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VLF EM-16 Surveying Report

On

Claim 1237529

2·56815

Prepared For

Flag Resources

By

Frank Racicot

May 8, 2016

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Location, Access and Ownership:

The claim is owned by Flag Resources Ltd (1985) and their address is 51 Hensall Cir, Mississauga, Ontario, L5A 1Y1.

The claim where the work was done 1237529, is located east of Sudbury in Rathbun Township. Road access is via Highway 17 east to Kukagami Road, situated about 12 km east of the village of Wahnapitae.

From here one proceeds for about 25 km up to where the east arm of Bolands Bay on Lake Wahnapitae comes close to the west shore of Matagamasi Lake. The UTM northing would be about 5178000N.

There is a road along the narrow strip of land between these two bodies of water and it was here that Racicot parked his vehicle and then walked on the ice, and bush crashed, on April 23, 2016 up to claim 1237529.

Previous Work:

In 1994 a deep hole was drilled just east of claim 1237529 on what is now claim 527377. This deep hole was apparently drilled to test for a possible east extension of the high grade Ni-Cu PGE mineralization located about 6 km to the southwest in Rathbun township.

The hole was collared in altered, albitized Gowganda sediments and was drilled to a depth of 2486 feet. The hole was subsequently deepened to 3570 feet.

Brecciation, hematite staining and the abundance of fracture-filling quartz-carbonate veinlets characterizes the upper 2600 feet of core. The lower 1000 feet grades into relatively unfractured feldspathic sandstones ans siltstones mixed with arkose. Sudbury Breccia is common in the upper 2500 ft section but is absent below 2600 feet.

Figure 3 shows the location of hole ML-94-01- east of claim 1237529.

In 1991 hole ML 94-1 was probed by Crone Geophysics down to a partial depth of 770m. Apparently there was some sort of minor response at a depth of 720 feet.

Executive Summary:

Unpatented Mining claim 1237529 is located in the mining district of Sudbury, in Rathbun Township (Figure 1 and Figure 2).

A VLF EM-16 survey program was carried out in March 2016, using a Geonics VLF EM-16 and a handheld Garmin GPS-60C. 2 transmitter stations were read during the course of the survey; NAA 24.0 KHz – Cutler, Maine and NML 25.2KHz- La Moure, North Dakota.

This report reviews and interprets the results of frequency NAA 24.0 KHz – Cutler, Maine only.

The objective of the 2016 VLF EM-16 survey was to determine if the VLF Survey could delineate a structure, contact or zone of interest on Claim 1237529. The survey was also carried out for assessment work.

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 VLF 2DMF processing software of which the author of this report has assisted in its development.

VLF2DMF is a software package that has been developed in order to enable the processing and inversion of electromagnetic (EM) induction data acquired at a Very Low Frequency (VLF).

VLF2DMF is capable of inverting VLF-EM data acquired along a surveyed line at different frequencies. Data collected in a survey area can also be processed. The software produces profiles of the Raw Data, Fraser Filtered Data, KH, Resistivity and a (2-D) Modeled Inversion. The software also allows for plan maps and slices of Fraser, KH and Inversion models of separate VLF survey lines.

Personnel

The VLF EM-16 operator and GPS field navigator responsible for the collection of all raw data was Frank Racicot.

Processing and Interpretation of the VLF data using the VLF2DMF Software was completed by Shaun Parent.

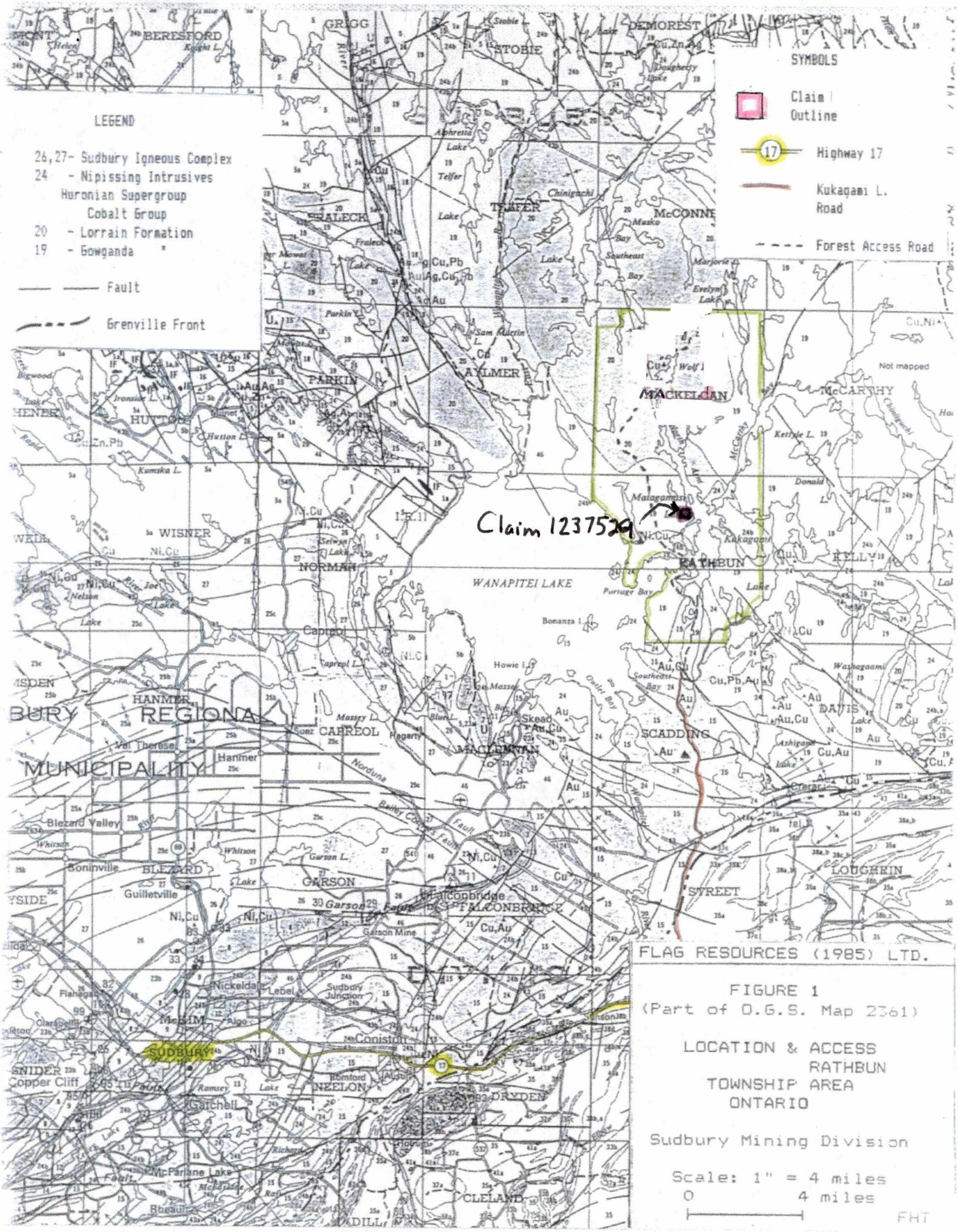
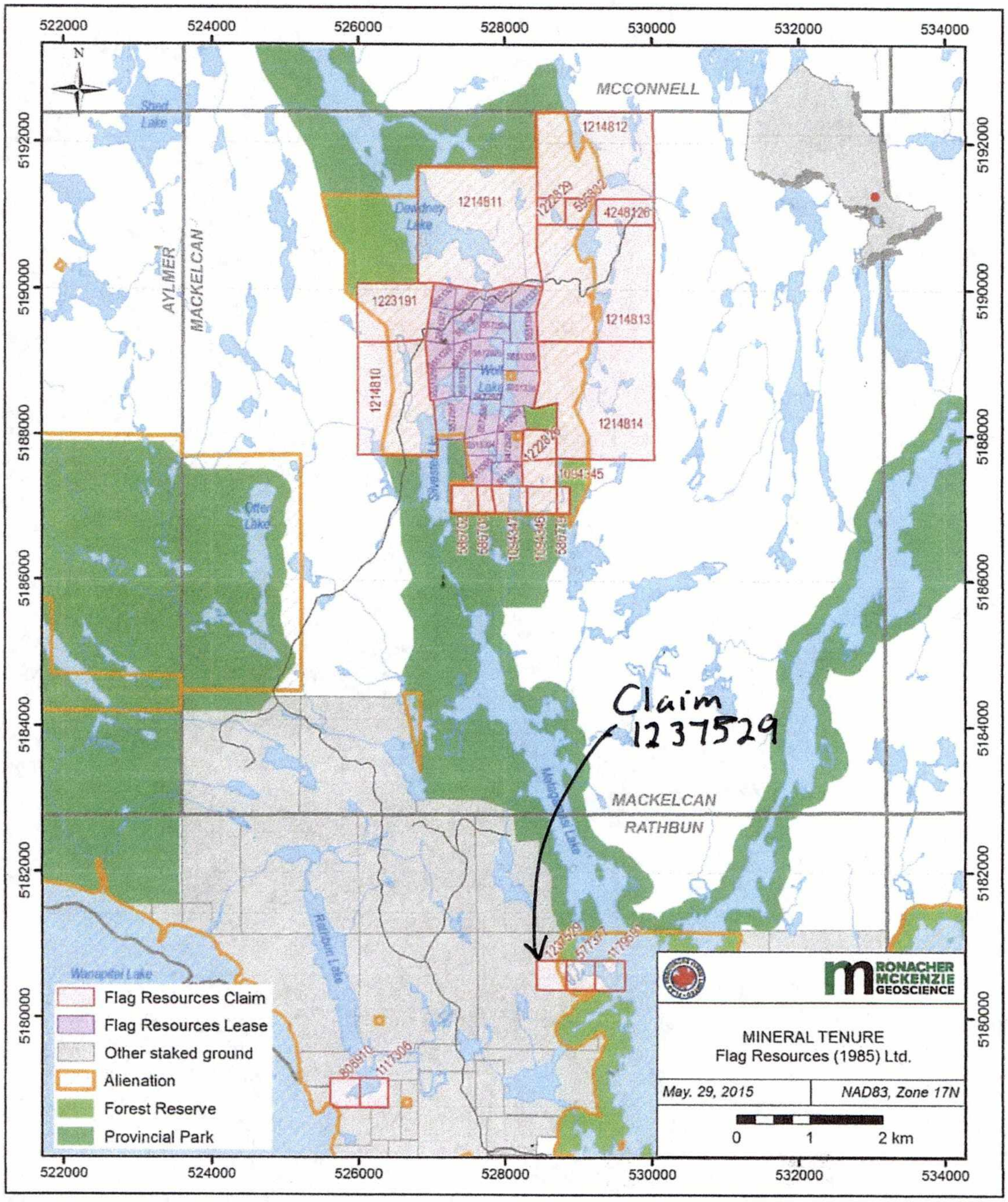

