

# NEWEXCO SERVICES PTY LTD

A.B.N. 89 088 316 901

15 Joel Terrace, East Perth WA 6004  
Ph: 9227 1266  
Fx: 9227 1677  
Email: [hrh@newexco.com.au](mailto:hrh@newexco.com.au)

## EAST BULL LAKE

### An Interpretation of the Fixed Loop Electromagnetics Surveys

2011 to 2012



**REPORT NO:** 612  
**FOR:** Western Areas NL  
**AUTHOR:** Nicholas Ebner  
**DATE:** June 2012  
**APPROVED:**

---

#### Distribution List:

Western Areas NL  
Mustang Minerals Corp.  
Newexco Services Pty Ltd

**MAP SHEET:** N/A  
**COMMODITY:** Ni  
**PROJECTION:** NAD27

## DISCLAIMER

*This report has been prepared by Newexco Services Pty Ltd for Mustang Minerals Corp. While all care has been taken in the preparation of the report and while the information it contains is believed to be reliable, the company does not guarantee its accuracy. Use of the report in whole or in part by a third party shall be at the users sole risk.*

## TABLE OF CONTENTS

	<b>Page No.</b>
SUMMARY .....	1
1. INTRODUCTION .....	2
2. SURVEY DETAILS .....	5
2.1 Survey 1 Abitibi Geophysics .....	5
2.1.1 Personnel .....	5
2.1.2 Survey Specifications.....	5
2.2 Survey 2 Quantec Geoscience.....	5
2.2.1 Personnel .....	5
2.2.2 Survey Specifications.....	5
2.3 Equipment.....	6
3. COVERAGE .....	6
3.1 Transmitter Loops .....	8
4. DATA PRESENTATION AND PROCESSING .....	9
5. INTERPRETATION CRITERIA.....	10
6. INTERPRETATION .....	11
6.1 Parisien Lake 2011 .....	13
6.2 Lodge North 2011 .....	15
6.3 Bullfrog East 2011.....	16
6.4 Bullfrog West 2011.....	17
6.5 Road 2012 .....	19
6.6 Sables West 2012.....	21
6.7 Savage 2012.....	23
7. CONCLUSION AND RECOMMENDATIONS.....	25
7.1 Parisien Lake 2011 .....	25
7.2 Lodge North 2011 .....	25
7.3 Bullfrog West 2011.....	25
7.4 Bullfrog East 2011.....	25
7.5 Road 2012 .....	25
7.6 Sables West 2012.....	25
7.7 Savage 2012.....	25

## LIST OF TABLES

Table 1 – East Bull Lake FLEM Survey Coverage 2012.....	6
Table 2 – East Bull Lake FLEM Survey Coverage 2011.....	7
Table 3 – East Bull Lake Anomaly Statistics .....	14
Table 4 – East Bull Lake Anomaly Statistics .....	18
Table 5 – East Bull Lake Suggested Drillhole Locations.....	25

## LIST OF FIGURES

Figure 1: Location Plan.....	3
Figure 2: East Bull Lake Geophysical Status Plan .....	4
Figure 3: East Bull Lake central FLEM surveys c-clockwise from west: Bullfrog West, East, Road, Parisien Lake and Lodge North. Status map includes ZTEM lines in light blue, VTEM lines in grey and single MT line in pink. VTEM anomaly picks are in blue, green and red (categories 3, 2 and 1 - highest).....	11
Figure 4: East Bull Lake geology, FLEM, VTEM and MT status overlying TMI_RTP raster. ....	12
Figure 5: Parisien Lake FLEM illustrating the VTEM anomaly picks, plates and historic drilling overlaid on the magnetic intensity. Five holes, shown as red drill-traces were subsequently extended and surveyed with DHEM. ....	13
Figure 6: Parisien Lake modelling of lines 320 – 304. Two shallow targets have been identified central to the survey coincident with weak VTEM anomalies. ....	14
Figure 7: Lodge North FLEM survey in black. VTEM anomalies in blue and green (Category 3 and 2 respectively. MT line in pink and ZTEM status in light blue.....	15
Figure 8: Lodge North. VTEM line 2230 illustrating a Category 2 anomaly (blue line) covered by the Lodge North FLEM survey. This corresponds to the arrow in Figure 7.....	15
Figure 9: Bullfrog East and West FLEM illustrating the VTEM anomaly picks, plates and historic drilling overlaid on the magnetic intensity. Two holes, shown as red drill-traces were subsequently extended and surveyed with DHEM.....	16
Figure 10: Bullfrog East. VTEM line 2460 illustrating a Category 2 anomaly (blue line) covered by the Lodge North FLEM survey. This corresponds to the arrow in Figure 9.....	16
Figure 11: Bullfrog West modelling of single well defined anomalous response on lines 10300 and 10400. Drillhole BFW_DH1 is designed to intersect this plate.....	17
Figure 12: Bullfrog West, plan showing FLEM status, modelled plate, and proposed drill hole: BFW_DH1. ....	18
Figure 13: Bullfrog West, section showing modelled plates and proposed drill holes.....	18

Figure 14: Road status map showing FLEM lines and loop in black and purple respectively. ZTEM lines are shown in light blue, VTEM lines in grey and single MT line in pink. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2). .....	19
Figure 15: Road. ZTEM Geotech 2d inversion for line 1360. Taken from: 'Inversion results of 11154_topo_v1.ppt'. Black arrow marks the position of the Folsom Lake Deformation Zone. ....	20
Figure 16: Road. Extract of VTEM line 2330 dBz component, coinciding with FLEM line 0E. The red arrow shows their relative domain. The FLEM line does not cover the full anomaly due to access issues. ....	20
Figure 17: Sables West status map and TMI_RTP image, showing FLEM lines and loop in black and purple respectively. ZTEM lines are shown in light blue, VTEM lines in grey and single MT traverse in pink. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2 ). The red line coincides with the VTEM profiles shown in Figure 19.....	21
Figure 18: Sables West. ZTEM Geotech 2D inversion for line 1390. Taken from: 'Inversion results of 11154_topo_v1.ppt'. The black arrow marks the position of the target low resistivity zone. ....	22
Figure 19: Sables West. Extract of VTEM line 2000 dB z component, converging with FLEM line 200E. The red arrow of Figure 17 shows the extracted section. The FLEM line is demonstrated by the blue arrow of Figure 17. ....	22
Figure 20: Decay curve analysis: $\tau = 0.7$ ms for station 500, line 200E. ....	22
Figure 21: Savage status map and TMI_RTP image, showing FLEM lines and loop in black and orange respectively. ZTEM lines are shown in light blue, VTEM lines in grey. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2). ....	23
Figure 22: Savage. ZTEM Geotech 2D inversion for Line 1070. Taken from: 'Inversion results of 11154_topo_v1.ppt'. The black arrow marks the position of the target low resistivity zone. ....	24
Figure 23: Savage forward modelling of a 100 x 100 m moderately dipping plate at 350 m depth with a conductance of 300 S . Black and red profiles represent the field and modelled response respectively. ....	24

## LIST OF APPENDICES

- Appendix 1 – Embedded Digital Data files in AMIRA format
- Appendix 2 – Logarithmic & Profile Plots
- Appendix 3 – MapInfo \*.tab Files and 3D \*.dxf of Plates

## SUMMARY

In November 2011 and June 2012 seven Fixed Loop Electromagnetic surveys were carried out over the East Bull Lake intrusion by Abitibi Geophysics and Quantec Geosciences.

The 2011 surveys included four different prospects; Bullfrog East and West, Parisien Lake and Lodge North. 1805 stations were observed along 32 profiles encompassing a total of 28.3 kilometres.

The 2012 surveys included three different prospects; Road, Sables West and Savage. 331 stations were observed along 18 profiles encompassing a total of 14 kilometres.

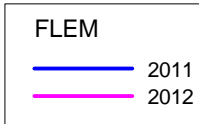
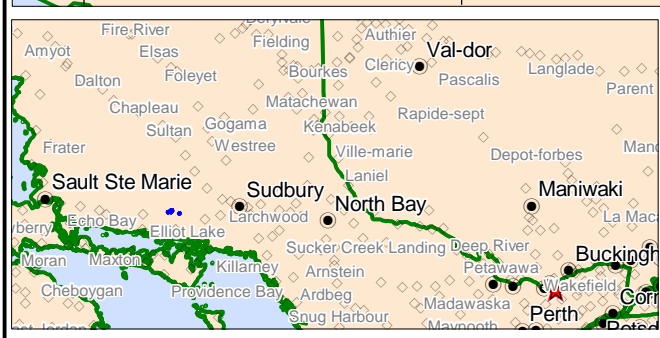
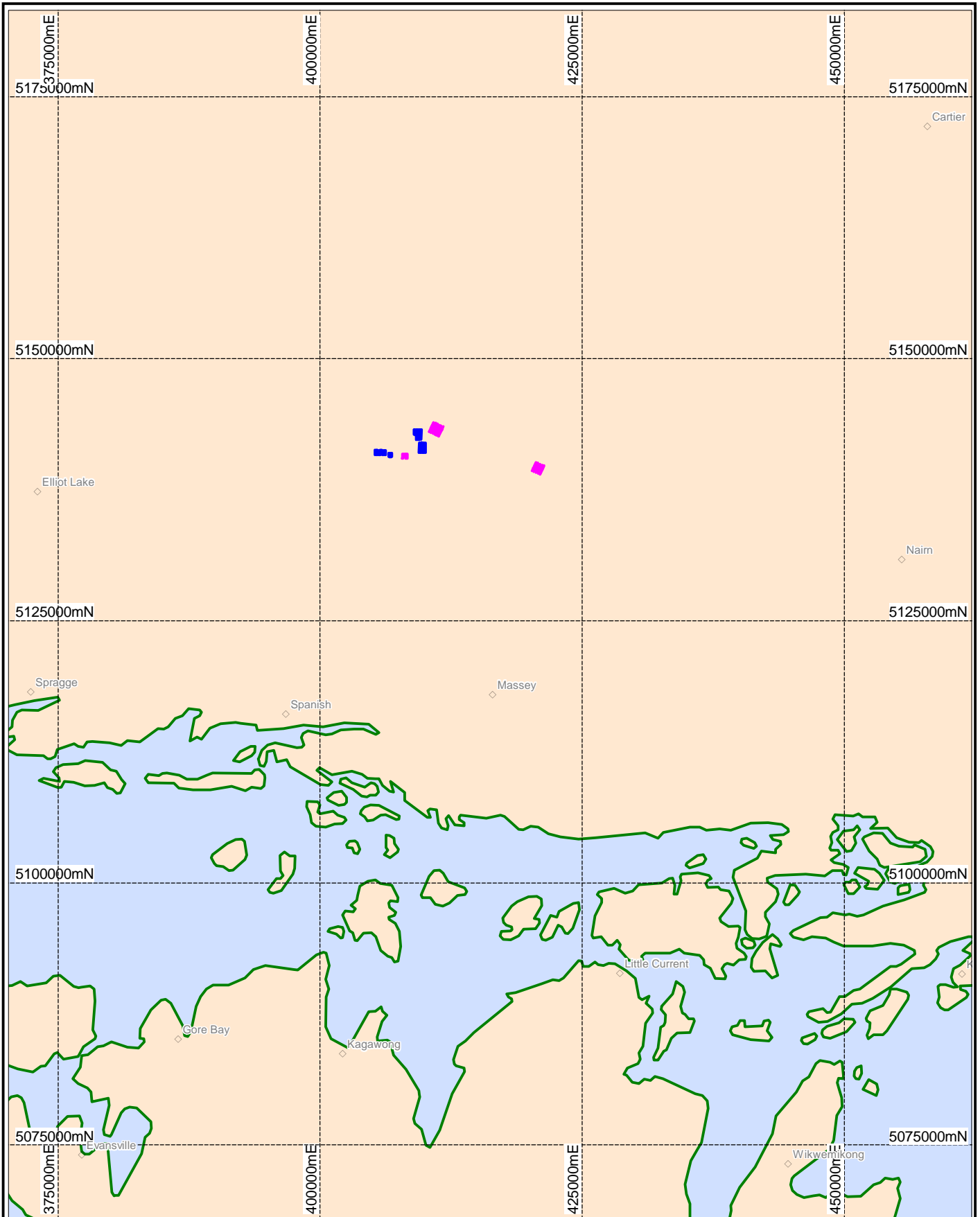
Anomalous responses identified in the data have confirmed the sources for Category 1, 2 VTEM anomalies at Bullfrog West and Parisien Lake. Consistent with the type of mineralisation historically identified within the East Bull Lake intrusion, the conductors are small and exhibit very low time-constants. Deep extensive conductive bodies associated with features interpreted from the ZTEM and MT data and followed-up in 2012 did not materialise.


