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# Report on Geochemical Surveys and infill VLF-EM Survey

Nikos Explorations Ltd.

Borden Lake Extension Project, Chapleau, Ontario



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15 June, 2016

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## **1. Summary**

During the period April 15, 2016 to June 15, 2016 Nikos Explorations Ltd. (Nikos) carried out an infill VLF-EM survey, soil sampling and assaying of heavy mineral concentrates of till samples on its Borden Lake Extension Project near Chapleau, Ontario. These investigations aimed to follow up on a successful till sampling program carried out in 2015 across VLF-EM anomalies identified in a 2014 survey.

Concentration of the heavy mineral fraction from the till samples and investigation by microscope resulted in 15 of 19 samples containing visible gold grains, with a maximum of 48 grains found in one sample.

Attempts at geological mapping have been hampered by lack of outcrop in the area. Very few outcrops were found and most of the rock on the property appears to be glacial float and includes many large boulders. Further follow up work aimed to check for responses through the overburden. Initial soil sampling and analysis for soil gas hydrocarbons (SGH) was successful in delineating an anomaly over two lines across the northwest-southeast trending lineaments (Sutherland, 2013). Several conductors were identified by the 2014 VLF-EM survey, the longest of which stretches for 2.2km along the northwest-southeast trend.

The infill VLF-EM survey covered 14.12 line kilometres and confirmed the presence of conductors found in the earlier survey. The assays of heavy mineral concentrates from the till samples show several anomalous values with a high of 386 ppb from the sample with the 48 gold grains. Two lines of soil samples were taken over a portion of the anomalous till samples and across the trend of the VLF-EM conductors. These samples have been submitted for soil gas hydrocarbon analysis (SGH) and mobile metal ion (MMI) assays to determine which technique may be useful for further follow up. Result of the assays have not yet been received.

Further work should be carried out up ice of the anomalous till samples across the VLF conductors. Given the lack of outcrop and the widespread occurrence of glacio-fluvial sand on the property, geophysics will most likely be the best way to follow up the work to date. In particular, line cutting and induced polarization to determine potential drill targets are recommended.

## **2. Introduction**

This report is intended to summarize the work carried out on the Borden Lake Extension project of Nikos for assessment purposes. Work was carried out during a field visits during July 2015. The author conducted the VLF-EM survey.

No previous recorded exploration activity is known on the property, which was staked following the discovery of the Borden Lake gold deposit in 2010. Most of the available information is in the form of government maps and reports.

### 3. Property Access, Description, Location and Title

The property is located approximately 18 kilometres east of Chapleau, Ontario in the Timmins Mining District (Figure 1). Access is via paved Highway 101 that runs between Chapleau and Timmins followed by a gravel logging road that runs approximately north-south through the western part of the property.

It consists of 29 unpatented claims covering an area of 5,456 hectares (Table 1).

Table 1. List of claims making up the Borden Lake Extension property

Claim No.	Claim Units	Area (ha)
4259806	12	192
4259807	8	128
4259808	12	192
4259809	4	64
4259810	15	240
4256761	15	240
4260528	9	144
4260529	16	256
4260530	9	144
4275410	15	240
4275422	15	240
4275423	15	240
4275424	6	96
4275425	6	96
4270214	9	144
4274028	12	192
4274029	14	224
4274030	9	144
4274031	15	240
4274032	8	128
4278461	16	256
4278462	13	208
4278463	16	256
4278464	16	256
4278465	16	256
4278577	16	256
4278578	13	208
4278579	10	160
4278580	1	16
<b>Total</b>	<b>341</b>	<b>5,456</b>

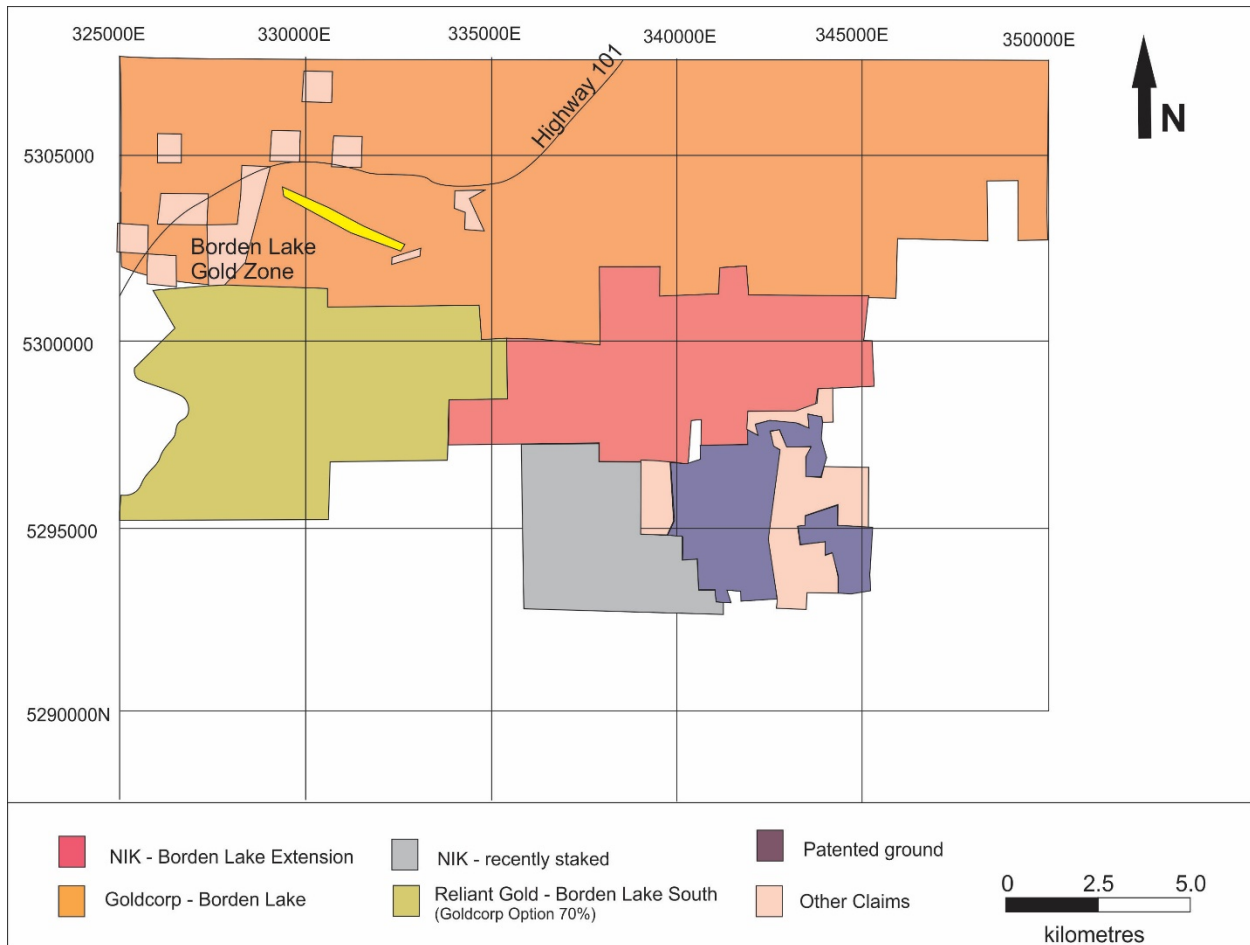


Figure 1. Location of the Borden Lake Extension Property

Nikos has signed two option agreements to earn 100% in all claims comprising the property. The first agreement, signed in December, 2012, gives Nikos the right to acquire a 100% interest in claims 4260528 to 4260530 and 4259806 to 4259810 under the following conditions:

Issue a total of 1,000,000 Nikos shares and pay \$100,000 cash to the Vendors as follows:

- 250,000 Nikos Shares and \$3,000 cash on TSX-V acceptance of the agreement (completed)
- 250,000 Nikos shares and \$15,000 cash on or before 14 December, 2013 (renegotiated and completed by a cash payment of \$6,000 and the issuance of 850,000 Shares)
- 250,000 Nikos shares and \$27,000 cash on or before 14 December, 2014 (completed)
- 250,000 Nikos shares and \$55,000 cash on or before 14 December, 2015 (renegotiated and completed).

Incur cumulative exploration expenditures in the amounts and dates as set out below:

- \$40,000 on or before 14 December, 2013 (completed)
- \$100,000 on or before 14 December, 2014 (completed) and
- \$200,000 on or before 14 December, 2015 (renegotiated and completed).

The vendors retain a 2% NSR royalty, half of which may be bought back by Nikos for \$1 million at any time.

The second agreement was signed on May 13, 2014, and Nikos entered into an option agreement to earn a 100% interest in six claims 4275410, 4275422 to 4275425 and 4270214 under the following terms:

On receipt of TSX-V approval: payment of \$6,000 and issuance of 75,000 Shares (completed);  
On or before May 13, 2015: payment of \$15,000 and issuance of 105,000 Shares (completed);  
On or before May 13, 2016: payment of \$24,000 and issuance of 150,000 Shares (completed);  
On or before May 13, 2017: payment of \$36,000 and issuance of 180,000 Shares;

A 2% NSR, half of which may be bought back for \$1,000,000 and

On receipt of a National Instrument 43-101 compliant report showing an indicated resource of at least 1 million ounces of gold a payment of \$600,000.

Nikos owns the remaining claims 100%.

## **4. Geological Setting and Mineralization**

### **4.1 Regional Geology**

The property is located in the Archean –aged Superior Province of the Canadian Shield and covers variably metamorphosed rocks of the Kapuskasing Structural Zone (KSZ). The KSZ is over 300km long and strikes north east, separating rocks of the Abitibi Subprovince to the east from those of the Wawa Subprovince to the west (Figure 2). The KSZ is separated from the Swayze greenstone belt to the east by the Ivanhoe Lake fault zone. Rocks include mafic gneiss and paragneiss, tonalite gneiss and metaconglomerate as well as intrusions of tonalite, anorthosite and diorite (Heather et al. 1995). In addition three alkali intrusives occur in the region (Percival, 1981).

### **4.2 Property Geology**

Published maps of the area covered by the property show it to be underlain predominantly by metasedimentary gneiss, with minor mafic gneiss and tonalitic gneiss (Percival, 1981). The Lackner Alkalic complex occurs immediately south of the property (Figure 3). The Borden Lake Belt occurs to the northwest and runs for approximately 35km east-west. It is primarily comprised of metasedimentary, including a metaconglomerate, and metavolcanic rocks (Heather et al., 1995).

### **4.3 Mineralization**

There is currently no known mineralization on the Borden Lake Extension property. However, gold mineralization was discovered in 2010 by Probe Mines Ltd. on the adjacent Borden Lake Property held by Goldcorp Inc. Current resources on the property total 4.3 million ounces of gold (Probe Mines Corporate Presentation September 2014). In addition, IAMGOLD's Cote Lake and Jerome deposits, located along the Ridout shear zone in the Swayze Greenstone Belt to the east, contain 8.2 and 1.3 million ounces of gold, respectively (see Figure 2).

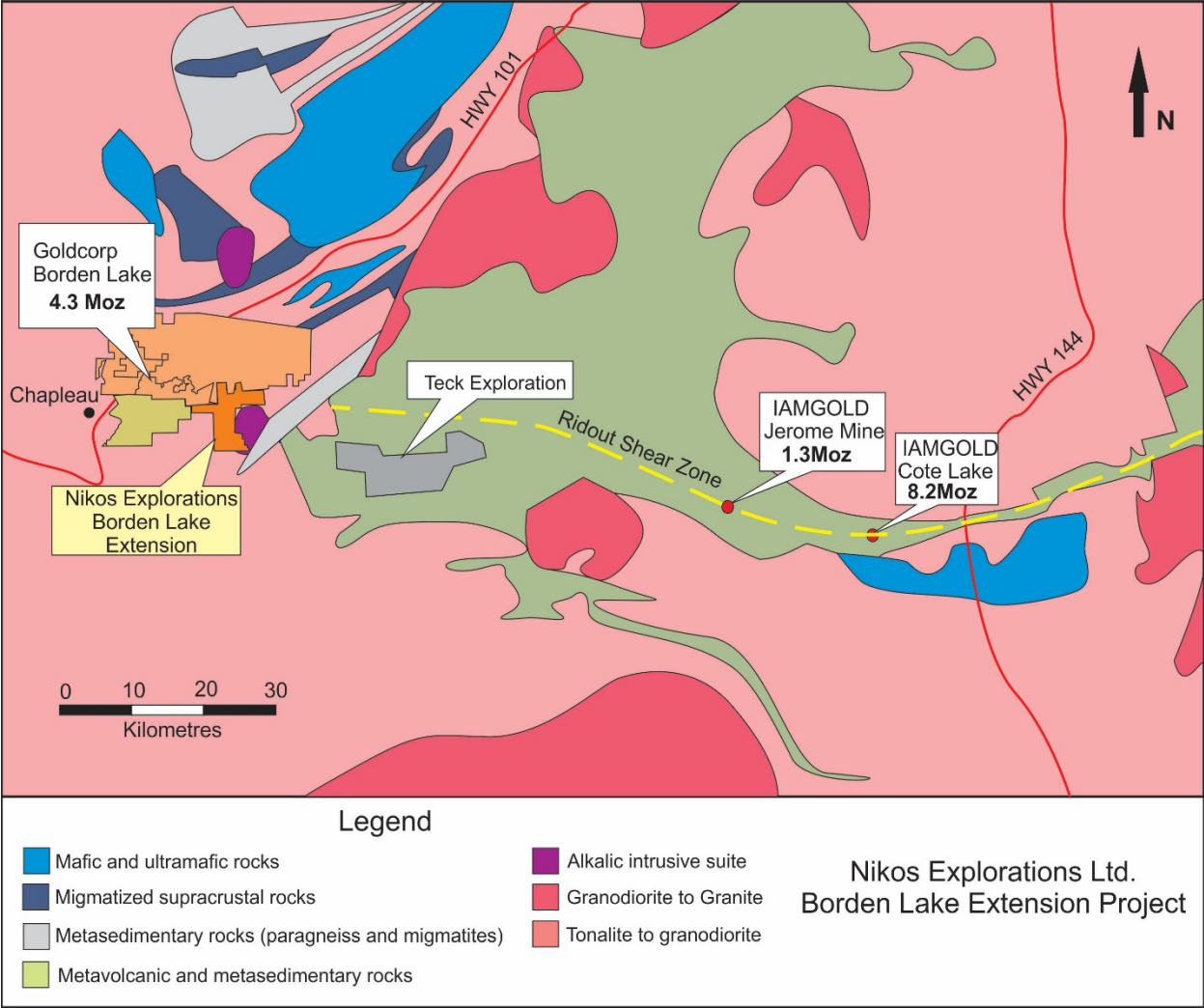


Figure 2. Regional Geology of the area around the Borden Lake Extension project



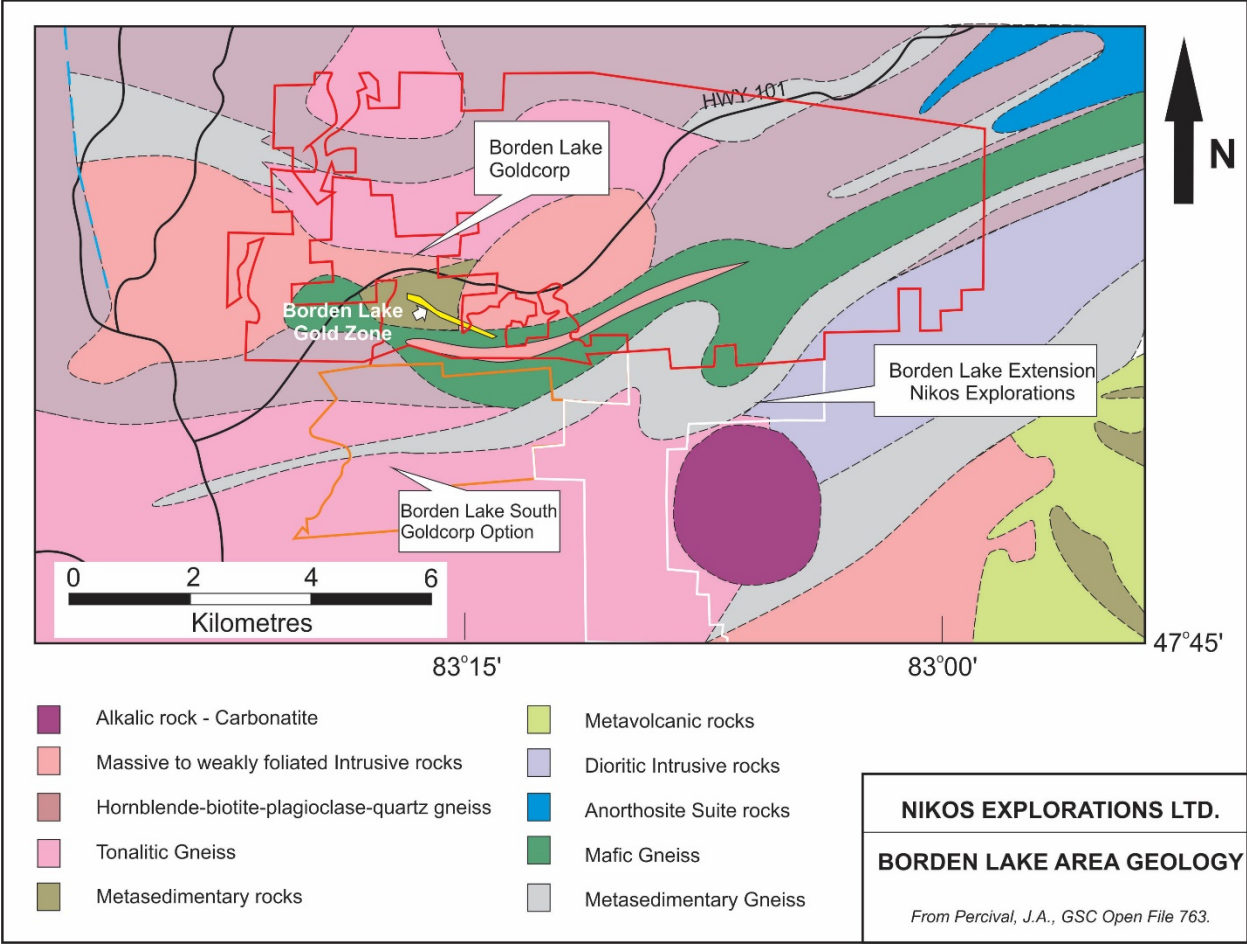


Figure 3 Detailed Geology of the Borden Lake extension area (from Percival, 1981).

## 5. Exploration

### 5.1 VLF-EM

Initially two lines of VLF-EM were run across the SGH anomaly in the north of claim 4260529 in the spring of 2014 to test the potential of the technique to pick up structures related to northwest-southeast trending lineaments. Several conductors were found on both lines and a larger survey was carried out to test the ground to the southeast. A total of 25 line kilometres of VLF-EM was carried out on lines oriented at 020° at a spacing of 200m and 20m station intervals along the lines (Moss, 2014).

An infill program carried out in 2015 covering anomalies in the northern portion of the property covered 6.23 line kilometres between lines 3+00W and 6+50E which resulted in 100m line coverage in this area. Four multi-line VLF anomalies were interpreted over the survey area. The anomalies mostly have a west northwest- east southeast trend similar to the orientation of previously identified magnetic and topographic lineaments in the area.

Following the identification of gold grains in till samples, another infill VLF-EM survey was completed to cover the area of the anomalous samples. The survey consisted of a total of 14.12 line kilometres down to a line spacing of 50 metres in the area of the most anomalous till samples (Figure 4). Details of the survey are given in Appendix 1.

Results indicate continuity of bedrock anomalies between the previous 200m line spacing. In particular, one of the anomalies is located to the north of the highest gold grain count in till samples (Figure 5) and represents a good follow up target.

## **5.2 Heavy Mineral Concentrates**

Following the identification of the gold grains in the till samples, the heavy mineral concentrates resulting from the processing of the till samples were assayed. The results show several anomalous values including a maximum of 386 ppb Au corresponding to the sample containing 48 grains of gold (Figure 6). Full results of analyses of the heavy mineral concentrates are given in Appendix 2.

## **5.3 Soil Sampling**

In addition to the VLF-EM survey, soil samples were taken along two lines over the area of anomalous till samples to evaluate two different techniques for potential use as a more widespread follow up technique. A total of 49 soil samples were taken for Mobile Metal Ion (MMI) analysis (Figure 7) and 59 samples were taken for Soil Gas Hydrocarbon (SGH) analysis (Figure 8). Results of the analyses are pending.

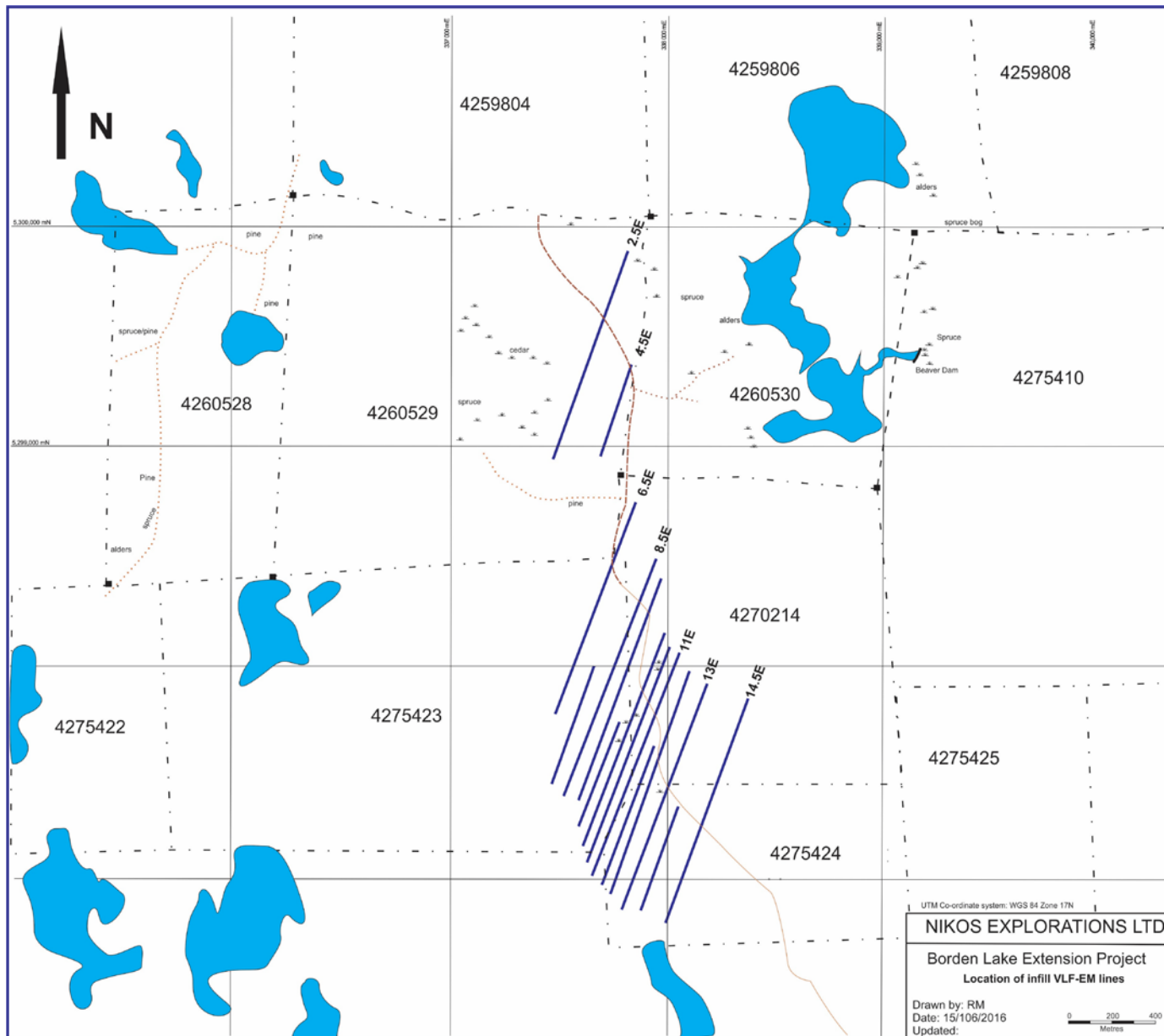


Figure 4. Location of infill VLF-EM lines in the vicinity of anomalous till samples.

