



**Whitehorse Office**  
34A Laberge Road  
Whitehorse, YT  
Y1A 5Y9

Phone: (867) 668-7672  
Fax: (867) 393-3577  
[www.aurorageosciences.com](http://www.aurorageosciences.com)

## MEMORANDUM

**To:** Mike Burke, GPD Corp Canada **Date:** Nov 17, 2011  
**From:** Liam Fowlie  
**Re:** 2011 Sleeman Zone Induced Polarization Survey Field Report

---

This memorandum is a field report describing a modified pole-dipole IP survey conducted on the Sleeman Zone on the Brewery Creek property 40km south of Dawson, Yukon Territory. The lines were cut from Sept 16<sup>th</sup> to Oct 11<sup>th</sup> and the IP survey was conducted from October 12<sup>th</sup> to November 15<sup>th</sup>, 2011.

The Sleeman Zone was located 6 km north-east of Brewery Creek Camp. The line cutting was initially conducted out of a small camp on the grid at coordinates 640267E and 7105645N UTM Zone 7N but the crew moved to the Brewery Creek Camp part way through the survey. The grid was accessed by means of a truck and ATVs.

Prior to the survey 19.8km of cut and picketed lines were installed at a line azimuth of 61 degrees E of N.

19.7 km of modified pole dipole IP data was collected on lines 0 to 2000 of the survey area over 33 days. A full survey log is attached to this report including a summary of IP and line-cutting production.

50m -10 conductor cables were initially used for the IP-array until the weather conditions dropped below normal operating temperature for this equipment to function properly (-10C). This necessitated that the crew move to a 10 channel wire bundle for IP data acquisition.

Due to the snow and steep terrain, supplemental equipment was shipped in to continue the survey as the 10 channel wire bundle was insufficient for timely data acquisition. Lines 1000, 1800 and 2000 were surveyed using a combination of winter weight 50m – 6 conductor cables and a 200m wire bundle used to receive

data on the first 4 channels of the IP array. This was used successfully to overcome earlier problems with the 10 channel – 500m wire bundle.

#### **A. Crew and equipment.**

The line cutting was conducted by the following personnel.

JP Lemire	Crew chief	Sept 16 2011 – Sept 30 2011
Sam Lemay	Crew chief / lead cutter	Sept 21 2011 – Oct 11 2011
Bruce Germaine	Lead cutter	Sept 29 2011 – Oct 11 2011
Sylvie Gewehr	Helper	Sept 16 2011 – Oct 11 2011
Corey Straker	Helper	Sept 21 2011 – Sept 30 2011
Jesse Wilson	Helper	Sept 29 2011 – Oct 11 2011

The IP survey was conducted initially by 4 of the following personnel with one crew change to include one more person to help with the wire bundle.

Liam Fowlie	Crew chief	Oct 12 2011 – Nov 15 2011
Mac Clohan	Helper	Oct 12 2011 – Nov 15 2011
Jessica Bulmer	Helper	Oct 12 2011 – Oct 24 2011
Josh LeBlanc	Helper	Oct 12 2011 – Nov 15 2011
Denis Bulmer	Helper	Oct 23 2011 – Nov 15 2011
Allan Lee	Helper	Oct 23 2011 – Nov 15 2011

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-267
Generator	2	Honda 5kW generator
IP equipment	2	Repair tools & spare IP parts
	6 km	18 gauge wire
	26	10 conductor 50m IP cables
	21	6 conductor 50m IP cables(winter weight)
	5	VHF handheld radios
		Geo-reels & spools, Speedy

		winders and spools, stainless steel electrodes
	1	Laptops with Geosoft IP packages
Other	1	4 man Summer camp
	2	Garmin 76 and 60 GPS units
	3	ATV's
	1	Truck
	3	Chainsaws (linecutting)

## B. IP survey specifications.

The modified pole-dipole IP surveys were conducted according to the following specifications:

Array	Modified Dipole-Dipole Array
Dipole spacing	50 m on all lines
Dipoles Read	N=1 through 10 (10 Channels)
TX	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.
Stacks	Minimum 15
RX error	a standard deviation of 5 mV/V or less, otherwise repeated several times until repeatability assured
Grid registration	Lines were cut and picketed according to the clients specification and handheld GPS units were used to mark the location of Rx electrodes and current injection points.

## C. Data processing.

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.

The ground provided clear and consistent readings. There was contact difficulty on L2000 from stations 0 to 100 which prevented data acquisition in that area. Otherwise there was good signal to noise and data quality.

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.

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

## F. 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 7N coordinates.
Figures	Pseudo sections in .PDF and packed Geosoft map formats of apparent chargeability, apparent resistivity, & chargeability error (scale = 1:15000).
	Stacked sections in .PDF and packed Geosoft map formats of apparent chargeability and apparent resistivity (scale = 1:30000).
	A grid map of the surveyed locations
Raw	A folder with all raw instrument and GPS-location dump files.
Sleeman Zone 2011 IP field report.pdf	A PDF of this report.
GPD-11572-YT Brewery Creek IP Daily Log.pdf	Survey logs
GPD-11572-YT Brewery Creek Line Cutting Daily Log.pdf	

Respectfully submitted,  
AURORA GEOSCIENCES LTD.

Liam Fowlie