## 1. INTRODUCTION

The East Bull Lake project site is located approximately 9kms west of the town of East Bull Lake. In November 2011 and June 2012, Fixed-Loop Electromagnetic surveys (FLEM) were carried out at seven different prospects at the East Bull Lake Site for Mustang Minerals Corp and Western Areas NL; Figure 1. The survey was completed by Abitibi Geophysics Inc. (Abitibi) and Quantec Geosciences (Quantec).

Newexco Services Pty Ltd (Newexco) was subsequently commissioned to process and interpret the electromagnetic data for the purpose of locating and defining buried conductive zones associated with nickel/copper, PGM mineralisation.

Raw data was provided by Abitibi and Quantec in the form of Protem system raw data output. Interpretation of the results was facilitated by thin-plate modelling and inversion utilising the software Maxwell.



<b>MUSTANG MINERALS</b> East Bull Lake Fixed Loop EM	
Scale 1:500,000	0    5    10    15    20km
DWG: 1546	Date: 08-Aug-2012
	
Newexco Services Pty Ltd	



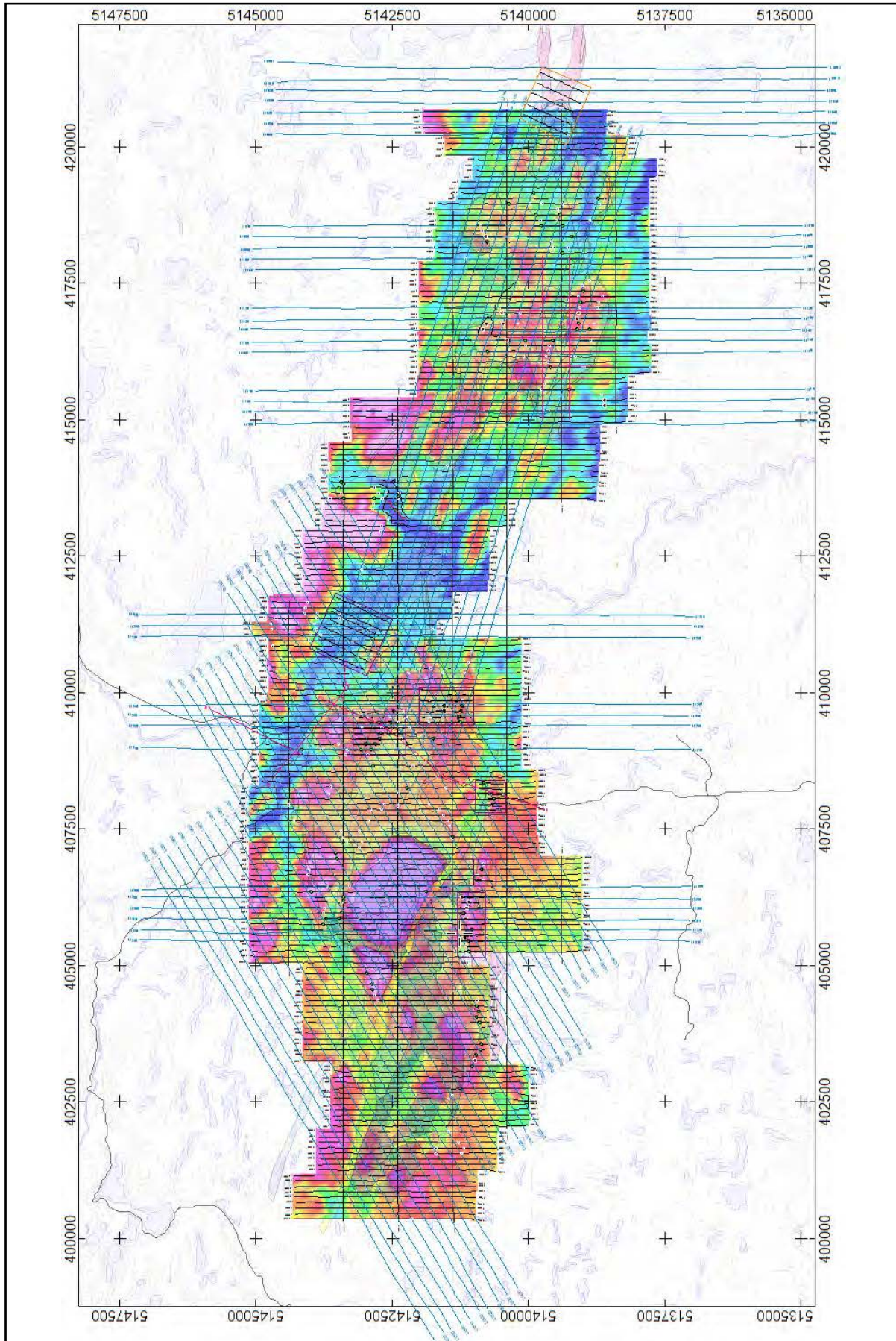


Figure 2: East Bull Lake Geophysical Status Plan

## 2. SURVEY DETAILS

### 2.1 Survey 1 Abitibi Geophysics

#### 2.1.1 PERSONNEL

Contractor:	Abitibi Geophysics
Contractor Supervisor:	Mahdi Brakni
Crew Chief:	Pierre-Alexandre Crepeau
Field Hand #1:	Marc Labelle
Field Hand #2:	Marc-Andre Gamelin

#### 2.1.2 SURVEY SPECIFICATIONS

Configuration:	In-Loop
Line spacing:	100 m
Loop Size:	600m × 600m, 1100m × 1100m
Line direction:	Varied
Station Spacing:	25m/50m
Number Turns:	1
Components:	Z, X, Y
Base Frequency:	30 Hz
Typical Current:	20 A
Coordinate System – Projected:	WGS84, UTM Zone 17N
Datum/Projection:	NAD27

### 2.2 Survey 2 Quantec Geoscience

#### 2.2.1 PERSONNEL

Supervising Geophysicist:	Woody Coulson
Contractor:	Quantec

#### 2.2.2 SURVEY SPECIFICATIONS

Configuration:	In-Loop
Line spacing:	25 m
Loop Size:	
Line direction:	
Station Spacing:	25 m
Number Turns:	1
Components:	Z, X, Y
Base Frequency:	30 Hz
Typical Current:	20 A
Coordinate System – Projected:	WGS84, UTM Zone 17N
Datum/Projection:	NAD27

## 2.3 Equipment

Data acquisition was achieved using a Protem geophysical receiver built by Geonics Limited. The receiver has the following specifications:

Transmitter Model:	Protem EM 37
Receiver Model:	Protem V.
Receiver Coil:	3D-3 Coil
A/D converter:	23 bit
Number of channels:	8
Sample rate:	8ch @ 10kHz or 4ch @ 25kHz
Input limits:	+/- 3V
Channel times:	Protem Standard 7.5 Hz
Timing:	quartz crystal – stabilised

## 3. COVERAGE

Table 1 – East Bull Lake FLEM Survey Coverage 2012

Survey	Line	East_min	East_max	North_min	North_max	Stations	Distance	
Savage 2012	200E	420784.8	421165.2	5139042	5139858	19	900	
	0E	420607.7	420988.1	5139133	5139948	19	900	
	200W	420397.8	420778.2	5139228	5140044	18	900	
	400W	420213.8	420594.2	5139294	5140110	19	900	
	400E	420981.8	421362.2	5138981	5139797	19	900	
Sables West 2012	0E	410754	411200	5142871	5143775	23	1000	
	200E	410956	411358	5142780	5143676	21	1000	
	200W	410559	411028	5142939	5143847	24	1000	
	300E	411038	411498	5142735	5143623	24	1000	
	400E	411115	411734	5142690	5143545	21	1000	
	400W	410404	410827	5143016	5143926	25	1000	
	600E	411296	411724	5142580	5143588	23	1000	
Road 2012	0E	408038	408048	5140640	5140925	11	300	
	100E	408128	408143	5140486	5140910	15	450	
	100W	407909	407977	5140497	5140917	12	450	
	200E	408226	408245	5140472	5140917	10	450	
	200W	407830	407855	5140485	5140908	14	425	
	300E	408319	408339	5140468	5140917	14	450	
Projection: NAD27, UTM Zone 17N						<b>All</b>	<b>331</b>	<b>14025</b>

Table 2 – East Bull Lake FLEM Survey Coverage 2011

Survey	Line	East_min	East_max	North_min	North_max	Stations	Distance	
Parisien Lake 2011	1	409437	409459	5141036	5141143	12	142	
	301	409435	409463	5141161	5141989	78	992	
	302	409538	409559	5141036	5141981	72	1148	
	303	409640	409662	5141032	5141999	79	1279	
	304	409737	409756	5141021	5141982	70	1276	
	305	409835	409859	5141037	5141968	88	2380	
	306	409935	409960	5141033	5141974	71	1165	
	307	410037	410053	5141034	5141378	35	479	
	3051	409834	409859	5141042	5141987	90	1244	
	3061	409933	409960	5141035	5141978	65	1190	
3071	410034	410059	5141026	5141979	87	1224		
Lodge North 2011	40800	409639	409670	5142303	5143242	82	1189	
	40700	409535	409558	5142302	5143231	89	1120	
	40600	409436	409457	5142288	5143239	60	1235	
	40500	409339	409356	5142280	5143233	77	1160	
	40400	409237	409258	5142295	5143229	56	1092	
	40300	409138	409154	5142289	5143229	54	1056	
	40200	409039	409052	5142727	5143230	17	589	
	40100	408935	408953	5142756	5143238	44	554	
Bullfrog West 2011	11100	406234	406255	5140824	5141246	45	525	
	11000	406136	406158	5140823	5141262	29	531	
	10900	406037	406060	5140835	5141268	40	554	
	10800	405936	405954	5140835	5141269	45	529	
	10700	405839	405856	5140853	5141284	32	540	
	10600	405738	405755	5140830	5141278	48	519	
	10500	405634	405656	5140825	5141276	35	621	
	10400	405540	405555	5140833	5141272	48	526	
	10300	405436	405460	5140833	5141276	35	541	
	10200	405335	405355	5140837	5141278	46	527	
10100	405238	405257	5140834	5141286	37	557		
Bullfrog East 2011	20400	406837	406857	5140641	5140990	30	433	
	20300	406740	406756	5140630	5140979	42	484	
	20200	406638	406658	5140627	5140982	28	475	
	20100	406537	406557	5140640	5140981	39	441	
Projection: NAD27, UTM Zone 17N						<b>All</b>	<b>1805</b>	<b>28316</b>

### 3.1 Transmitter Loops

Savage	East	North
LV1	420518	5140173
LV2	421458	5139759
LV3	421079	5138852
LV4	420030	5139316

Sables West	East	North
LV1	410797	144010
LV2	411794	143545
LV3	411329	142548
LV4	410332	143013

Road	East	North
LV1	407790	5141004
LV2	408390	5140994
LV3	408380	5140394
LV4	407780	5140404

Parisien Lake	East	North
LV1	409400	5142000
LV2	410100	5142000
LV3	410100	5141000
LV4	409400	5141000

Lodge North	East	North
LV1	408850	5143225
LV2	409700	5143225
LV3	409700	5142250
LV4	408850	5142250

Bullfrog West	East	North
LV1	406350	5141300
LV2	406350	5140800
LV3	405150	5140800
LV4	405150	5141300

Bullfrog East	East	North
LV1	406450	5141000
LV2	406950	5141000
LV3	406950	5140600
LV4	406450	5140600

## 4. DATA PRESENTATION AND PROCESSING

Digital data were supplied by Abitibi and Quantec. The recorded response (nV) was normalised by transmitter current (A) and the Rx effective area (m<sup>2</sup>) by the SMARTem.