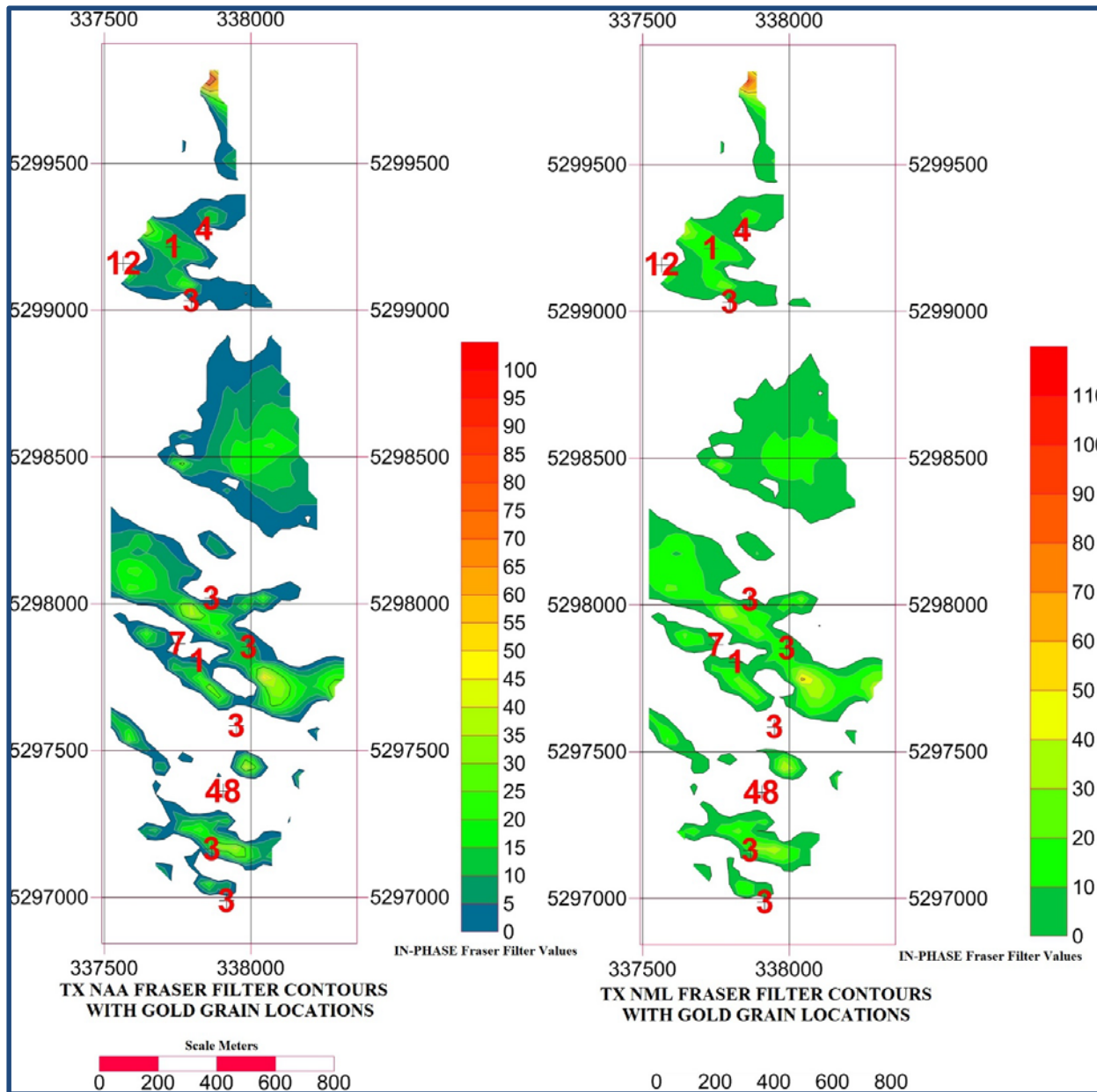


Figure 5. VLF-EM anomalies in relation to till samples containing gold grains.

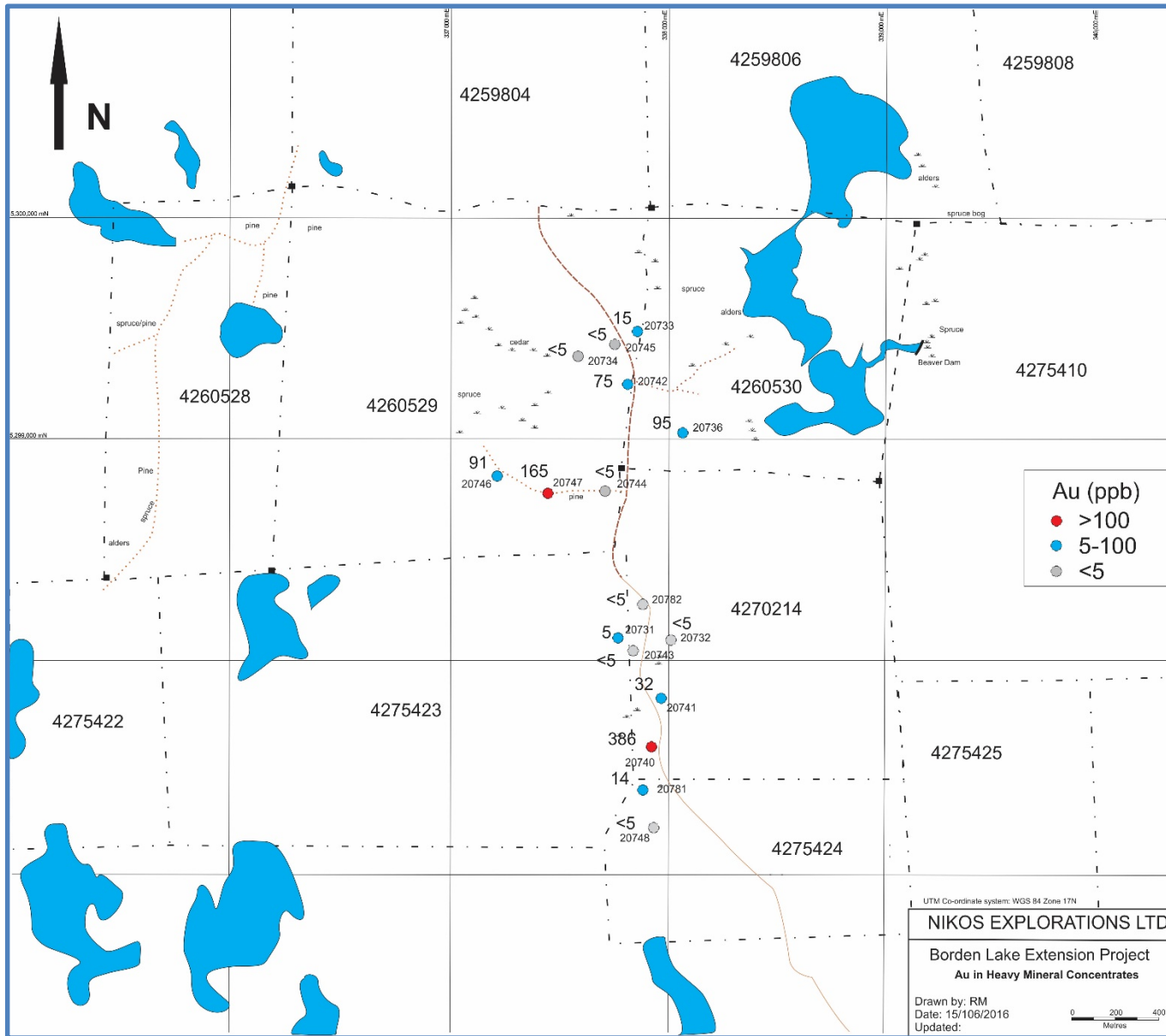


Figure 6. Gold content of heavy mineral concentrates from till samples.

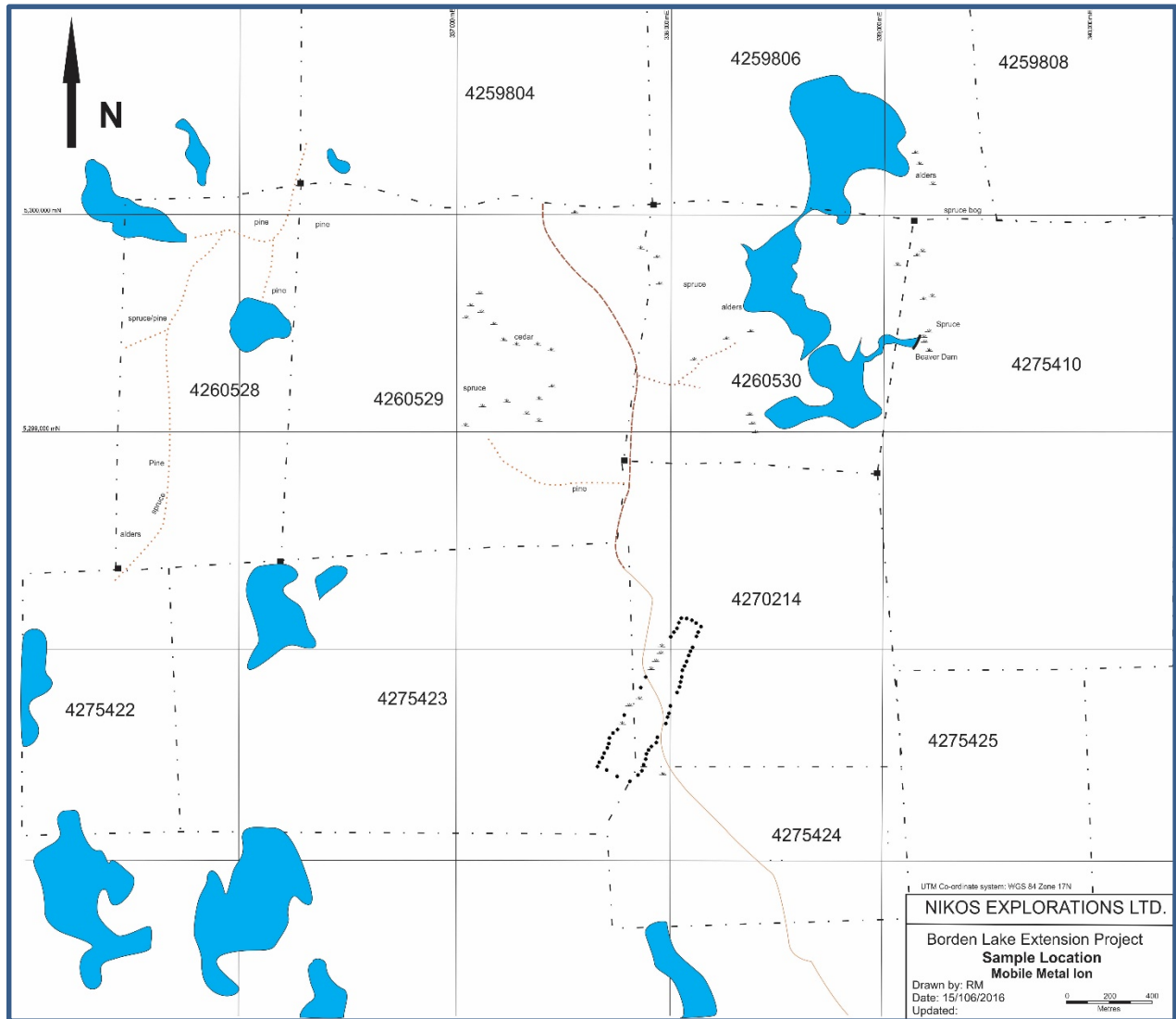


Figure 7. Location of soil samples for Mobile Metal Ion (MMI) assays.

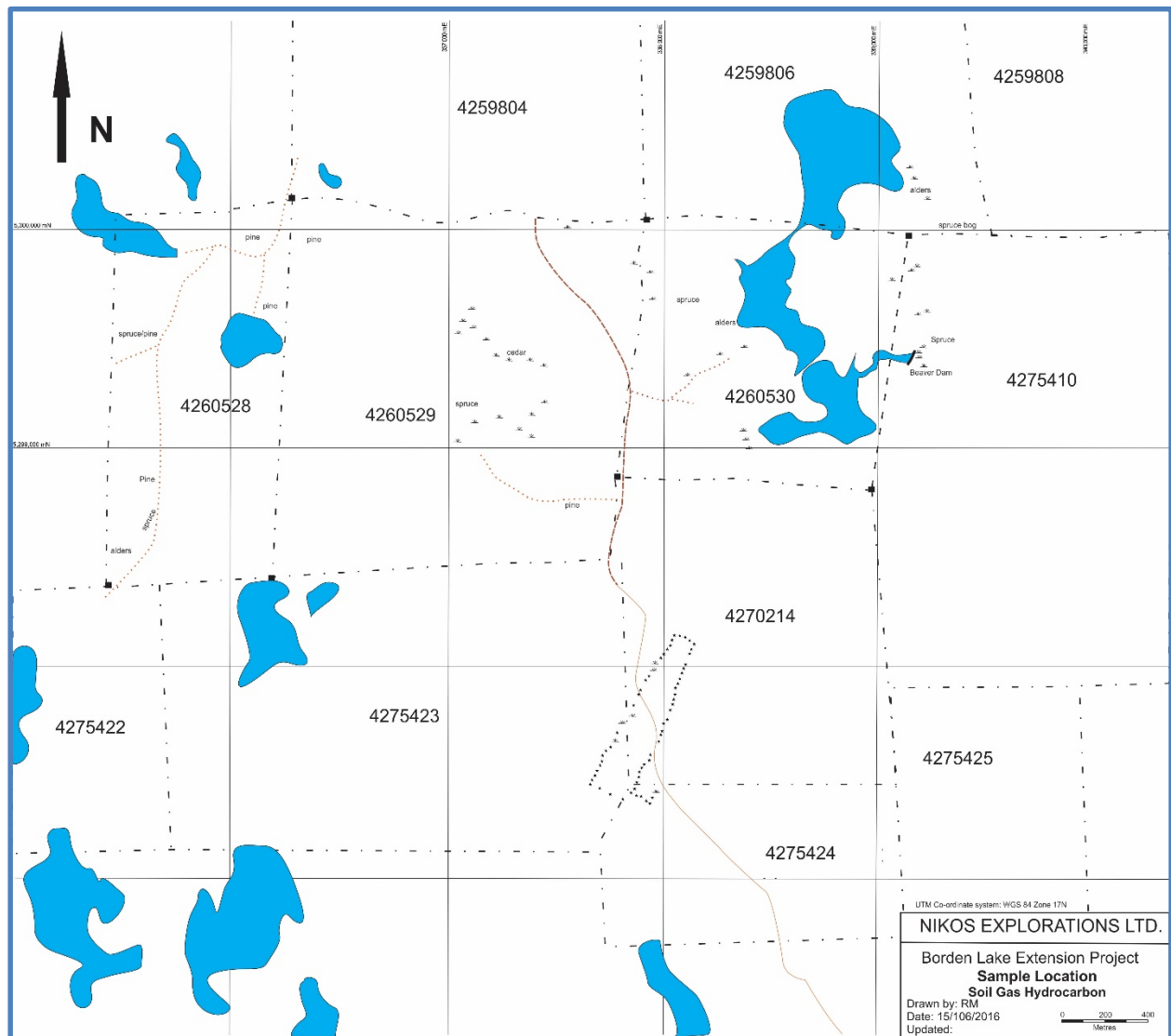


Figure 8. Location of soil samples for Soil Gas Hydrocarbon (SGH) assays.



## 6. Conclusions and Recommendations

Exploration on the Borden Lake Extension project over the last three years has focussed on an area in the western portion of the claims where magnetic and topographic lineaments indicate the potential for structural trends that may have potential to host gold mineralization.

Lack of significant outcrop on the property has resulted in attempts to find techniques that can be cost effectively used for reconnaissance scale exploration. Three techniques, VLF-EM, SGH and till sampling have resulted in anomalies in the area of the lineaments. Initial results of a VLF-EM survey indicated seven conductors of varying strength, the longest of which stretches over 2.6km in a northwest-southeast direction. Till sampling across these anomalies resulted in 15 of 19 bulk samples containing grains of gold.

The follow up work presented here has shown that VLF anomalies in the vicinity of, and in particular up ice of, the anomalous till samples show good continuity in a dominantly northwest-southeast direction sub parallel to the direction of magnetic and topographic lineaments. In addition, analyses of heavy mineral concentrates from the till samples show anomalous gold content up to 386 ppb Au, corresponding to the sample containing 48 gold grains. Due to the limited extent of glacial till in the area of interest, soil samples were taken over the area of anomalous till and across the VLF anomalies and have been submitted for soil gas hydrocarbon (SGH) and mobile metal ion (MMI) analysis in an attempt to find a technique suitable for more widespread use in follow up. Results of the analysis are pending.

Further work is recommended for the property to follow up on the VLF and gold in till anomalies. Prospecting should be undertaken along conductors up ice of the anomalous till samples to find the source, although with the scarce outcrop it is likely that further geophysical techniques will be necessary. Line cutting and an induced polarization survey to determine potential drill targets are recommended. In addition, depending on the results of the analysis of soil samples for SGH and MMI one of these techniques may be useful in further prioritizing geophysical anomalies.

## 7. References

- Heather, K.B., Percival, J.A., Moser, D., Bleeker, W. 1995, Tectonics and metallogeny of Archaean crust in the Abitibi-Kapuskasing-Wawa region, Geological Survey of Canada Open File 3141.
- Moss, R., 2014, Report on Exploration Activities Nikos Explorations Ltd. Borden Lake Extension Project, Chapleau, Ontario, Unpubl. Assessment File Report, 36p.
- Percival, J.A., 1981. Preliminary Map, Geology of the Kapuskasing Structural Zone in the Chapleau-Foleyet Area, Ontario, Geological Survey of Canada, Open File 763.
- Sutherland, D., 2013, 3D – SGH A spatial temporal geochemical hydrocarbon interpretation, Nikos Exploration Ltd., Borden Lake Extension Project. Internal report, 66p.



## **Appendix 1**



**A**

# **VLF EM-16 Surveying Report**

**On**

**Borden East Property**

**McNaught Township**

**District of Patricia**

**Ontario**

**Prepared For**

**Nikos Exploration**

**By**

**Shaun Parent**

**Superior Exploration, Adventure & Climbing Co. Ltd.**

**June 14, 2016**

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Figure 2: Line 4.5E .....	0
Figure 3: Line 6.5E .....	1
Figure 4: Line 7.5E .....	1
Figure 5: Line 8.5E .....	2
Figure 6: Line 9.0E .....	2
Figure 7: Line 9.5E .....	3

Figure 8: Line 10.0E .....	3
Figure 9: Line 10.5E .....	4
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## **Executive Summary:**

The VLF survey was completed in McNaught Township, District of Patricia in Northern Ontario. The VLF EM-16 survey was carried out in June 2016, using a VLF EM-16 and a handheld Garmin GPS-60C using 2 transmitter stations - NAA – Cutler, Maine and NML-La Moure, North Dakota. A total of 14.12 Km of VLF was carried out on a virtual Grid.

The objective of the 2016 VLF EM-16 survey was to determine if the VLF Survey could delineate the location of interpreted structures on strike and southeast of Probe Minerals Borden Lake deposit. As well this survey was a follow up to a previous VLF survey carried out in 2014.

## **Introduction**

A VLF-EM16 survey is a relatively simple and economic geophysical survey that is used to better understand shallow, vertical and sub vertical bedrock conductors.

This report describes the findings and results of the VLF EM-16 survey utilizing the new VLF2DMF processing software of which the author of this report has assisted in its development. It enables the processing and inversion of electromagnetic (EM) induction data acquired at a Very Low Frequency (VLF) along a survey area.

The software generates profiles of Raw Data, Fraser Filtered Data, KH, Resistivity and (2-D) Modelled Inversions. It also allows for plan maps and slices of Fraser, KH and Inversion models of separate VLF survey lines.

This report contains only the VLF Raw Data and VLF Fraser Filtered Data as sections and Plan Maps.

## **Personnel**

The VLF EM-16 operator and GPS field navigator responsible for the collection of all raw data was Shaun Parent. Interpretation of the VLF data using the VLF2DMF Software was completed by Sandra Slater and Shaun Parent.

Figure A General Location Map of VLF Survey

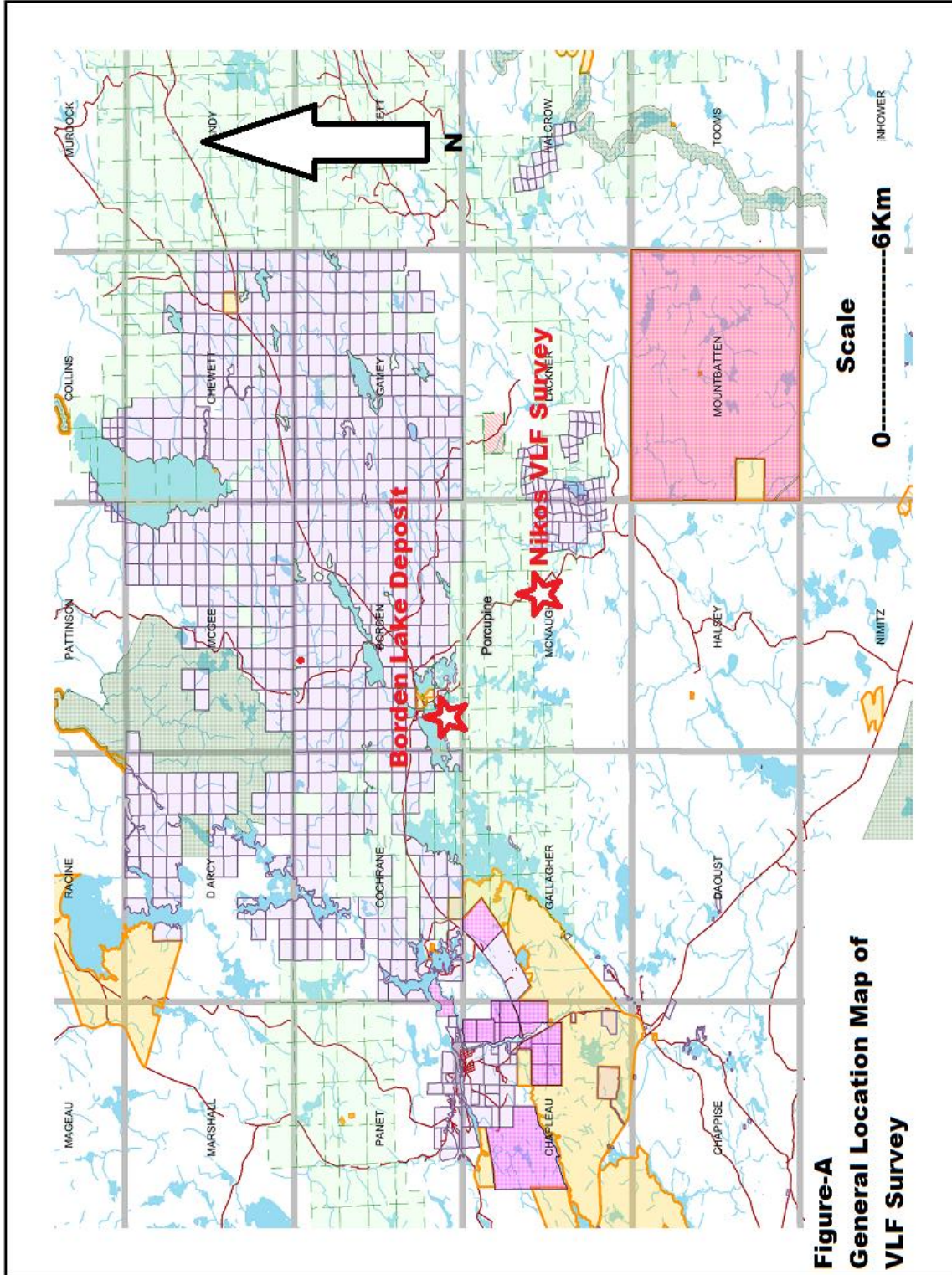


Figure-A  
General Location Map of  
VLF Survey



Figure B Google Image of VLF Grid Lines

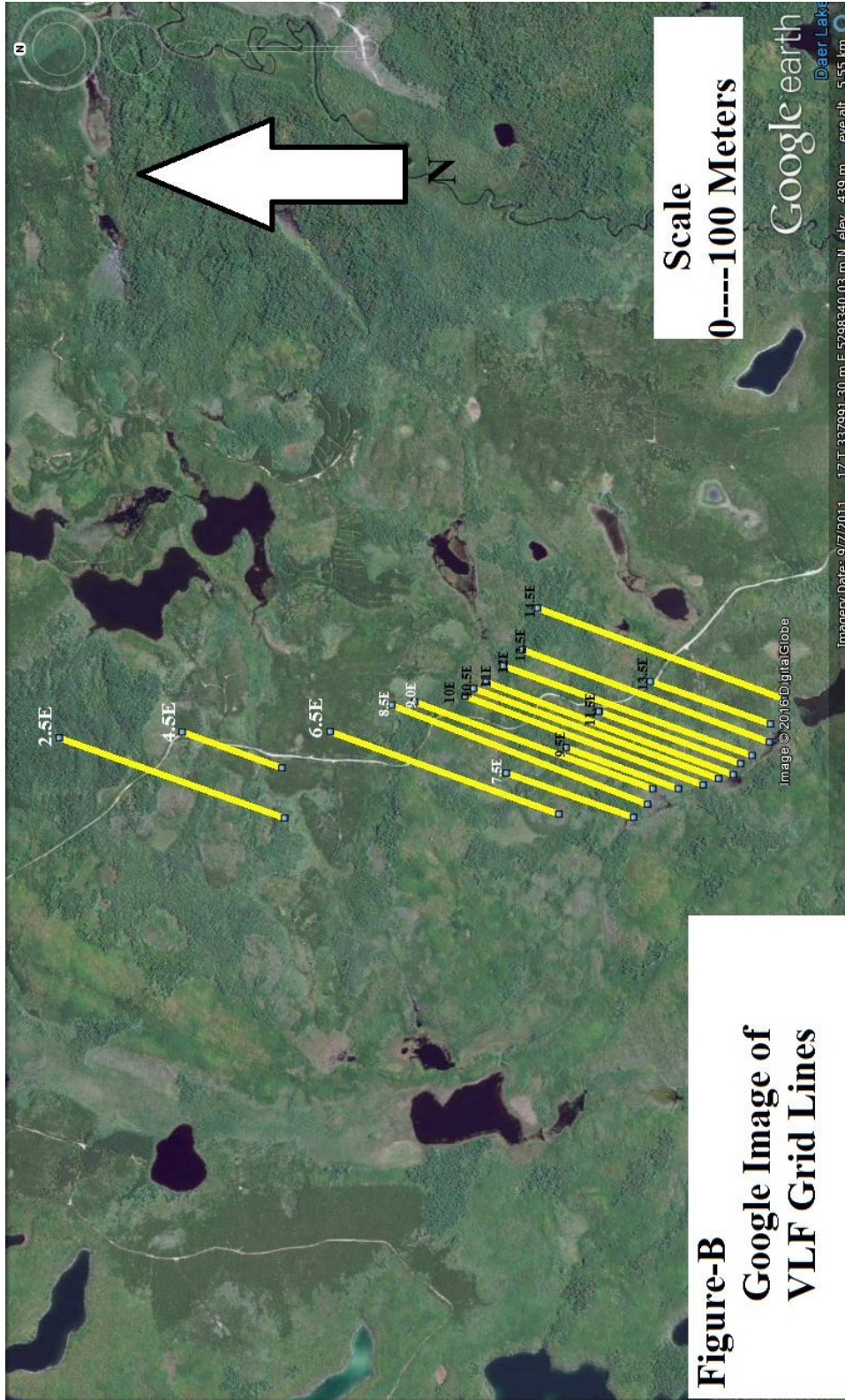


Figure-B  
Google Image of  
VLF Grid Lines



## Work Performed

The VLF EM-16 survey consisted of running 15 VLF Lines in a direction of 20-200 degrees true azimuth using a handheld Garmin GPS. Lines were 100 or 50 meters apart.

