1977.
- (3) I have knowledge of, and experience in the area in which the Kamiskotia property of Legion Resources ltd., is located, and have conducted the surveys described in this report.
- (4) I have no interest, direct or indirect in the property on which this report is written, nor in Legion Resources 1td.; nor do I expect to receive any.

Dated in Pierrefonds, Quebec, this 19th day of July 1985.

B. Hall

BILL GOBLE GEOSCIENCE DATA TECHNICIAN

APPENDIX:

Technical Data Statement:

Type of Surveys: Magnetic and Electromagnetic

Township: Robb

Claim Holders: LEGION RESOURCES LTD.

AUTHOR OF REPORT: BILL GOBLE

ADDRESS: 9860 BOUL. GOUIN O.

APT. 320

PIERREFONDS, QUEBEC.

H8Y 3H2

Covering dated of surveys:

- (A) magnetic; May 25, 1985 May 27, 1985.
- (B) electromagnetic; June 2, 1985 June 6, 1985.

MINING CLAIMS TRAVERSED:

P 724 997

P 724 998

P 725 002

P 725 003

P 725 004 (total claims = five)

CREDITS REQUESTED:

SURVEY DAYS PER CLAIM

MAGNETIC 20

ELECTROMAGNETIC 20

Ground Surveys:

Number of stations <u>404</u> number of readings <u>1431</u> Station Interval <u>25 meters</u>

Line spacing100 meters

Contour interval 100 gammas for magnetic survey

Profile scale $\frac{1}{1}$ cm = $\frac{10\%}{10\%}$ for electromagnetic survey

Magnetic:

Instrument <u>GEOMETRICS</u> <u>G</u> 826

Accuracy + - 10 gammas

Diurnal correction method: Looping with basestation tie-ins on the baseline .

Base Station location - the Baseline

Electromagnetic

Instrument Apex Parametrics MAX MIN 11 EM

Coil Configuration Horizontal Loop, maximum coupled

Coil Seperation 200 meters

Accuracy + - 1%

Frequency <u>3555 Hz</u>, <u>1777 Hz</u>, <u>888Hz</u>

Parameters measured <u>In Phase and out of Phase components of the</u>
secondary field in percent of the primary field.

REFERENCES:

Ferguson, S. A., Groen, H. A., and Haynes, R.

1971: Gold Deposits of Ontario: Part 1, Districts of Algoma, Cochrane, Kenora, Rainy River, and Thunder Bay; Ontario

Division of Mines, MRC13 315 p. (reprinted 1982).

HOGG, G. M.

1983: A report on The Kamiskotia Property of Opex Resources
Inc., Robb Township, Ontario, 15 p.

SPROULE, R.

1983: Geological Map of the Kamiskotia Property of Vatco Exploration ltd..

O.M.N.R. Claim MAP.

1983: Claim map of Robb Township Ontario, No. M. 309.

For the records of the Ministry of Natrual Resources, Province of Ontario.

Concerning the qualifications of:

MR. BILL GOBLE

9860 BOUL. GOUIN O.

PIERREFONDS, QUEBEC.

I have been involved in the exploration and development industry for the past eight years, primarily in the field of geophysics.

I have experience in the following regions: Cordilleran Orogen, Grenville, Superior, Slave and Churchill provinces.

I have been involved in the search for: Volcanogenic and Strataform massive sulphides, Uranium in Sedimentary Unconformities, Precious Metals in Banded Iron Formations, Chromite in Alpine Ultramafics.

I hold the following diplomas:

Geoscience Data Technician: Sir Sandford Fleming College, Lindsay, Ontario. 1985.

Prospector Training Program: Laronge Community College, Laronge, Saskatchewan. 1978.

Respectfully submitted

B. Doll



Ministry of Natural Resources

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

W8506-189



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I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed befeto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.								
Name and Postal Address of Person Certifying BILL GOBLE APT. 320 9860 BOYL. GOUIN O. PIERREFONDS P.Q.								
BILL GOBLE APT. 320 9860 BOYL. GOUIN O. PIERREFONDS P.Q. Date Certified Way 28, 1985 B. Sall								
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Ministry of Natural Resources

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

Instructions: - Please type or print.

If number of mining claims traversed

exceeds space on this form, attach a list.

Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.

Certified by (Signature)

Date Certified

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Geotechnical Report Approval

File 2	.8	2	96

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_	Mining Lands Com	ments			
	- are	Mr Goble's qualifications	acceptable f	or assessment p	urfloses?
X	To: Geophysics	R. BARLOW			
	Comments				
	Approved	Wish to see again with corrections	Date July 31	185 Signature	RL
	To: Geology - Exp	enditures	<u> </u>		
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	To: Geochemistry				
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	Approved	Wish to see again with corrections	Date	Signature	
	To: Mining Lands	Section, Room 6462, Whitney Block.	(Tel: 5-1380)		

5500 Tomken Road Unit #16 Mississauga, Ontario L4W 1P2 Dear Sirs: Mining Claims P 724997, et al. in Robb Township I have not received the reports and maps (in duplicate) for the Geophysical (Magnetometer) Survey on the abovementioned claims. As the assessment "Report of Work" was recorded by the Mining Recorder on May 28, 1985 the 60 day period allowed by Section 77 of the Mining Act for the submission of the technical reports and maps to this office will expire on July 27, 1985. If the material is not submitted to this office by July 27, 1985, I will have no alternative but to instruct the Mining Recorder to delete the work credits from the claim record sheets. For further information, please contact Mr. Arthur Barr at (416)965-4888. Yours sincerely, S.E. Yundt Director Land Management Branch Whitney Block, Room 6643 Queen's Park Toronto, Ontario M7A 1W3 Phone: (416)965-4888 A. Barr:mc cc: Bill Goble Mining Recorder CCI Apartment 320 Timmins, Ontario 9860 Boul. Gouin O. Pierrefonds, Quebec **H8Y 3H2**

Report of Work #189

d. 190

REGISTERED

July 17, 1985

Legion Resources Ltd.

BILL GOBLE 9860 BOUL. GOUIN O. APT. 320 PIERREFONDS, QUEBEC H8Y 3H2 (514) 635-3016

BRUCE HANLEY CLAIMS RECORDER TIMMINS REGION

RECEIVED

JUL 2 3 1985

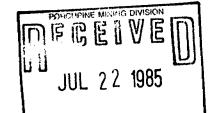
MINING LANDS SECTION

Dear Mr. Hanley, Please find enclosed duplicate copies of the assessment report for the Kamiskatia Property of Legian Resources Utd. in Rall trop.

you will also find two copies of my qualifications and one copy each of the Report of work forms I filed with your

Feel free to contact me at the above address if there are any questions.

Respectfully submitted B. Stalle



Post dated 19/07/85

Mining Lands Section Control Sheet

File No. 2.8296

TYPE OF SURVEY GEOPHYSICAL
GEOLOGICAL
GEOCHEMICAL
EXPENDITURE

MINING LANDS COMMENTS:
Send to Roger regarding Qualifications

Lgd.

Signature of Assessor

Date

< Robby