Field data were inspected for repeatability and consistent decays. Where multiple recordings were made and differed significantly, the outlying record was deleted using Agent99 and other proprietary software.

Windowed survey data are located in Appendix 1. Windows use the standard SMARTem window widths and are specified in the data header. Raw and stacked data are held by Newexco for three months after the survey completion.

Selected window times have been contoured and imaged and are displayed within the text. Provided to aid interpretation are MapInfo \*.tab files of the coverage and selected time channels in addition to a 3D \*.dxf file of all modelled plates for use with mining packages such as Surpac, MapInfo and Micromine: see Appendix 3. Plates *must* be viewed in conjunction with the interpretation to avoid the misuse of poorly constrained conductors.

## 5. INTERPRETATION CRITERIA

Interpretation was carried out with the objective of identifying anomalies that may be sourced by confined bedrock conductors such as massive sulphide accumulations. These anomalies were then modelled to determine the source position and conductivity. Each modelled anomaly source was then classified by the following scheme and where possible on high category anomalies, drill holes were designed to test the position of the modelled source conductor.

Interpretation was done on 1: 10,000 scale profile plots produced by Maxwell, Appendix 2. Modelling was carried out using Maxwell.

The primary criteria used for anomaly selection and prioritisation were:

- a) Good spatial definition. Coherent response over several stations along a line.
- b) Good decay shape. A clear exponential decay evident in the presence of the host response power-law decay.
- c) Estimated time constant from decay rate. Calculated over several late time channels.
- d) Corroborating spatial response from orthogonal components where recorded e.g. Fluxgate Bx and By.
- e) Supporting evidence from neighbouring lines where appropriate line spacing was recorded.

Anomalies are ranked as follows.

*Category 1:* Highest priority. A well defined anomaly demonstrating all of the primary criteria. Anomalies ranked as 1 warrant immediate consideration as a drill target.

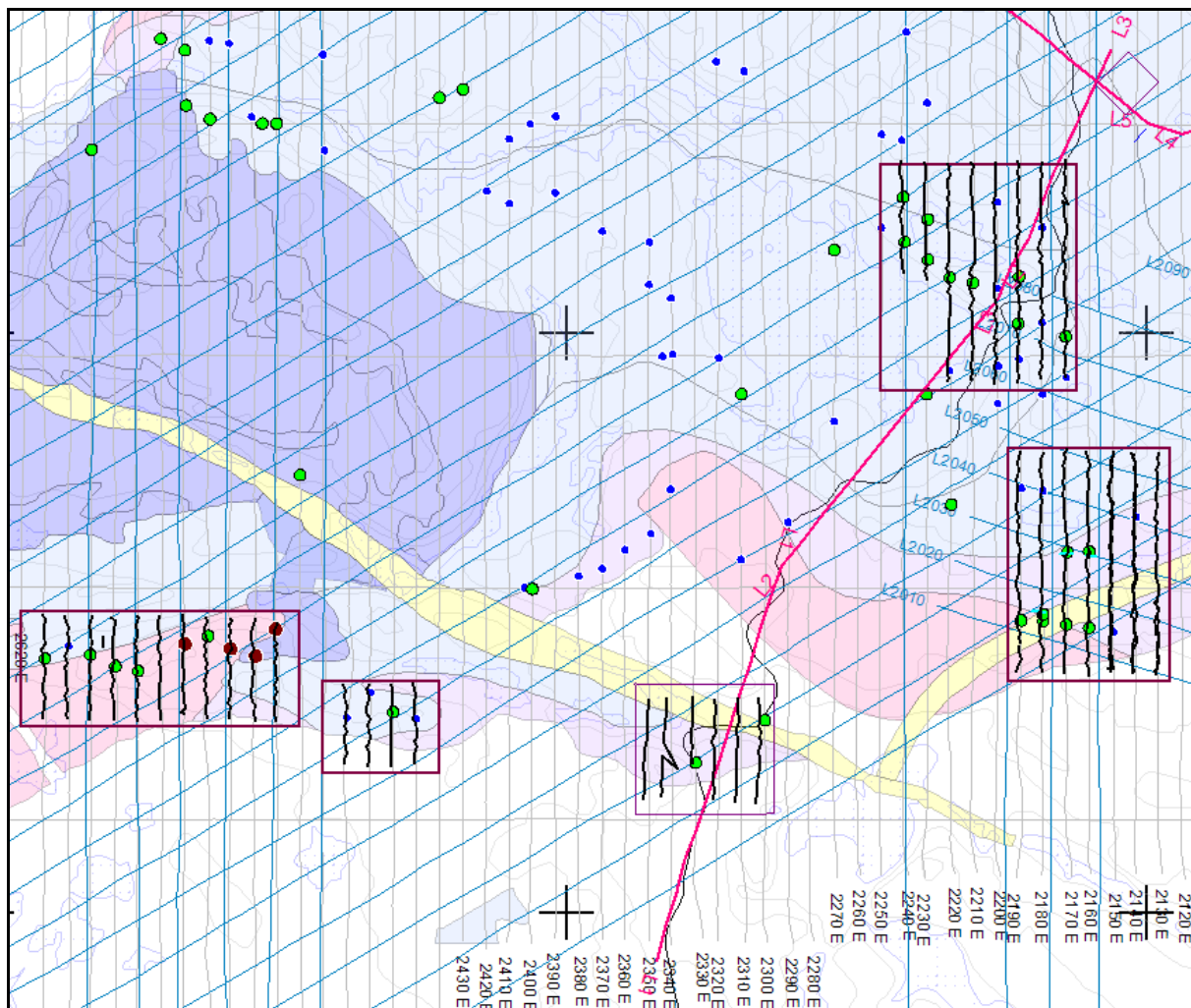
*Category 2:* Moderate priority. Displays good TEM characteristics overall but has some detractive quality, possibly 2 of the 3 primary criteria or, geological knowledge such as a proximity to a conductive black shale or several drill holes in the area. Category 2 anomalies may warrant drill testing where supported by encouraging additional information such as geochemical anomalism, or geological favourable position.

*Category 3:* Low priority. A poorly defined anomaly displaying just one of the three primary criteria. Category 3 anomalies do not warrant drill testing without additional (better quality) EM data to confirm the response, regardless of other encouraging information.

## 6. INTERPRETATION

Seven Fixed Loop Electromagnetic (FLEM) surveys were conducted throughout calendar years 2011 – 2012 to follow up on prospective geology and anomalous VTEM responses of the East Bull Lake intrusion. Five surveys central to the intrusion are shown in Figure 3. The sixth survey, conducted at Sables West, is situated over a number of prospective VTEM anomalies which coincide with a deeper ZTEM feature and high amplitude magnetics; Figure 4. The sixth survey at Savage to the very east of the intrusion coincides with what is interpreted as a feeder conduit with a coincident magnetic and moderately deep ZTEM anomaly; Figure 4.

The interpretation of the data acquired in 2011 below was originally provided in Newexco Memo NX20210. Subsequently, holes have been drilled to target the interpreted conductors; however, no significant mineralised bodies were identified. Subsequent DHEM was undertaken and is interpreted in Newexco Memo NX20413.



**Figure 3: East Bull Lake central FLEM surveys c-clockwise from west: Bullfrog West, East Road, Parisien Lake and Lodge North. Status map includes ZTEM lines in light blue, VTEM lines in grey and single MT line in pink. VTEM anomaly picks are in blue, green and red (categories 3, 2 and 1 - highest).**



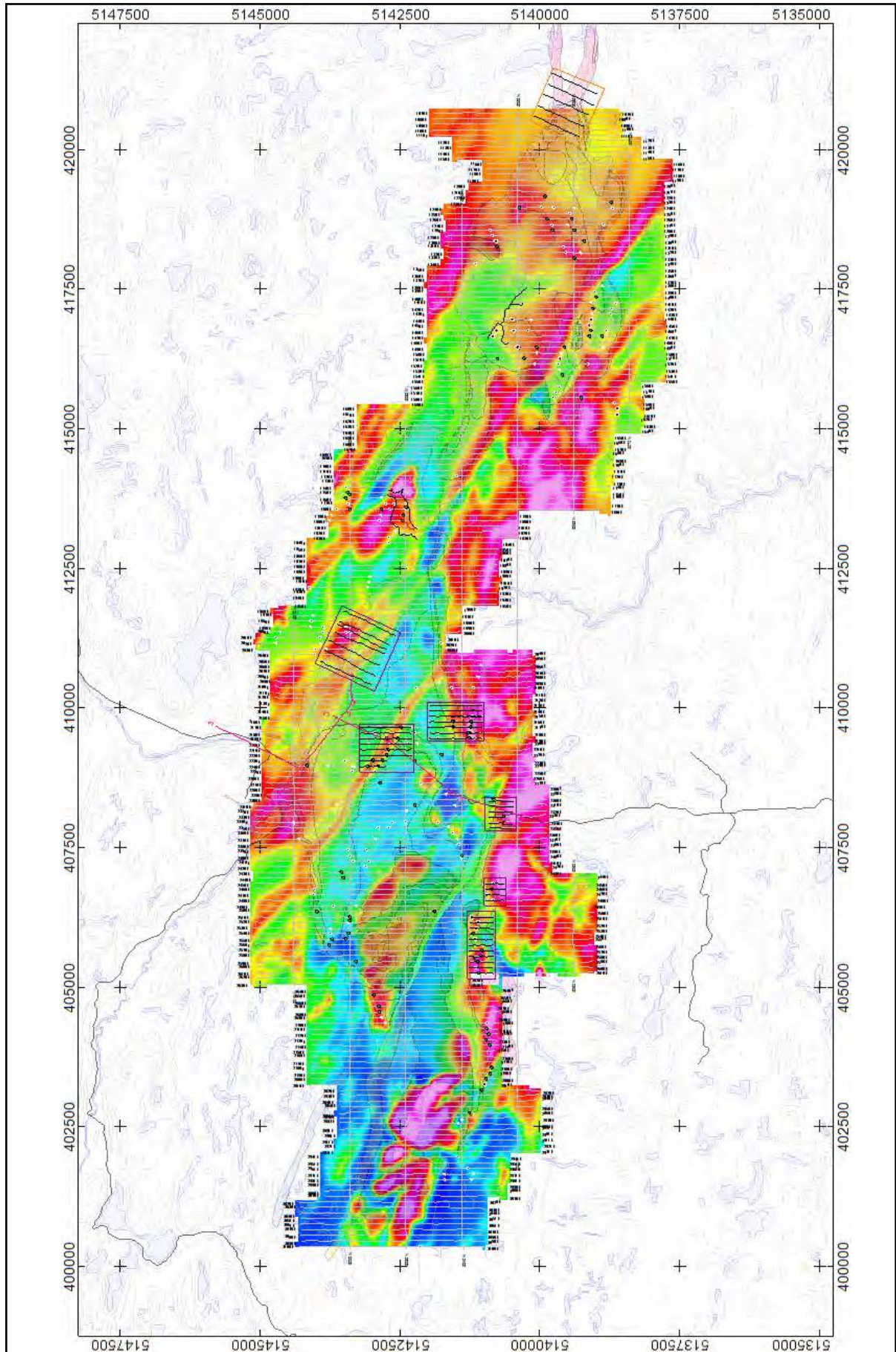


Figure 4: East Bull Lake geology, FLEM, VTEM and MT status overlying TMI RTP raster.