LEGEND
26,27- Sudbury Igneous Complex
24 - Nipissing Intrusives
Huronian Supergroup
Cobalt Group
20 - Lorrain Formation
19 - Gowganda
Fault
Grenville Front
SYMBOLS
Claim Outline
17
Highway 17
Kukagami L. Road
Forest Access Road
Claim 1237529
MACKELCAN
RATHBUN
WANAPITEI LAKE
SUDBURY
FLAG RESOURCES (1985) LTD.
FIGURE 1
(Part of O.G.S. Map 2361)
LOCATION & ACCESS
RATHBUN
TOWNSHIP AREA
ONTARIO
Sudbury Mining Division
Scale: 1" = 4 miles
0 4 miles
FHT

Figure 1



MCCONNELL
AYLMER
MACKELCAN
Shot Lake
Dewdney Lake
Wolf Lake
Silvester Lake
Otter Lake
Matagamasi Lake
MACKELCAN
RATHBUN
Rathbun Lake
Wanapitei Lake
1214812
1214811
1222829
4248126
1223191
1214813
1214810
1214814
1094345
1237529
1117306
Claim
1237529
Flag Resources Claim
Flag Resources Lease
Other staked ground
Alienation
Forest Reserve
Provincial Park
RONACHER MCKENZIE GEOSCIENCE
MINERAL TENURE
Flag Resources (1985) Ltd.
May. 29, 2015
NAD83, Zone 17N
0
1
2 km

Figure 2

Work Performed

The VLF EM-16 survey consisted of running 2 VLF Profile Lines in a direction of 00 degrees true azimuth across Claim 1237529 (Figure 3).

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 and NML-25.2 KHz.- La Moure, North Dakota.

VLF survey direction - The VLF Em-16 receiver was facing north along all lines

VLF survey stations - All readings were taken at approximately 25 meter stations along the survey line.

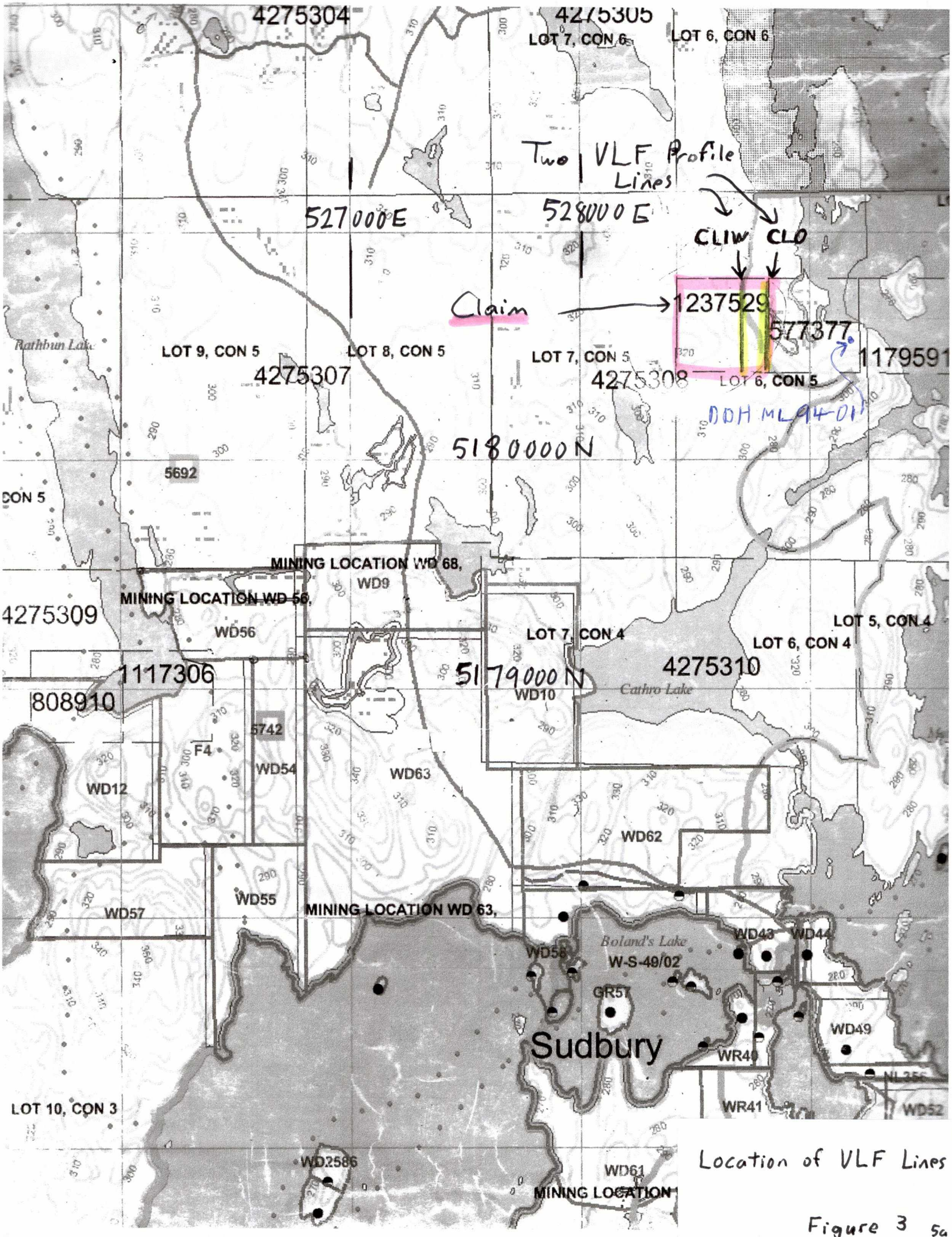
Parameters of Measurement - In-phase and Quad-phase components of vertical magnetic field as a percentage of horizontal primary fields. (Tangent of tilt angle and ellipticity). VLF transmitter NAA was to the east. The transmitters are chosen so that the direction to the transmitting station is as close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