The VLF lines were completed while using a handheld Garmin 60-CSX GPS. Each VLF station was located based on a northerly azimuth and distance from the start of the survey line. At each line station, 2 transmitter stations were read using the Geonics VLF- Em-16 receiver. The following parameters were used throughout the survey.

**VLF Transmitters Used**– NAA-24.0 KHz. Cutler, Maine (East) and NML-25.2 KHz. La Moure, North Dakota (West).

**VLF survey direction** - The VLF Em-16 receiver was facing 200 degrees along all lines. All lines began with station 0+00 located at northern end of each line.

**VLF survey stations** - All readings were taken at approximately 20 meter stations along the survey line. Each 100 meter station was flagged on all lines surveyed

**Parameters of Measurement** - In-phase and Quad-phase components of vertical magnetic field as a percentage of horizontal primary fields. (Tangent of tilt angle and ellipticity). VLF transmitter NAA was to the East and NML was to the West. The transmitters are chosen so that the direction to the transmitting station is aligned with the strike of the bedrock.

## VLF Data Processing

Field data was collected as follows on each surveyed line.

- Each station was saved onto the Handheld Garmin 60CSX Handheld GPS Unit (including local features such as power lines, fences and geological structures)
- VLF readings for each station were recorded in a notebook as In-Phase and Quadrature corresponding to the line number and station number. (See example in Table 1)
- Field information was transferred to a Garmin map source program where line and station information could be viewed.
- Garmin and VLF data were compiled onto an excel spreadsheet and then inputted into the VLF2DMF processing software.

**Table 1 Example of VLF Field Data Collection**

Line 0+00	NAA In phase	NAA Quadrature	NML In phase	NML Quadrature	Notes
2+00N	10	6	4	5	swamp
2+20N	8	4	2	4	oc

## VLF Data Profiles

All VLF data collected was processed with the VLF2DMF software. All VLF lines surveyed are shown as Raw Data and Fraser Filter Profiles. Appendixes A: Figures 1-15 Transmitter NAA and Appendixes B: Figures 1-15 Transmitter NML.

### 1: VLF Raw Data Profiles for NAA-NML

The raw data for each frequency was plotted for each line surveyed. A running average filter of the raw data is run to smooth the survey profile.

### 2: Fraser Filter Profiles for NAA-NML

Raw data for frequency NAA and NML was run through the Fraser filter. This filter transforms In-Phase cross overs and inflections into positive peak anomalies. In-Phase inflections and cross overs are usually plus to minus, while Quadrature responses are negative to positive giving a negative peak anomaly when the Fraser Filter is applied. VLF anomalies were chosen based on the location of the peaks on the Fraser Filter profile.

## Discussion of Results

The VLF data for transmitter NAA and NML were plotted and interpreted separately.

1. VLF Raw Data Contours for In Phase are shown on Maps 1 (NAA) and Map 5 (NML) and Quadrature are shown on Maps 2 (NAA) and Map 6 (NML).
2. All VLF anomalies are listed in Table 2 (NAA) and Table 4 (NML) and include the UTM and station location of each VLF anomaly and anomaly symbol.

It is suggested that the most important VLF picks be followed up on by ground proofing. A summary of these picks can be found in Table 3 (NAA) and Table 5 (NML).

These picks are displayed on Maps 3 & 4 (NAA) and Maps 7 & 8 (NML).

**Table 2 VLF Fraser Peak Anomalies TX NAA**

NAA Line Number	Peak	X	Y	Anomaly Site	Notes
L2.5E	A	337854	5299799	1+20S	
	B	337797	5299674	2+60S	
	C	337753	5299561	3+80S	
	D	337690	5299415	5+40S	
	E	337640	5299285	6+80S	
	F	337568	5299119	8+60S	
	G	337528	5299025	9+60S	
L4.5E	A	337868	5299316	6+40S	
	B	337814	5299187	7+80S	
	C	337784	5299096	8+80S	
	D	337766	5299040	9+40S	
L6.5E	A	337821	5298665	12+00S	
	B	337778	5298573	13+00S	
	C	337755	5298471	14+00S	
	D	337720	5298379	15+00S	
	E	337675	5298291	16+00S	
	F	337631	5298217	16+80S	
	G	337602	5298126	17+80S	
	H	337591	5298043	18+60S	
	I	337552	5297952	19+60S	
	J	337523	5297875	20+40S	
L7.5E	A	337642	5297896	18+20S	
	B	337577	5297774	19+60S	
	C	337533	5297618	21+20S	
L8.5E	A	337922	5298390	11+20S	
	B	337898	5298303	12+00S	
	C	337866	5298217	13+00S	
	D	337803	5298094	14+40S	
	E	337783	5297973	15+60S	
	F	337717	5297890	16+60S	
	G	337690	5297814	17+40S	
	H	337667	5297738	18+20S	
	I	337659	5297657	19+00S	
	J	337589	5297553	20+20S	

NAA Line Number	Peak	X	Y	Anomaly Site	Notes
L9.0E	A	337963	5298326	10+80S	
	B	337928	5298242	11+80S	
	C	337903	5298189	12+40S	
	D	337863	5298095	13+40S	
	E	337851	5298038	14+00S	
	F	337817	5297966	14+80S	
	G	337783	5297874	15+80S	
	H	337745	5297797	16+60S	
	I	337714	5297704	17+60S	
	J	337682	5297632	18+40S	
	K	337660	5297575	19+00S	
	L	337631	5297503	19+80S	
L9.5E	A	337775	5297696	16+80S	
	B	337755	5297639	17+40S	
	C	337717	5297547	18+40S	
	D	337680	5297452	19+40S	
	E	337614	5297371	20+40S	
L10.0E	A	337973	5298103	10+80S	
	B	337945	5298033	11+60S	
	C	337913	5297960	12+40S	
	D	337893	5297903	13+00S	
	E	337828	5297756	14+60S	
	F	337793	5297661	15+60S	
	G	337771	5297604	16+20S	
	H	337740	5297532	17+00S	
	I	337704	5297441	18+00S	
	J	337677	5297370	18+80S	
	K	337656	5297306	19+40S	
	L	337638	5297269	19+80S	
L10.5E	A	338008	5298089	10+80S	
	B	337975	5297994	11+80S	
	C	337931	5297886	13+00S	
	D	337903	5297814	13+80S	
	E	337864	5297718	14+80S	
	F	337832	5297642	15+60S	
	G	337811	5297585	16+20S	

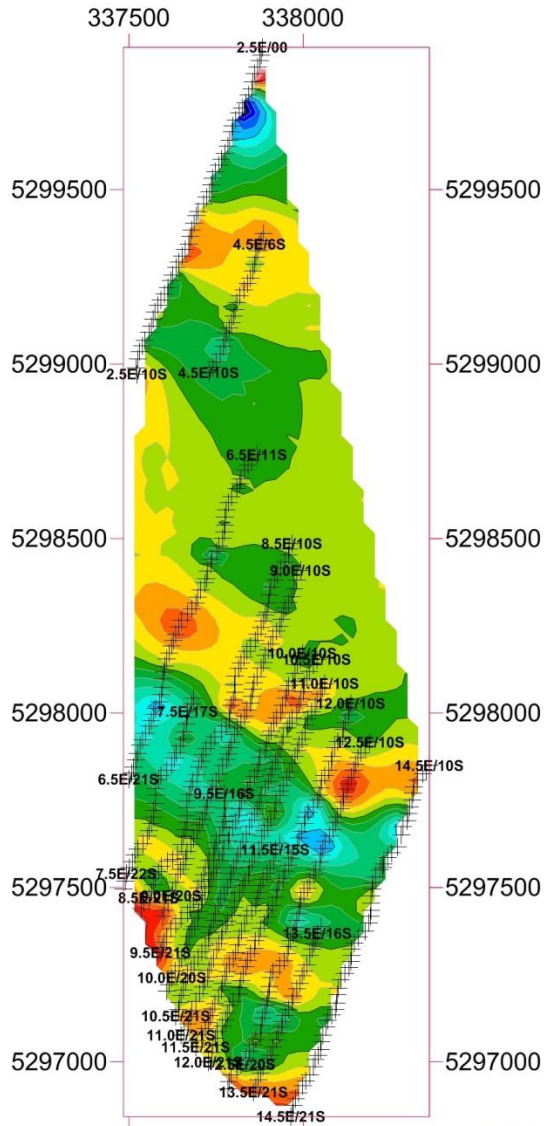
NAA Line Number	Peak	X	Y	Anomaly Site	Notes
L10.5E	H	337793	5297531	16+80S	
	I	337769	5297475	17+40S	
	J	337740	5297396	18+20S	
	K	337704	5297307	19+20S	
	L	337666	5297239	20+00S	
L11.0E	A	338038	5298028	10+80S	
	B	337980	5297885	12+40S	
	C	337957	5297823	13+00S	
	D	337902	5297688	14+40S	
	E	337858	5297584	15+60S	
	F	337823	5297496	16+60S	
	G	337803	5297452	17+00S	
	H	337790	5297413	17+40S	
	I	337748	5297309	18+60S	
	J	337722	5297238	19+40S	
	K	337708	5297206	19+80S	
L11.5E	A	337910	5297566	15+40S	
	B	337881	5297514	16+00S	
	C	337866	5297458	16+60S	
	D	337846	5297426	17+00S	
	E	337821	5297365	17+60S	
	F	337772	5297235	19+00S	
L12.0E	A	338106	5297925	11+20S	
	B	338068	5297829	12+20S	
	C	338044	5297758	13+00S	
	D	338000	5297672	14+00S	
	E	337952	5297555	15+20S	
	F	337928	5297503	15+80S	
	G	337898	5297425	16+60S	
	H	337855	5297318	17+80S	
	I	337821	5297223	18+80S	
	J	337780	5297130	19+80S	
	K	337751	5297078	20+40S	
L12.5E	A	338103	5297714	12+40S	
	B	338081	5297656	13+00S	

NAA Line Number	Peak	X	Y	Anomaly Site	Notes
L12.5E	C	338025	5297526	14+40S	
	D	337989	5297436	15+40S	
	E	337968	5297357	16+20S	
	F	337910	5297249	17+40S	
	G	337897	5297173	18+20S	
	H	337852	5297040	19+60S	
L13.5E	A	338029	5297331	16+60S	
	B	338000	5297253	17+40S	
	C	337963	5297160	18+40S	
	D	337911	5297031	19+80S	
L14.5E	A	338314	5297761	11+20S	
	B	338300	5297701	11+80S	
	C	338224	5297554	13+40S	
	D	338190	5297408	15+00S	
	E	338134	5297279	16+40S	
	F	338096	5297181	17+40S	
	G	338077	5297127	18+00S	
	H	338046	5297028	19+00S	
	I	337992	5296922	20+20S	

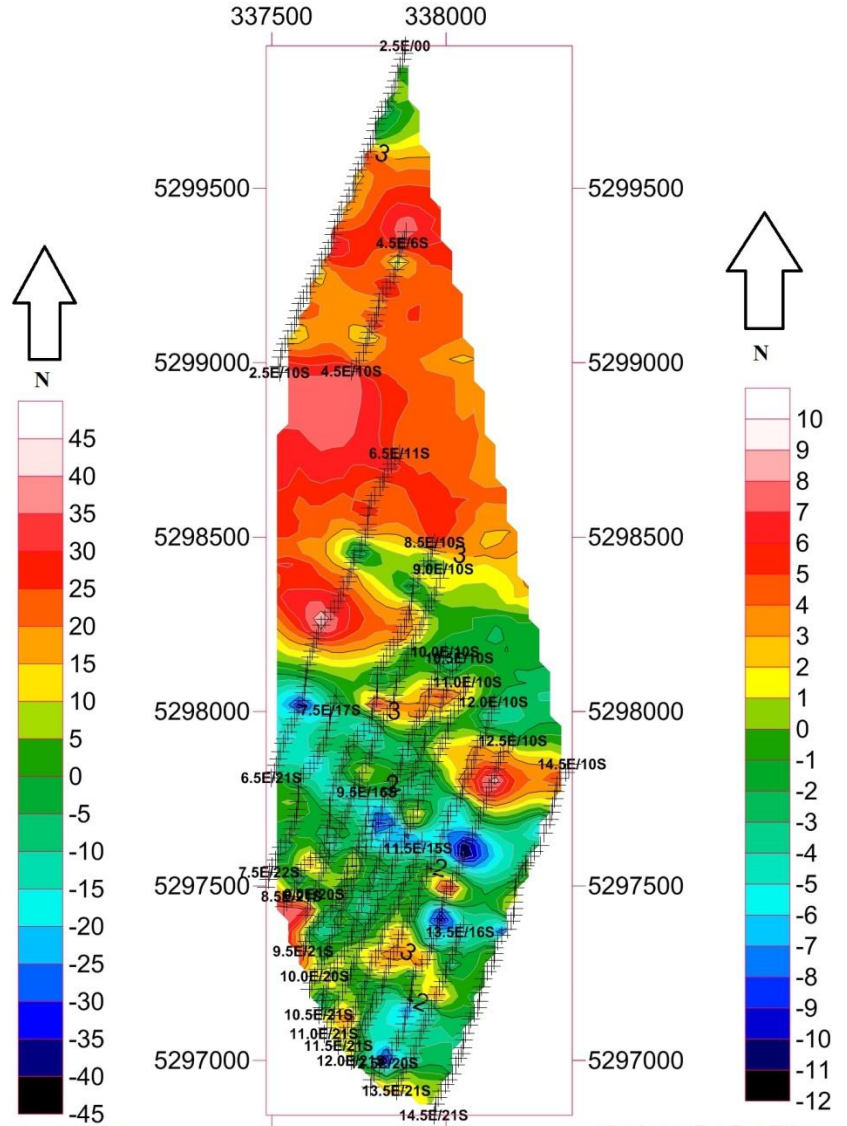
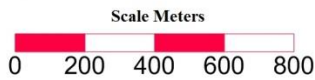
**Table 3 NAA Picks to Ground Proof**

<b>NAA Picks to Ground Proof</b>					
<b>Line</b>	<b>Anomaly Symbol</b>	<b>East</b>	<b>North</b>	<b>Distance South from 0+00</b>	<b>Station Location</b>
2.5	A	337854	5299799	114	1+20S
2.5	E	337640	5299285	675	6+80S
4.5	A	337868	5299316	62	6+40S
4.5	B	337814	5299187	203	7+80S
4.5	C	337784	5299096	300	8+80S
6.5	C	337755	5298471	298	14+00S
6.5	G	337602	5298126	680	17+80S
7.5	A	337642	5297896	155	18+20S
8.5	E	337783	5297973	555	15+60S
8.5	J	337589	5297553	1038	20+20S
9	F	337817	5297966	480	14+80S
10	D	337893	5297903	292	13+00S
10	E	337828	5297756	455	14+60S
10.5	E	337864	5297718	473	14+80S
11	C	337957	5297823	285	13+00S
11	D	337902	5297688	433	14+40S
12	C	338044	5297758	290	13+00S
12	I	337821	5297223	880	18+80S
12.5	A	338103	5297714	225	12+40S
12.5	D	337989	5297436	529	15+40S
12.5	G	337897	5297173	815	18+20S
12.5	H	337852	5297040	957	19+60S
13.5	C	337963	5297160	246	18+40S

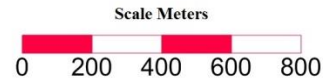
## Maps 1 & 2 NAA Raw Data Contours



Map-1 TX NAA In-Phase Raw Data Contours

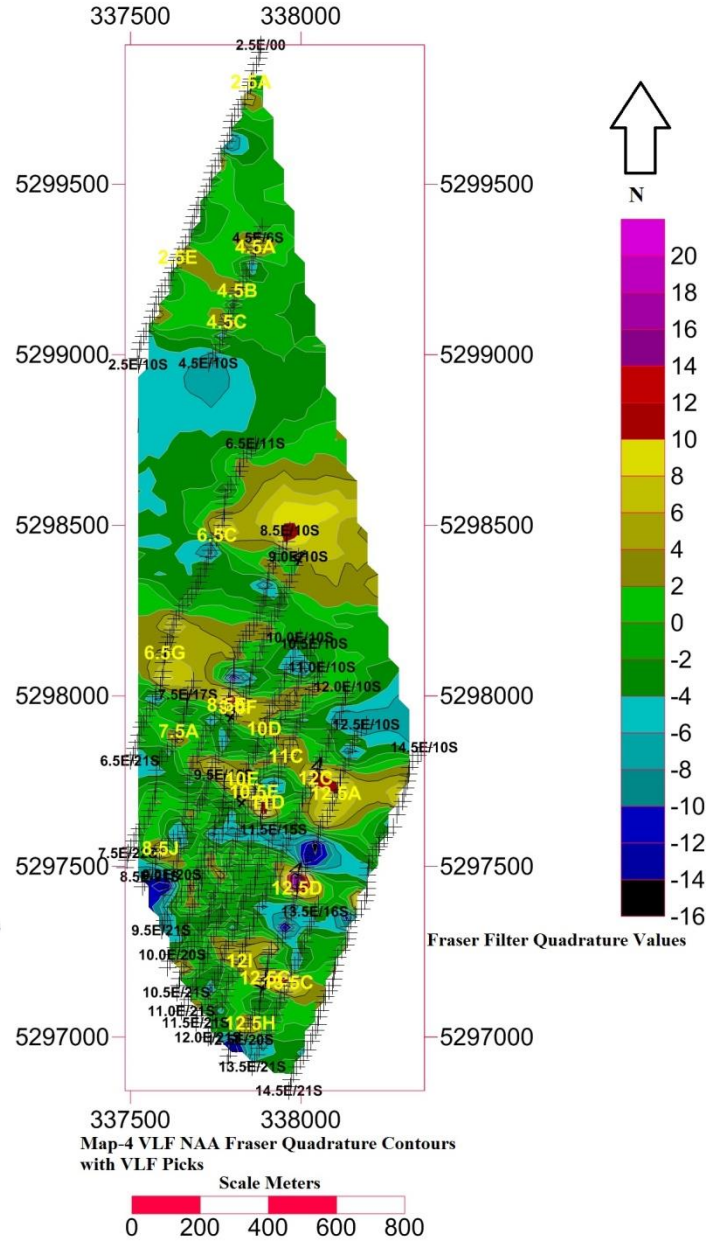
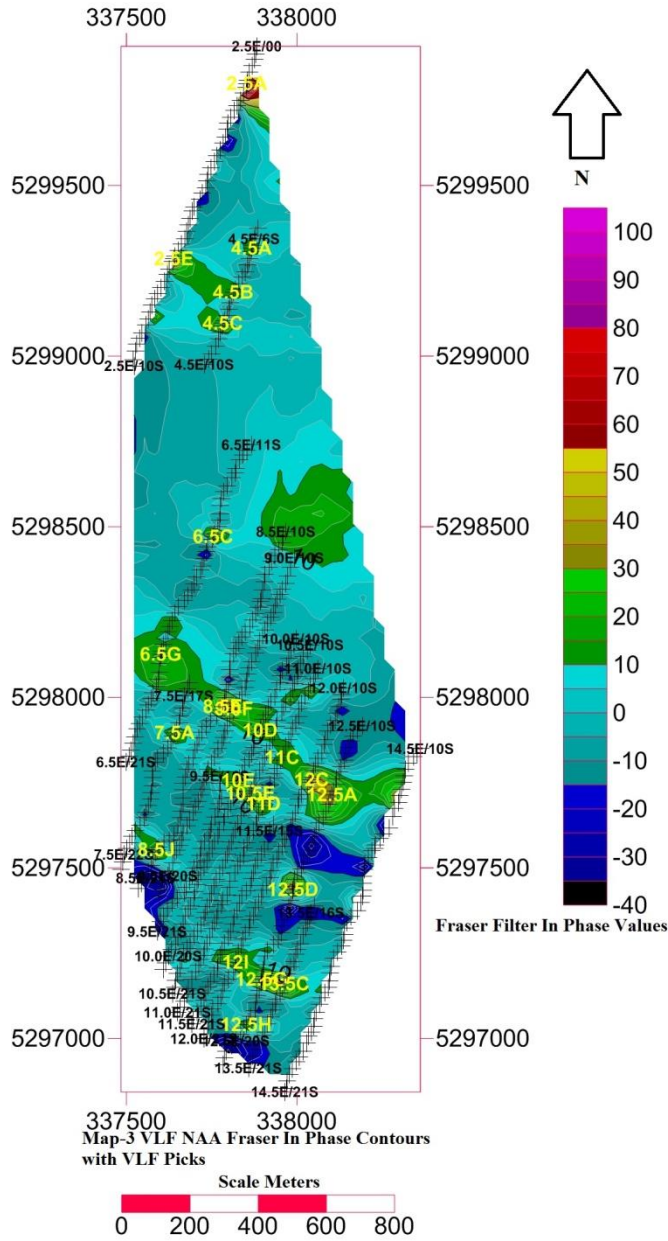


Map-2 TX NAA Quadrature Raw Data Contours





## Maps 3 & 4 NAA Fraser IP and Quad Contours with VLF Picks



**Table 4 VLF Fraser Peak Anomalies - TX NML**

NML Line Number	Peak	X	Y	Anomaly Site	Notes
L2.5E	A	337854	5299799	1+20S	
	B	337797	5299674	2+60S	
	C	337753	5299561	3+80S	
	D	337719	5299469	4+80S	
	E	337684	5299395	5+60S	
	F	337640	5299285	6+80S	
	G	337568	5299119	8+60S	
	H	337528	5299025	9+60S	
L4.5E	A	337868	5299316	6+40S	
	B	337814	5299187	7+80S	
	C	337784	5299096	8+80S	
	D	337766	5299040	9+40S	
L6.5E	A	337837	5298703	11+60S	
	B	337821	5298665	12+00S	
	C	337778	5298573	13+00S	
	D	337755	5298471	14+00S	
	E	337720	5298379	15+00S	
	F	337686	5298306	15+80S	
	G	337631	5298217	16+80S	
	H	337606	5298145	17+60S	
	I	337591	5298043	18+60S	
	J	337552	5297952	19+60S	
	K	337517	5297855	20+60S	
L7.5E	A	337634	5297879	18+40S	
	B	337577	5297774	19+60S	
	C	337533	5297618	21+20S	
L8.5E	A	337913	5298371	11+40S	
	B	337866	5298217	13+00S	
	C	337809	5298117	14+20S	
	D	337783	5297973	15+60S	
	E	337717	5297890	16+60S	
	F	337681	5297796	17+60S	
	G	337667	5297738	18+20S	
	H	337659	5297657	19+00S	
	I	337589	5297553	20+20S	

NML Line Number	Peak	X	Y	Anomaly Site	Notes	
L9.0E	A	337954	5298309	11+00S		
	B	337919	5298226	12+00S		
	C	337896	5298173	12+60S		
	D	337863	5298095	13+40S		
	E	337851	5298038	14+00S		
	F	337817	5297966	14+80S		
	G	337783	5297874	15+80S		
	H	337745	5297797	16+60S		
	I	337714	5297704	17+60S		
	J	337682	5297632	18+40S		
	K	337660	5297575	19+00S		
	L	337631	5297503	19+80S		
L9.5E	A	337775	5297696	16+80S		
	B	337755	5297639	17+40S		
	C	337712	5297528	18+60S		
	D	337680	5297452	19+40S		
	E	337614	5297371	20+40S		
L10.0E	A	337945	5298033	11+60S		
	B	337913	5297960	12+40S		
	C	337893	5297903	13+00S		
	D	337821	5297737	14+80S		
	E	337793	5297661	15+60S		
	F	337764	5297587	16+40S		
	G	337748	5297550	16+80S		
	H	337709	5297459	17+80S		
	I	337677	5297370	18+80S		
	J	337656	5297306	19+40S		
	K	337638	5297269	19+80S		
	L10.5E	A	338008	5298089	10+80S	
B		337985	5298012	11+60S		
C		337931	5297886	13+00S		
D		337903	5297814	13+80S		
E		337857	5297702	15+00S		
F		337824	5297621	15+80S		
G		337811	5297585	16+20S		
H		337793	5297531	16+80S		

