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# WORK REPORT On the MULLOY PROJECT ROWLANDSON TOWNSHIP FEAGAN LAKE AREA PORCUPINE MINING DIVISION <br> For <br> CARIBOU KING RESOURCES INC. 

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## INTRODUCTION

The following report will deal with the results of magnetometer and HLEM surveys carried out on the Mulloy Project, located in the Feagan Lake area and Rowlandson Township, Porcupine Mining Division. This program was initiated as follow-up to a diamond drill hole drilled buy Shell Canada in 1978 which reported intersecting 40 meters of graphitic schist. The property consists of 16 contiguous, unpatented, block mining claims ( 249 units) located in the Feagan Lake area and Rowlandson Township, Porcupine Mining Division, Ontario (Figure \#3). This work was carried out by Vision Exploration on a contract basis on behalf of Caribou King Resources and was performed between November $24^{\text {th }}$ and December $20^{\text {th }}, 2013$.

The purpose of this program was to reproduce the drill results reported by Shell Canada in 1997. In order to located the Shell drill hole the plan map from the assessment file was used. This however, was based on topography as GPS technology was not available at the time. The drill hole was located as accurately as possible using the data available and one reconnaissance grid line was established over that location. This line was then surveyed with magnetometer and HLEM to determine if the geophysical response might match the target drilled by Shell. After this, a chainsaw cut grid was established over a larger area was surveyed with magnetometer and HLEM surveys.

This report will deal with the results of the magnetometer and HLEM surveys mentioned above.


Mulloy Project Location Map
Figure \#1

## LOCATION AND ACCESS

The Mulloy Project is made up of 16 block claims located primarily in the eastern portion of Rowlandson Township with the extreme eastern part of the block extending in to the Feagan Lake area, Porcupine Mining Division, District of Cochrane, Ontario

The property is located 85 kilometres west-southwest from the town of Hearst, Ontario. Access to the work area was gained by taking Hwy 11 west from the town of Hearst for approximately 70 kilometres to Fushimi Lake Road. This road heads north from the Hwy and provides access to a network of logging roads. At about the 20 kilometre point, this roads provide access to the southern portion of the block. These roads are not maintained and it was necessary to have them cleared of snow during the work period

## PERSONNEL

The following people were directly involved in carrying out the geophysical surveys.

| Steve Anderson | Geological Technologist | Timmins, Ontario |
| :--- | :--- | :--- |
| Aurel Chaumont | Geophysical Operator | Timmins, Ontario |
| Lanny Anderson | Geophysical Operator | Timmins, Ontario. |

## PREVIOUS WORK

This is the first phase of work to be carried out on this property by Caribou King Resources.
A search of the assessment files indicated that Shell Canada drilled a single hole on the property in 1978. Hole number 7609-78-9 was drilled to a depth of 161.65 meters and reported intersecting 40 meters (two 20 meter intervals) of graphitic schist. It also reported that the hole was drilled based on the location of a geophysical target, however, the geophysical data could not be located.


## CLAIMS

The sixteen unpatented block mining claims that make up the Mulloy Project are located within the Porcupine Mining Division, District of Cochrane, Ontario.

| Claim\# | \# of units | Township |
| :--- | :---: | :--- |
| 4278243 | 16 | Feagan Lake Area |
| 4278245 | 16 | Feagan Lake Area |
| 4278246 | 15 | Feagan Lake Area |
| 4278247 | 10 | Feagan Lake Area |
| 4261216 | 16 | Rowlandson Twp. |
| 4261217 | 16 | Rowlandson Twp. |
| 4261228 | 16 | Rowlandson Twp. |
| 4261278 | 16 | Rowlandson Twp. |
| 4262283 | 16 | Rowlandson Twp. |
| 4273056 | 16 | Rowlandson Twp. |
| 4273057 | 16 | Rowlandson Twp. |
| 4273058 | 16 | Rowlandson Twp. |
| 4273059 | 16 | Rowlandson Twp. |
| 4278241 | 16 | Rowlandson Twp. |
| 4278242 | 16 | Rowlandson Twp. |
| 4278244 | $\underline{16}$ | Rowlandson Twp. |
| 16 Claims | 249 |  |

## WORK PROGRAM

The first phase of this work program involved re-establishing the location of the diamond drill hole drilled by Shell Canada in 1978. This was done as accurately as possible by using the topographical featured marked on the drill hole plan map. Once this was done an attempt was made to locate any evidence of an old drill collar or drill pad. No evidence of drilling could be found, therefore a test grid line was cut over the area of interest using axe and machete. This line was then surveyed with magnetometer and HLEM and the results plotted. A total of 4 HLEM conductors were outlined on this test line. A total of 17 km of chain saw grid lines was set up to provide additional coverage. This grid was then surveyed with magnetometer and HLEM. The following is a description of the magnetometer and HLEM surveys and parameters used.


MULLOY PROJECT CLAIM SKETCH
FIGURE \#3

## MAGNETOMETER THEORY

A GEM - GSM 19 Proton Precession magnetometer was used to carry out the magnetometer survey. The instrument is synchronised with a GEM -GSM 19 recording base station to help eliminate magnetic diurnal variation. This should ensure an accuracy of less than 10 Nt .