VLF Data Processing

- Field data was collected as follows on each surveyed line.
- Each station location and elevation was saved onto the Handheld Garmin 60CSX, GPS Unit. Figure 3 shows the locations of the two VLF lines surveyed on claim 1237529.
- 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)

Table 1 Example of VLF Field Data Collection

L1 W	NAA In phase	NAA Quadrature	NML In phase	NML Quadrature	Notes
0+00	10	6	4	5	Depression
0+20N	8	4	2	4	Outcrop
0+40N	6	5	0	2	



Location of VLF Lines

Figure 3 5a

AGAT Laboratories

120 - 8600 Glenlyon Parkway
Burnaby, BC
V5J 0B6
webearth.agatlabs.com

Chain of Custody Record • ARD - Solids Extracts and Leachates

P: 778.452.4000 • F: 778.452.4074

Laboratory Use Only

Arrival Condition: Good Poor (complete notes)

AGAT WO#: ______

Received: ______

Notes:

Report To

Company: ______
Contact: ______
Address: ______
Phone: ______ Fax: ______
Project Name: ______
Project #: ______
ARD Quote #: ______
ARD Project #: ______

Report Information

Name: ______ Name: ______
Email: ______ Email: ______
Name: ______ Name: ______
Email: ______ Email: ______

Storage Policy

Samples are stored for 60 days at no cost and then discarded. If longer storage is required, clients must inform AGAT Laboratories. Storage fees will apply.

TAT Required (Turnaround Time)

Regular Rush*

*Rush surcharges may apply

Report Format

Excel Format
PDF Format
Both

Invoice To Same Yes / No

Company: ______
Contact: ______
Address: ______
Phone: ______ Fax: ______
PO#: ______

AGAT Analysis Method - Solid Samples

SAMPLE ID	SAMPLE TYPE AND CONDITION	Modified ABA Package (Paste pH, Fizz test, NP & Total S)	Standard Sobek ABA Package (Paste pH, Fizz test, NP & Total S)	Siderite Corrected NP	Sulphate Sulphur- HCl Leach (sulphide sulphur by difference)	Sulphate Sulphur- Na_2CO_3 Leach	Sulphate Sulphur- Gravimetric Method	Sulphur Spec. (Sulphate-S, Sulphide-S & Non-Extractable-S; ASTM 2492-02 method)	Total Carbon	Total Organic Carbon	Carbonate Carbon (CO_2; HCl method)	Surface Rinse pH on <2mm fraction (MEND method)	Crushed pH: on Pulp (MEND method) <1/4" fraction	Single Addition NAG: Egi method MEND method	NAG Extract Analysis	Trace Metals by Aqua Regia Digestion: ICP-OES (201073) ICP-MS (201074)	Total Metals by 4 Acid Digestion: ICP-OES (201070) ICP-MS (201071)	Whole Rock Analysis: ICP-OES (201076) XRF (201676)	Shakeflask Extraction (SFE; MEND method; water extraction)	Synthetic Precipitation Leaching Procedure (SPLP; US-EPA 1312 method; water extr.)	Meteoric Water Mobility Procedure (MWMP; EP 1990/STD Method; water extr.)	Mineralogy: Optical Microscopy on polished thin sections	Mineralogy: Rietveld XRD	Humidity Cell Tesing by MEND Method	Humidity Cell Testing by ASTM Method	Particle Size Analysis (Dry Sieve Method using RO-TAP)	Particle Size Distribution (Wet Sieve Method using Hydrometer)	Custom Column Testing	Custom Sub-Aqueous Disposal (SAD) Column Testing
E520 3910		X																	X										
3911		X																	X										
3912		X																	X										
3913		X																	X										
3914		X																	X										

Jody Lang Jody Lang

Special Instructions

For leachate analysis packages, please refer to page 2 for parameter selection

Courier

Page ____ of ____

Location of Two VLF Profile Lines
(Rathbun Township)

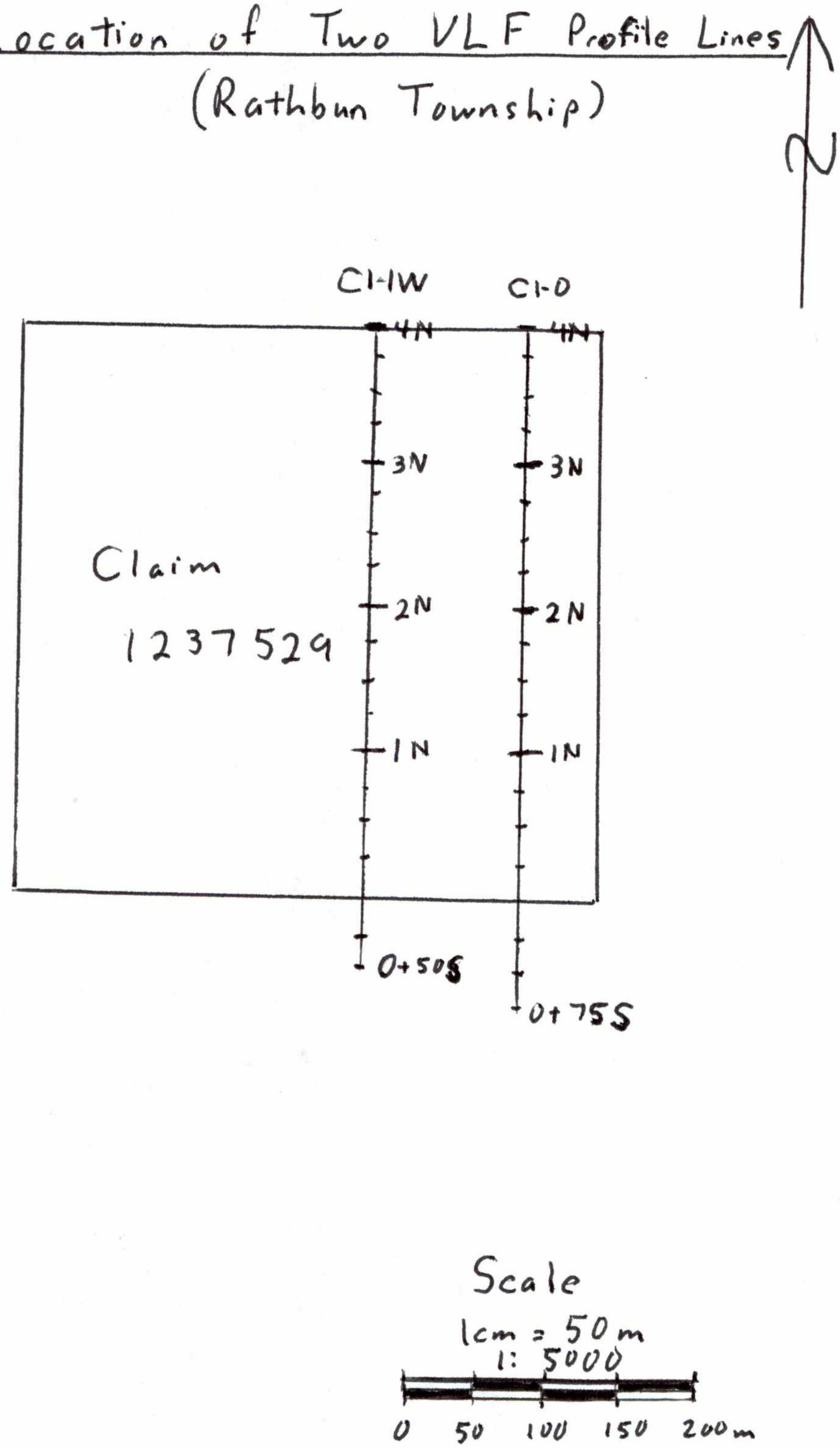


Figure 4

- 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.
- Tables 2 and 3 show the field data collected for both stations from both lines.

VLF Data Profiles

The data collected was processed using the VLF2DMF software. Profiles of Raw Data for Line CL 0 and CL 1W were produced and are displayed in Figures 5 and 6.

The raw data 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. The Fraser filter profile for each line surveyed are shown in Figures 7 and 8. Three anomalies- A, B and C are plotted on these figures.