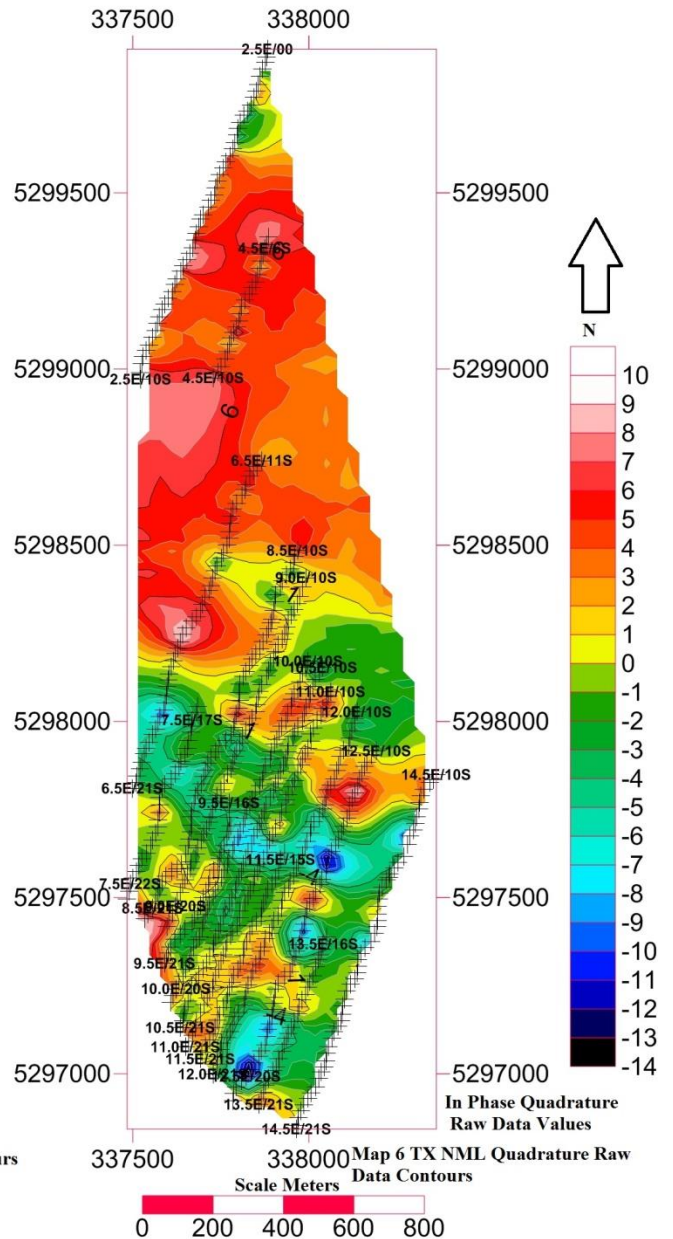
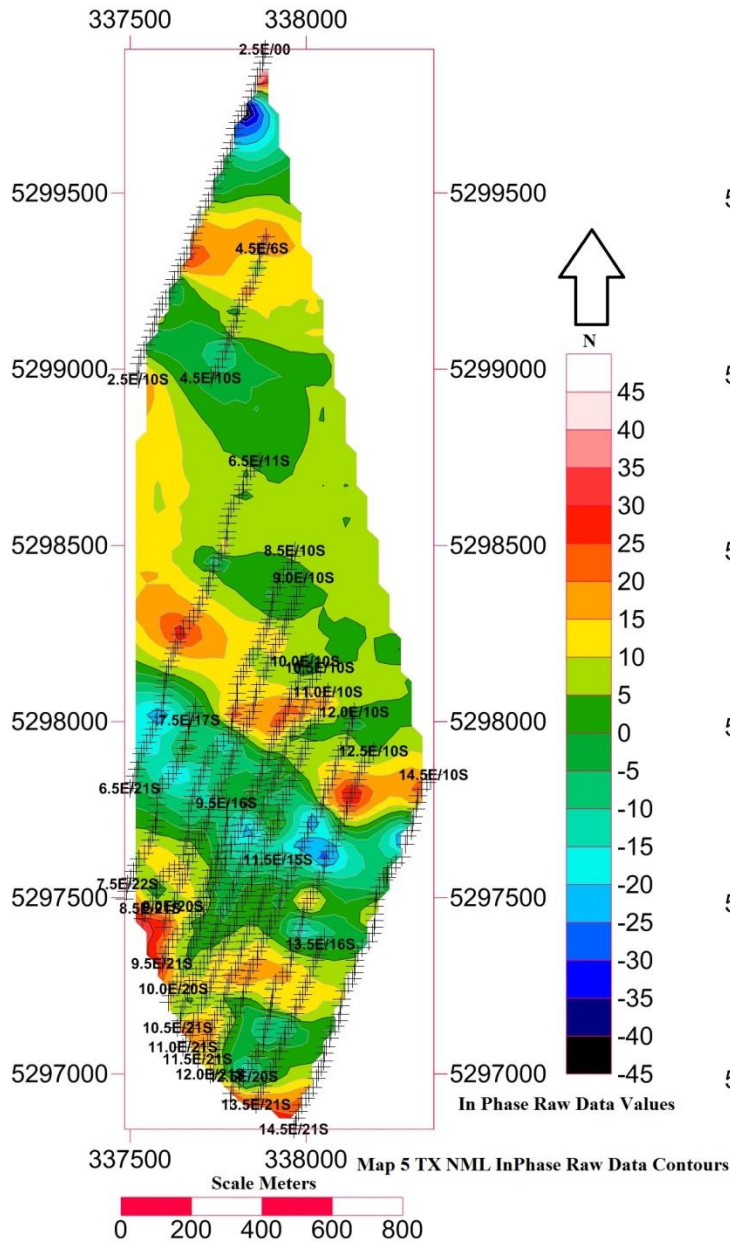
NML Line Number	Peak	X	Y	Anomaly Site	Notes
L10.5E	I	337769	5297475	17+40S	
	J	337740	5297396	18+20S	
	K	337704	5297307	19+20S	
	L	337666	5297239	20+00S	
L11.0E	A	338038	5298028	10+80S	
	B	337965	5297844	12+80S	
	C	337902	5297688	14+40S	
	D	337877	5297619	15+20S	
	E	337823	5297496	16+60S	
	F	337790	5297413	17+40S	
	G	337740	5297288	18+80S	
	H	337722	5297238	19+40S	
L11.5E	A	337910	5297566	15+40S	
	B	337881	5297514	16+00S	
	C	337858	5297440	16+80S	
	D	337821	5297365	17+60S	
	E	337772	5297235	19+00S	
	F	337744	5297160	19+80S	
	G	337713	5297087	20+60S	
L12.0E	A	338106	5297925	11+20S	
	B	338068	5297829	12+20S	
	C	338044	5297758	13+00S	
	D	338000	5297672	14+00S	
	E	337968	5297592	14+80S	
	F	337928	5297503	15+80S	
	G	337898	5297425	16+60S	
	H	337868	5297354	17+40S	
	I	337821	5297223	18+80S	
	J	337780	5297130	19+80S	
	K	337751	5297078	20+40S	
L12.5E	A	338154	5297863	10+80S	
	B	338103	5297714	12+40S	
	C	338025	5297526	14+40S	
	D	337992	5297456	15+20S	
	E	337968	5297357	16+20S	

NML Line Number	Peak	X	Y	Anomaly Site	Notes
L12.5E	F	337910	5297249	17+40S	
	G	337897	5297173	18+20S	
	H	337852	5297040	19+60S	
L13.5E	A	338029	5297331	16+60S	
	B	338007	5297269	17+20S	
	C	337994	5297236	17+60S	
	D	337963	5297160	18+40S	
	E	337911	5297031	19+80S	
L14.5E	A	338314	5297761	11+20S	
	B	338300	5297701	11+80S	
	C	338224	5297554	13+40S	
	D	338197	5297485	14+20S	
	E	338190	5297408	15+00S	
	F	338139	5297314	16+00S	
	G	338125	5297262	16+60S	
	H	338096	5297181	17+40S	
	I	338077	5297127	18+00S	
	J	338046	5297028	19+00S	
	K	337992	5296922	20+20S	

**Table 5 NML Picks to Ground Proof**

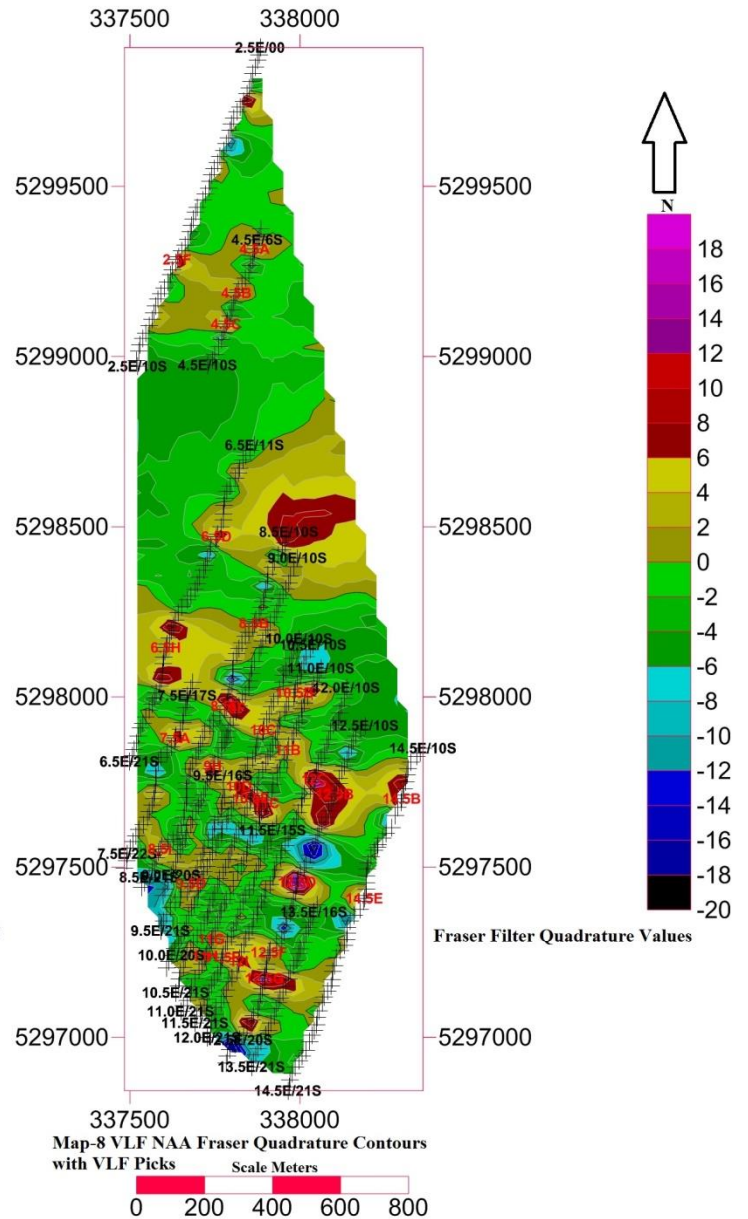
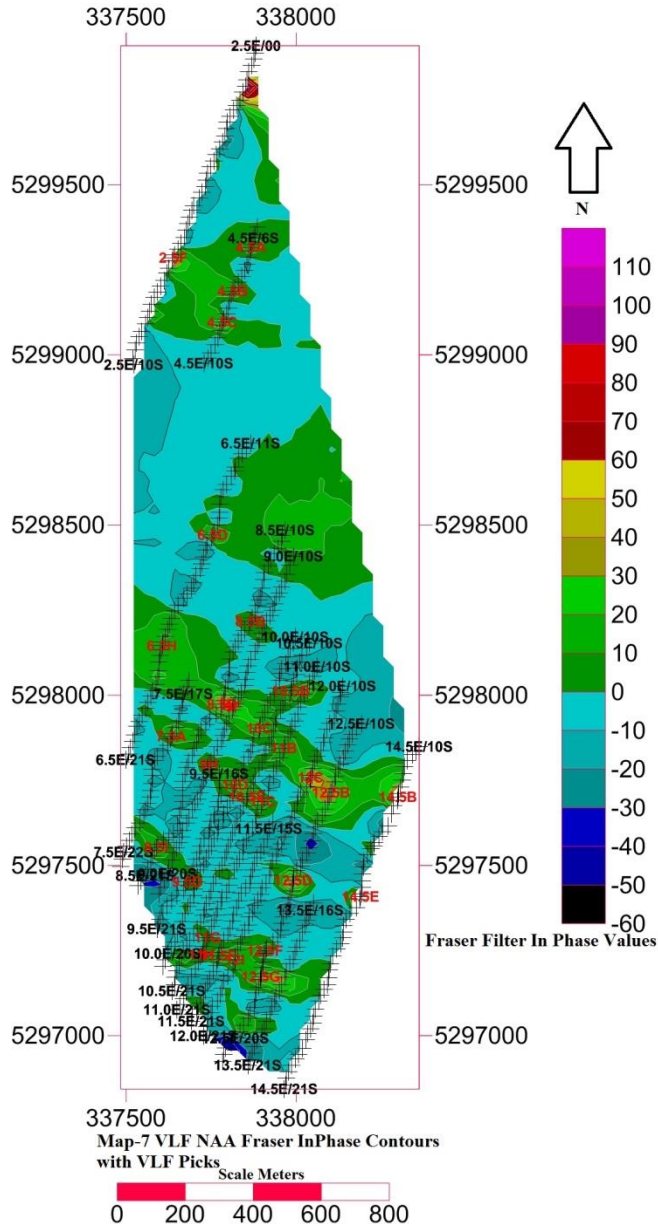
<b>NML Picks to Ground Proof</b>					
<b>Line</b>	<b>Anomaly Symbol</b>	<b>East</b>	<b>North</b>	<b>Distance South from 0+00</b>	<b>Station Location</b>
2.5	F	337640	5299285	675	6+80S
4.5	A	337868	5299316	62	6+40S
4.5	B	337814	5299187	203	7+80S
4.5	C	337784	5299096	300	8+80S
6.5	D	337755	5298471	298	14+00S
6.5	H	337606	5298145	661	17+60S
7.5	A	337634	5297879	174	18+40S
8.5	B	337866	5298217	291	13+00S
8.5	D	337783	5297973	555	15+60S
8.5	I	337589	5297553	1038	20+20S
9	F	337817	5297966	480	14+80S
9	H	337745	5297797	665	16+60S
9.5	D	337680	5297452	338	19+40S
10	C	337893	5297903	292	13+00S
10	D	337821	5297737	475	14+80S
10.5	B	337985	5298012	152	11+60S
10.5	E	337857	5297702	491	15+00S
11	B	337965	5297844	263	12+80S
11	C	337902	5297688	433	14+40S
11	G	337740	5297288	871	18+80S
11	H	337722	5297238	924	19+40S
11.5	E	337772	5297235	430	19+00S
12	C	338044	5297758	290	13+00S
12	I	337821	5297223	880	18+80S
12.5	B	338103	5297714	225	12+40S
12.5	D	337992	5297456	508	15+20S
12.5	F	337910	5297249	737	17+40S
12.5	G	337897	5297173	815	18+20S
14.5	B	338300	5297701	165	11+80S
14.5	E	338190	5297408	489	15+00S

## Maps 5 & 6 NML Raw Data Contours





## Maps 7 & 8 NML Fraser IP and Quad Contours





## Conclusions

The Ground VLF EM-16 Survey was successful in outlining:

- a) Several NAA/NML trends are mirror images with and without similar strike lengths.
- b) Delineation of several very conductive bedrock conductors located on trends NAA and NML
- c) The use 2 transmitters TX-NAA and TX-NML confirmed and delineated true bedrock conductors from surficial responses.
- d) The processing of raw VLF data using the VLF2DEM Software program was successful in identifying bedrock conductors on both transmitters: NAA and NML.
- e) No Bedrock was identified on any of the VLF Lines surveyed.

## Recommendations

- 1) Ground proofing and prospecting of the VLF Anomaly priority picks displayed in Tables 3 (NAA) and Table 5 (NML) to determine if these anomalies are related to mineralization, fault zones or structural contacts. The priority VLF anomalies are identified for NAA on Maps 3 and 4 and for NML on Maps 7, 8 of Fraser Filtered NAA and NML contours.
- 2) Geochemical sampling over VLF trends NAA and NML in order to determine if the VLF conductors are related to economic mineralization.
- 3) Processing of the Fraser Filtered VLF data and Resistivity data into 3D shaded relief maps.
- 4) Processing of soil sample geochemistry results with VLF data in order to produce a shaded relief map.
- 5) Further processing of the this VLF data after combining with previous VLF survey data into a 2D model of the complete grid surveyed

## List of References

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Karous, M and Hjelt, S.E., 1983: Linear filtering of VLF dip-angle measurements, *Geophysical Prospecting* 31, 782-794

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Sayden, A.S, Boniwell, J.B; 1989: VLF Electromagnetic Method, *Canadian Institute of Mining and Metalurgy, Special Volume* 41, 111-125 of VLF-EM Data

Monteiro Santos, F.A; 2013: VLF 2D V1.3 A program for 2D inversion

## Certificate of Qualifications

I, Shaun Parent, P. Geo (LTD.) residing at 282 B Whispering Pines Road, Batchawana Bay, Ontario do certify that:

1. I am a consulting Geoscientist with Superior Exploration, Adventure & Climbing Co. Ltd.
2. I graduated with a Geological Technician Diploma from Sir Sandford Fleming College in 1986.
3. I graduated with a BSc. from the University of Toronto in 1986.
4. I am a member in good standing with the Association of Professional Geoscientists of Ontario #1955 and a member of the Prospectors and Developers Association of Canada.
5. I have been employed continuously as a Geoscientist for the past 28 years since my graduation from University.
6. The nature of my involvement with this project was to carry out the VLF Survey and the interpretation of the VLF data using the EMTOMO VLF2D Software of which I have been developing with Dr. Fernando Santos of Lisbon, Portugal.

Dated this 14<sup>th</sup> day of June 2016

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Shaun Parent, Dipl-Geo, BSc. P. Geo (Limited)

***APPENDIXES A -  
Raw Data Profiles***

# TX NAA

Figure 1: Line 2.5E

VLf-EM raw data  
Line: Nikos Borden Lake L2.5E

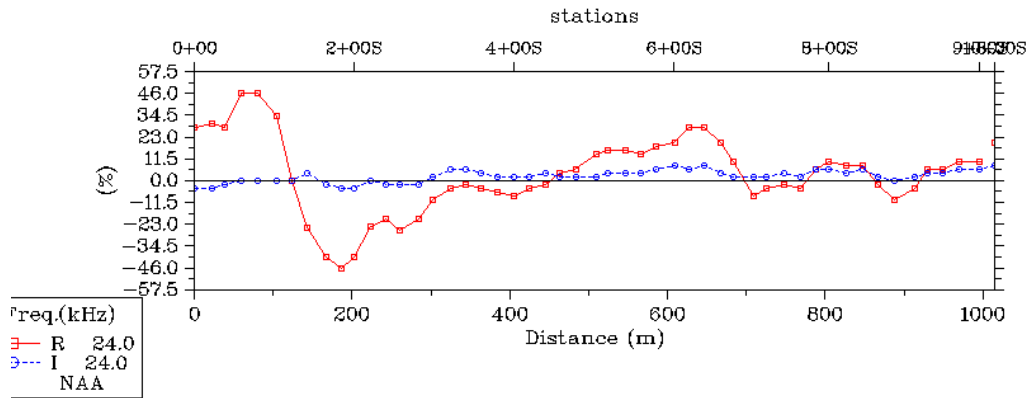
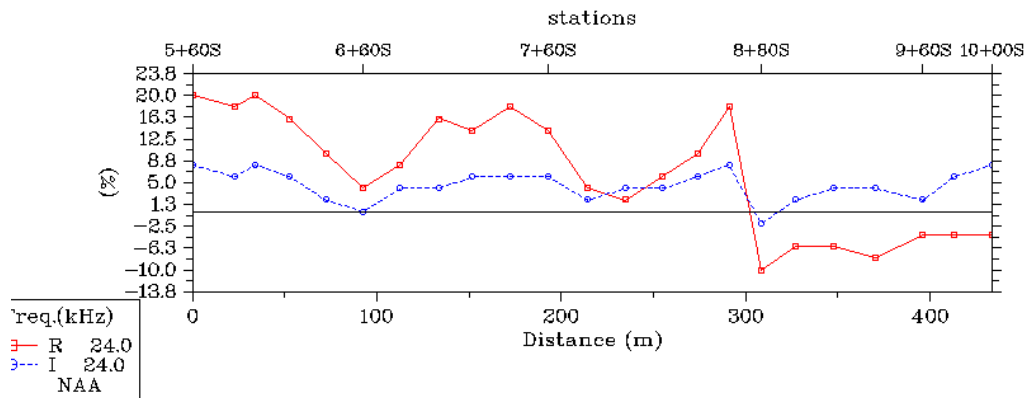


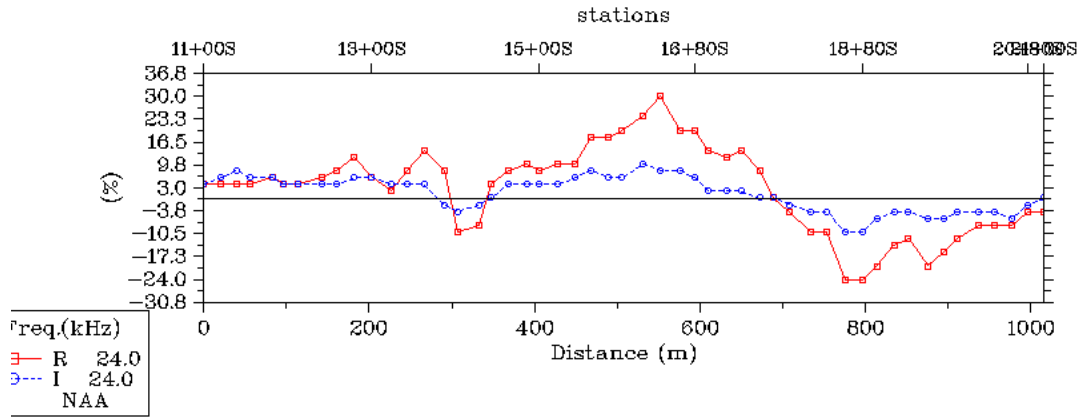
Figure 2: Line 4.5E

VLf-EM raw data  
Line: Nikos Borden Lake L4.5E



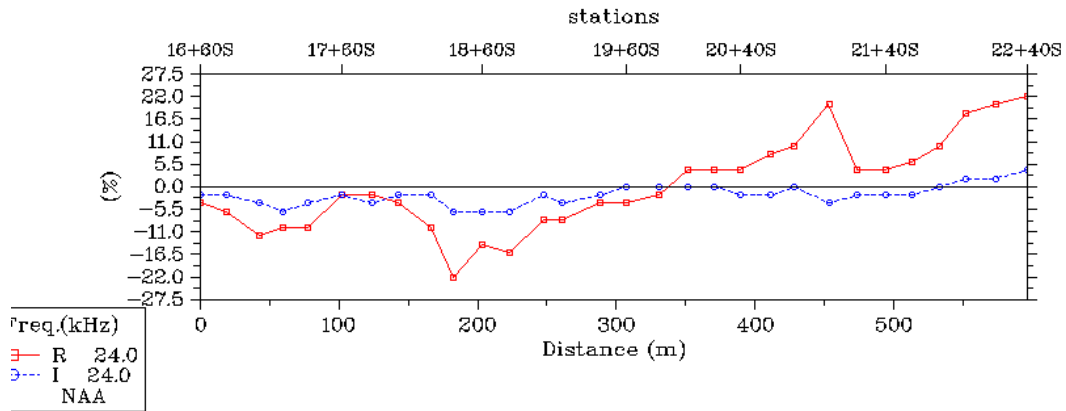
**Figure 3: Line 6.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L6.5E



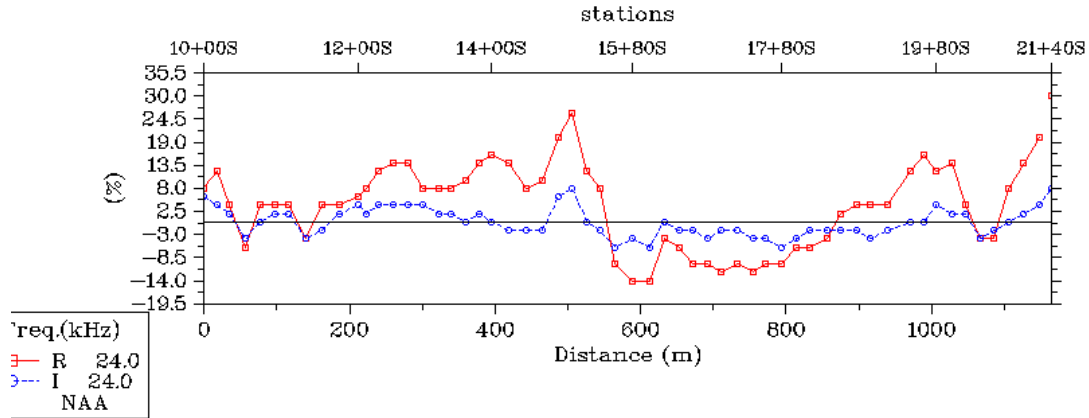
**Figure 4: Line 7.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L7.5E



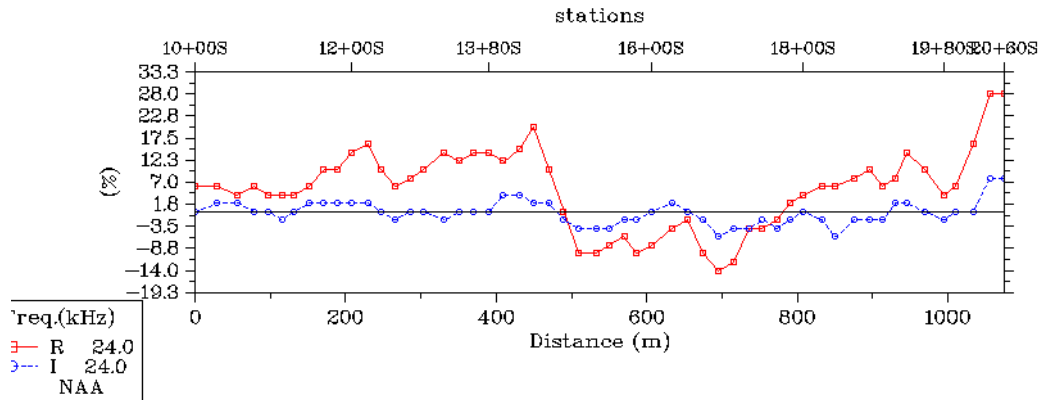
**Figure 5: Line 8.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L8.5E