## 6.1 Parisien Lake 2011

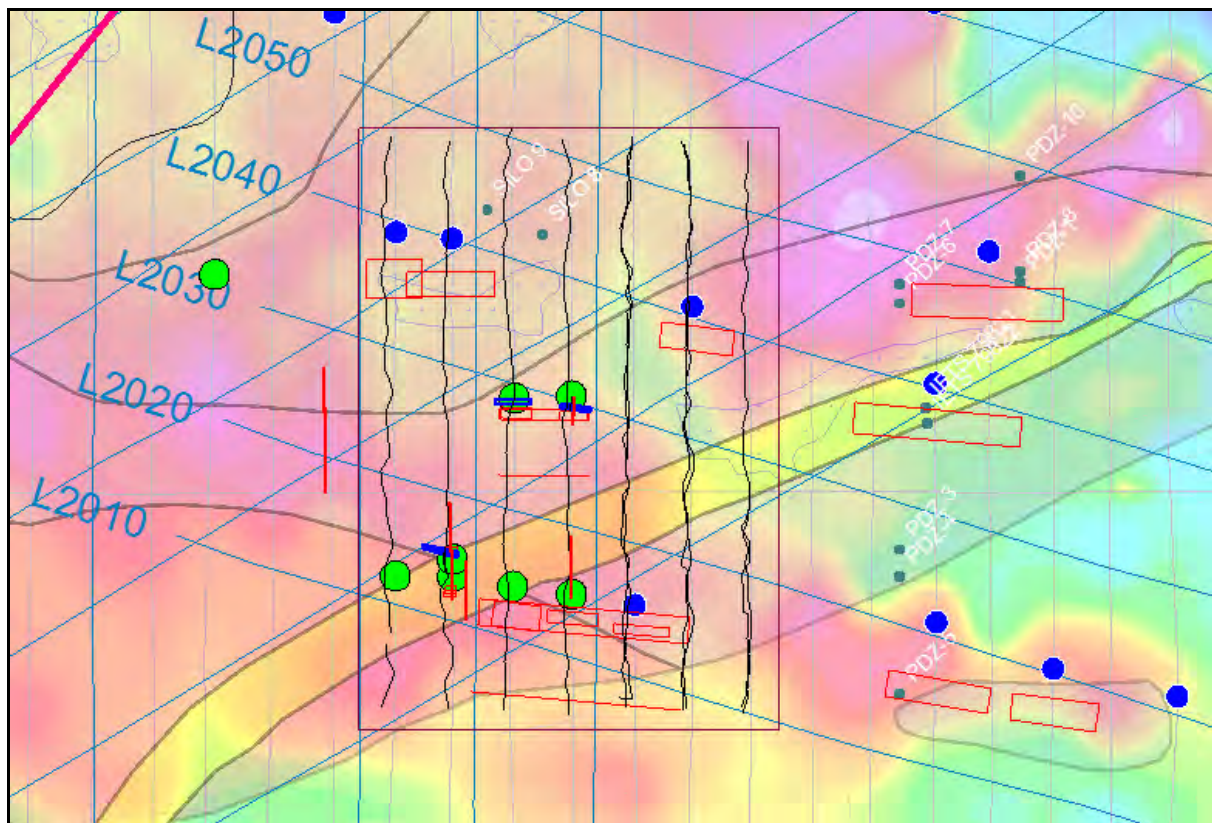
Seven lines of FLEM were recorded at Parisien Lake primarily to cover a number of interpreted conductive horizons identified from the VTEM data; Figure 5. Central and to the south of the survey area the Category 2 VTEM anomalies were confirmed as valid bedrock conductors by the FLEM, albeit small weak sources.

Three plate models were used to satisfy two anomalies identified; Figure 5. Their attributes are presented in Figure 6. Similarly to Bullfrog West, these plates are not well defined and return rather strike extensive but depth restrictive models. They are however easily targeted due to their shallow depth.

PL2 is visible on two lines, 303 and 304; however, the lake prevented adequate coverage on the central line such that the red plate, Figure 6, can be regarded as an estimate. Consequently, the hole was not positioned here.

Dxf files of the modelled plates are provided in Appendix 3. Two holes have been proposed to target PL1 and PL2 as provided in Section 7.

Anomaly statistics are provided in Table 3.



**Figure 5: Parisien Lake FLEM illustrating the VTEM anomaly picks, plates and historic drilling overlaid on the magnetic intensity. Five holes, shown as red drill-traces were subsequently extended and surveyed with DHEM.**

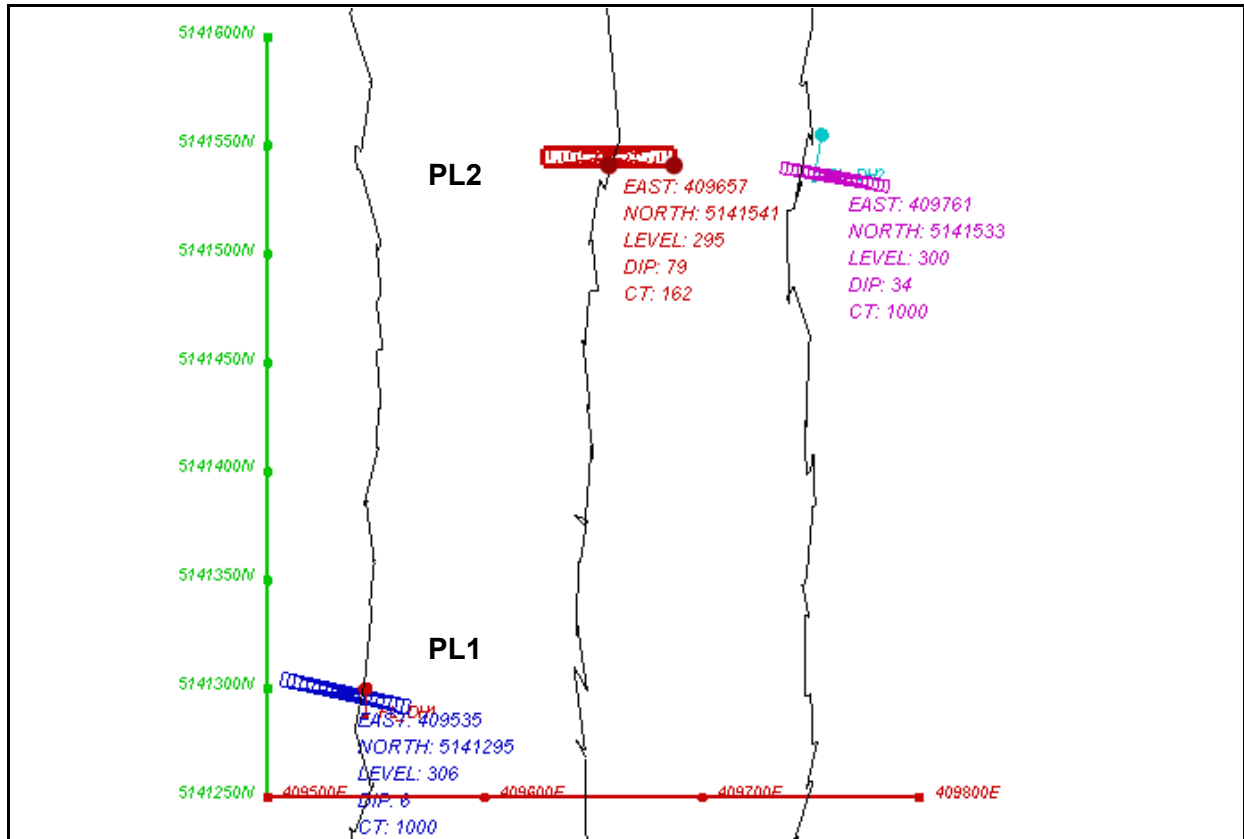


Figure 6: Parisien Lake modelling of lines 320 – 304. Two shallow targets have been identified central to the survey coincident with weak VTEM anomalies.

Table 3 – East Bull Lake Anomaly Statistics

Anomaly	FLEM						DH Defined?
	Easting* (mE)	Northing* (mN)	Tau (ms)	Depth (m)	Area (m <sup>2</sup> )	Category	
PL1	409535	5141294	1.5	25	1000	2	Yes
PL2	409760	5141532	1.5	35	1000	2	Yes

\* NAD27, UTM Zone 17N

## 6.2 Lodge North 2011

Eight lines of FLEM were surveyed around the northeast edge of East Bull Lake; Figure 7. The survey was designed to follow up on numerous weak to moderate amplitude VTEM anomalies as demonstrated in Figure 8. No bedrock anomalous response was however recorded. This casts doubt on the cause of the anomalous responses identified in the VTEM data which also correspond to local magnetic features, including a linear horizon which traverses obliquely through the survey area.

A cultural feature – the East Bull Lake Lodge returned an anomalous response with an approximate 3 ms exponential decay. It responds on the two central lines coincident with the red circle; Figure 7. No further work is recommended.

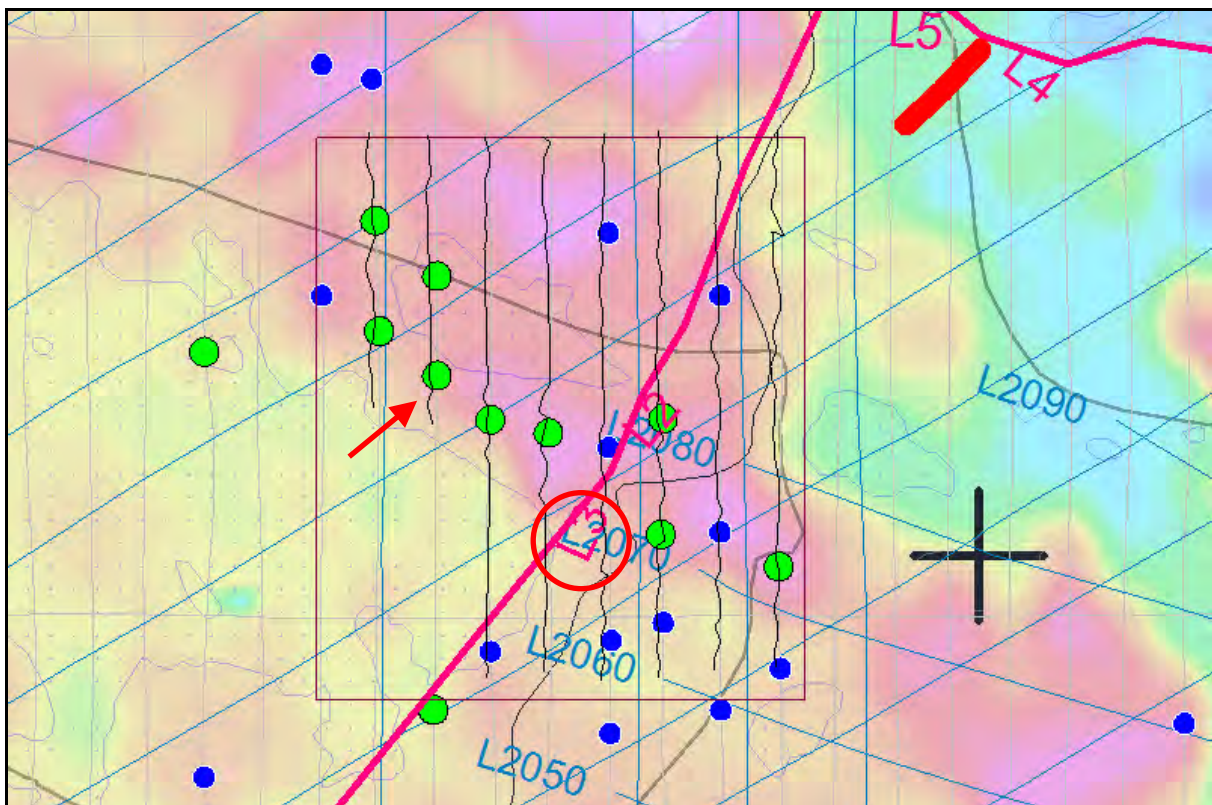


Figure 7: Lodge North FLEM survey in black. VTEM anomalies in blue and green (Category 3 and 2 respectively). MT line in pink and ZTEM status in light blue.