The apparent resistivity for both lines was also done and are shown in Figures 9 and 10.

K-H Filters were applied and the real component data and the Imaginary component data are shown in Figures 11 and 12.

The calculated model for Line CL 0 and CL 1W, with three anomalies, A, B, and C are shown for both lines. See Figures 13 and 14.

Rathbun Line Cl 0 Table 2

1< VLF STATION

NAA

24.0< VLF STATION FREQUENCY

2< VLF STATION

NML

25.2< VLF STATION FREQel

		NAA		NML		
Line No.	StationID	X Y Z InPhase	OutPhase	InPhase	OutPhase	Notes
Cl 0	0+75S	6	-2	8	0	
Cl 0	0+50S	0	-2	0	0	
Cl 0	0+25S	0	-5	-3	-5	
Cl 0	0+00	-2	0	-3	-3	
Cl 0	0+25N	2	-5	3	-3	highest spot
Cl 0	0+50N	-5	5	-5	-5	noisy
Cl 0	0+75N	-5	-8	-8	0	noisy
Cl 0	1+00N	-25	22	-25	12	noisy
Cl 0	1+25N	-25	5	-22	5	
Cl 0	1+50N	-15	2	-17	1	beside water
Cl 0	1+75N	-38	7	-42	6	beside water
Cl 0	2+00N	-30	0	-42	6	
Cl 0	2+25N	-30	22	-38	44	noisy
Cl 0	2+50N	-25	28	-27	33	swamp
Cl 0	2+75N	-27	18	-27	20	creek in swamp
Cl 0	3+00N	-25	30	-25	28	as above
Cl 0	3+25N	-8	10	-15	14	as above
Cl 0	3+50N	-17	10	-20	16	dry
Cl 0	3+75N	-16	14	-24	13	dry
Cl 0	4+00N	-12	12	-16	12	
Cl 0	4+25N	-8	10	18	14	

Rathbun Line Cl 1W Table 3

1< VLF STATION

NAA

24.0< VLF STATION FREQUENCY

2< VLF STATION

NML

25.2< VLF STATION FR

		NAA		NML		
Line No.	StationID X Y	InPhase	OutPhase	InPhase	OutPhase	Notes
Cl 1W	0+50S	2	-2	5	2	
Cl 1W	0+25S	0	-4	0	-1	
Cl 1W	0+00	-5	-6	-8	-3	in a deep gut
Cl 1W	0+25N	-2	-3	-7	-5	
Cl 1W	0+50N	-10	-9	-15	-8	
Cl 1W	0+75N	-7	-6	-15	-3	
Cl 1W	1+00N	-10	0	-15	-1	
Cl 1W	1+25N	-15	-3	-22	-4	
Cl 1W	1+50N	-27	-6	-35	0	
Cl 1W	1+75N	-26	5	-36	4	
Cl 1W	2+00N	-27	-2	-30	6	noisy
Cl 1W	2+25N	-25	5	-30	0	noisy
Cl 1W	2+50N	-23	10	-25	8	noisy; road
Cl 1W	2+75N	-30	10	-30	10	noisy
Cl 1W	3+00N	-25	12	-35	10	noisy
Cl 1W	3+25N	-15	14	-25	11	
Cl 1W	3+50N	-10	10	-22	12	noisy
Cl 1W	3+75N	-17	12	-22	12	swamp; noisy
Cl 1W	4+00N	-10	14	-20	14	swamp; noisy