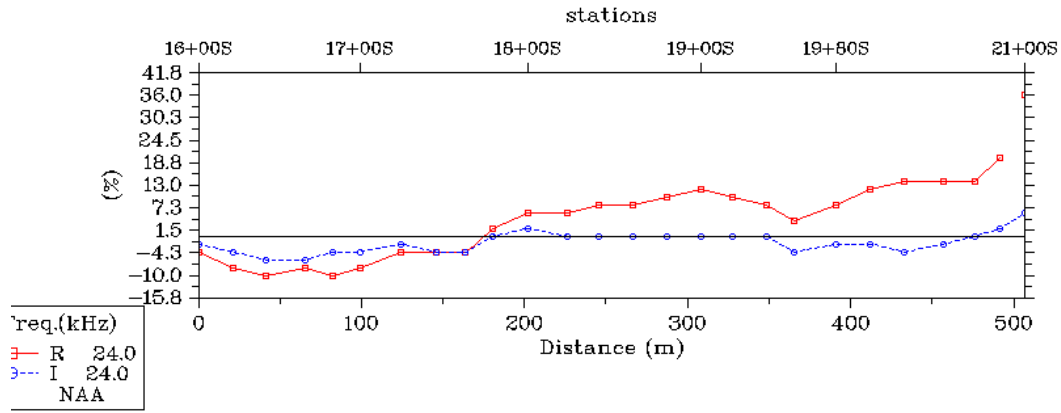
**Figure 6: Line 9.0E**

VLF-EM raw data  
Line: Nikos Borden Lake L9.0E



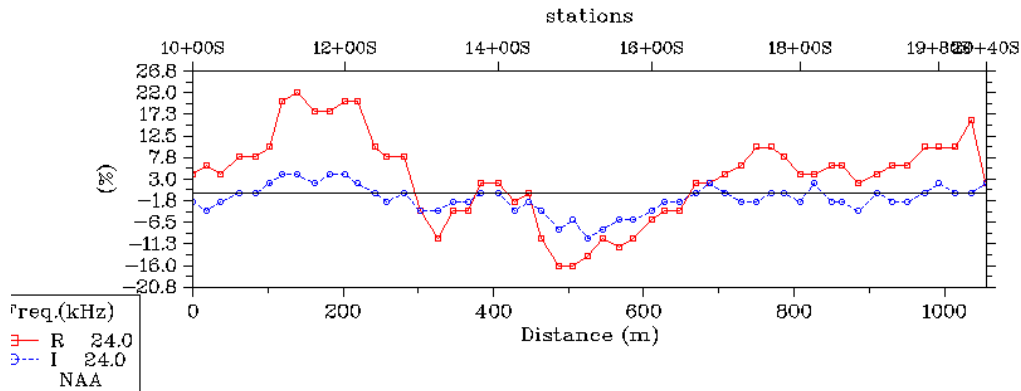
**Figure 7: Line 9.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L9.5E



**Figure 8: Line 10.0E**

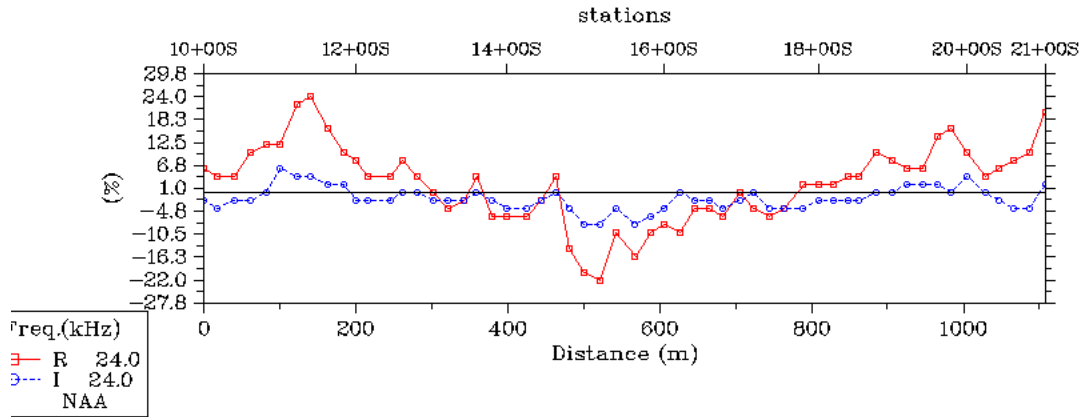
VLF-EM raw data  
Line: Nikos Borden Lake L10.0E





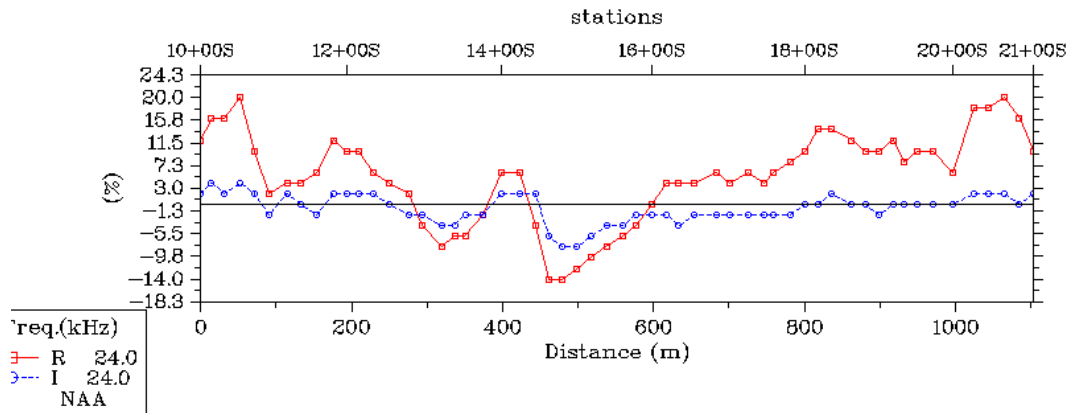
**Figure 9: Line 10.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L10.5E



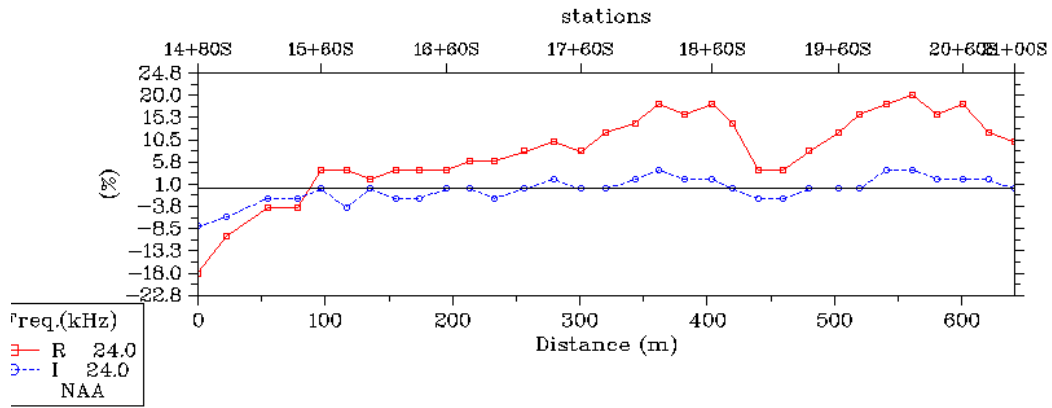
**Figure 10: Line 11.0E**

VLF-EM raw data  
Line: Nikos Borden Lake L11.0E



**Figure 11: Line 11.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L11.5E



**Figure 12: Line 12.0E**

VLF-EM raw data  
Line: Nikos Borden Lake L12.0E

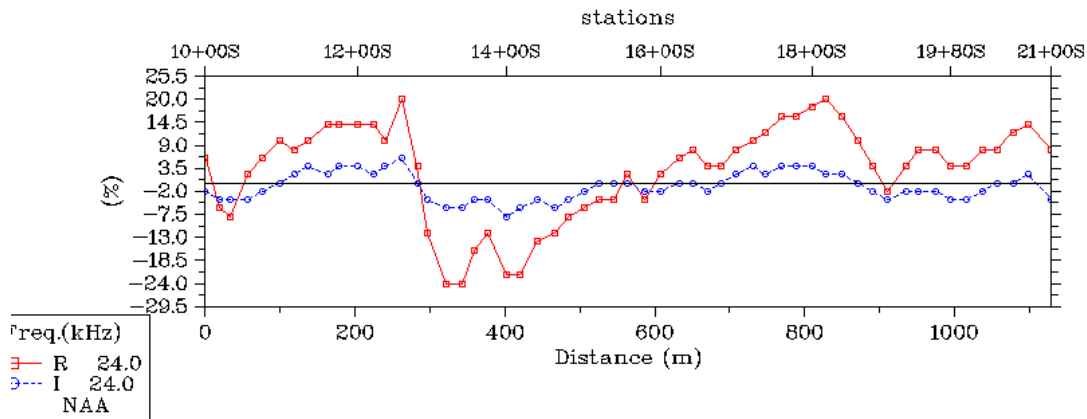


Figure 13: Line 12.5E

VLF-EM raw data  
Line: Nikos Borden Lake L12.5E

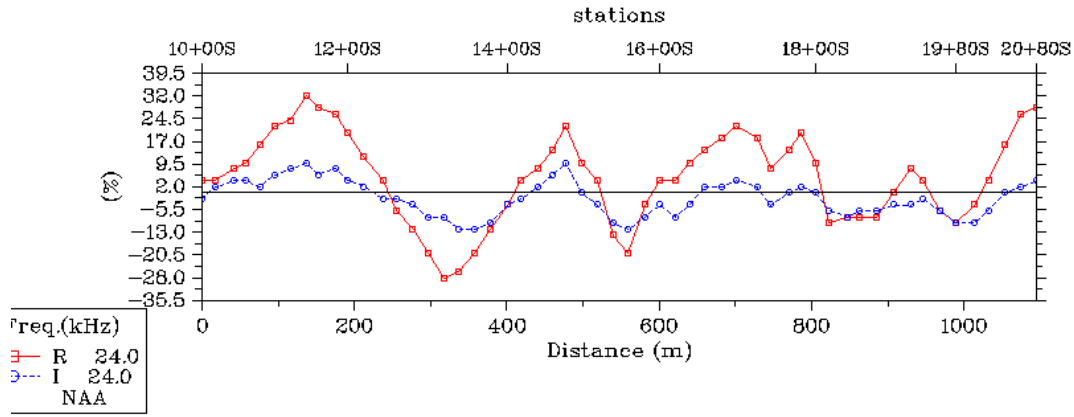


Figure 14: Line 13.5E

VLF-EM raw data  
Line: Nikos Borden Lake L13.5E

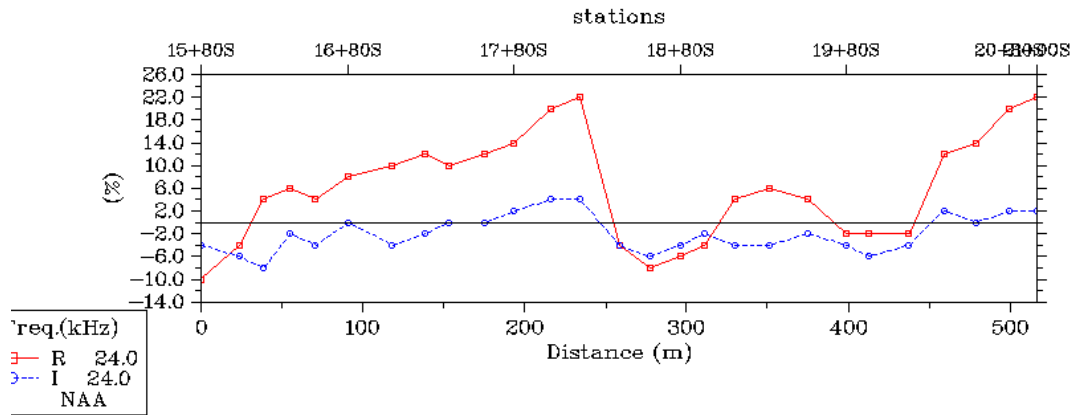
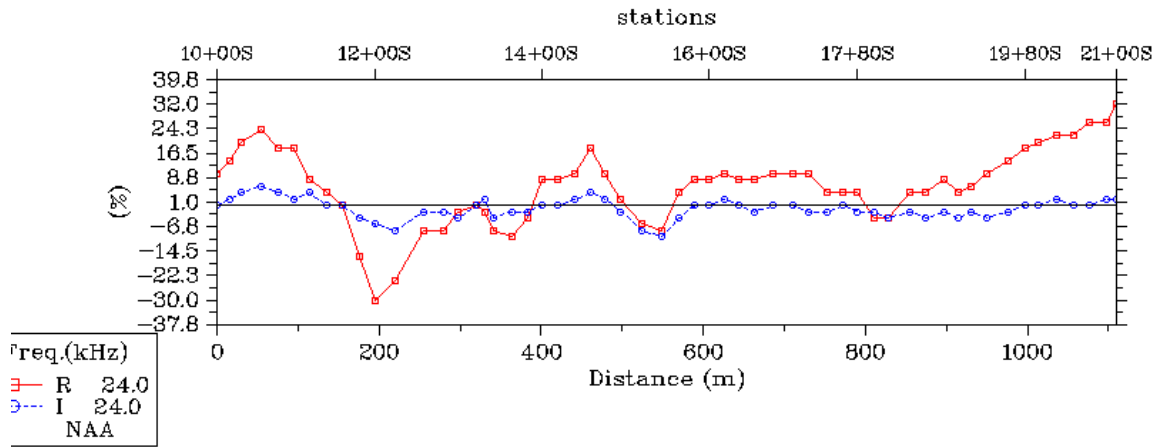


Figure 15: Line 14.5E

VLF-EM raw data  
Line: Nikos Borden Lake L14.5E



# TX NML

Figure 1: Line 2.5E

VLF-EM raw data  
Line: Nikos Borden Lake L2.5E

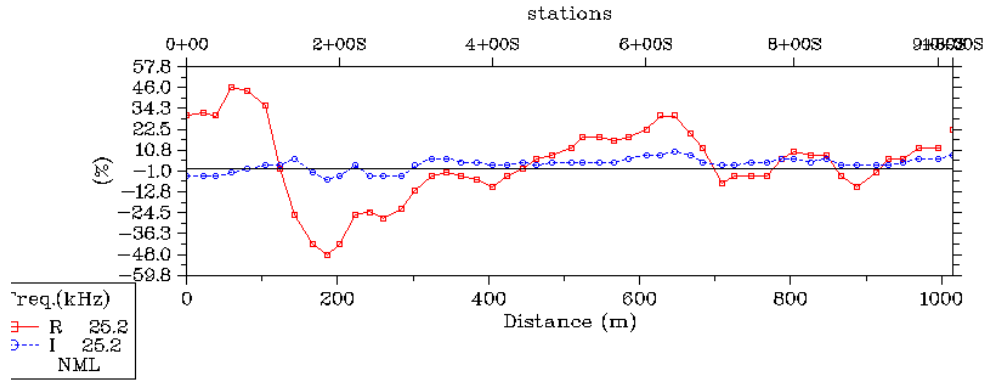
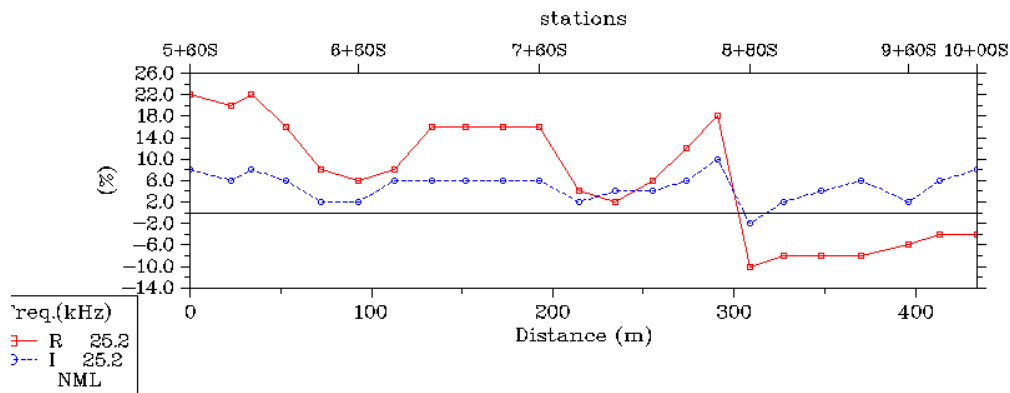


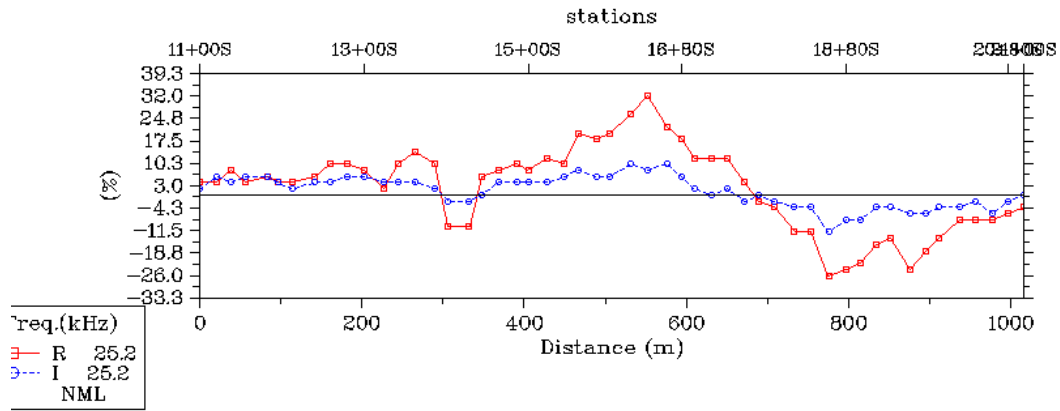
Figure 2: Line 4.5E

VLF-EM raw data  
Line: Nikos Borden Lake L4.5E



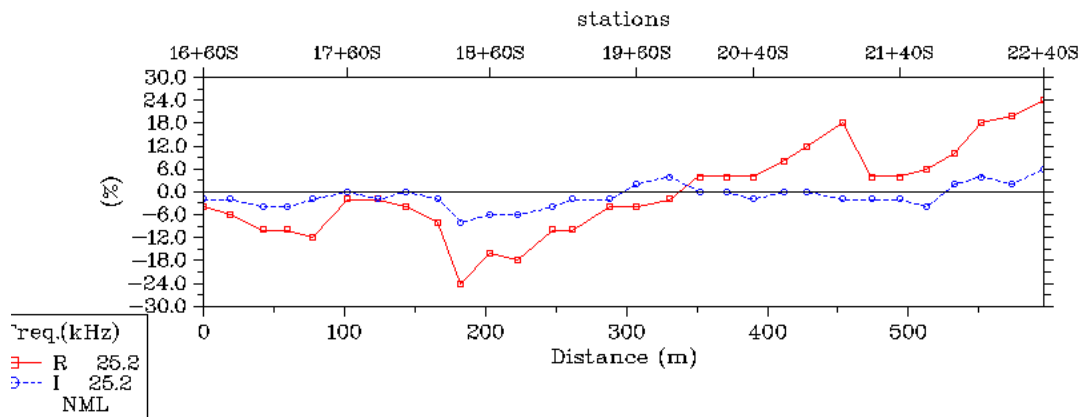
**Figure 3: Line 6.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L6.5E



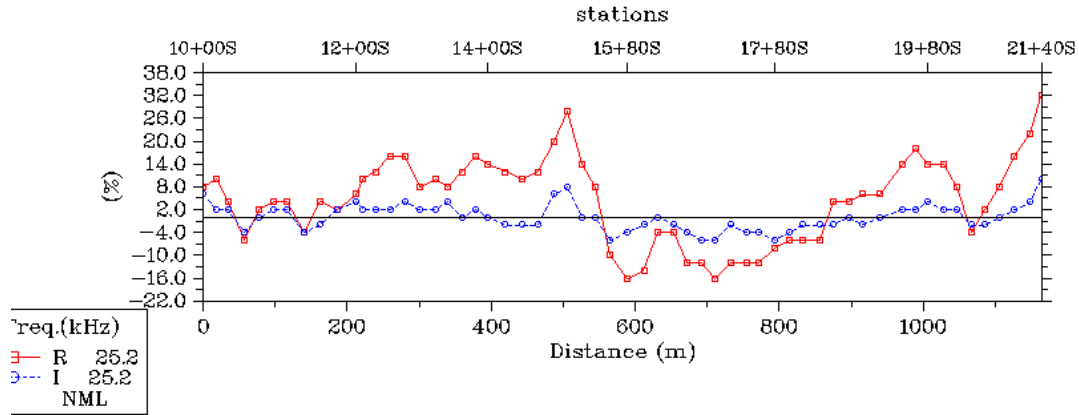
**Figure 4: Line 7.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L7.5E



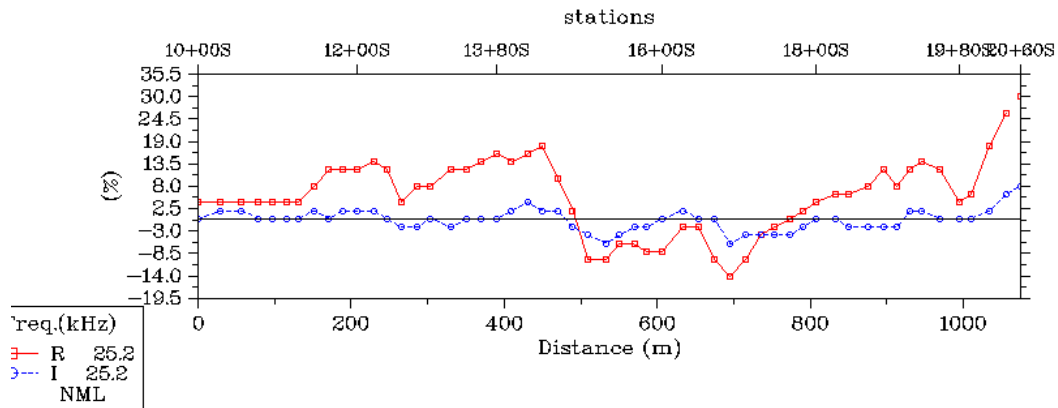
**Figure 5: Line 8.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L8.5E



**Figure 6: Line 9.0E**

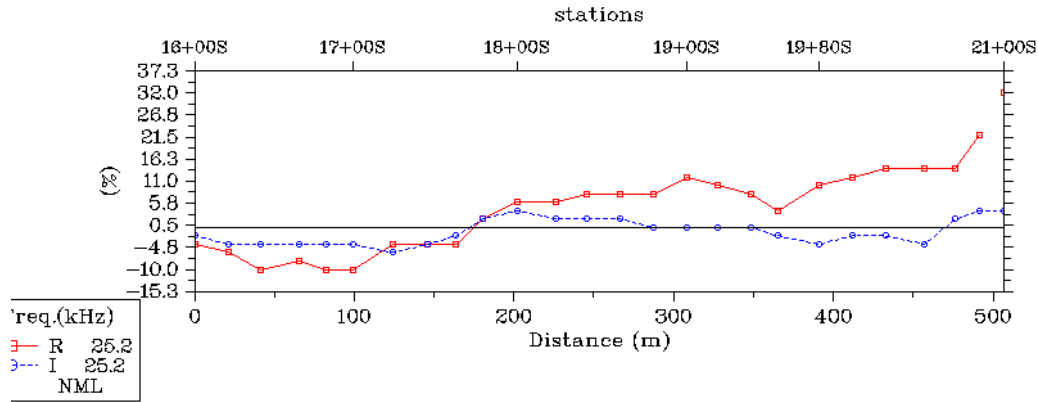
VLF-EM raw data  
Line: Nikos Borden Lake L9.0E





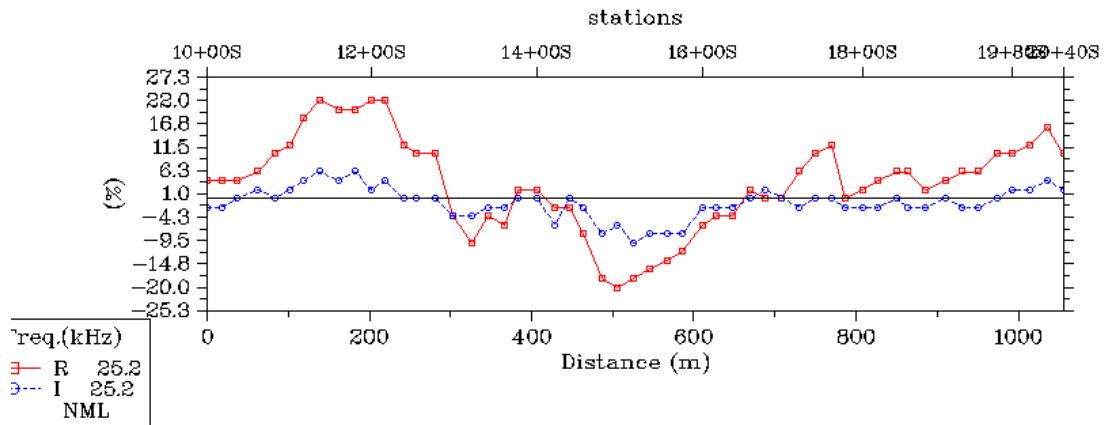
**Figure 7: Line 9.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L9.5E



