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CANADIAN EXPLORATION SERVICES LTD

BATTERY MINERAL RESOURCES LTD.

Q2372a – McAra Project Induced Polarization Survey

C Jason Ploeger, P.Geo. October 18, 2017

BAT-ERY MINERAL RESOURCES

Abstract

CXS was contracted to perform a detailed Pole-Dipole IP survey on the McAra Project. The survey was extremely detailed with a A spacing of 10 meters.

A strong chargeability high and resistivity low signature was acquired. This signature most likely represents a massive sulphide.

BATTERY MINERAL RESOURCES LTD.

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1. SURVEY DETAILS

1.1 PROJECT NAME

This project is known as the McAra Project.

1.2 CLIENT

Battery Mineral Resources Ltd. Level 36 Governor Phillip Tower 1 Farer Place Sydney Australia

1.3 LOCATION

The McAra Project is in Dufferin Township approximately 32 km southwest of Gowganda, Ontario. The survey area covers a portion of mining claim 4283198 and CLM456 located in Dufferin Township, within the Larder Lake Mining Division.



Figure 1: Location of the McAra Project





1.1 ACCESS

Access to the property was attained with a 4x4 truck on the Beauty Lake Road. The Beauty Lake Road heads south from Hwy 560 approximately 23 kilometres west of Elk Lake, Ontario. The Beauty Lake Road was travelled for approximately 50 kilometres to the survey area.

1.2 SURVEY GRID

The grid consists of 5.8 kilometers of previously established grid lines. The grid lines are spaced at 50-meter increments, with stations picketed at 10m intervals.



Figure 2: Claim Map with the McAra Grid





2. SURVEY WORK UNDERTAKEN

2.1 SURVEY LOG

Date	Description	Line	Min Ex- tent	Max Ex- tent	Total Survey (m)
	Locate access and move gear to survey area. Establish infi-				
July 11, 2017	nite and begin survey.	2550E	9350N	9750N	400
July 12, 2017	Continue IP survey.	2550E	9150N	9350N	200
		2500E	9150N	9350N	200
July 13, 2017	Continue IP survey.	2500E	9350N	9750N	400
		2450E	9520N	9750N	230
July 14, 2017	Continue IP survey.	2450E	9150N	9520N	370
		2400E	9150N	9380N	230
July 15, 2017	Continue IP survey.	2400E	9380N	9750N	370
		2350E	9300N	9750N	450
July 16, 2017	Continue IP survey.	2350E	9150N	9300N	150
		9350N	2440E	2850E	410
July 17, 2017	Continue IP survey.	9350N	2150E	2440E	290
		9400N	2150E	2730E	580
July 18, 2017	Continue IP survey.	9400N	2730E	2850E	120
		9450N	2150E	2850E	700
July 19, 2017	Continue IP survey.	9500N	2150E	2850E	700

Table 1: Survey Log

2.2 PERSONNEL

IP Survey

Bruce Lavalley of Britt, Ontario operated the receiver with Neil Jack of Kirkland Lake, Ontario operating the Transmitter. The crew consisted of Claudia Moraga of Britt, Ontario; Shane Polson and Donovan McLeod both of Winneway, Quebec.





2.3 SAFETY

Canadian Exploration Services Ltd prides itself in creating and maintaining a safe work environment for its employees. Each crew member is briefed on the jobsite location, equipment safety, standard operating procedures along with our health and safety manual. An emergency response plan is generated relating to the specific job and with the jobsite predominantly in the field, which is unpredictable, morning safety briefings are essential. Topics are generally chosen based off jobsite characteristics of the area, timing and crew experience.

2.4 INSTRUMENTATION

A 32 channel GDD (GRx8-32) receivers were employed for this survey. The transmitter consisted of a GDDII (5kW) with a Honda 6500 as a power plant.

2.5 SURVEY SPECIFICATIONS

Pole-Dipole Array

The pole-dipole survey configuration was used for this survey. This array consists of 16 mobile stainless steel read electrodes and one current electrode (C1). The fifteen potential electrodes were connected to the receiver by means of the "Snake". The power location C1 was maintained at 20m behind read electrode with C2 being located at an infinite location. The read electrodes had a 10m spacing to a depth of n=15. A two second transmit cycle time was used with a minimum number of receiver stacks of 12.