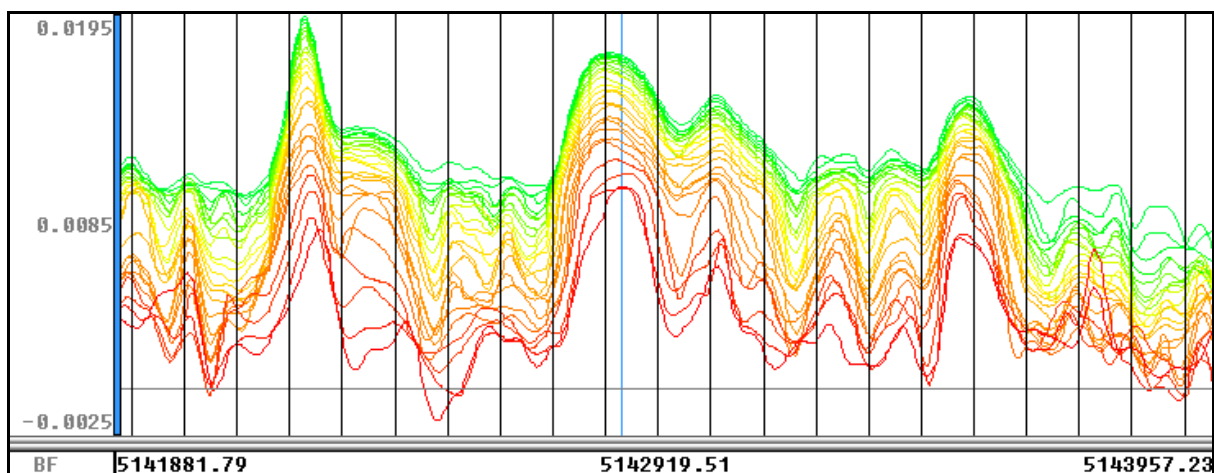


Figure 8: Lodge North. VTEM line 2230 illustrating a Category 2 anomaly (blue line) covered by the Lodge North FLEM survey. This corresponds to the arrow in Figure 7.

### 6.3 Bullfrog East 2011

Four lines of FLEM were surveyed at Bullfrog East over weak to moderate VTEM anomalies; Figure 9. FLEM Line 20300 coincident with VTEM line 2460 failed to confirm the presence of a bedrock conductor consistent with the VTEM response. Profiles for the data are provided in Appendix 2. No long wavelength response consistent with a deeper source was identified. Consequently, no further work is recommended.

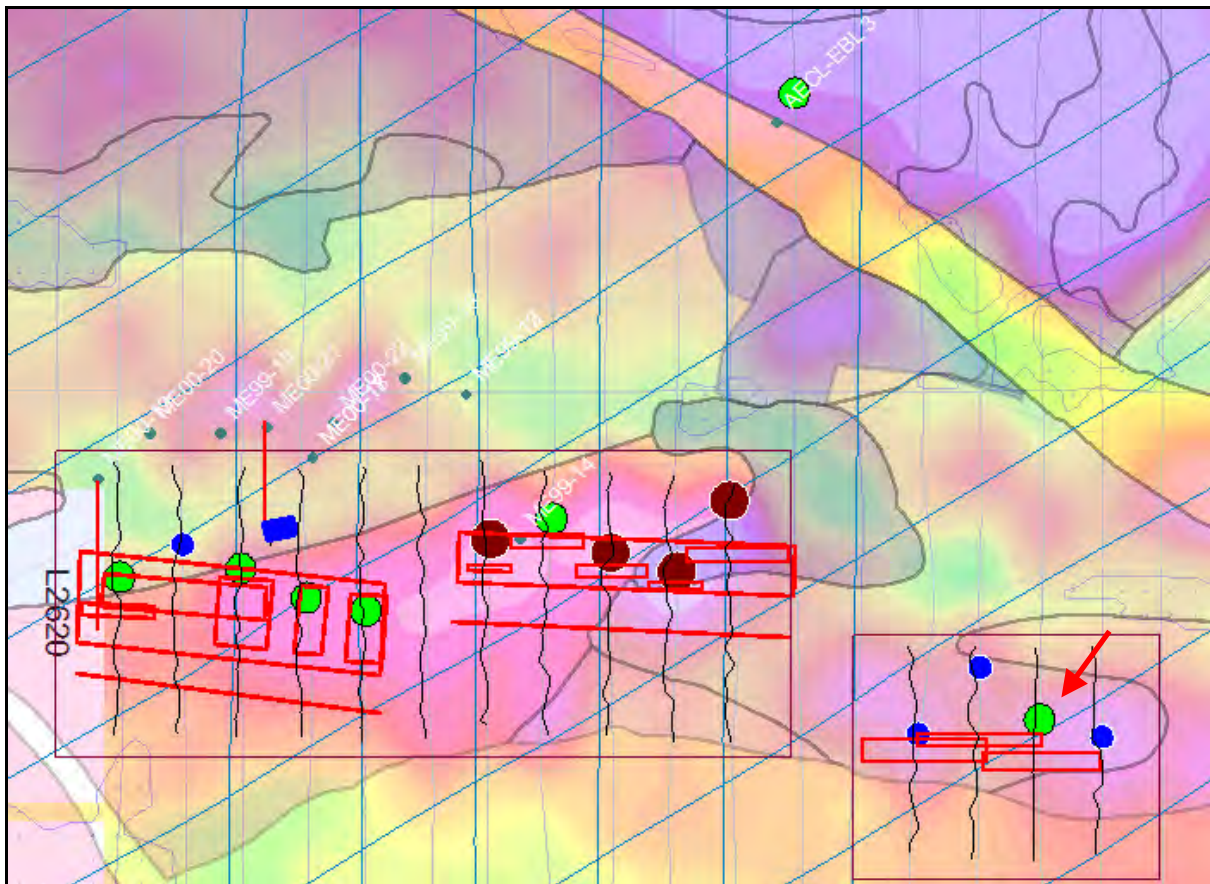


Figure 9: Bullfrog East and West FLEM illustrating the VTEM anomaly picks, plates and historic drilling overlaid on the magnetic intensity. Two holes, shown as red drill-traces were subsequently extended and surveyed with DHEM.

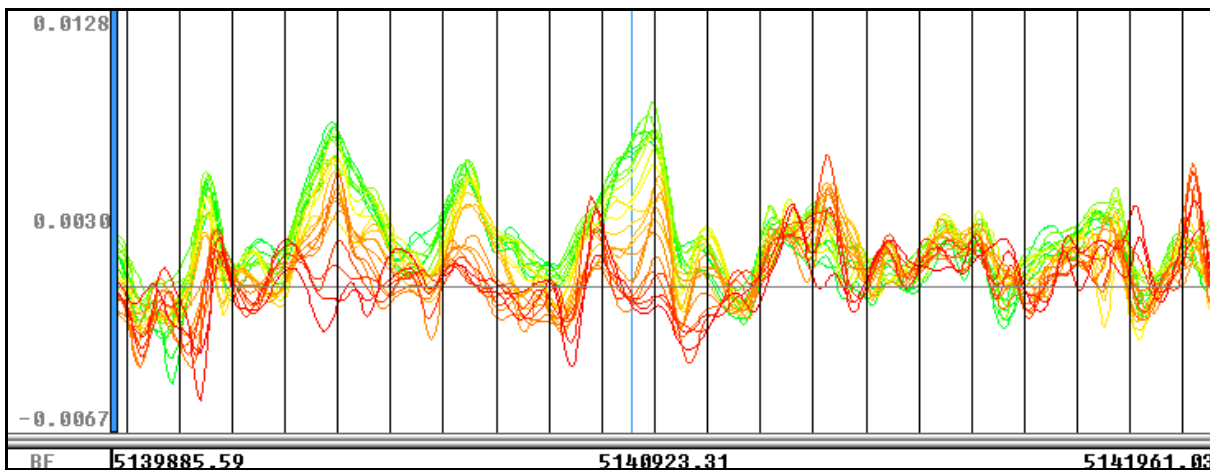


Figure 10: Bullfrog East. VTEM line 2460 illustrating a Category 2 anomaly (blue line) covered by the Lodge North FLEM survey. This corresponds to the arrow in Figure 9.

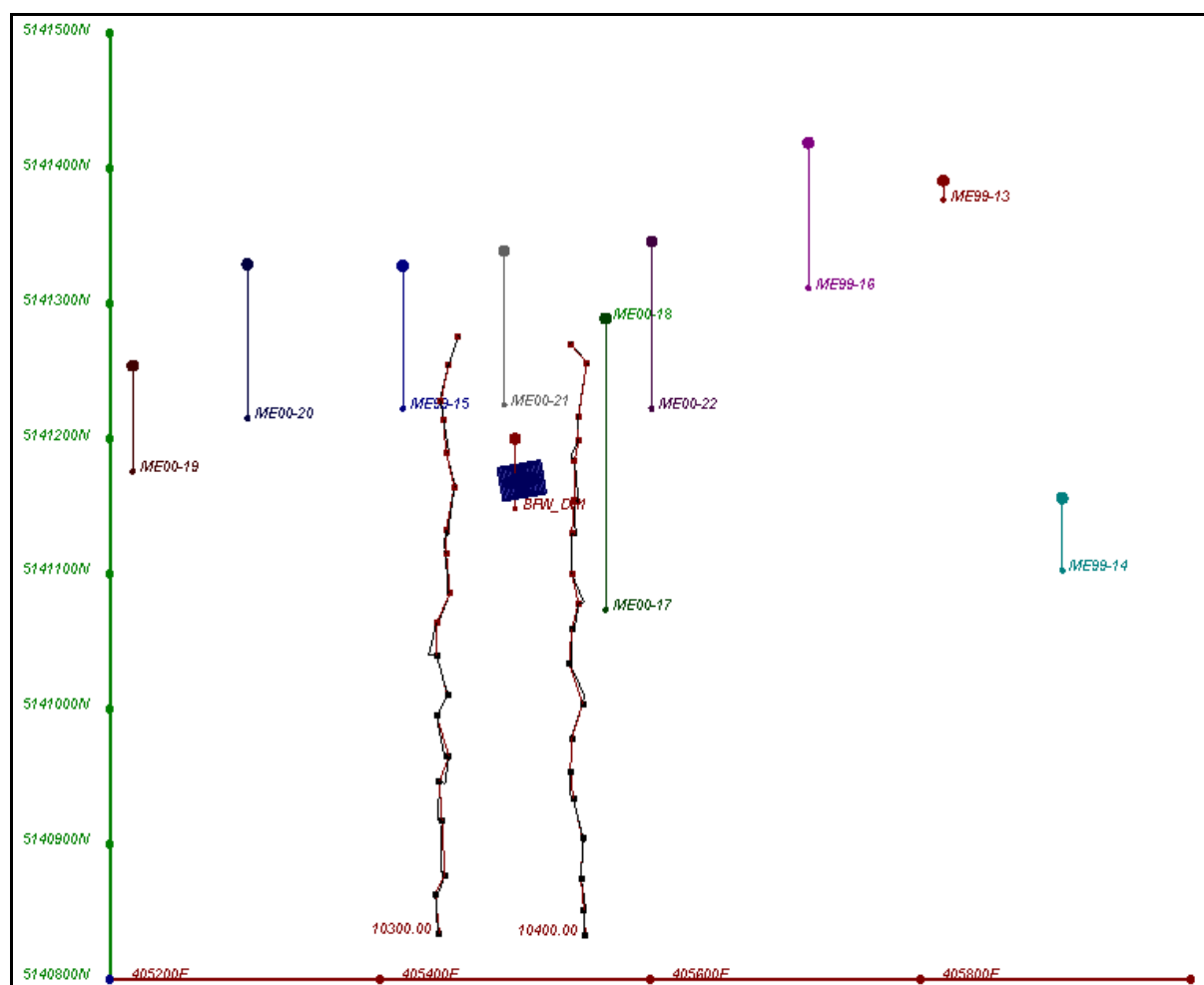
## 6.4 Bullfrog West 2011

Eleven lines of FLEM were surveyed within a single loop at Bullfrog West; Figure 9 and Figure 11. The northern loop edge is limited by water to its north. Ideally, data would have been collected further north on lines 10800 to 11100, although no anomalies of sufficient strength were identified so this is of no concern.