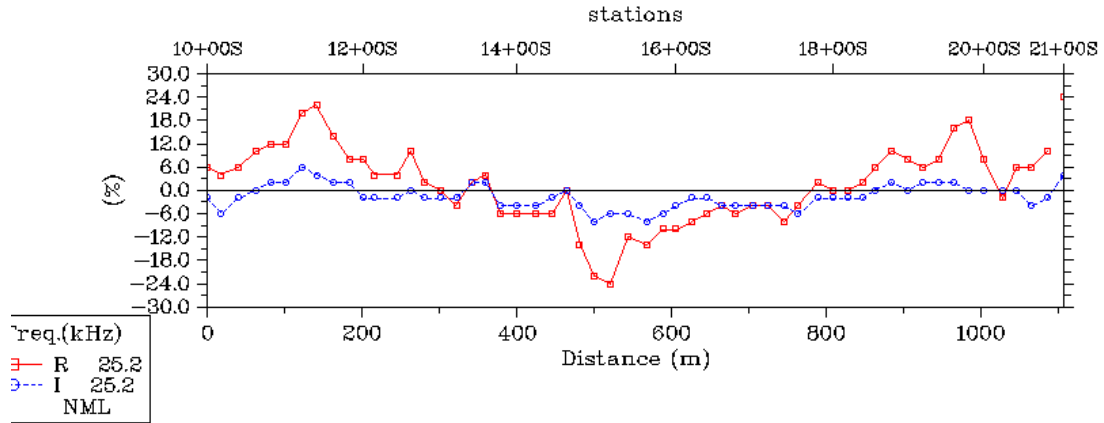
**Figure 8: Line 10.0E**

VLF-EM raw data  
Line: Nikos Borden Lake L10.0E



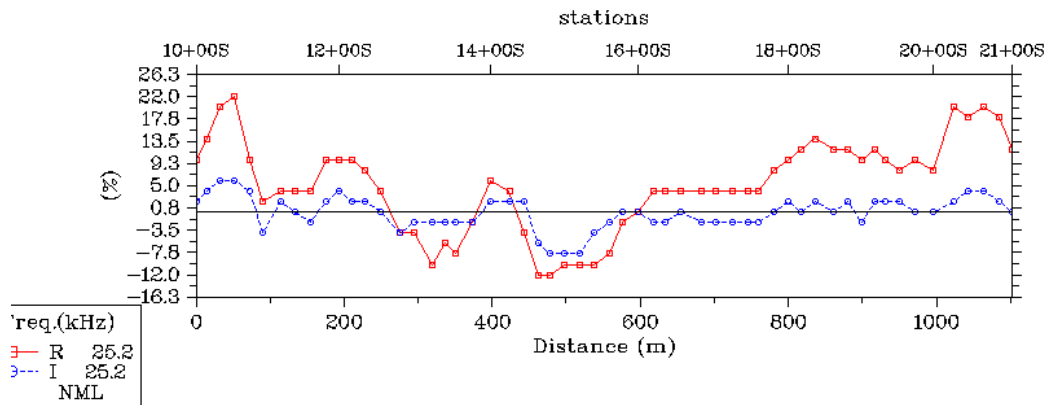
**Figure 9: Line 10.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L10.5E



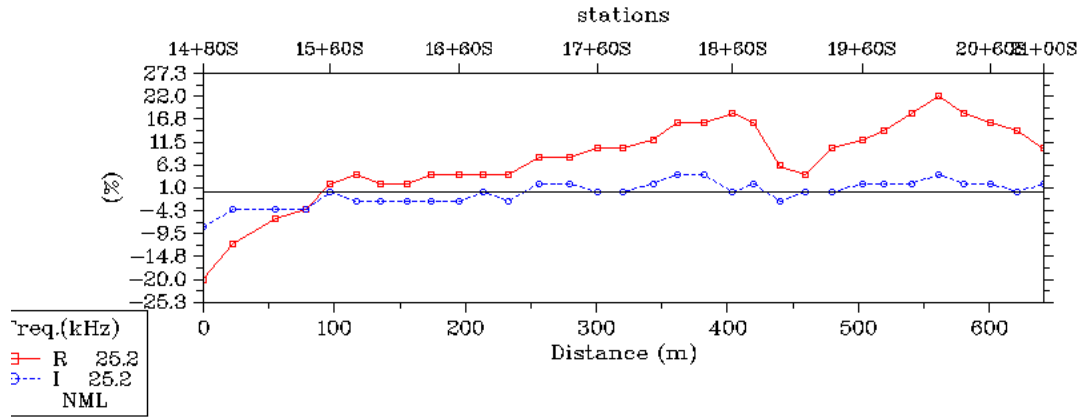
**Figure 10: Line 11.0E**

VLF-EM raw data  
Line: Nikos Borden Lake L11.0E



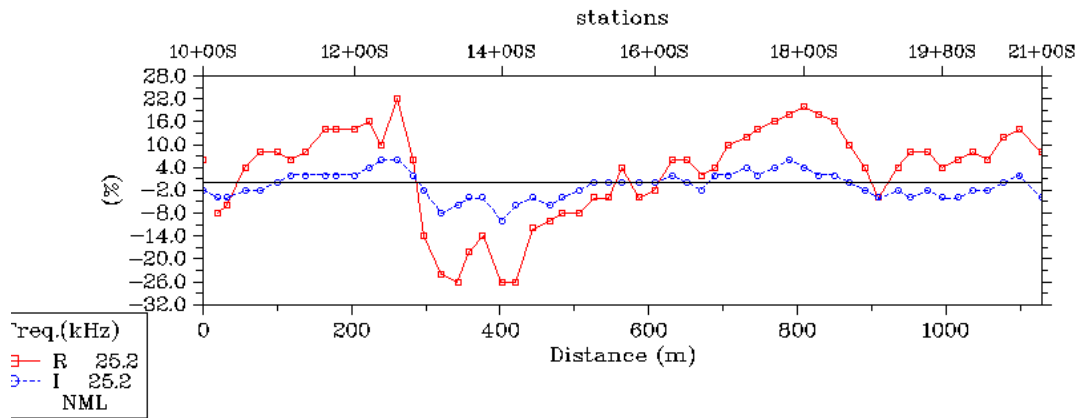
**Figure 11: Line 11.5E**

VLF-EM raw data  
 Line: Nikos Borden Lake L11.5E



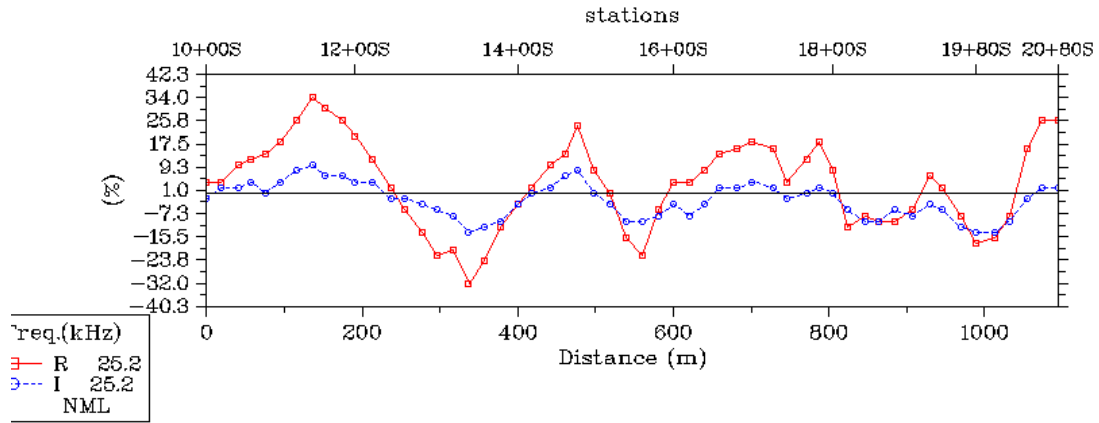
**Figure 12: Line 12.0E**

VLF-EM raw data  
 Line: Nikos Borden Lake L12.0E



**Figure 13: Line 12.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L12.5E



**Figure 14: Line 13.5E**

VLF-EM raw data  
Line: Nikos Borden Lake L13.5E

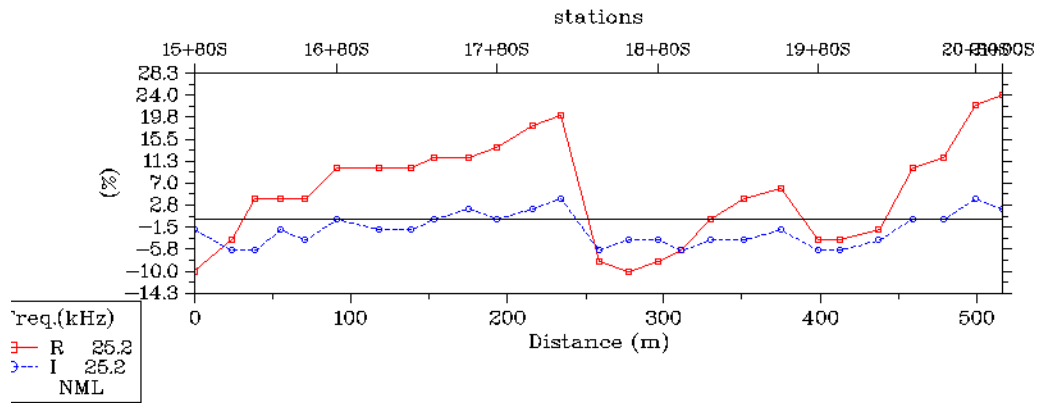
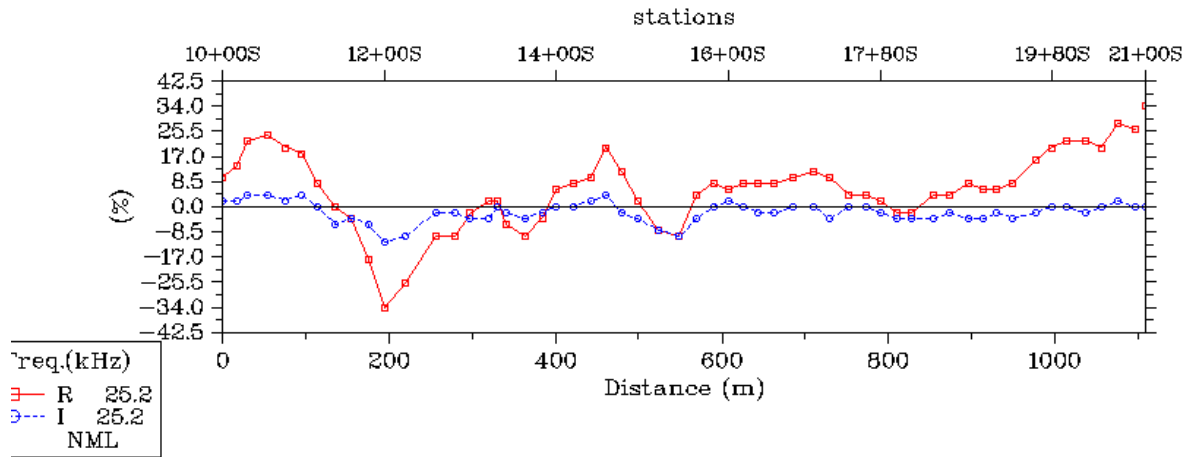


Figure 15: Line 14.5E

VLF-EM raw data  
Line: Nikos Borden Lake L14.5E



***APPENDIXES B -  
Fraser Filter  
Profiles***

# TX NAA

Figure 1: Line 2.5E

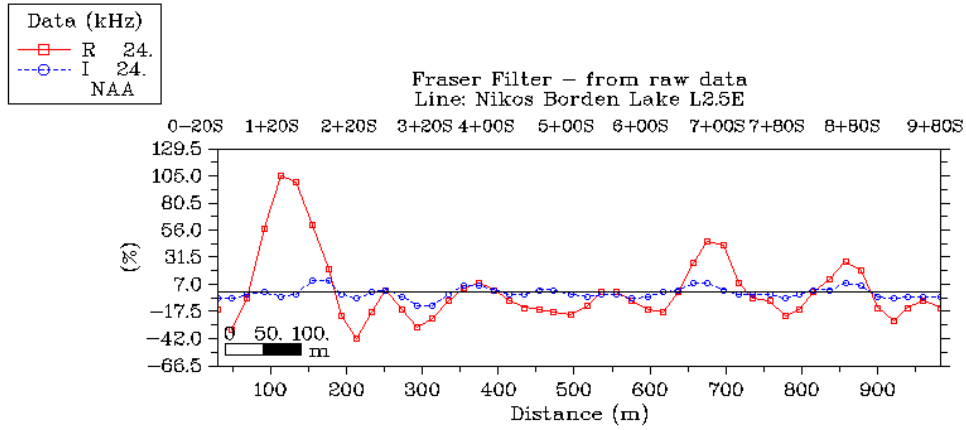


Figure 2: Line 4.5E

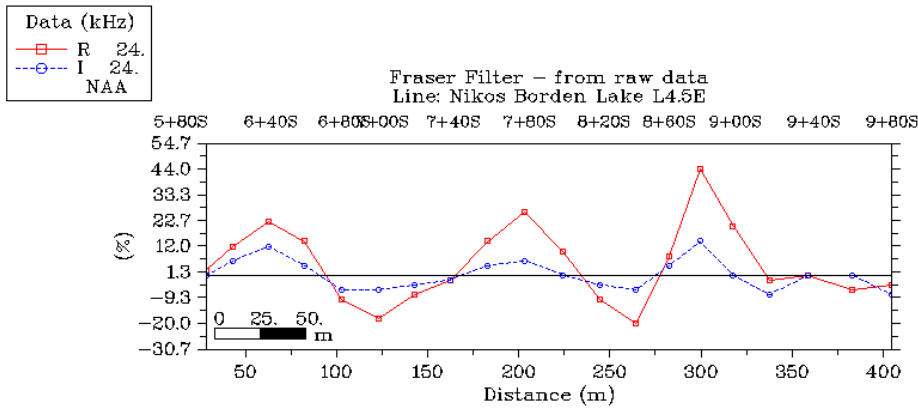




Figure 3: Line 6.5E

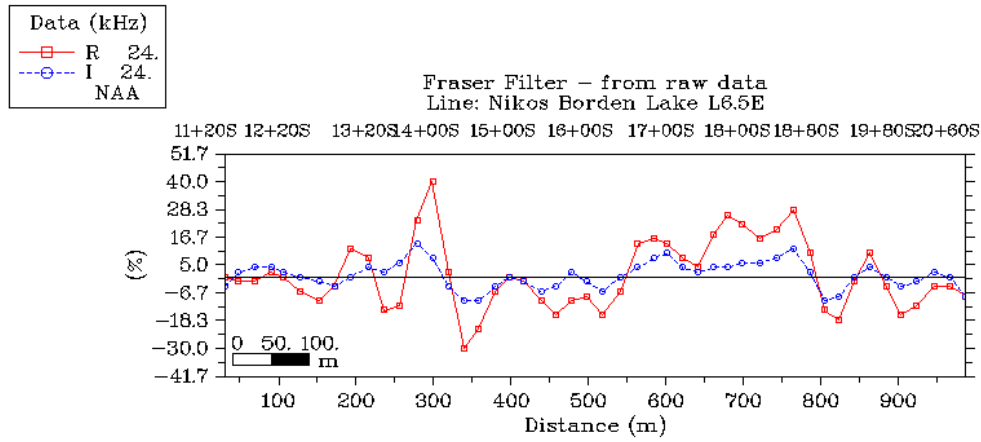


Figure 4: Line 7.5E

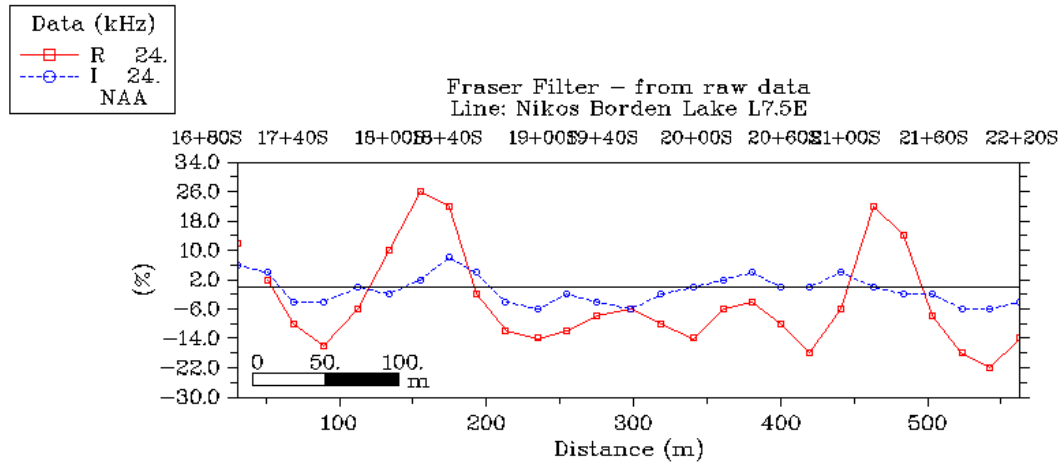


Figure 5: Line 8.5E

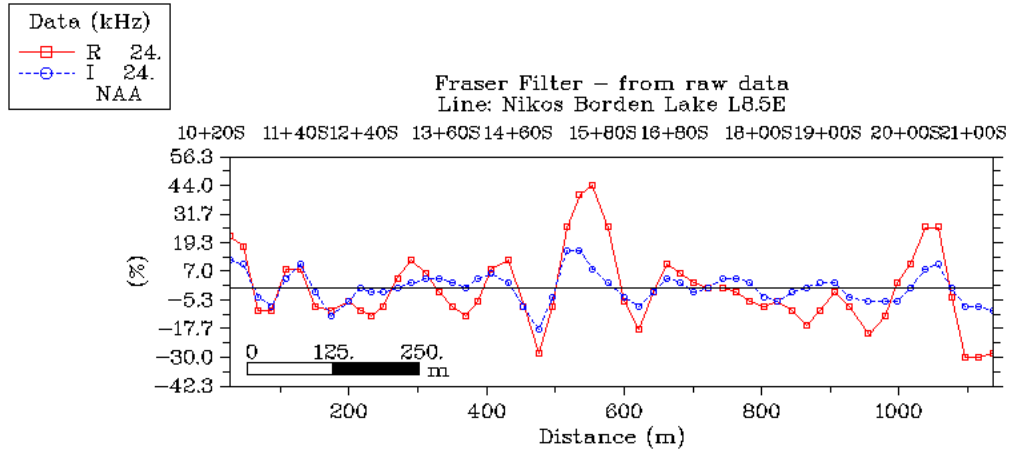
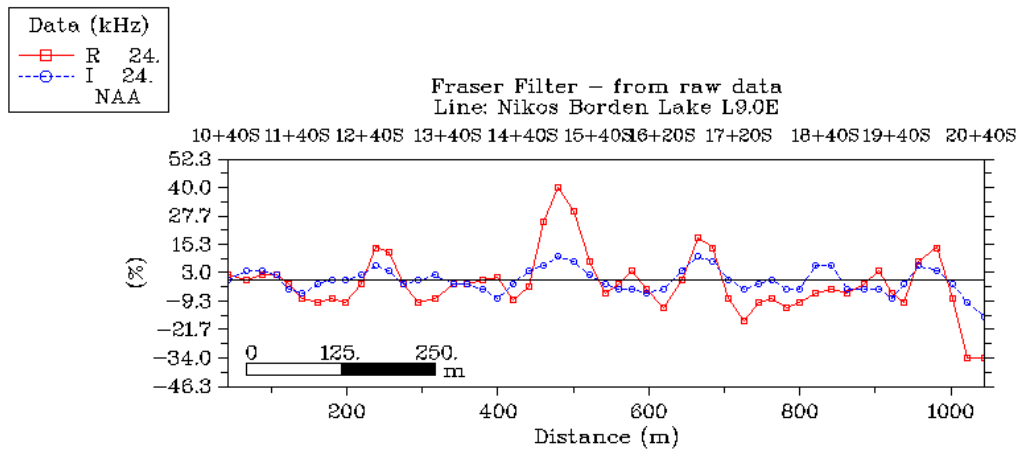
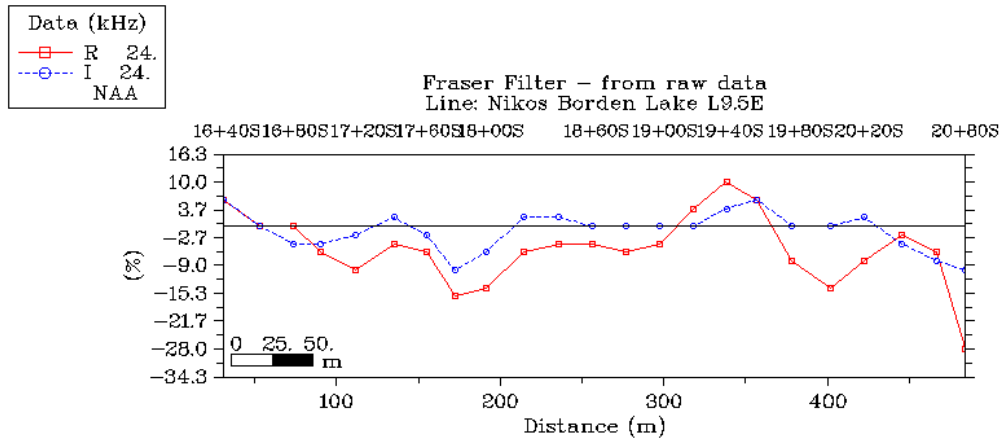