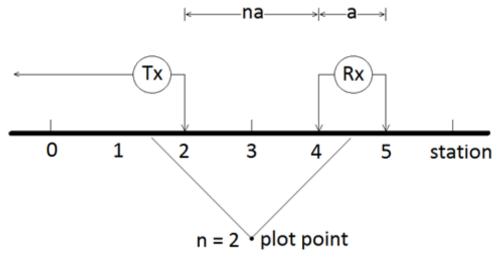


Figure 3: Pole-Dipole Configuration





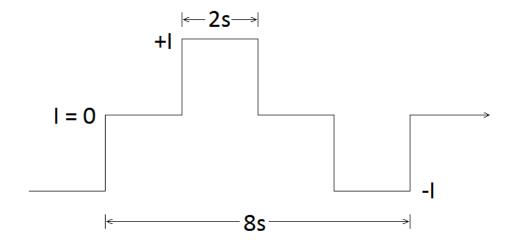


Figure 4: Transmit Cycle Used





3. OVERVIEW OF SURVEY RESULTS

3.1 OVERVIEW

During the month of July 2017, CXS performed a detailed IP survey over the McAra Property. The survey was a pole-dipole survey at n=15 with an A spacing of 10 meters.

3.2 FIELD NOTES AND CULTURE

Extensive evidence of past exploration work was evident. This included multiple drill holes and trenches. No other observable culture that may influence the data was noted within the survey area.

3.3 ANOMALY NOTES

Centrally located within the grid area is a strong chargeability high and resistivity low. The response appears as three nodes.

The west node appears between lines 2350E and 2450Ebetween 9300N and 9450N. This entire node appears as an extreme chargeability high. The central region of the node appears as a resistivity low. This most likely represents a more disseminated massive sulphide with a more massive type central region.

The east node appears between lines 2450E and 2600E between 9350N and 9450N. This node appears to be represented by a strong chargeability signature and low resistivity signature throughout the anomaly. This may indicate the presence of a massive sulphide.

The northern node falls from between 9450N and 9550N between 2500E to 2650E. This node has similar characteristics to the eastern node and is most likely related to it. There appears to be a break in the signature between lines 9450E and 9500E, which is most likely a late intrusive such as a dike.

3.4 RECOMMENDATIONS

I would recommend extending the detail survey area to the east and west. This would constrain the anomalies. I would also recommend cutting a larger exploration grid through the area to determine if this is a unique anomalous area.





APPENDIX A

STATEMENT OF QUALIFICATIONS

- I, C. Jason Ploeger, hereby declare that:
- 1. I am a professional geophysicist with residence in Larder Lake, Ontario and am presently employed as a Geophysicist and Geophysical Manager of Canadian Exploration Services Ltd. of Larder Lake, Ontario.
- 2. I am a Practicing Member of the Association of Professional Geoscientists, with membership number 2172.
- 3. I graduated with a Bachelor of Science degree in geophysics from the University of Western Ontario, in London Ontario, in 1999.
- 4. I have practiced my profession continuously since graduation in Africa, Bulgaria, Canada, Mexico and Mongolia.
- 5. I am a member of the Ontario Prospectors Association, a Director of the Northern Prospectors Association and a member of the Society of Exploration Geophysicists.
- 6. I do have an interest in the properties and securities of **Battery Mineral Re**sources Limited
- 7. I am responsible for the final processing and validation of the survey results and the compilation of the presentation of this report. The statements made in this report represent my professional opinion based on my consideration of the information available to me at the time of writing this report.



C. Jason Ploeger, P.Geo., B.Sc. Geophysical Manager Canadian Exploration Services Ltd.

> Larder Lake, ON October 20, 2017





APPENDIX B

THEORETICAL BASIS AND SURVEY PROCEDURES

Induced Polarization Surveys

Time domain IP surveys involve measurement of the magnitude of the polarization voltage (Vp) that results from the injection of pulsed current into the ground.

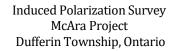
Two main mechanisms are known to be responsible for the IP effect although the exact causes are still poorly understood. The main mechanism in rocks containing metallic conductors is electrode polarization (overvoltage effect). This results from the buildup of charge on either side of conductive grains within the rock matrix as they block the flow of current. On removal of this current the ions responsible for the charge slowly diffuse back into the electrolyte (groundwater) and the potential difference across each grain slowly decays to zero.

The second mechanism, membrane polarization, results from a constriction of the flow of ions around narrow pore channels. It may also result from the excessive build up of positive ions around clay particles. This cloud of positive ions similarly blocks the passage of negative ions through pore spaces within the rock. On removal of the applied voltage the concentration of ions slowly returns to its original state resulting in the observed IP response.

In TD-IP the current is usually applied in the form of a square waveform, with the polarization voltage being measured over a series of short time intervals after each current cut-off, following a short delay of approximately 0.5s. These readings are integrated to give the area under the decay curve, which is used to define Vp. The integral voltage is divided by the observed steady voltage (the voltage due to the applied current, plus the polarization voltage) to give the apparent chargeability (Ma) measured in milliseconds. For a, given charging period and integration time the measured apparent chargeability provides qualitative information on the subsurface geology.