Results for modelling of the only well defined anomalous response return a small 45 x 45 m plate dipping steeply at 105 m depth, Figure 12 and Figure 13. Initially, a thin-plate model was used; however, despite a good fit to both lines the dip was opposite to the known stratigraphy. Subsequently, a thick-plate model was used which returned a geologically reasonable result with appropriate dip in approximately the same position.

Decay curve analysis suggests a time-constant of 1.2 ms with an adequate fit to an exponential. This small tau confirms the source to be either small or weak mineralisation.

It must be emphasised that the most robust geophysical interpretation returns a dip which is counter to the interpreted geology. In order to fit the geology a thick plate was necessary which may alter the modelled depth and extents. Therefore, a drill-hole has been proposed which is steeper than historic drilling but on the same azimuth. Also, the small target size is such that any deviation in the drilling or GPS error during acquisition may cause the target to be missed.



**Figure 11: Bullfrog West modelling of single well defined anomalous response on lines 10300 and 10400. Drillhole BFW\_DH1 is designed to intersect this plate.**

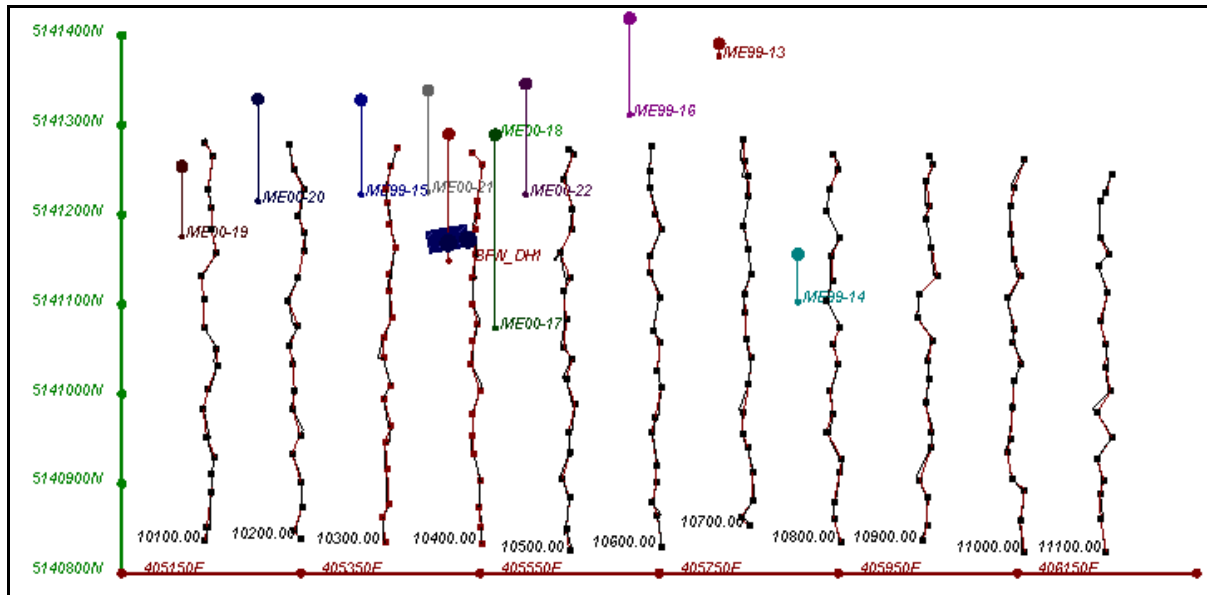


Figure 12: Bullfrog West, plan showing FLEM status, modelled plate, and proposed drill hole: BFW\_DH1.

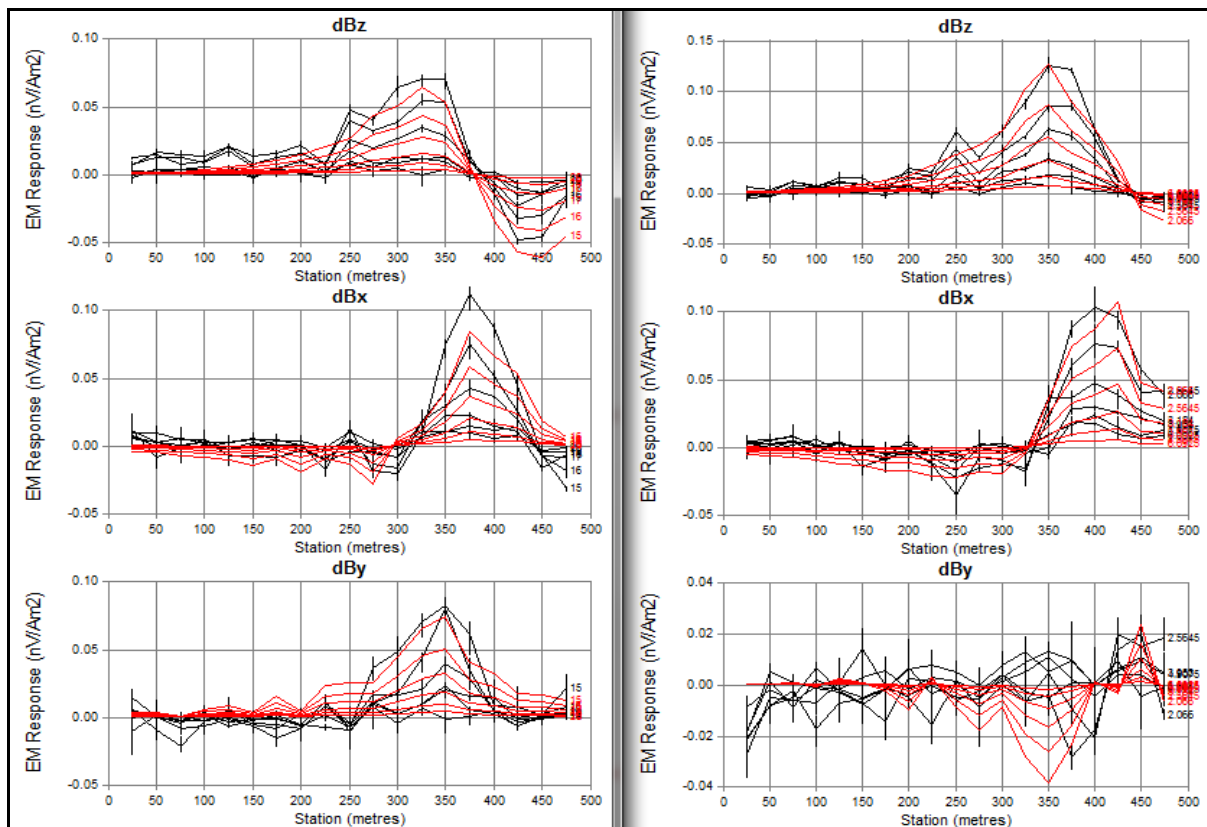


Figure 13: Bullfrog West, section showing modelled plates and proposed drill holes.

Table 4 – East Bull Lake Anomaly Statistics

Anomaly	FLEM						DH Defined?
	Easting* (mE)	Northing* (mN)	Tau (ms)	Depth (m)	Area (m <sup>2</sup> )	Category	
BFW	405505	5141163	1.2	95	1500	2	Yes

\* NAD27, UTM Zone 17N

## 6.5 Road 2012

A 600 x 600 m loop was surveyed at the Road prospect to follow-up on an area which presents itself as anomalous, immediately south of the Folsom Lake Deformation Zone: crossing from NW to SE in yellow, Figure 14. South of this zone the ZTEM 2D inverted results appear to indicate a deeper continuation of the EBL intrusion contradictory to mapping and existing geological interpretations; Figure 15. Whether the ZTEM is showing a conductor at the base of the intrusion or a response associated with the deformation zone is unclear.

Also coincident with this FLEM grid are two very weak VTEM anomalies. The southern central anomaly is demonstrated in Figure 16 alongside the FLEM response. No follow-up anomaly was recorded. The VTEM response may be due to seasonal variations in the drainage.

The FLEM survey failed to identify any anomalous response. Log profiles are presented in Appendix 2.

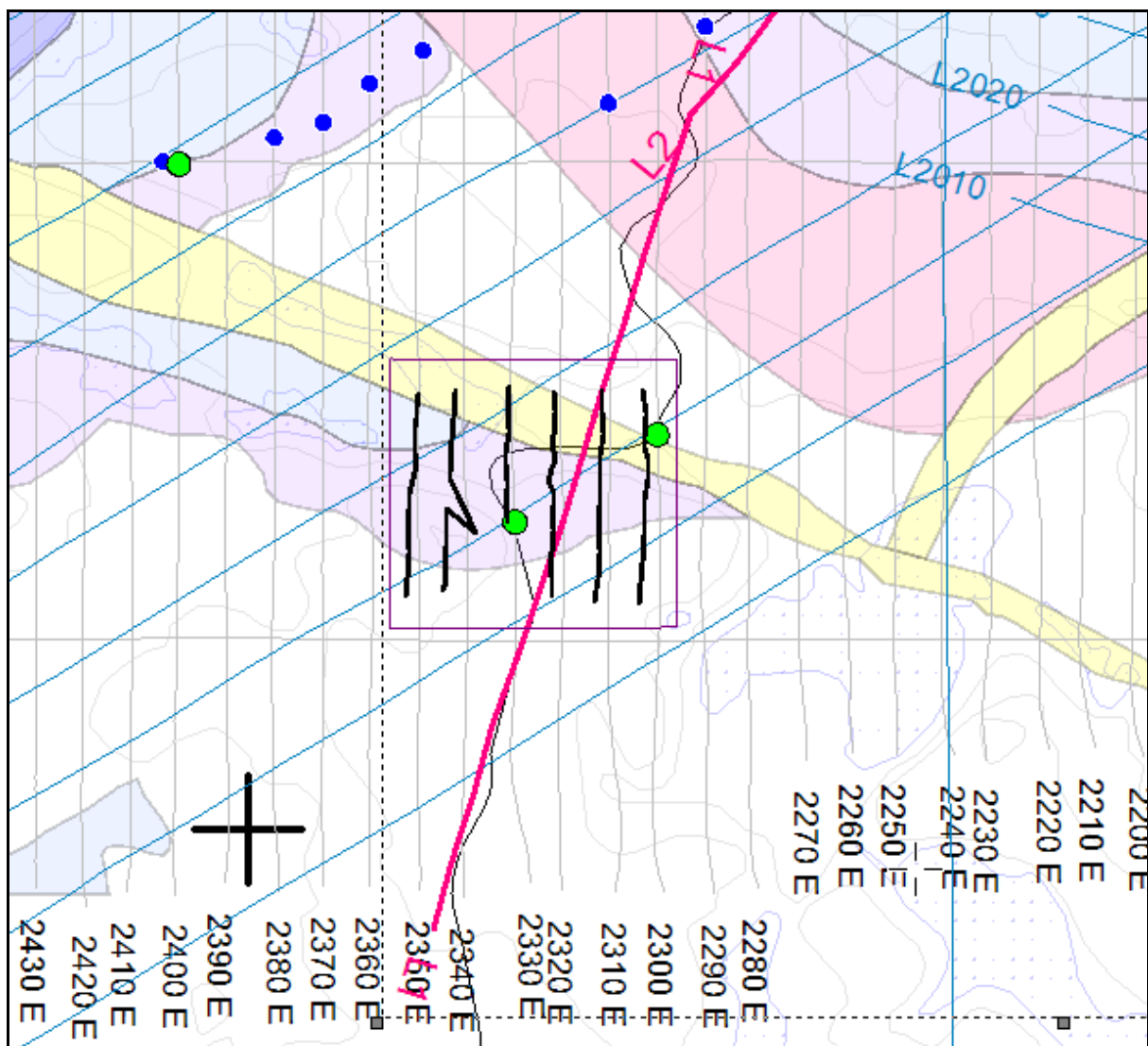


Figure 14: Road status map showing FLEM lines and loop in black and purple respectively. ZTEM lines are shown in light blue, VTEM lines in grey and single MT line in pink. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2).