VLF-EM raw data
Line: Rathbun Line CL 0

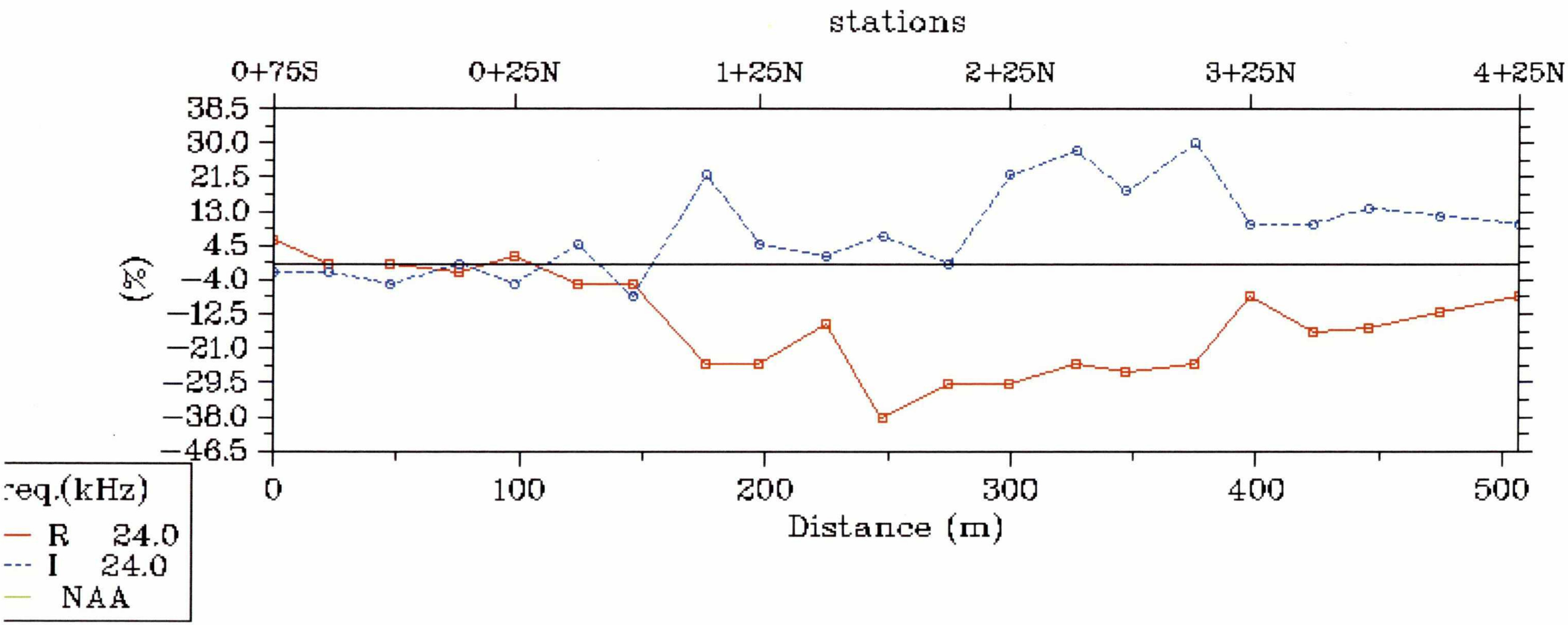


Figure 5

VLF–EM raw data
Line: Rathbun Line CL 1W

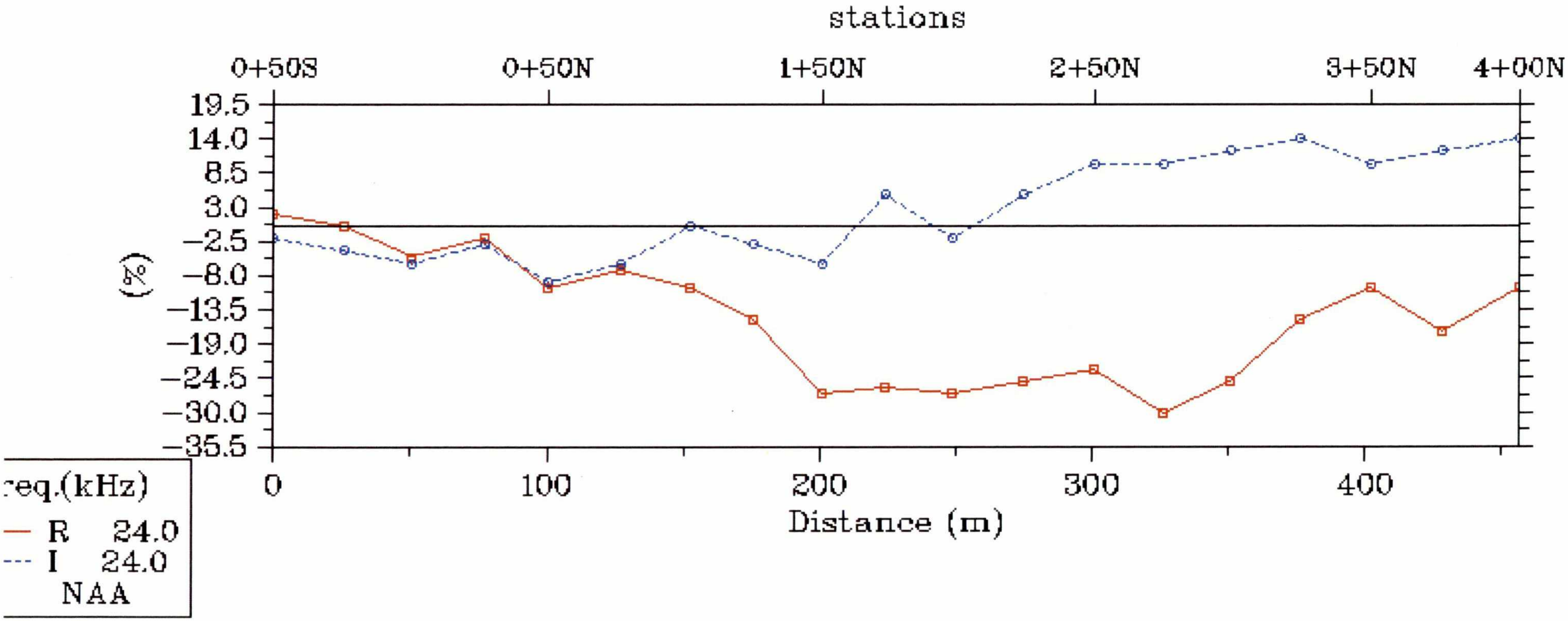
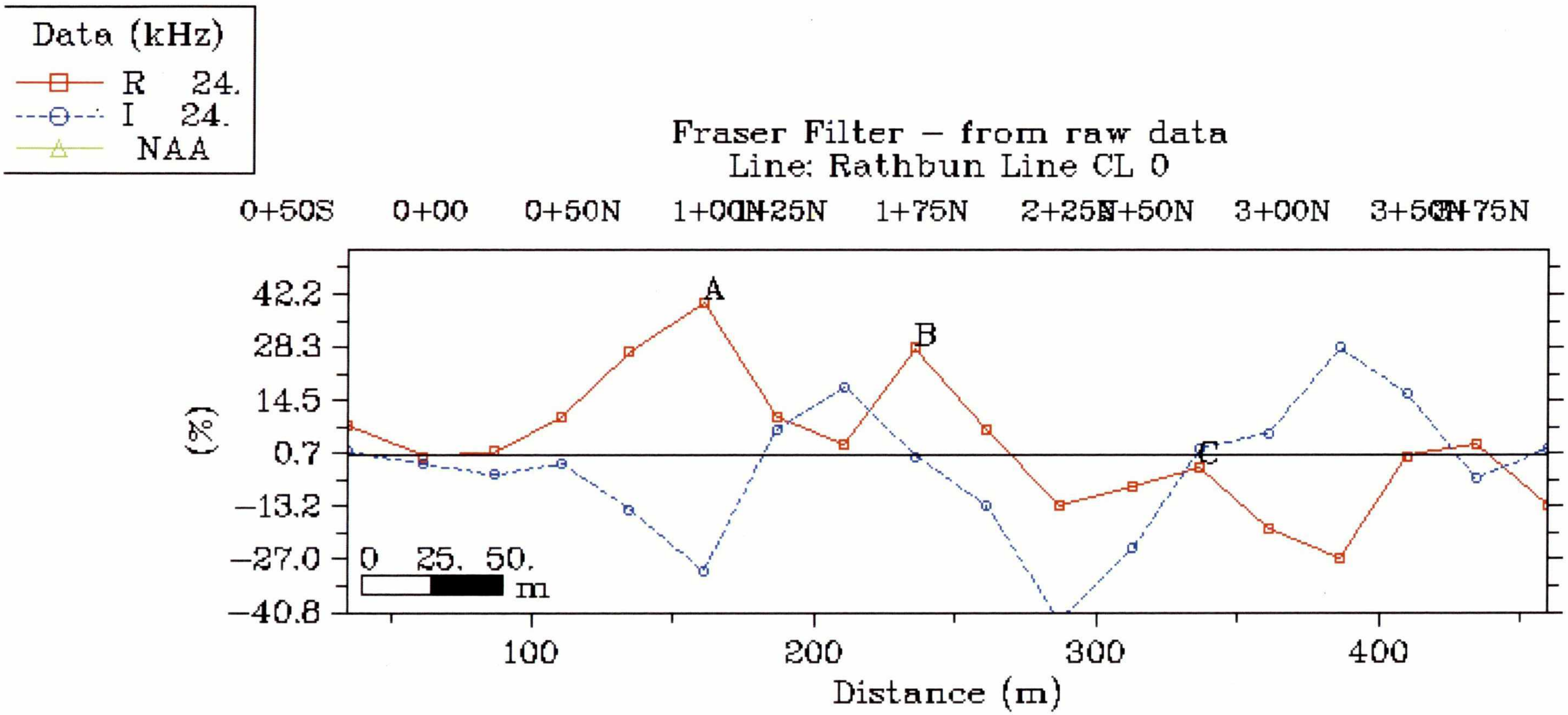


Figure 6



Data (kHz)
R 24.
I 24.
NAA
Fraser Filter – from raw data
Line: Rathbun Line CL 0
0+50S
0+00
0+50N
1+00N
1+25N
1+75N
2+25N
2+50N
3+00N
3+50N
3+75N
42.2
28.3
14.5
0.7
-13.2
-27.0
-40.8
(%)
A
B
C
0 25. 50.
m
100
200
300
400
Distance (m)

