



AURORA GEOSCIENCES

NORTHERN GEOLOGICAL & GEOPHYSICAL CONSULTANTS

YELLOWKNIFE - WHITEHORSE - JUNEAU

34A Laberge Road, Whitehorse, Yukon, Canada Tel (867) 668-7673 Fax (867) 393-3577

MEMORANDUM

To: Dennis Ouellette **Date:** June 8th 2012
From: Shawn Scott, Aurora Geosciences Ltd.
Re: 2012 Induced Polarization & Magnetic Survey Field Report

This memorandum is a field report describing the expanding pole-dipole induced polarization (IP), gradient IP and total magnetic field (Mag) surveys conducted in the "D zone" of the Del property, Yukon Territory, from May 27th until June 2nd 2012.

The Del Claims are located approximately 50km NW of Carmacks, immediately west of the Yukon River and only a few kilometres from the North Klondike highway. The camp was located in the west end of the claims in the "D zone" at 406700E and 6925600N UTM Z8 NAD 83 coordinates.

The crew left Whitehorse on the morning of May 26th and drove to TNTA Carmacks. From here, fuel was brought to the staging area located at approximately 414000E and 6928500N UTM Z8, 8km from camp. Using the chartered TNTA Bell 206 the gear was slung to the site, leaving the truck behind until the completion of the survey on June 2nd 2012. Daily access to the grid from camp was by foot.

A total of 3.75km of line were cut and picketed at 50m spacings and at a line azimuth of 250 degrees E of N. The three 1.25km lines were then surveyed both with an expanding pole dipole IP setup and a modified gradient IP setup before the Mag survey was conducted. Additionally, the eastern 1km of line 100 was surveyed with an alternate array geometry using non-collinear current injection and potential electrode sites.

The terrain, though steep in some places, presented no significant barriers to the safe and efficient implementation of the survey.

A full survey log is attached to this report including a summary of IP, magnetometer, and line-cutting production.

Crew and equipment.

The line cutting, IP and Mag were conducted by the following personnel:

Dave Hildes	Project manager
Shawn Scott	Crew chief
Micheal Cunningham	Helper
Micheal Murdock	Helper

The crew was equipped with the following instruments and equipment:

IP receiver	1	Iris Elrec Pro S/N: 2315-275830063-165
IP transmitter	1	GDD TxII 3.6 kW S/N: TX-242
Generator	1	Honda 5kW
IP tool box	1	Repair tools and spare parts
IP Equipment	6km	18 gauge wire
	24	50m 10 conductor cables
	2	Geo-Reels w/spools
	2	Speedy winders w/spools

	24	Stainless steel electrodes
Laptops with Geosoft IP packages	1	FL-115
4 man Summer camp	1	
Office Box	1	
Chainsaws	3	Husqavarna 353
Chainsaw safety gear	3	Helmet, visor, chaps
Chainsaw tool box	1	Repair tools and spare Parts
GEM Magnetometers	3	S/N:708719 (rover) S/N:706694 (base) S/N:45335 (spare)

Survey Specifications

Line cutting:

Width	1.5 m width maximum and cleared to ground.
Station Spacing	50 m
Station Marking	Marked with tagged half-length pickets. Line/station coordinates written on the tags and stapled to the pickets
Chaining	All stations tight chained, not slope corrected
Alignment and registration	Stations at 250 m intervals located with a non-differential GPS receiver in UTM NAD83 coordinates, averaged for a minimum 60sec with an estimated accuracy of less than 10m.

Total magnetic field:

Station spacing	12.5m, relative to chained station pickets
Base mag location	406672E 6925620N UTM Z8
Base mag time cycle	3 sec
Quality Control	No readings exceeded the set rejection threshold of 3nT per 3sec. The highest variation encountered between base station readings was only 0.2nT.

Induced-Polarization:

Array	Modified pole-dipole array, modified gradient and non-collinear 3D array.
Dipole spacing	50 m on all lines
Dipoles Read	N=1 through 10 (10 Channels)
TX	Time domain / 0.125 Hz / 50% duty cycle / reversing polarity (2 s positive -2 s off - 2 s negative - 2 s off)
RX	Receiver sampling: 20 channels / semi-logarithmic channel width / sampled minimum 15 times per reading.
Parameters read	Mt - total chargeability (mV/V) Ro - apparent resistivity M1 to M20 - 20 channel samples of decay curve Vp - Primary voltage Sp - spontaneous potential E - error in chargeability (mV/V)
Noise	Standard deviation of the chargeability to be kept to 5 mV/V or less wherever possible. If this is not possible, readings were repeated multiple times to determine their repeatability.

Stationary
Electrodes

000 -100 406218 6925191 (L000 PL/DP)

100 -100 406192 6925280 (L100 PL/DP)

200 -100 406167 6925371 (L200 PL/DP)

100 1105 407311 6925696 (Gradient Original)

100 1350 407543 6925783 (Gradient Extended Lines)



Data processing

Induced-Polarization:

Data was downloaded nightly from the receiver and imported into Geosoft Oasis Montaj IP package. Every reading was inspected and readings which did not repeat were rejected from the database. Apparent resistivity was recalculated using a four electrode equation assuming a homogeneous earth. Average apparent chargeability was calculated using a weighted mean based on the number of stacks and the standard deviation of the chargeability.

GPS points were created from the target area by means of picketed lines and handheld GPS units to record Rx electrode locations and the location of the stationary electrodes. Any stations not measured by GPS were determined by interpolation.

Pseudosections of apparent chargeability, apparent chargeability error, and apparent resistivity draped over topography were produced with Oasis Montaj.

Total magnetic field:

The magnetic data from the rover was diurnally corrected using GEM 3.0 software. GPS points from the IP survey were used and coordinated for stations in between GPS points were determined by interpolation

Products.

The following data files are appended to the digital version of this report:

Data	Final data in Geosoft ASCII XYZ and gdb format. The GPS files have all GPS coordinates taken in NAD83, UTM zone 8N coordinates.
Figures	Pseudo sections in .PDF and packed Geosoft map formats of apparent chargeability, apparent resistivity, & chargeability error. A plotted grid map of TMF, Modified Gradient IP, Modified Gradient Apparent Resistivity and survey locations.
Raw	A folder with all raw instrument and GPS-location dump files.
Del Geophysics 2012.pdf	A PDF of this report.
Del IP and LC Field Production Summary.pdf	Survey log

Respectfully submitted,
AURORA GEOSCIENCES LTD.

Shawn Scott