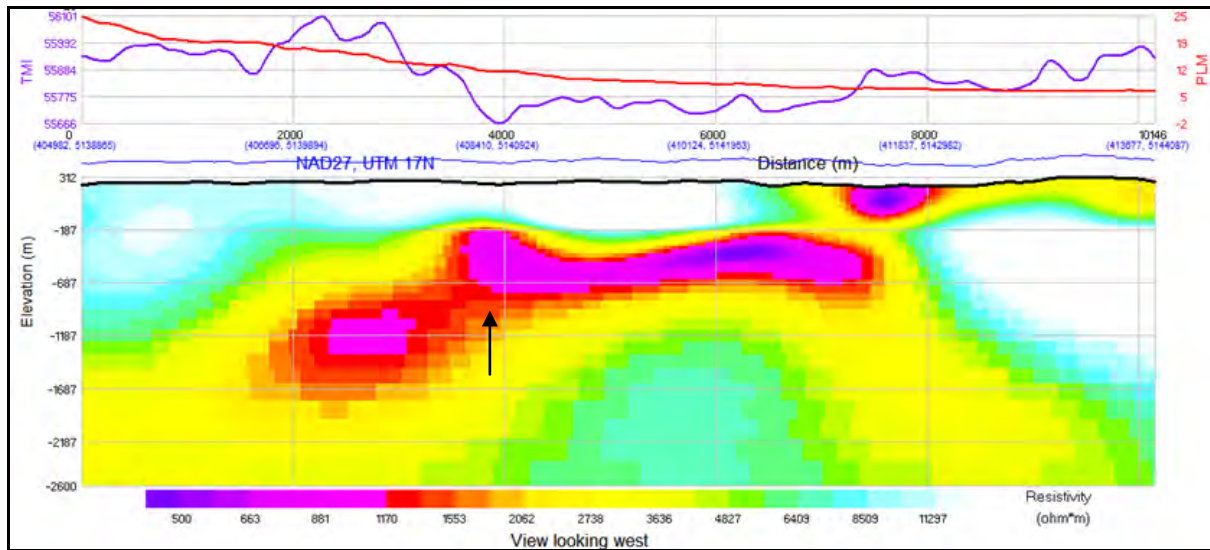


Figure 15: Road. ZTEM Geotech 2d inversion for line 1360. Taken from: 'Inversion results of 11154\_topo\_v1.ppt'. Black arrow marks the position of the Folsom Lake Deformation Zone.

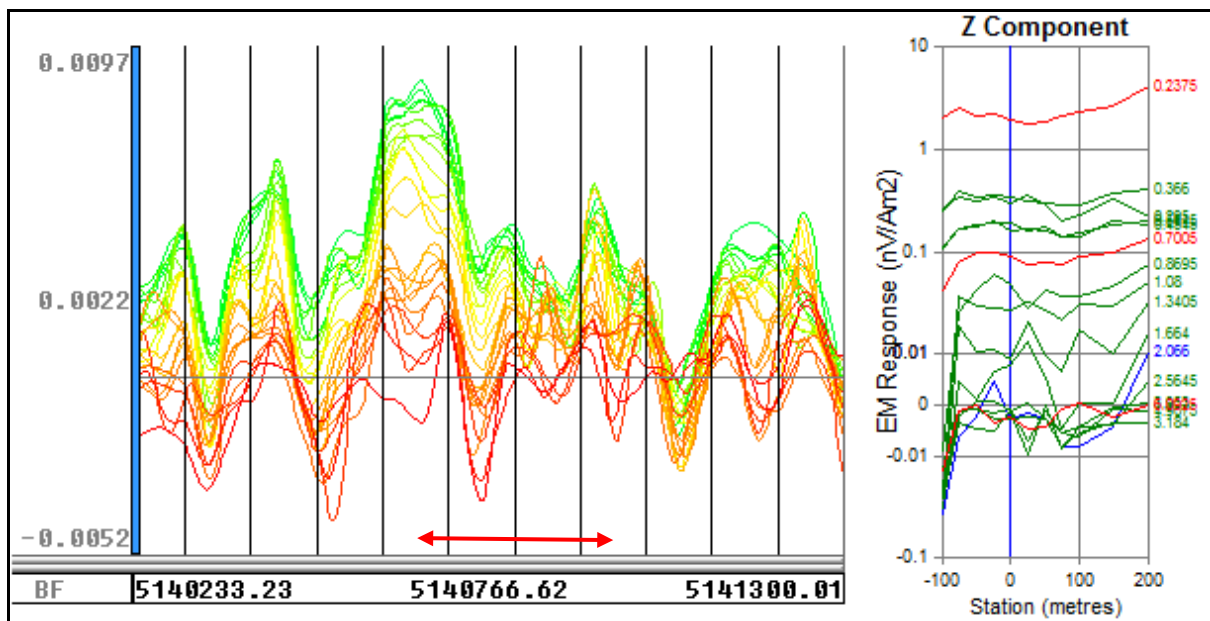


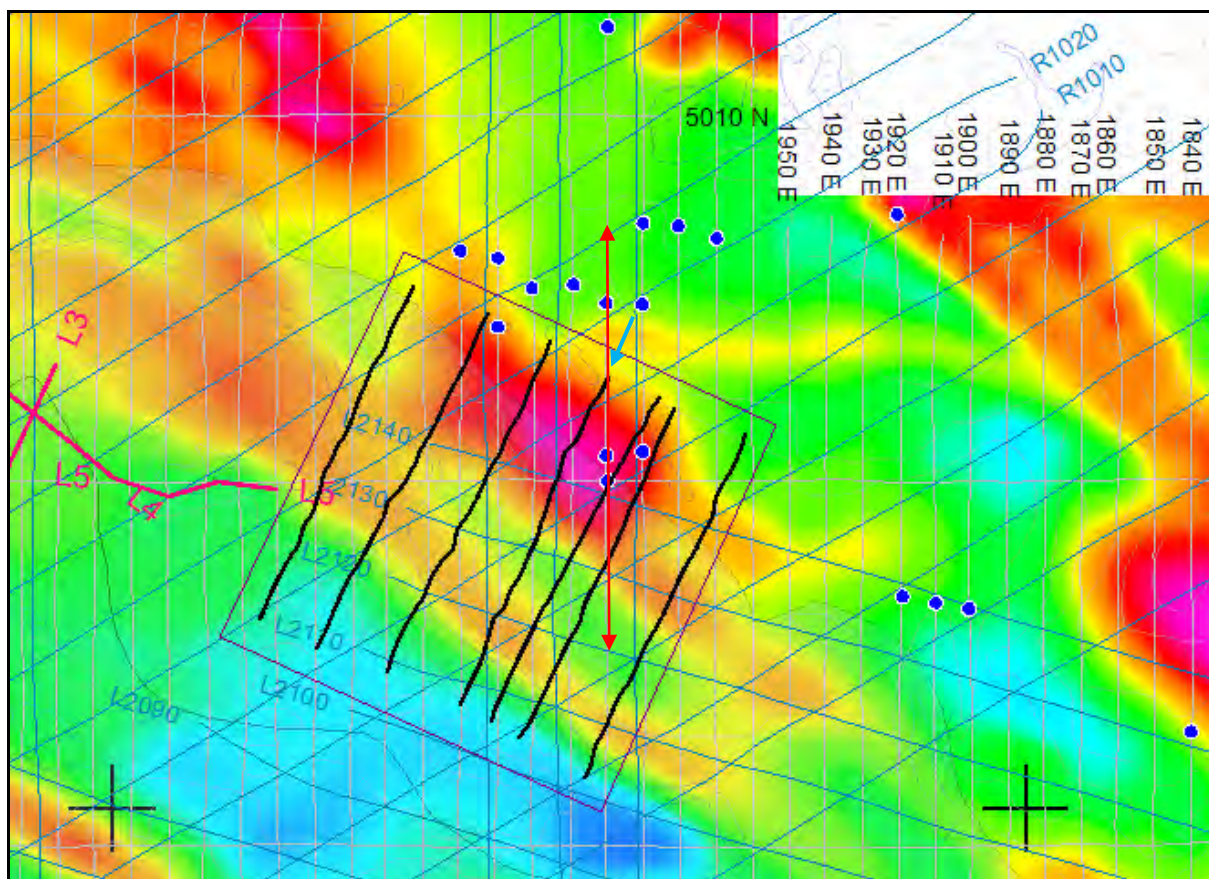
Figure 16: Road. Extract of VTEM line 2330 dBz component, coinciding with FLEM line 0E. The red arrow shows their relative domain. The FLEM line does not cover the full anomaly due to access issues.

## 6.6 Sables West 2012

A ~1200x1200 metre square grid was surveyed over an area showing a coincident isolated magnetic response and a moderately deep apparent zone of low resistivity demonstrated by the Geotech 2d inversion; Figure 17 and Figure 18. The magnetic high is also coincident with a cluster of moderate category 3 VTEM anomalies; Figure 19.

The FLEM survey failed to identify any anomalous response sufficiently in wavelength and decay to warrant follow-up. A very weak off-end response was identified to the north of the survey and coincident with the VTEM picks shown in Figure 17. Decay curve analysis demonstrates a time-constant of 0.7 ms; Figure 20. An example of the response is shown in the right panel of Figure 19.

Importantly, no deep long wavelength response is present which may confirm the existence of a conductive source coincident with the low resistivity feature of the ZTEM inverted response. Log profiles of the FLEM response are presented in Appendix 2. No further work is recommended.



**Figure 17: Sables West status map and TMI RTP image, showing FLEM lines and loop in black and purple respectively. ZTEM lines are shown in light blue, VTEM lines in grey and single MT traverse in pink. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2). The red line coincides with the VTEM profiles shown in Figure 19.**

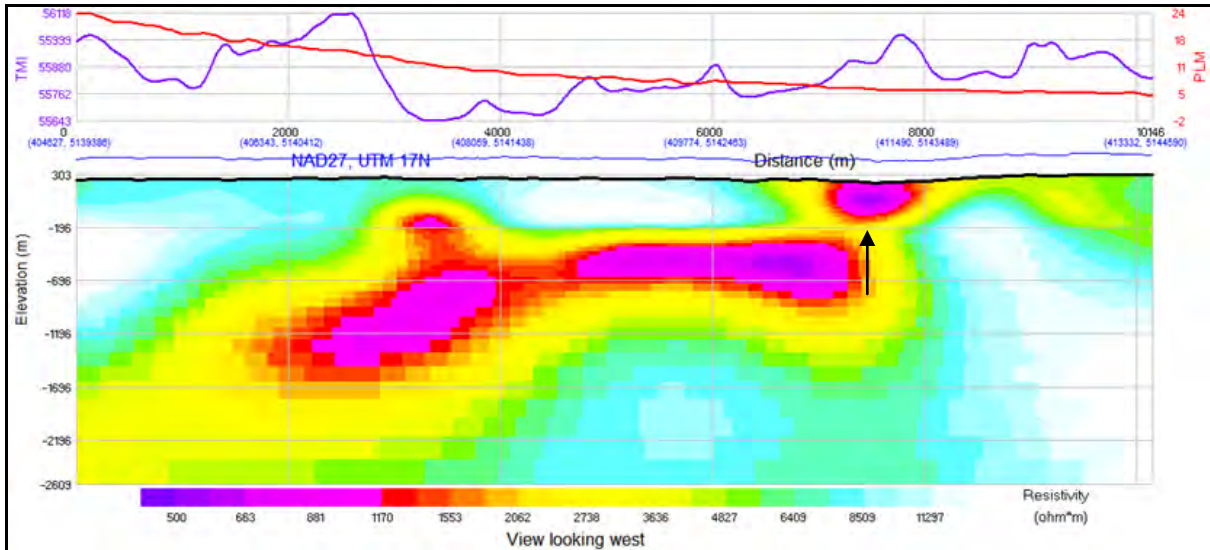


Figure 18: Sables West. ZTEM Geotech 2D inversion for line 1390. Taken from: 'Inversion results of 11154\_topo\_v1.ppt'. The black arrow marks the position of the target low resistivity zone.