Figure 7

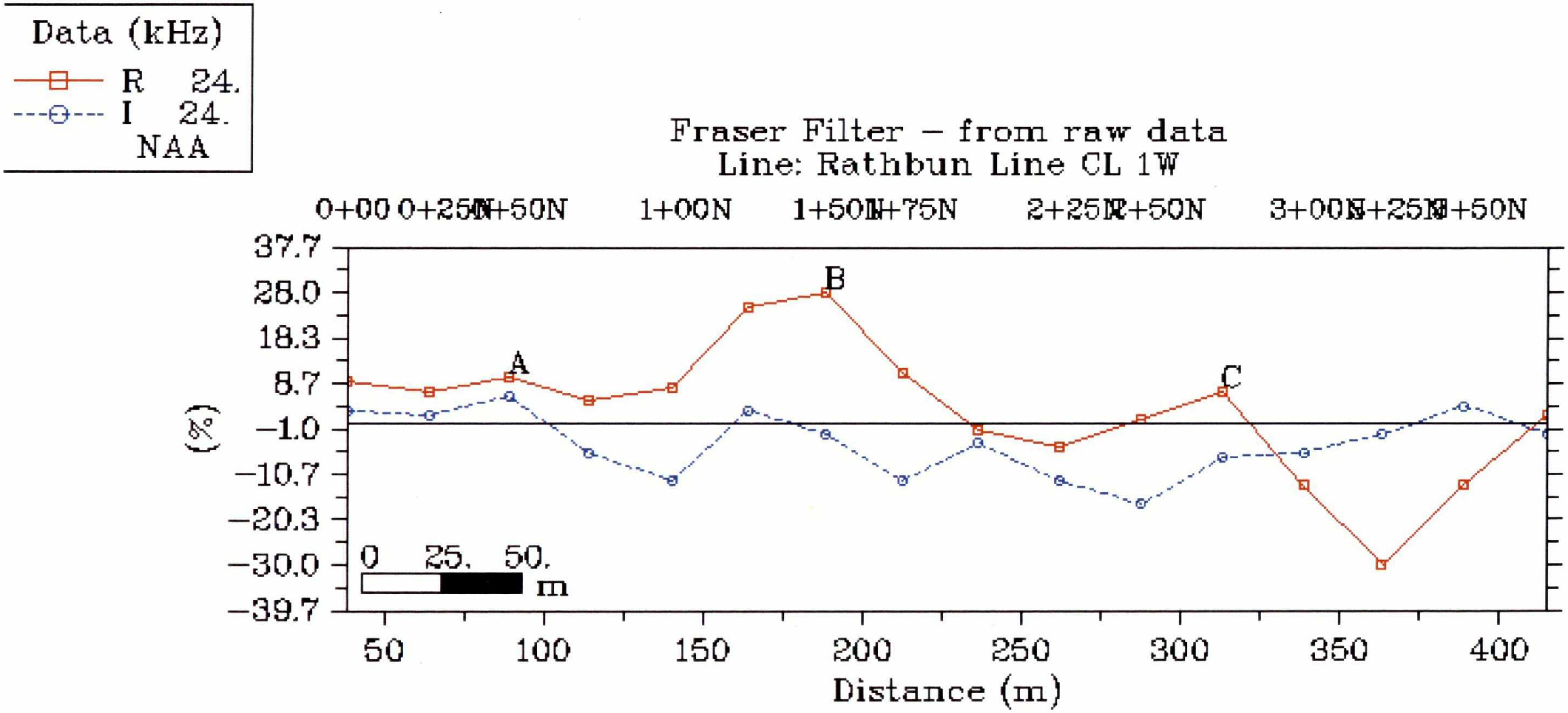

Data (kHz)
R 24.
I 24.
NAA
Fraser Filter - from raw data
Line: Rathbun Line CL 1W
0+00 0+25N 0+50N
1+00N
1+50N 1+75N
2+25N 2+50N
3+00N 3+25N 3+50N
37.7
28.0
18.3
8.7
-1.0
-10.7
-20.3
-30.0
-39.7
(%)
A
B
C
0 25. 50.
m
50
100
150
200
250
300
350
400
Distance (m)

Figure 8

6f

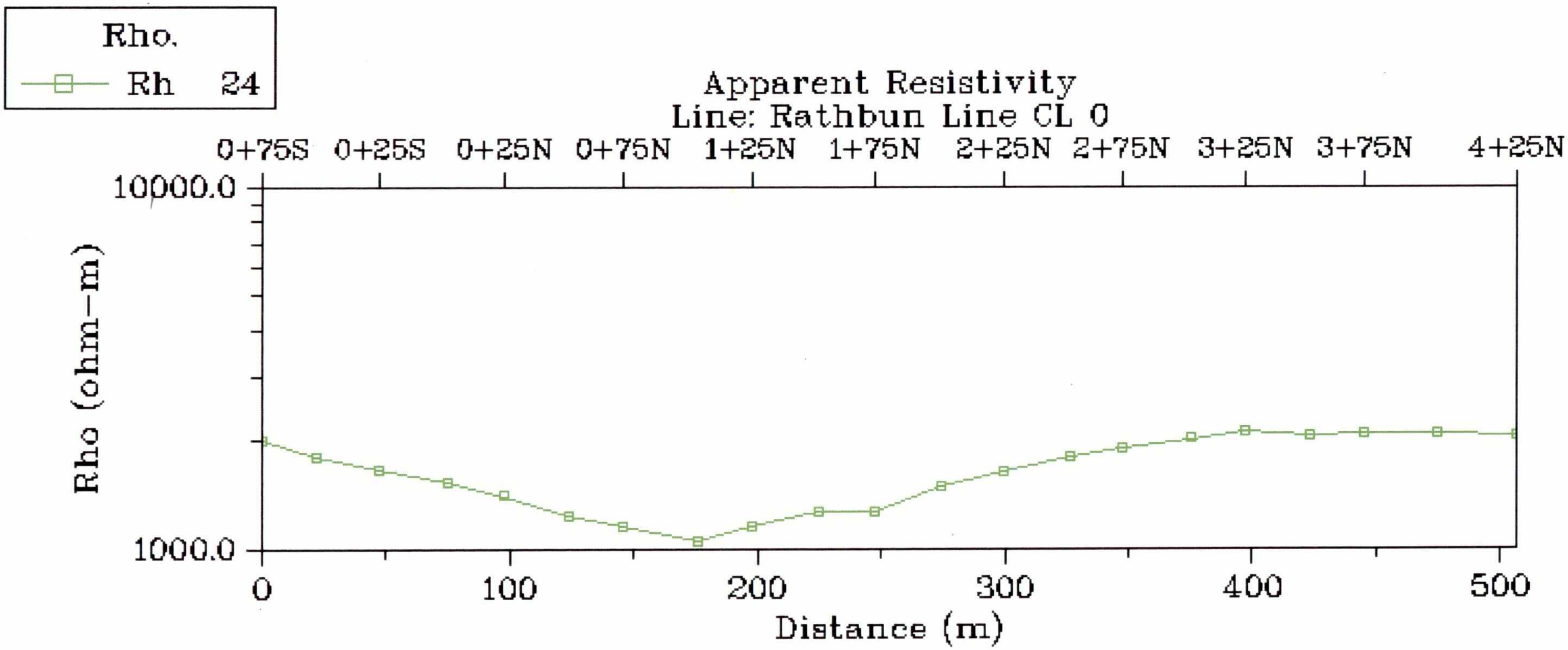

Rho.
Rh 24
Apparent Resistivity
Line: Rathbun Line CL 0
0+75S 0+25S 0+25N 0+75N 1+25N 1+75N 2+25N 2+75N 3+25N 3+75N 4+25N
10000.0
1000.0
Rho (ohm-m)
0
100
200
300
400
500
Distance (m)

Figure 9

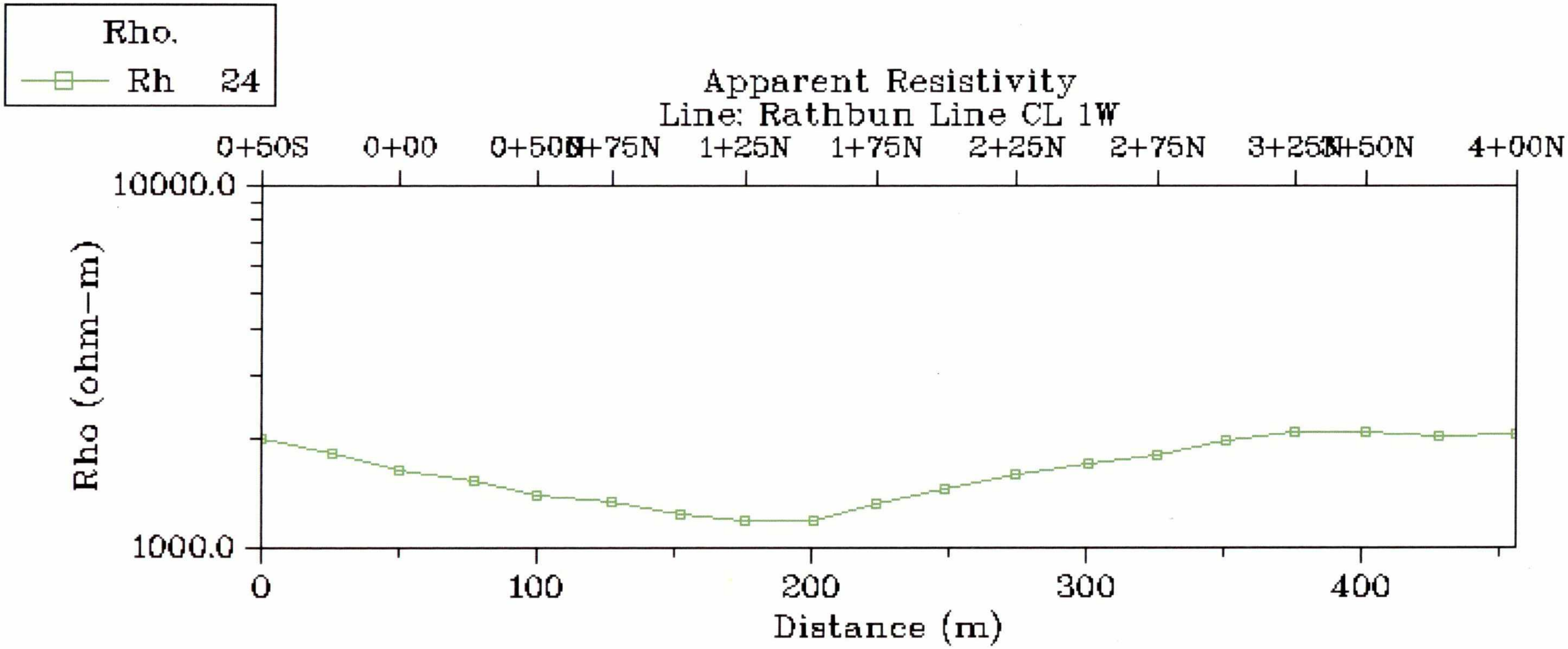

Rho.
Rh 24
Apparent Resistivity
Line: Rathbun Line CL 1W
0+50S
0+00
0+50N
0+75N
1+25N
1+75N
2+25N
2+75N
3+25N
3+50N
4+00N
10000.0
1000.0
Rho (ohm-m)
0
100
200
300
400
Distance (m)