The polarization voltage is measured using a pair of non-polarizing electrodes like those used in spontaneous potential measurements and other IP techniques.













APPENDIX C

GDD - GRx8-32 Channel Receiver



Specifications

Total weight (including shipping box and accessories)	23 kg
IP Receiver weight	7 kg
Total dimension	68 x 40 x 24 cm
Operating temperature	-40° C to +60° C (-40° F to +140° F)
Dipole number	Up to 32 dipoles simultaneously
Type of surveys	Surveys 1D, 2D and 3D





Adjustment	Automatic synchronization, SP compensation, gain set- ting and stacking				
ADCs	24-bit				
Gain	From 1 to 1 000 000 000 (109)				
Synchronization	Automatic and re-synchronization process on primary voltage signals				
Twenty programmable chargeability windows	Arithmetic, logarithmic, semi-logarithmic, Cole and user defined				
Noise reduction	Automatic stacking number				
Main values read by the GDD IP Receiver	Apparent resistivity chargeability, standard deviation, % of symmetrical Vp, etc				
Battery	Internal Lithium-Ion batteries and optional external Lith- ium-Ion battery pack				
Enclosure	Heavy-duty Pelican case, environmentally sealed				
Compatibility	Field device like Allegro ² of Juniper Systems Inc.				
Electrical characteristics					
Ground resistance	Up to 1.5 MΩ				
Signal waveform	Time domain: ON+, OFF, ON-, OFF Time base: 0,5, 1, 2, 4, 8 et 16 sec				
Input impedance	5 G Ω at 0.125 Hz and 130 M Ω at 7 Hz				
Primary voltage	\pm 10µ to \pm 15V for any channel				
Protection	500V (on each channel)				





Input	True differential for common mode rejection in dipole configuration
Voltage measurement	Resolution 1µV, Accuracy $\leq 0,15\%$
Chargeability measure- ment	Resolution 1 μ V/V, Accuracy ≤ 0.4%
SP offset adjustment	Automatic compensation through linear drift correction per steps of 150 μ , with resolution of 1μ V
Filter	Eight-pole Bessel low-pass 15Hz, notch filter 50 and 60Hz





APPENDIX C

GGD II 5kW



SPECIFICATIONS

- Protection against short circuits even at 0 ohms
- Output Voltage range: 150V to 2400V in 14 steps
- Power source is a standard 220/240V, 20/60 Hz source
- Displays electrode contact, transmitting power and current

ELECTRICAL CHARACTERISTICS

- Standard Time Base of 2 seconds for time domain 2 seconds on, 2 seconds' off
- Optional Time Base of DC, 0.5, 1, 2, 4 or 8 seconds
- Output Current Range, 0.030 to 10A
- Output Voltage Range, 150 to 2400V in 14 steps
- Ability to Link 2 GDD transmitters to double power output

CONTROLS

- Switch ON/OFF
- Output Voltage Range Switch: 150V, 180V, 350V, 420V, 500V, 600V, 700V, 840V, 1000V, 1200V, 1400V, 1680V, 2000V and 2400V

DISPLAYS

• Output Current LCD: reads +- 0.0010A





- Electrode Contact Displayed when not Transmitting
- Output Power Displayed when Transmitting
- Automatic Thermostat controlled LCD heater for LCD
- Total Protection Against Short Circuits
- Indicator Lamps Indicate Overloads
- •

GENERAL SPECIFICATIONS

- Weather proof
- Shock resistant pelican case
- Operating temperature: -40 °C to +65 °C
- Dimensions: 26 x 45 x 55 cm
- Weight: 40 kg





APPENDIX D

LIST OF MAPS (IN MAP POCKET)

Posted Contoured Pseudo-Sections (1:2000)

- 1) Q2372a-Battery-McAra-IP-PDp-9350N
- 2) Q2372a-Battery-McAra-IP-PDp-9400N
- 3) Q2372a-Battery-McAra-IP-PDp-9450N
- 4) Q2372a-Battery-McAra-IP-PDp-9500N
- 5) Q2372a-Battery-McAra-IP-PDp-2350E
- 6) Q2372a-Battery-McAra-IP-PDp-2400E
- 7) Q2372a-Battery-McAra-IP-PDp-2450E
- 8) Q2372a-Battery-McAra-IP-PDp-2500E
- 9) Q2372a-Battery-McAra-IP-PDp-2550E

Grid Sketch (1:20000)

10) Q2372a-Battery-McAra-Grid

TOTAL MAPS = 10