Figure 6: Line 9.0E



**Figure 7: Line 9.5E**



**Figure 8: Line 10.0E**

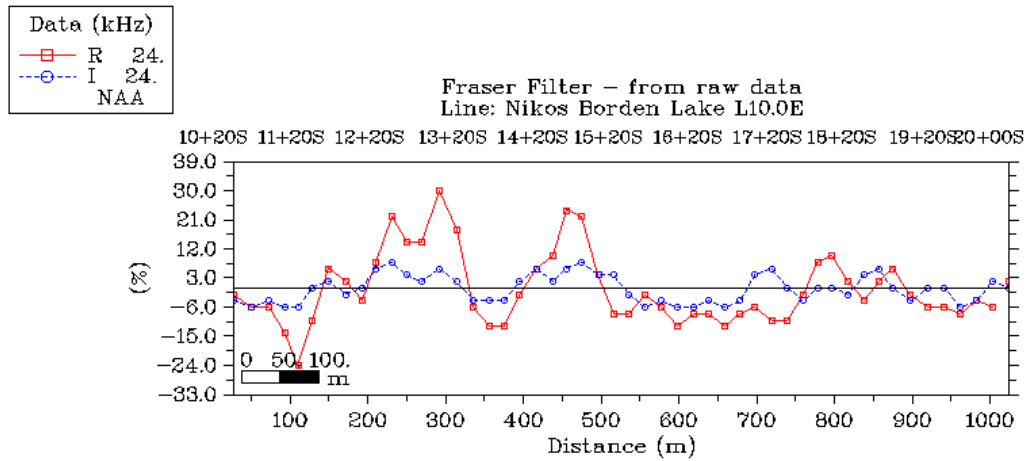


Figure 9: Line 10.5E

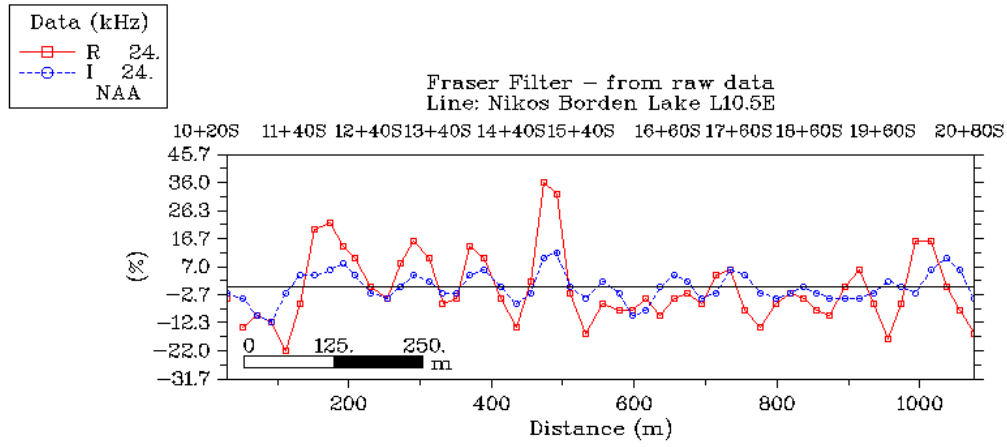


Figure 10: Line 11.0E

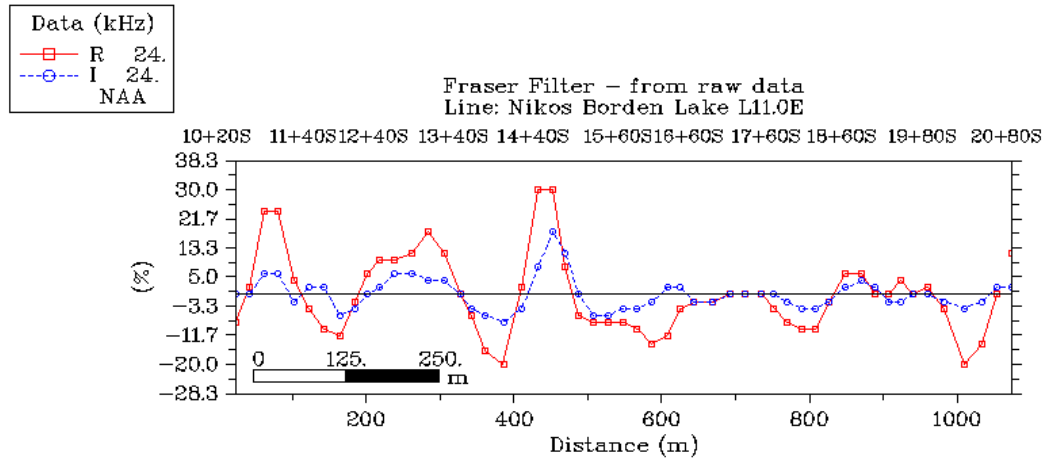


Figure 11: Line 11.5E

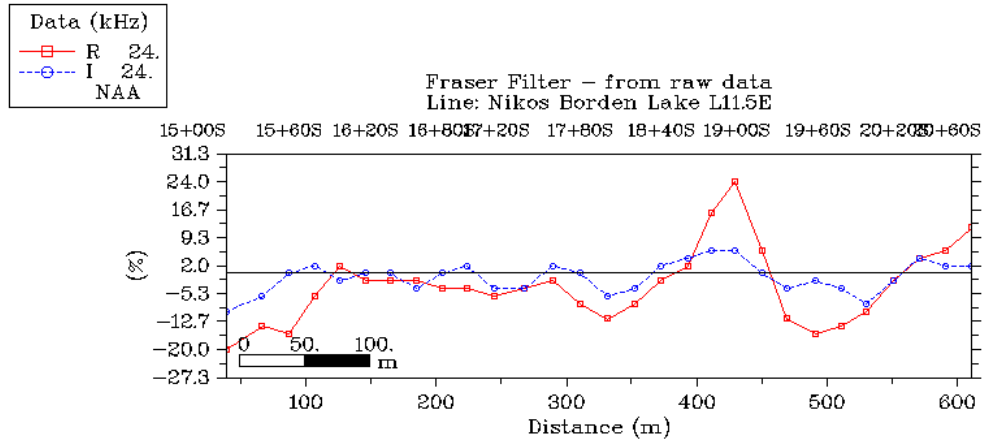


Figure 12: Line 12.0E

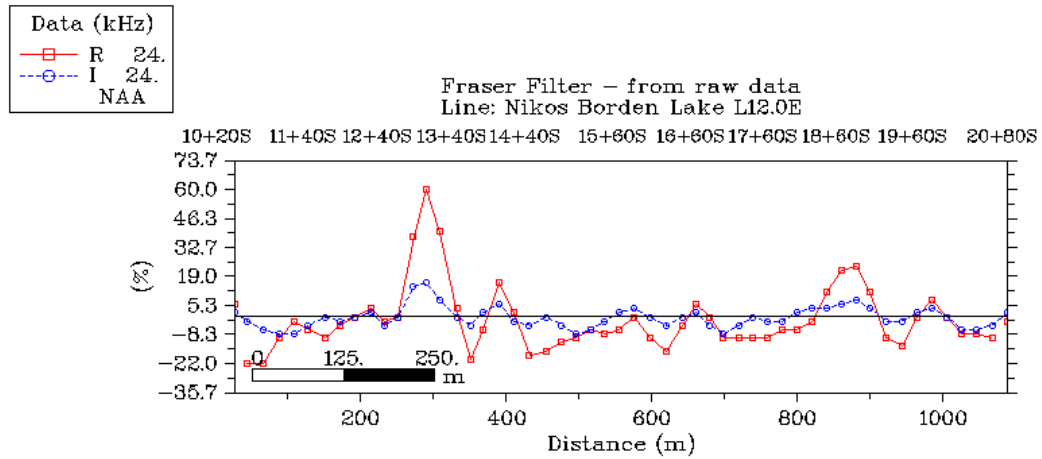


Figure 13: Line 12.5E

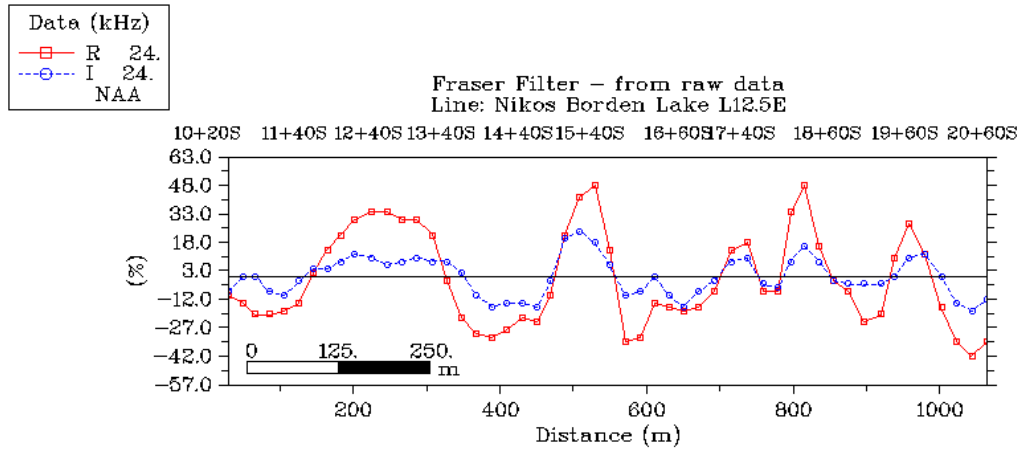


Figure 14: Line 13.5E

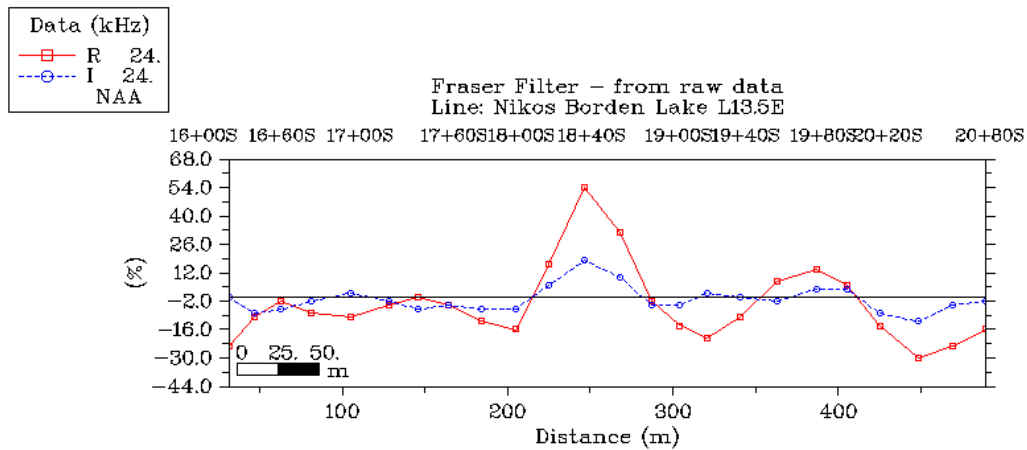
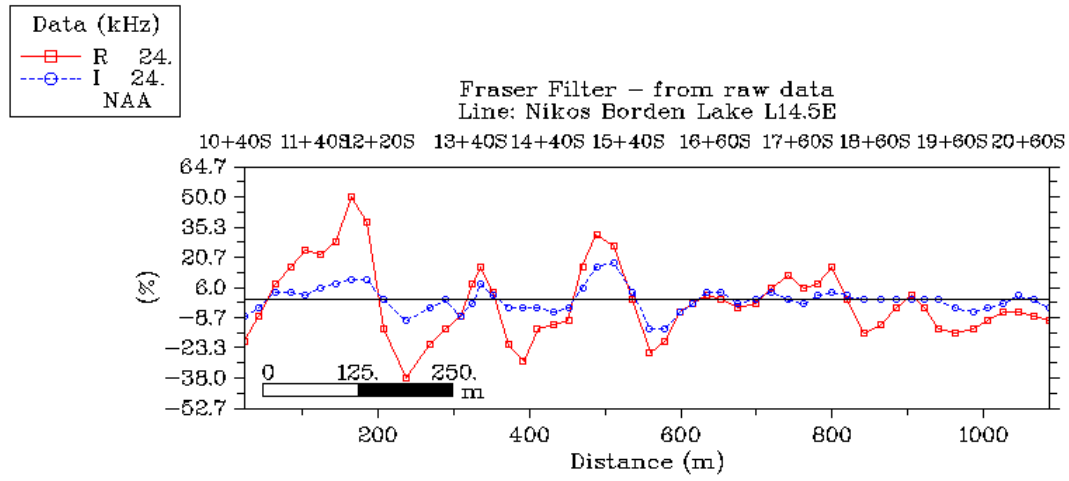


Figure 15: Line 14.5E



# TX NML

Figure 1: Line 2.5E

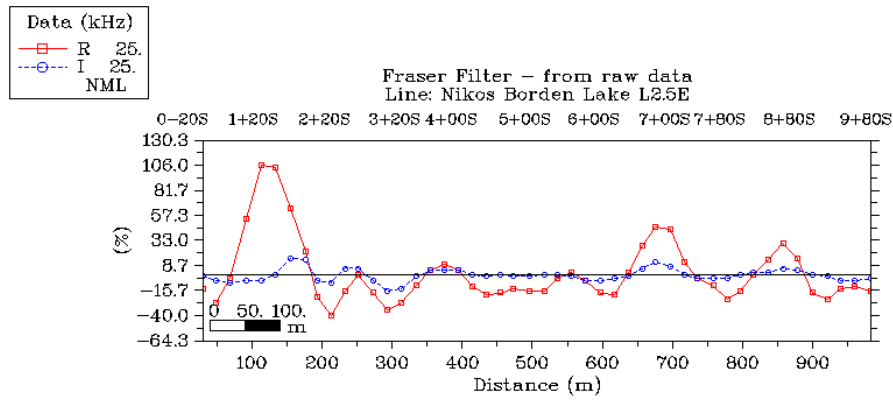
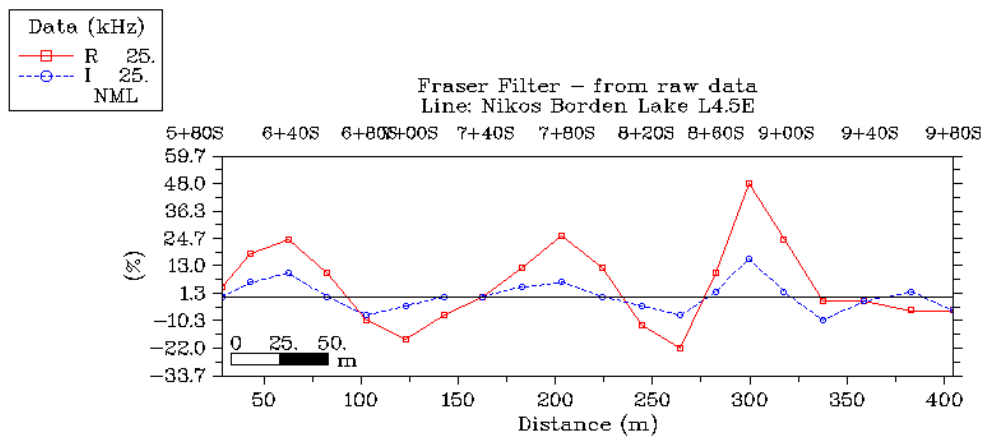
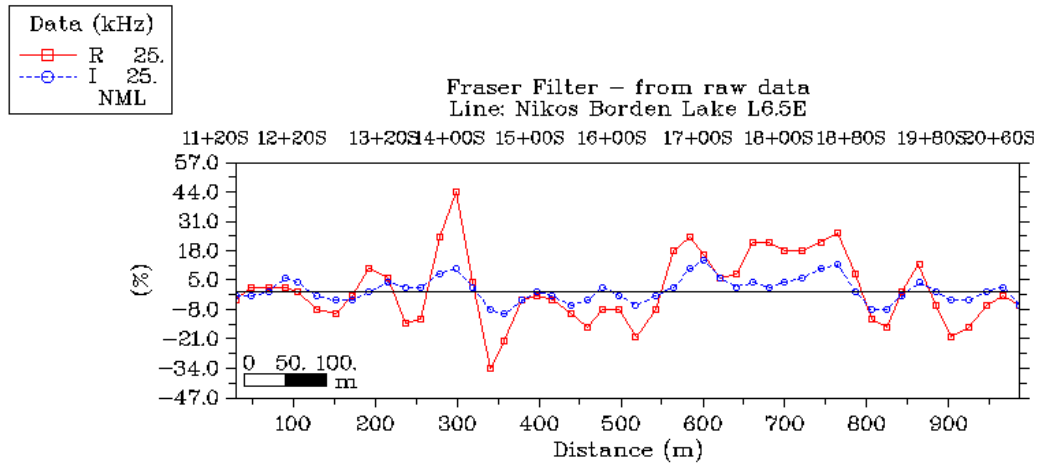


Figure 2: Line 4.5E





**Figure 3: Line 6.5E**



**Figure 4: Line 7.5E**

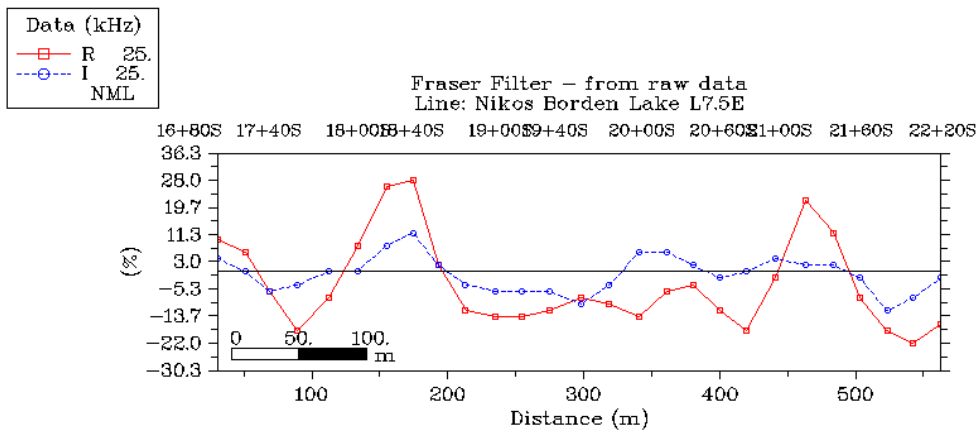


Figure 5: Line 8.5E

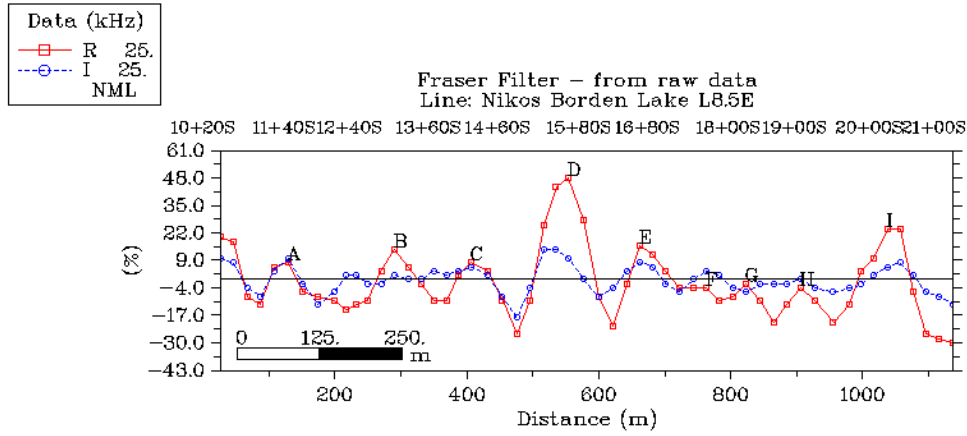
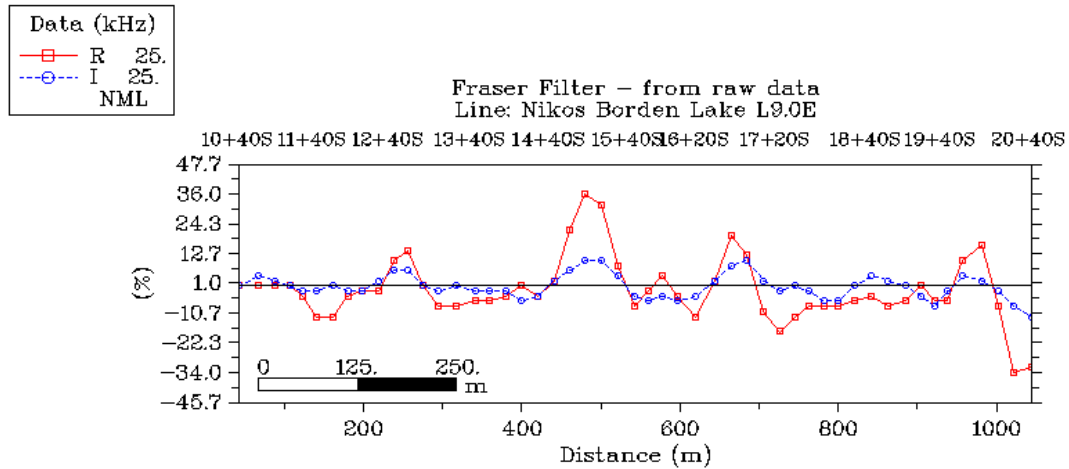
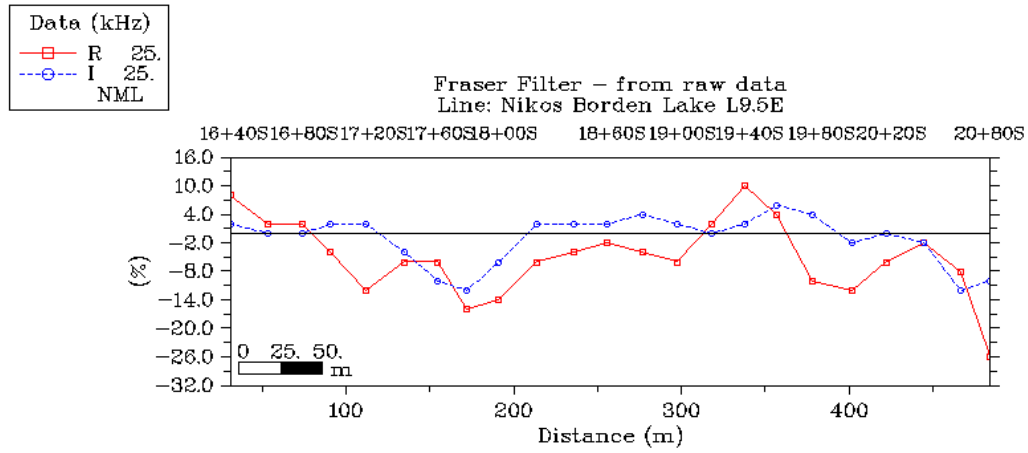


Figure 6: Line 9.0E



**Figure 7: Line 9.5E**



**Figure 8: Line 10.0E**

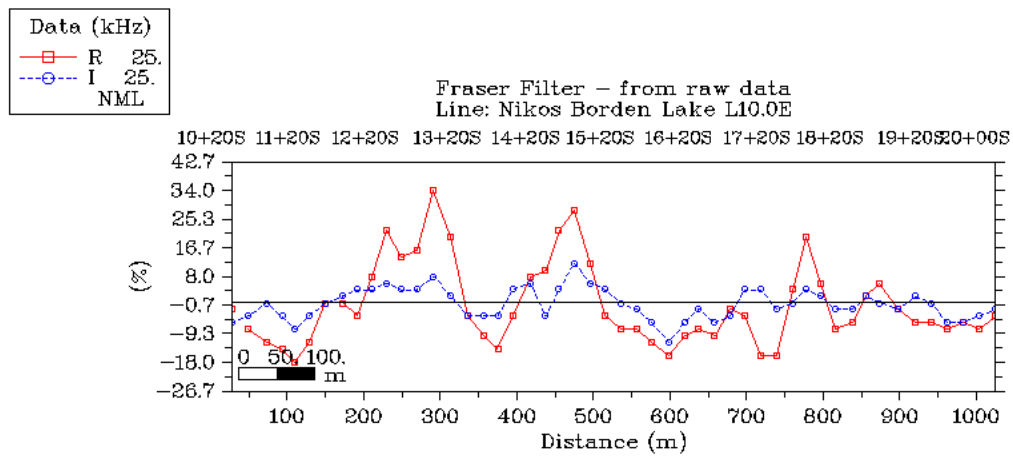


Figure 9: Line 10.5E

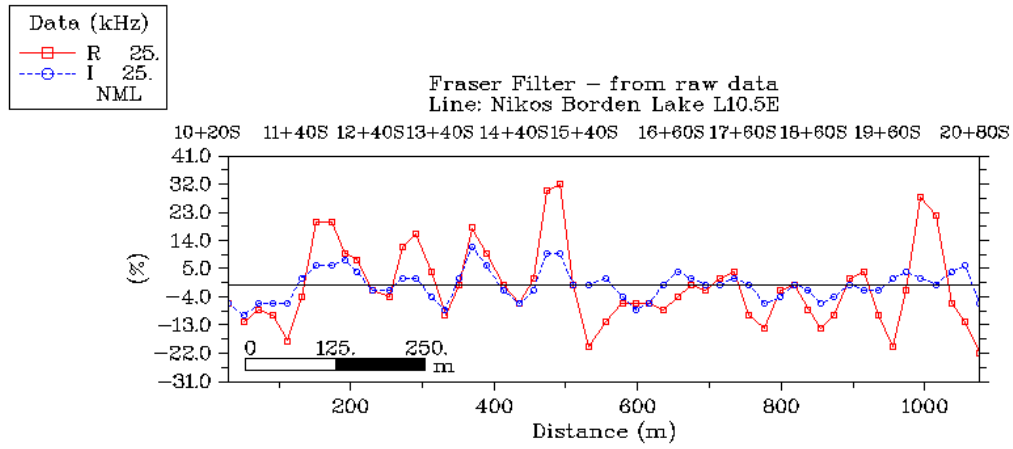
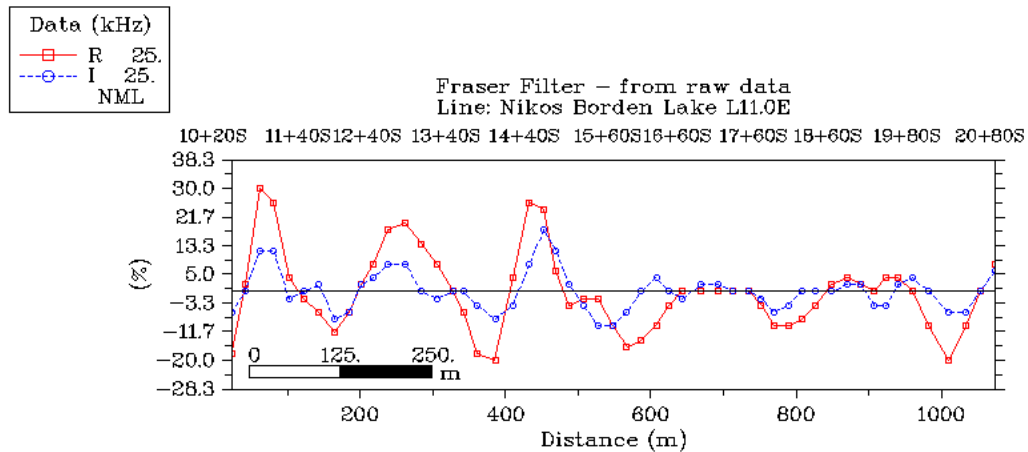
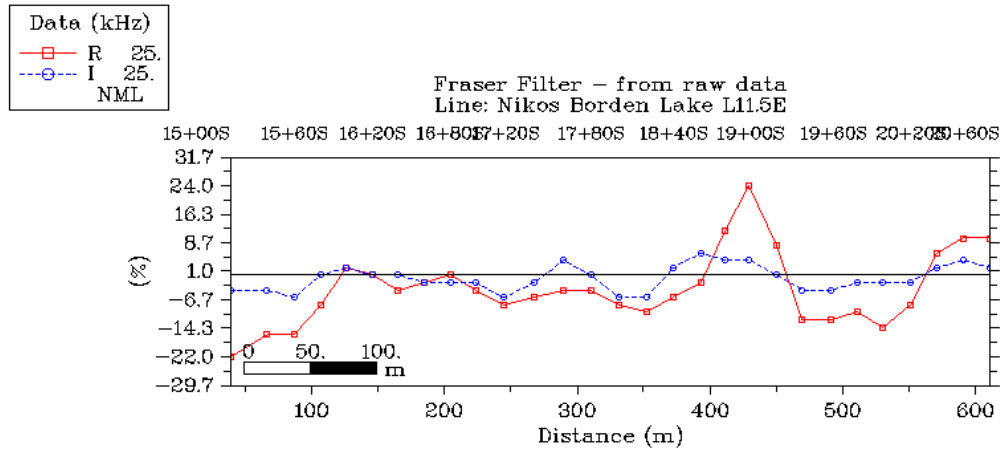