Figure 10

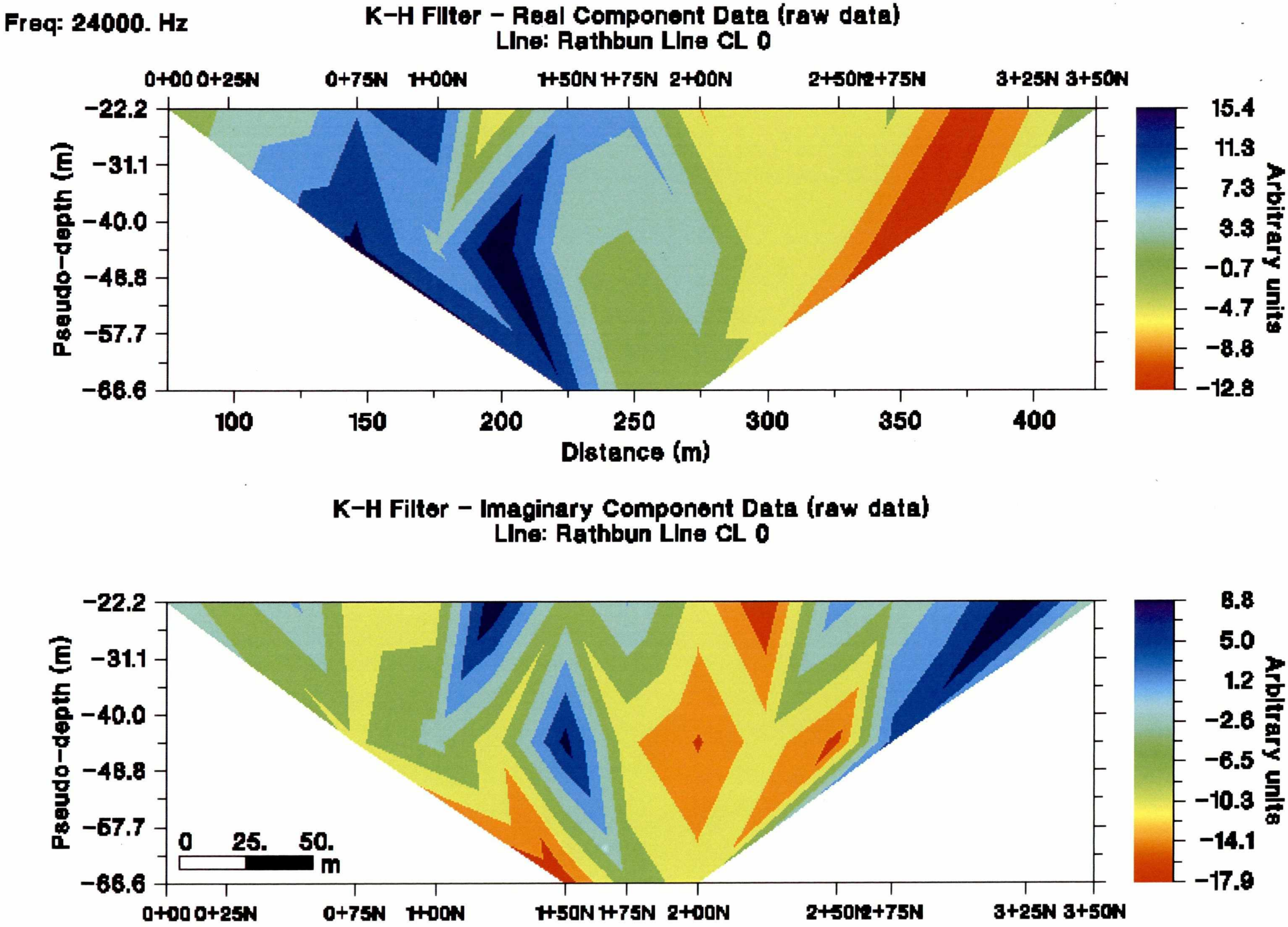

Freq: 24000. Hz
K-H Filter - Real Component Data (raw data)
Line: Rathbun Line CL 0
0+00 0+25N 0+75N 1+00N 1+50N 1+75N 2+00N 2+50N 2+75N 3+25N 3+50N
-22.2 -31.1 -40.0 -48.8 -57.7 -66.6
Pseudo-depth (m)
100 150 200 250 300 350 400
Distance (m)
15.4 11.3 7.3 3.3 -0.7 -4.7 -8.8 -12.8
Arbitrary units
K-H Filter - Imaginary Component Data (raw data)
Line: Rathbun Line CL 0
-22.2 -31.1 -40.0 -48.8 -57.7 -66.6
Pseudo-depth (m)
0 25. 50.
m
0+00 0+25N 0+75N 1+00N 1+50N 1+75N 2+00N 2+50N 2+75N 3+25N 3+50N
8.8 5.0 1.2 -2.6 -6.5 -10.3 -14.1 -17.9
Arbitrary units

Figure 11

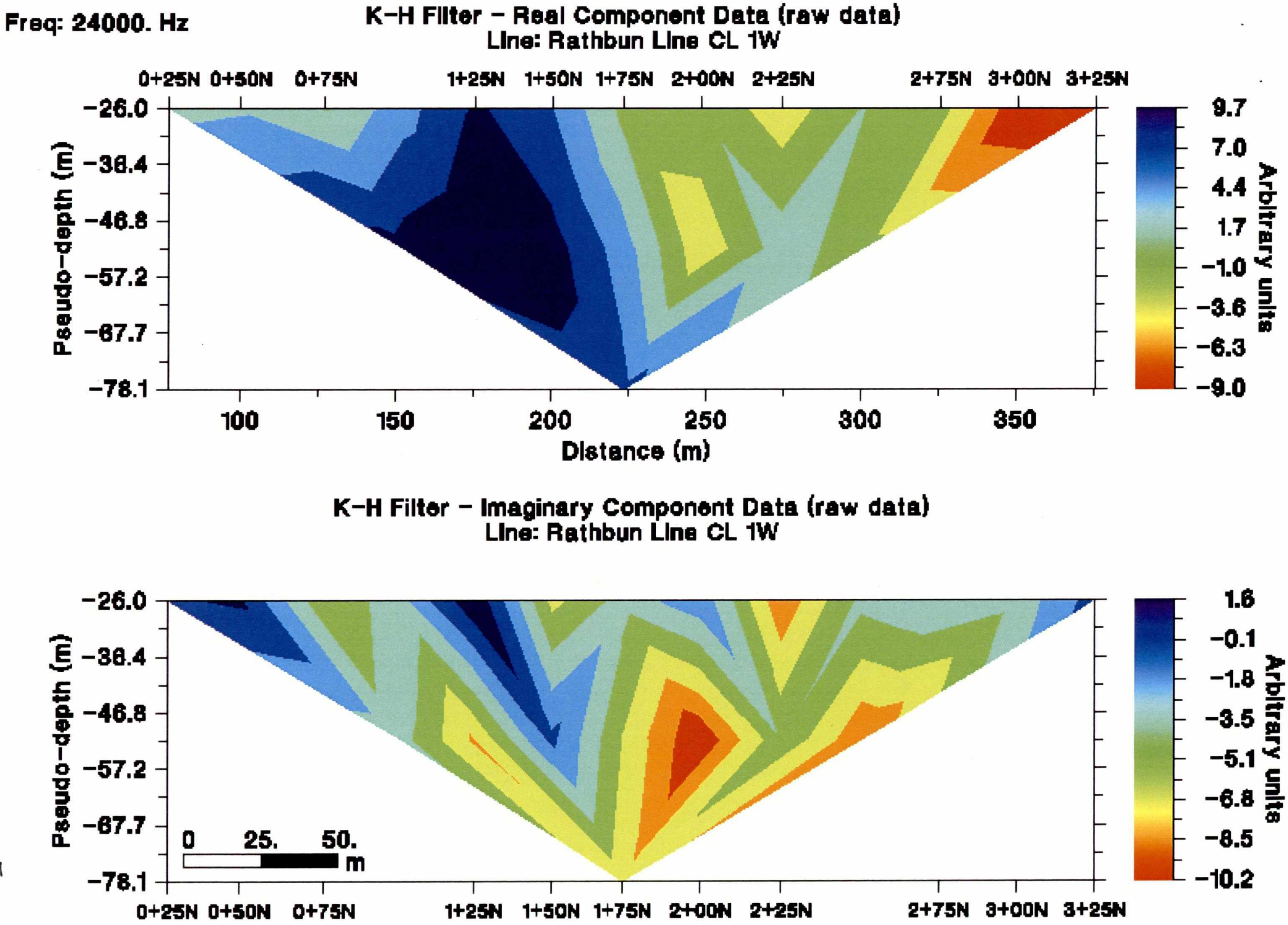
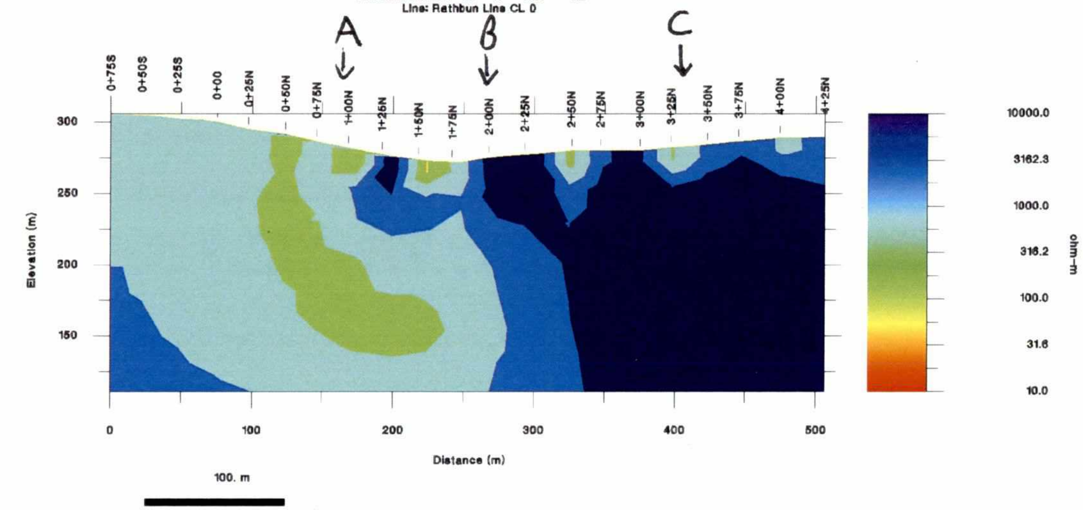