The Proton Precession method involves energising a wire coil immersed in a hydrocarbon fluid. This causes the protons in the proton rich fluid to spin or precess simulating spinning magnetic dipoles. When the current is removed the protons precess about the direction of the earth's magnetic field, generating a signal in the same coil which is proportional to the total magnetic field intensity. In this way, the horizontal gradient of the earth's magnetic field can be measured and plotted in plan form with values of equal intensity joined to form a contour map.

This presentation is useful in correlating with other data sets to aid in structural interpretation. Individual magnetic
Responses can be interpreted for dip, depth and width estimates after profiling the data.
The following parameters were employed for the survey:
Instrument - GEM GSM 19 Proton Precession Magnetometer
Station Interval - 12.5m
Line Interval-100m
Diurnal Correction Method - GEM GSM-19 Recording Base Station
Data Presentation - Colour Imaged Map

- 1:5000 scale


## HORIZONTAL LOOP SURVEY

The Horizontal Loop EM survey was carried out with an Apex Max-Min II instrument. These surveys are commonly called "Max-Min" surveys in recent times.

The Max-Min II instrument can operate at five frequencies ( $3555 \mathrm{HZ}, 1777 \mathrm{HZ}, 888 \mathrm{HZ}, 444 \mathrm{HZ}$, 222 HZ ). and is capable of coil separations from 25 meters to 200 meters. Although it can be used in the vertical loop mode as well as minimum coupled, it is most often used in the Maximum Coupled, Co-Planer mode which is in effect a Horizontal Loop Electromagnetic Survey.

The instrument records the "In-Phase" and "Out-of-Phase" components of the anomalous resultant field from a conductor as a percentage of the primary field strength. Both components are used in the interpretation of the results. Generally, the larger the ratio of peak negative responses between In-Phase and Out-of-Phase, the higher the conductivity of the anomaly. A ratio of 1:1 is considered a medium conductor.

The purpose of reading more than one frequency is to obtain more information about the conductor itself as well as the conductivity of the overburden etc. The higher frequencies will respond to weaker conductive features such as faults, conductive overburden etc. As a result the signal from these frequencies can attenuate very quickly, possibly not penetrating to the bedrock at all. The lower frequencies having a longer wavelength tend to penetrate deeper and generally only respond to anomalies with a higher order of conductance, Thus as with most geophysical techniques it is a trade off as to depth of penetration vs. conductance threshold detectable. The use of multi frequency surveys helps to alleviate this problem at a minimal extra cost.

The HLEM survey was carried out using the following parameters.
INSTRUMENT: Apex Parametrics, Max-Min II
MODE: Co-planar
PARAMETERS MEASURED: In-phase and quadrature
COIL SPACING: 150 meters
FREQUENCIES: 444 Hz . and 1777 Hz .
LINE INTERVAL: 100 meters
STATION INTERVAL: 25 meters
DATA PRESENTATION: Profiled plan maps, 1:5000
PROFILE SCALE: $1 \mathrm{~cm}=10 \%$

## SURVEY RESULTS

The magnetometer and HLEM surveys were successful in outlining four anomalous conductive zones that should be further tested.

The most northerly zone strikes from L500E/575N to L200W/650N and remains open to the east. It is a moderately strong conductor that shows some width to it between LOE and L200E. There does not appear to be any direct magnetic correlation with this zone.

The north central zone strikes from L500E/225N to L300W/225N and remains open in both directions. As with the previous zone it shows a moderate response with no apparent magnetic correlation.

The south central zone extends from L200E/50S to L300W/50S and shows a moderate response. There is no magnetic trend associated with this zone along its strike length but does have moderate magnetic highs coincident on L100E and 200W.

The southern zone runs from L300E/250S to L300W/300S, remaining open to the east. This zone widens between L100E and L100W where it appears to be situated along a break in a northeast trending magnetic high.

A strong magnetic high response occurs within the southwester portion of the grid from roughly L500W/500S to L200W/350S.

## RECOMMENDATIONS AND CONCLUSIONS

As mentioned under results, four anomalous conductive zones were outlined. At this point in time all four warrant additional testing. It is very difficult at this time to establish any type of priority for the zones.

Since the target of this work program is a graphitic horizon, all four zones should be tested with diamond drilling. If the drill results are encouraging, the grid should be extended to the southwest and surveyed using the same geophysical parameters as this work program.

## CERTIFICATION

I, Steve Anderson of Timmins, Ontario hereby certify that:

1. I hold a three-year Geological Technologist Diploma from Sir Sanford College, Lindsay, and Ontario, obtained in May 1981.
2. I have been practising my profession since 1979 in Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland, NWT, Manitoba, Saskatchewan and Greenland.
3. I have been employed directly with Asamera Oil Inc. Urangellschaft Canada Ltd. Nanisivik Mines Ltd., R.S. Middleton Exploration Services Ltd., Rayan Exploration Ltd and I am currently co-owner of Vision Exploration.
4. I hold a $3 \%$ N.S.R. on the subject property

5 I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experience and on the results of the fieldwork conducted on the property during December 2015.

Dated this $10^{\text {th day }}$ of November, 2015
At Timmins, Ontario.