Figure 10: Line 11.0E



**Figure 11: Line 11.5E**



**Figure 12: Line 12.0E**

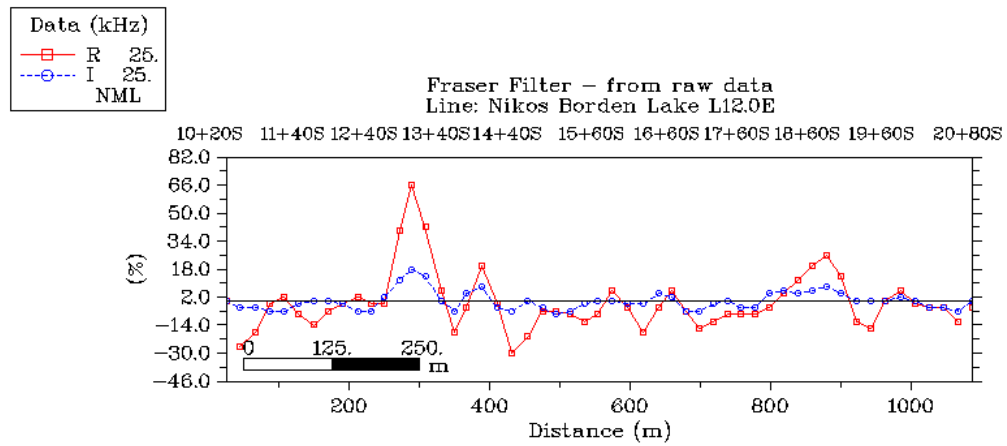


Figure 13: Line 12.5E

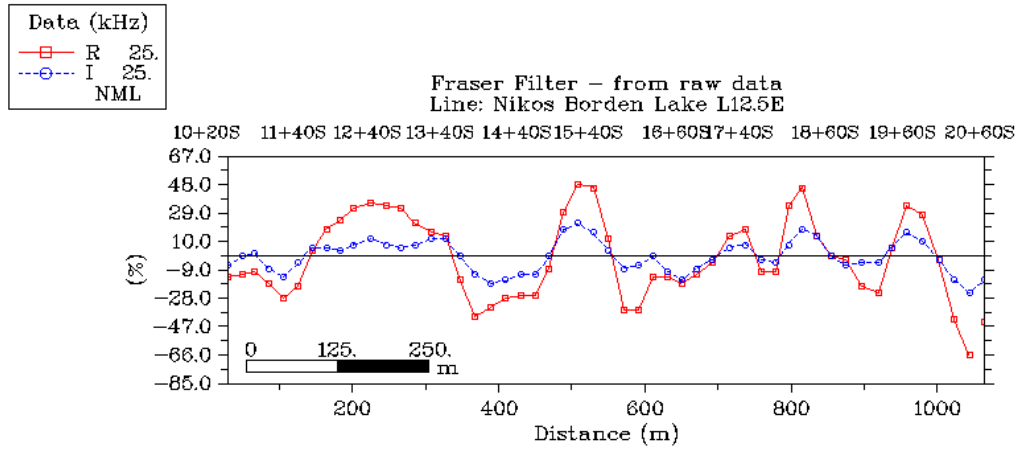


Figure 14: Line 13.5E

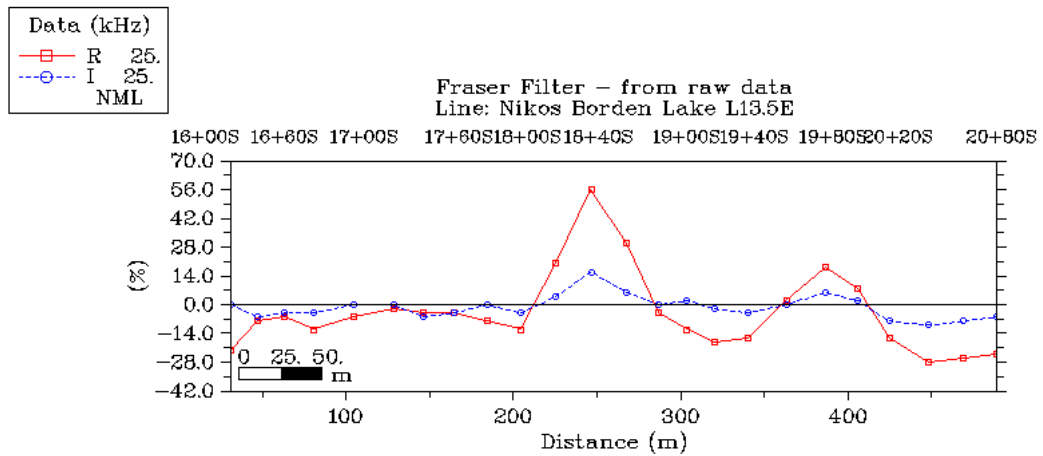
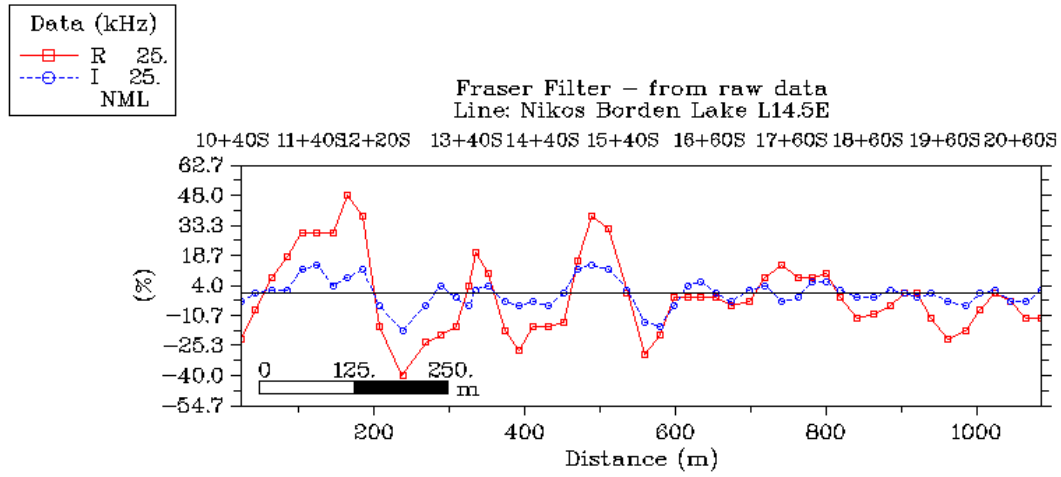


Figure 15: Line 14.5E



## **Appendix 2**



## Final Report Activation Laboratories

Report Number: A16-02745

Report Date: 15/4/2016

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	5	5	2	200	5	1	5	10	2	0.02	1	5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
20731	5	< 5	< 2	< 200	< 5	8	35	120	< 2	11.8	46	< 5
20732	< 5	< 5	3	< 200	< 5	< 1	46	320	< 2	17.8	145	< 5
20733	15	< 5	< 2	< 200	< 5	6	40	320	< 2	14.5	87	< 5
20734	< 5	< 5	< 2	< 200	< 5	3	41	270	< 2	13.3	64	< 5
20736	95	< 5	< 2	< 200	< 5	4	49	290	< 2	14	21	< 5
20737	25	< 5	< 2	< 200	< 5	1	36	310	< 2	16.7	55	< 5
20738	18	< 5	< 2	< 200	< 5	4	45	330	< 2	15.8	113	< 5
20739	54	< 5	< 2	< 200	< 5	15	41	280	< 2	15.1	82	< 5
20740	386	< 5	< 2	< 200	< 5	< 1	49	430	< 2	18.2	121	< 5
20741	32	< 5	< 2	< 200	< 5	< 1	46	300	< 2	13.3	106	< 5
20742	75	< 5	< 2	< 200	< 5	5	45	300	< 2	15	29	< 5
20743	< 5	< 5	< 2	< 200	< 5	5	49	370	< 2	20	218	< 5
20744	< 5	< 5	< 2	< 200	< 5	5	42	260	< 2	14.7	27	< 5
20745	< 5	< 5	< 2	< 200	< 5	4	37	330	< 2	15	71	< 5
20746	91	< 5	3	< 200	< 5	2	46	340	< 2	18	37	< 5
20747	165	< 5	< 2	< 200	< 5	< 1	41	330	< 2	17.3	52	< 5
20748	< 5	< 5	4	< 200	< 5	2	52	350	< 2	18.5	118	< 5
20781	14	< 5	2	< 200	< 5	6	46	330	2	15.8	449	< 5
20782	< 5	< 5	3	< 200	< 5	< 1	40	310	< 2	15.1	108	< 5

## Final Report Activation Laboratories

Report Number: A16-02745

Report Date: 15/4/2016

Analyte Symbol	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sr	Ta	Th	U
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Detection Limit	50	20	0.05	200	50	0.2	0.1	20	0.2	1	0.5	0.5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
20731	< 50	< 20	0.55	< 200	< 50	< 0.2	47.9	< 20	< 0.2	24	53.9	5.6
20732	< 50	< 20	0.55	< 200	< 50	< 0.2	67.4	< 20	< 0.2	5	79.2	13.5
20733	< 50	< 20	0.29	< 200	< 50	< 0.2	60.3	< 20	< 0.2	< 1	47.5	7.1
20734	< 50	< 20	0.32	< 200	< 50	< 0.2	54.5	< 20	< 0.2	< 1	28.6	6
20736	< 50	< 20	0.42	< 200	< 50	< 0.2	62.3	< 20	< 0.2	< 1	14.6	< 0.5
20737	< 50	< 20	0.26	< 200	< 50	< 0.2	68.6	< 20	< 0.2	< 1	46.8	8.7
20738	< 50	< 20	0.48	< 200	< 50	< 0.2	61.5	< 20	< 0.2	< 1	58.6	9.1
20739	< 50	< 20	0.56	< 200	< 50	< 0.2	54.6	< 20	< 0.2	20	72.5	15.1
20740	< 50	< 20	0.27	< 200	< 50	< 0.2	75.2	< 20	< 0.2	3	87.7	11.9
20741	< 50	< 20	0.65	< 200	< 50	< 0.2	57.8	< 20	< 0.2	6	48.9	8.5
20742	< 50	< 20	0.29	< 200	< 50	< 0.2	64.4	< 20	< 0.2	< 1	24.1	2.5
20743	< 50	< 20	0.33	< 200	< 50	< 0.2	71.5	< 20	< 0.2	< 1	74.2	12.8
20744	< 50	< 20	0.19	< 200	< 50	< 0.2	65.7	< 20	< 0.2	3	19.7	1.3
20745	< 50	< 20	0.2	< 200	< 50	< 0.2	66.6	< 20	< 0.2	< 1	42.4	7.7
20746	< 50	< 20	0.28	< 200	< 50	< 0.2	80.7	< 20	< 0.2	< 1	32.2	7.1
20747	< 50	< 20	0.21	< 200	< 50	< 0.2	76.8	< 20	< 0.2	3	46.9	9.5
20748	< 50	< 20	0.53	< 200	< 50	< 0.2	68.4	< 20	< 0.2	6	48.7	5.2
20781	< 50	< 20	0.6	< 200	< 50	< 0.2	67.6	< 20	< 0.2	6	89.1	18.7
20782	< 50	< 20	0.25	< 200	< 50	< 0.2	62.4	< 20	< 0.2	< 1	56.4	9.6

## Final Report Activation Laboratories

Report Number: A16-02745

Report Date: 15/4/2016

Analyte Symbol	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm
Detection Limit	4	200	1	3	10	0.1	0.2	2	0.2	0.05		0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	AR-ICP
20731	< 4	< 200	333	644	270	44.7	12.8	2	6.3	0.15	54.8	< 0.2
20732	< 4	< 200	258	523	200	49.2	11.4	4	15.7	0.85	25	< 0.2
20733	< 4	< 200	140	253	60	17	2.9	< 2	11.5	0.62	59.1	< 0.2
20734	< 4	< 200	89	181	60	12.4	2.3	2	9	0.49	64.6	< 0.2
20736	< 4	< 200	55	127	30	10	1.9	< 2	9	0.48	58.2	< 0.2
20737	< 4	< 200	154	258	150	18.7	2.9	3	10.8	0.54	62.1	< 0.2
20738	< 4	< 200	202	377	90	23.2	4	3	12.5	0.71	38.2	< 0.2
20739	< 4	< 200	182	314	150	19.6	4.4	< 2	12.1	0.67	60.9	< 0.2
20740	< 4	< 200	263	418	130	23.1	4.5	< 2	14.6	0.76	63	< 0.2
20741	< 4	< 200	152	295	90	20.9	5.3	< 2	9.2	0.51	52.8	< 0.2
20742	< 4	< 200	99	222	40	12.9	2.5	2	10.5	0.54	61.5	< 0.2
20743	< 4	< 200	228	376	170	34.3	5.3	< 2	18.7	1.59	10.7	< 0.2
20744	< 4	< 200	71	136	30	12.1	2.1	< 2	10.4	0.56	63.7	< 0.2
20745	< 4	< 200	125	225	60	18.4	2.8	< 2	11.4	0.58	62.2	< 0.2
20746	< 4	< 200	126	253	80	19.8	2.6	2	12.3	0.63	31.7	< 0.2
20747	< 4	< 200	142	244	80	21.4	2.9	< 2	12	0.64	60.9	< 0.2
20748	< 4	< 200	142	313	130	34.1	7.2	< 2	15.2	0.73	22.1	< 0.2
20781	< 4	< 200	273	502	130	40.3	7.3	< 2	14.7	0.87	33.2	< 0.2
20782	< 4	< 200	172	306	70	25.4	4.3	< 2	12.9	0.68	59.1	< 0.2

**Final Report**  
**Activation Laboratories**

Report Number: A16-02745

Report Date: 15/4/2016

Analyte Symbol	Cd	Cu	Mn	Mo	Ni	Pb	Zn	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.5	1	2	2	1	2	1	0.01
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
20731	< 0.5	26	907	< 2	17	8	25	0.06
20732	< 0.5	14	660	< 2	12	13	27	0.01
20733	< 0.5	8	744	< 2	16	11	14	< 0.01
20734	< 0.5	9	584	< 2	13	6	13	< 0.01
20736	< 0.5	13	472	< 2	18	4	17	0.03
20737	< 0.5	5	600	< 2	8	6	12	< 0.01
20738	< 0.5	7	719	< 2	14	14	16	< 0.01
20739	< 0.5	13	778	< 2	21	17	20	0.02
20740	< 0.5	8	676	< 2	14	15	18	< 0.01
20741	< 0.5	14	554	< 2	22	11	19	< 0.01
20742	< 0.5	7	608	< 2	12	7	12	0.01
20743	< 0.5	10	785	< 2	11	9	13	< 0.01
20744	< 0.5	8	669	< 2	11	7	12	0.02
20745	< 0.5	10	753	< 2	8	11	21	< 0.01
20746	< 0.5	11	653	< 2	15	7	17	0.02
20747	< 0.5	8	694	< 2	12	10	15	0.01
20748	< 0.5	22	746	< 2	26	7	23	0.05
20781	< 0.5	7	623	< 2	10	11	18	< 0.01
20782	< 0.5	8	804	< 2	18	14	13	< 0.01



**Date Submitted:** 31-Mar-16  
**Invoice No.:** A16-02745  
**Invoice Date:** 15-Apr-16  
**Your Reference:** BORDEN LAKE EXTENSION

**Nikos Exploration Ltd.**  
**326 Rusholme Rd.**  
**Toronto Ontario M6H 2Z5**  
**Canada**

**ATTN: Roger Moss**

## CERTIFICATE OF ANALYSIS

19 Heavy Mineral Concentrates samples were submitted for analysis.

The following analytical package(s) were requested:

Code 3A-Large HMC INAA(INAAGEO)

Code 3C Aqua Regia ICP(AQUAGEO)

REPORT      **A16-02745**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Elitsa Hrischeva". The signature is fluid and cursive, written over a horizontal line.

Elitsa Hrischeva, Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5  
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

## Results

## Activation Laboratories Ltd.

## Report: A16-02745

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	5	5	2	200	5	1	5	10	2	0.02	1	5	50	20	0.05	200	50	0.2	0.1	20	0.2	1	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
20731	5	< 5	< 2	< 200	< 5	8	35	120	< 2	11.8	46	< 5	< 50	< 20	0.55	< 200	< 50	< 0.2	47.9	< 20	< 0.2	24	53.9
20732	< 5	< 5	3	< 200	< 5	< 1	46	320	< 2	17.8	145	< 5	< 50	< 20	0.55	< 200	< 50	< 0.2	67.4	< 20	< 0.2	5	79.2
20733	15	< 5	< 2	< 200	< 5	6	40	320	< 2	14.5	87	< 5	< 50	< 20	0.29	< 200	< 50	< 0.2	60.3	< 20	< 0.2	< 1	47.5
20734	< 5	< 5	< 2	< 200	< 5	3	41	270	< 2	13.3	64	< 5	< 50	< 20	0.32	< 200	< 50	< 0.2	54.5	< 20	< 0.2	< 1	28.6
20736	95	< 5	< 2	< 200	< 5	4	49	290	< 2	14.0	21	< 5	< 50	< 20	0.42	< 200	< 50	< 0.2	62.3	< 20	< 0.2	< 1	14.6
20737	25	< 5	< 2	< 200	< 5	1	36	310	< 2	16.7	55	< 5	< 50	< 20	0.26	< 200	< 50	< 0.2	68.6	< 20	< 0.2	< 1	46.8
20738	18	< 5	< 2	< 200	< 5	4	45	330	< 2	15.8	113	< 5	< 50	< 20	0.48	< 200	< 50	< 0.2	61.5	< 20	< 0.2	< 1	58.6
20739	54	< 5	< 2	< 200	< 5	15	41	280	< 2	15.1	82	< 5	< 50	< 20	0.56	< 200	< 50	< 0.2	54.6	< 20	< 0.2	20	72.5
20740	386	< 5	< 2	< 200	< 5	< 1	49	430	< 2	18.2	121	< 5	< 50	< 20	0.27	< 200	< 50	< 0.2	75.2	< 20	< 0.2	3	87.7
20741	32	< 5	< 2	< 200	< 5	< 1	46	300	< 2	13.3	106	< 5	< 50	< 20	0.65	< 200	< 50	< 0.2	57.8	< 20	< 0.2	6	48.9
20742	75	< 5	< 2	< 200	< 5	5	45	300	< 2	15.0	29	< 5	< 50	< 20	0.29	< 200	< 50	< 0.2	64.4	< 20	< 0.2	< 1	24.1
20743	< 5	< 5	< 2	< 200	< 5	5	49	370	< 2	20.0	218	< 5	< 50	< 20	0.33	< 200	< 50	< 0.2	71.5	< 20	< 0.2	< 1	74.2
20744	< 5	< 5	< 2	< 200	< 5	5	42	260	< 2	14.7	27	< 5	< 50	< 20	0.19	< 200	< 50	< 0.2	65.7	< 20	< 0.2	3	19.7
20745	< 5	< 5	< 2	< 200	< 5	4	37	330	< 2	15.0	71	< 5	< 50	< 20	0.20	< 200	< 50	< 0.2	66.6	< 20	< 0.2	< 1	42.4
20746	91	< 5	3	< 200	< 5	2	46	340	< 2	18.0	37	< 5	< 50	< 20	0.28	< 200	< 50	< 0.2	80.7	< 20	< 0.2	< 1	32.2
20747	165	< 5	< 2	< 200	< 5	< 1	41	330	< 2	17.3	52	< 5	< 50	< 20	0.21	< 200	< 50	< 0.2	76.8	< 20	< 0.2	3	46.9
20748	< 5	< 5	4	< 200	< 5	2	52	350	< 2	18.5	118	< 5	< 50	< 20	0.53	< 200	< 50	< 0.2	68.4	< 20	< 0.2	6	48.7
20781	14	< 5	2	< 200	< 5	6	46	330	2	15.8	449	< 5	< 50	< 20	0.60	< 200	< 50	< 0.2	67.6	< 20	< 0.2	6	89.1
20782	< 5	< 5	3	< 200	< 5	< 1	40	310	< 2	15.1	108	< 5	< 50	< 20	0.25	< 200	< 50	< 0.2	62.4	< 20	< 0.2	< 1	56.4

Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	S	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.5	4	200	1	3	10	0.1	0.2	2	0.2	0.05		0.2	0.5	1	2	2	1	2	1		0.01
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
20731	5.6	< 4	< 200	333	644	270	44.7	12.8	2	6.3	0.15	54.8	< 0.2	< 0.5	26	907	< 2	17	8	25	0.06	
20732	13.5	< 4	< 200	258	523	200	49.2	11.4	4	15.7	0.85	25.0	< 0.2	< 0.5	14	660	< 2	12	13	27	0.01	
20733	7.1	< 4	< 200	140	253	60	17.0	2.9	< 2	11.5	0.62	59.1	< 0.2	< 0.5	8	744	< 2	16	11	14	< 0.01	
20734	6.0	< 4	< 200	89	181	60	12.4	2.3	2	9.0	0.49	64.6	< 0.2	< 0.5	9	584	< 2	13	6	13	< 0.01	
20736	< 0.5	< 4	< 200	55	127	30	10.0	1.9	< 2	9.0	0.48	58.2	< 0.2	< 0.5	13	472	< 2	18	4	17	0.03	
20737	8.7	< 4	< 200	154	258	150	18.7	2.9	3	10.8	0.54	62.1	< 0.2	< 0.5	5	600	< 2	8	6	12	< 0.01	
20738	9.1	< 4	< 200	202	377	90	23.2	4.0	3	12.5	0.71	38.2	< 0.2	< 0.5	7	719	< 2	14	14	16	< 0.01	
20739	15.1	< 4	< 200	182	314	150	19.6	4.4	< 2	12.1	0.67	60.9	< 0.2	< 0.5	13	778	< 2	21	17	20	0.02	
20740	11.9	< 4	< 200	263	418	130	23.1	4.5	< 2	14.6	0.76	63.0	< 0.2	< 0.5	8	676	< 2	14	15	18	< 0.01	
20741	8.5	< 4	< 200	152	295	90	20.9	5.3	< 2	9.2	0.51	52.8	< 0.2	< 0.5	14	554	< 2	22	11	19	< 0.01	
20742	2.5	< 4	< 200	99	222	40	12.9	2.5	2	10.5	0.54	61.5	< 0.2	< 0.5	7	608	< 2	12	7	12	0.01	
20743	12.8	< 4	< 200	228	376	170	34.3	5.3	< 2	18.7	1.59	10.7	< 0.2	< 0.5	10	785	< 2	11	9	13	< 0.01	
20744	1.3	< 4	< 200	71	136	30	12.1	2.1	< 2	10.4	0.56	63.7	< 0.2	< 0.5	8	669	< 2	11	7	12	0.02	
20745	7.7	< 4	< 200	125	225	60	18.4	2.8	< 2	11.4	0.58	62.2	< 0.2	< 0.5	10	753	< 2	8	11	21	< 0.01	
20746	7.1	< 4	< 200	126	253	80	19.8	2.6	2	12.3	0.63	31.7	< 0.2	< 0.5	11	653	< 2	15	7	17	0.02	
20747	9.5	< 4	< 200	142	244	80	21.4	2.9	< 2	12.0	0.64	60.9	< 0.2	< 0.5	8	694	< 2	12	10	15	0.01	
20748	5.2	< 4	< 200	142	313	130	34.1	7.2	< 2	15.2	0.73	22.1	< 0.2	< 0.5	22	746	< 2	26	7	23	0.05	
20781	18.7	< 4	< 200	273	502	130	40.3	7.3	< 2	14.7	0.87	33.2	< 0.2	< 0.5	7	623	< 2	10	11	18	< 0.01	
20782	9.6	< 4	< 200	172	306	70	25.4	4.3	< 2	12.9	0.68	59.1	< 0.2	< 0.5	8	804	< 2	18	14	13	< 0.01	

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	5	5	2	200	5	1	5	10	2	0.02	1	5	50	20	0.05	200	50	0.2	0.1	20	0.2	1	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas																							
GXR-1 Cert																							
GXR-4 Meas																							
GXR-4 Cert																							
GXR-6 Meas																							
GXR-6 Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
SdAR-M2 (U.S.G.S.) Meas																							
SdAR-M2 (U.S.G.S.) Cert																							
DMMAS 119 Meas	1750		1840	1300			49	70		3.68					2.09			7.1	6.7				
DMMAS 119 Cert	1754		1850	1252			49	73		3.59					2.11			7.9	6.5				
DMMAS 119 Meas	1860		1920	1300			48	80		3.62					2.08			7.4	6.9				
DMMAS 119 Cert	1754		1850	1252			49	73		3.59					2.11			7.9	6.5				
20741 Orig																							
20741 Dup																							
Method Blank																							
Method Blank																							
Method Blank	< 5	< 5	< 2	< 200	< 5	< 1	< 5	< 10	< 2	< 0.02	< 1	< 5	< 50	< 20	< 0.05	< 200	< 50	< 0.2	< 0.1	< 20	< 0.2	< 1	< 0.5
Method Blank	< 5	< 5	< 2	< 200	< 5	< 1	< 5	< 10	< 2	< 0.02	< 1	< 5	< 50	< 20	< 0.05	< 200	< 50	< 0.2	< 0.1	< 20	< 0.2	< 1	< 0.5



Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	S	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	
Lower Limit	0.5	4	200	1	3	10	0.1	0.2	2	0.2	0.05		0.2	0.5	1	2	2	1	2	1	0.01	
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	
GXR-1 Meas														28.5	1.5	1180	836	15	32	681	711	0.20
GXR-1 Cert														31.0	3.30	1110	852	18.0	41.0	730	760	0.257
GXR-4 Meas														3.2	< 0.5	6360	148	304	37	48	75	1.67
GXR-4 Cert														4.0	0.860	6520	155	310	42.0	52.0	73.0	1.77
GXR-6 Meas														0.3	< 0.5	71	1050	< 2	22	90	126	0.01
GXR-6 Cert														1.30	1.00	66.0	1010	2.40	27.0	101	118	0.0160
OREAS 45d (4-Acid) Meas																390	470	< 2	228	16	47	0.05
OREAS 45d (4-Acid) Cert																371.0	490.000	2.500	231.0	21.8	45.7	0.049
SdAR-M2 (U.S.G.S.) Meas														5.1	246			13	45	860	829	
SdAR-M2 (U.S.G.S.) Cert														5.1	236.0000			13.3	48.8	808	760	
DMMAS 119 Meas	25.5			18	28		2.2															
DMMAS 119 Cert	26.3			17.2	28.8		2.40															
DMMAS 119 Meas	28.1			17	31		2.4															
DMMAS 119 Cert	26.3			17.2	28.8		2.40															
20741 Orig														< 0.2	< 0.5	15	561	< 2	22	11	19	0.01
20741 Dup														< 0.2	< 0.5	14	548	< 2	23	11	19	< 0.01
Method Blank														< 0.2	< 0.5	< 1	< 2	< 2	< 1	< 2	2	< 0.01
Method Blank														< 0.2	< 0.5	< 1	< 2	< 2	< 1	< 2	1	< 0.01
Method Blank	< 0.5	< 4	< 200	< 1	< 3	< 10	< 0.1	< 0.2	< 2	< 0.2	< 0.05	30.0										
Method Blank	< 0.5	< 4	< 200	< 1	< 3	< 10	< 0.1	< 0.2	< 2	< 0.2	< 0.05	10.0										