Freq: 24000. Hz
K-H Filter - Real Component Data (raw data)
Line: Rathbun Line CL 1W
0+25N 0+50N 0+75N 1+25N 1+50N 1+75N 2+00N 2+25N 2+75N 3+00N 3+25N
Pseudo-depth (m)
-26.0
-36.4
-46.8
-57.2
-67.7
-78.1
100 150 200 250 300 350
Distance (m)
9.7
7.0
4.4
1.7
-1.0
-3.6
-6.3
-9.0
Arbitrary units
K-H Filter - Imaginary Component Data (raw data)
Line: Rathbun Line CL 1W
Pseudo-depth (m)
-26.0
-36.4
-46.8
-57.2
-67.7
-78.1
0 25. 50.
m
0+25N 0+50N 0+75N 1+25N 1+50N 1+75N 2+00N 2+25N 2+75N 3+00N 3+25N
1.6
-0.1
-1.8
-3.5
-5.1
-6.8
-8.5
-10.2
Arbitrary units

Figure 12

Calculated Model- nit= 10 rms= 3.2
Line: Rathbun Line CL 0



Transmitter: NAA

Vertical Exaggeration: 1.0

Figure 13 6k

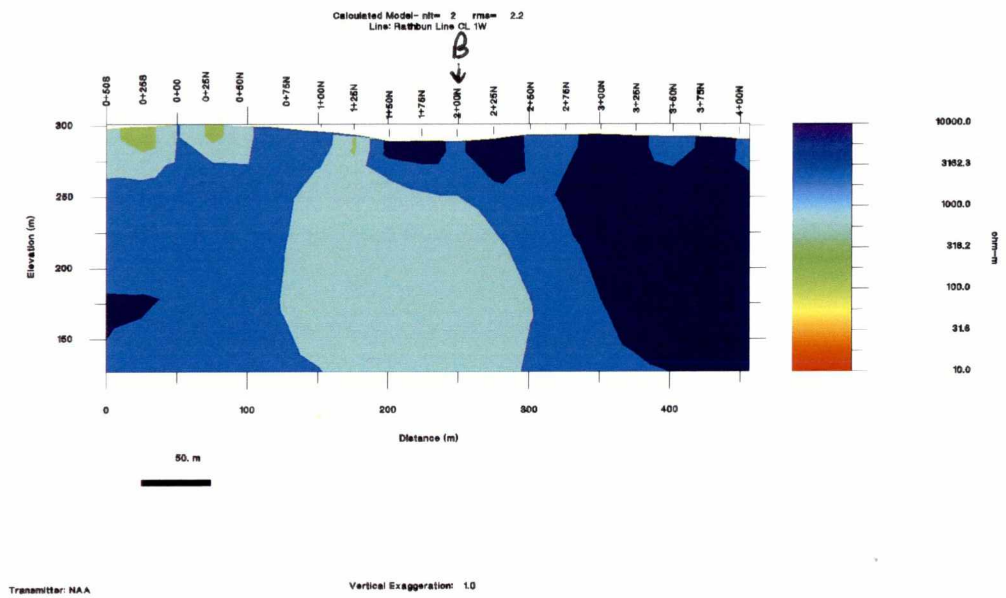

Calculated Model- nit= 2 rms= 2.2
Line: Rathbun Line CL 1W
B
0+50S
0+25S
0+00
0+25N
0+50N
0+75N
1+00N
1+25N
1+50N
1+75N
2+00N
2+25N
2+50N
2+75N
3+00N
3+25N
3+50N
3+75N
4+00N
300
250
200
150
Elevation (m)
0
100
200
300
400
Distance (m)
50. m
10000.0
3162.3
1000.0
316.2
100.0
31.6
10.0
ohm-m
Transmitter: NAA
Vertical Exaggeration: 1.0

Figure 14

6L

Discussion of Results and Conclusions

Line CL 0 had three anomalies- A, B, C.

- Anomaly A was indicative of a true conductor.
- Anomaly B was indicative of a contact.
- Anomaly C was likely a false anomaly, likely related to a surface feature.

Line CL 1W also had three anomalies.

- Of these- only Anomaly B appears significant and also corresponds to a contact.

While in the field- and based on the geology map- a huge outcrop of Olivine Diabase was observed. This is likely the source of the contact on both lines.

Recommendations

- The fact that there was some sort of geophysical response on one of the VLF profile lines and indicates that additional VLF detailed lines should be considered for the entire claim to the west.

Ground proofing and prospecting of VLF anomaly A, in the vicinity of line CL 0 should be followed up on to determine if this anomaly is related to mineralization.

Even though OGS geology map 2450 indicates there is only Gowganda sediments and Olivine Diabase on this claim, there were several prominent 'guts' or depressions on the claim that might be worth investigating- to see if they might host a weakly mineralized quartz diorite- or offset dyke- related to the Sudbury event.

List of References:

Crone Geophysics & Exploration Ltd. 1999: Borehole Pulse EM Survey over the Matagamasi Lake Property.

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Certificate of Qualifications

I, Frank Racicot reside at 734 Whittaker Street in Sudbury, Ontario and certify that:

1. I am a consulting Geoscientist with Racicot Geological Consulting Ltd.

2. I graduated with a BSc. from Laurentian University< Sudbury Ontario, in 1974

3. I am a member in good standing with the Association of Professional Geoscientists of Ontario, #0983 and a member of the Prospectors and Developers Association of Canada.

4. I have over 35 years exploration experience.

Dated this 8th day of May, 2016

Frank Racicot

Frank C. Racicot P. Geo