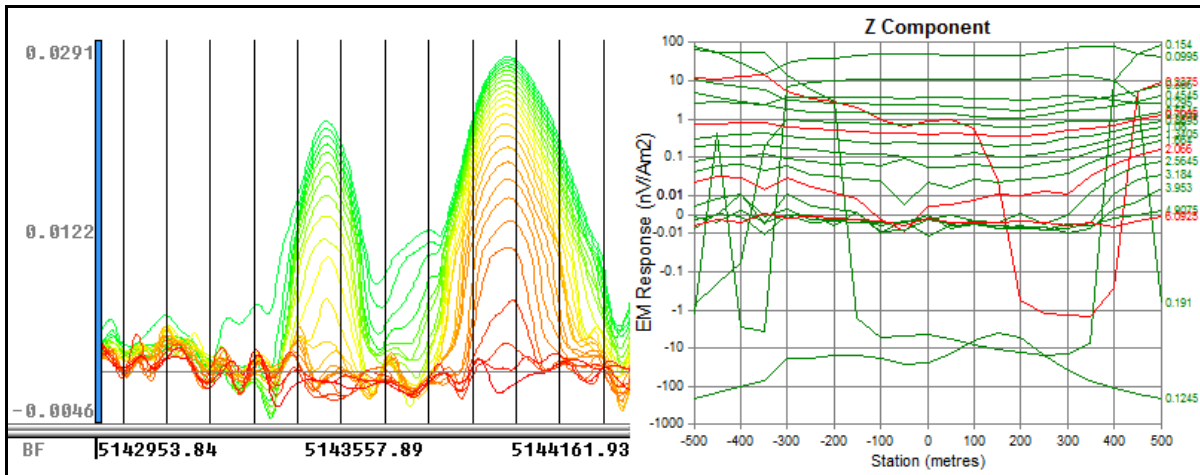


Figure 19: Sables West. Extract of VTEM line 2000 dBz component, converging with FLEM line 200E. The red arrow of Figure 17 shows the extracted section. The FLEM line is demonstrated by the blue arrow of Figure 17.

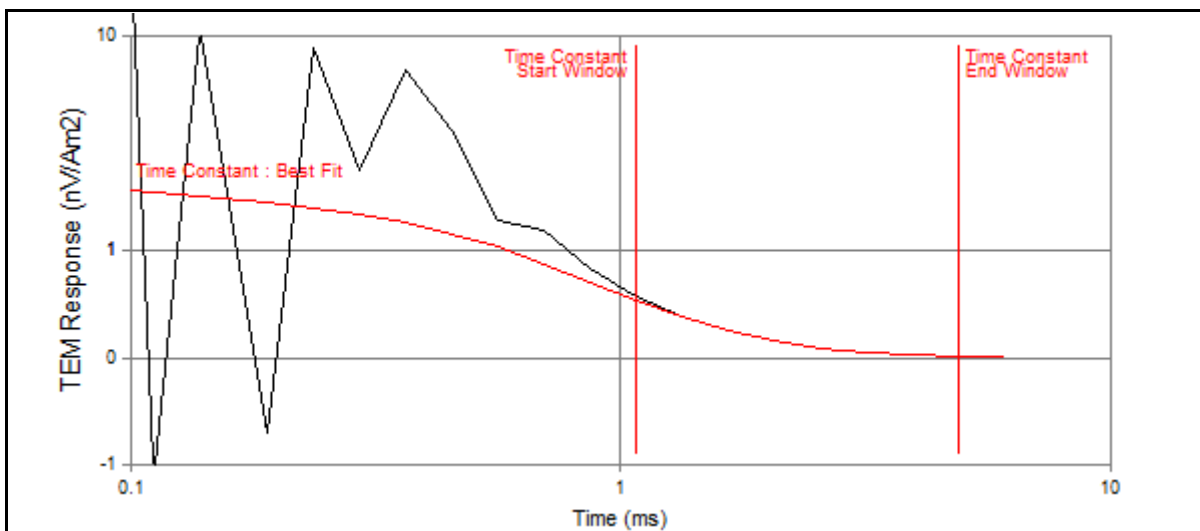
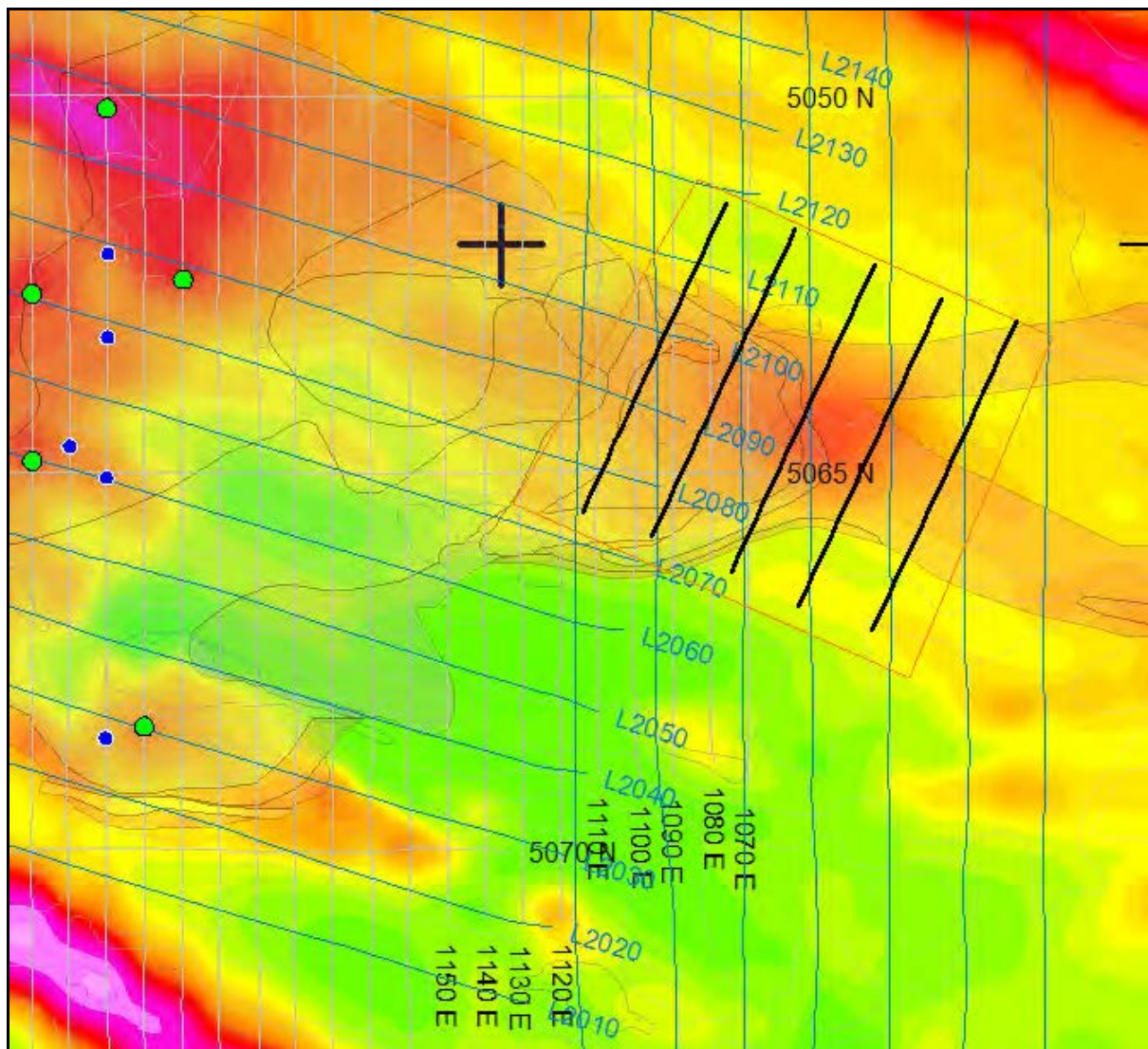


Figure 20: Decay curve analysis:  $\tau = 0.7$  ms for station 500, line 200E.

## 6.7 Savage 2012

A 1200 x 900 m FLEM loop was surveyed over the Savage prospect at the easternmost limb of the East Bull Lake Intrusion proper. This area marks a geologically prospective location due to the interpreted position of the feeder and the associated high magma flow; Figure 21. Coincident with this location is a shallow ZTEM anomaly identified from the Geotech 2D inversion; Figure 22. A local magnetic response is also present central to the FLEM loop; Figure 21.

Five lines were recorded inside the loop; however, no anomalous response was identified. The background response is very weak and uniform over Savage indicating a very resistive country rock. Any anomalous conductive source associated with the ZTEM anomaly at a depth of 200 – 400 m would be easily identifiable. Figure 23 illustrates the modelling for such a scenario. Consequently, no further work is recommended.



**Figure 21: Savage status map and TMI RTP image, showing FLEM lines and loop in black and orange respectively. ZTEM lines are shown in light blue, VTEM lines in grey. These overlay the simplified geology. VTEM anomaly picks are in blue and green (categories 3 and 2).**

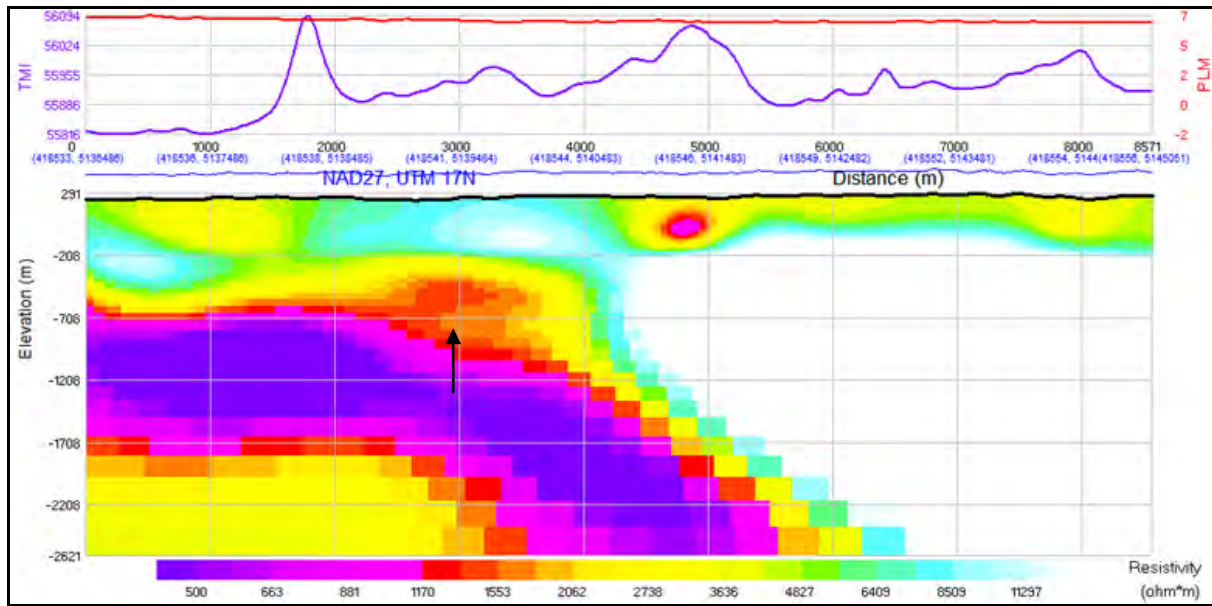


Figure 22: Savage. ZTEM Geotech 2D inversion for Line 1070. Taken from: 'Inversion results of 11154\_topo\_v1.ppt'. The black arrow marks the position of the target low resistivity zone.

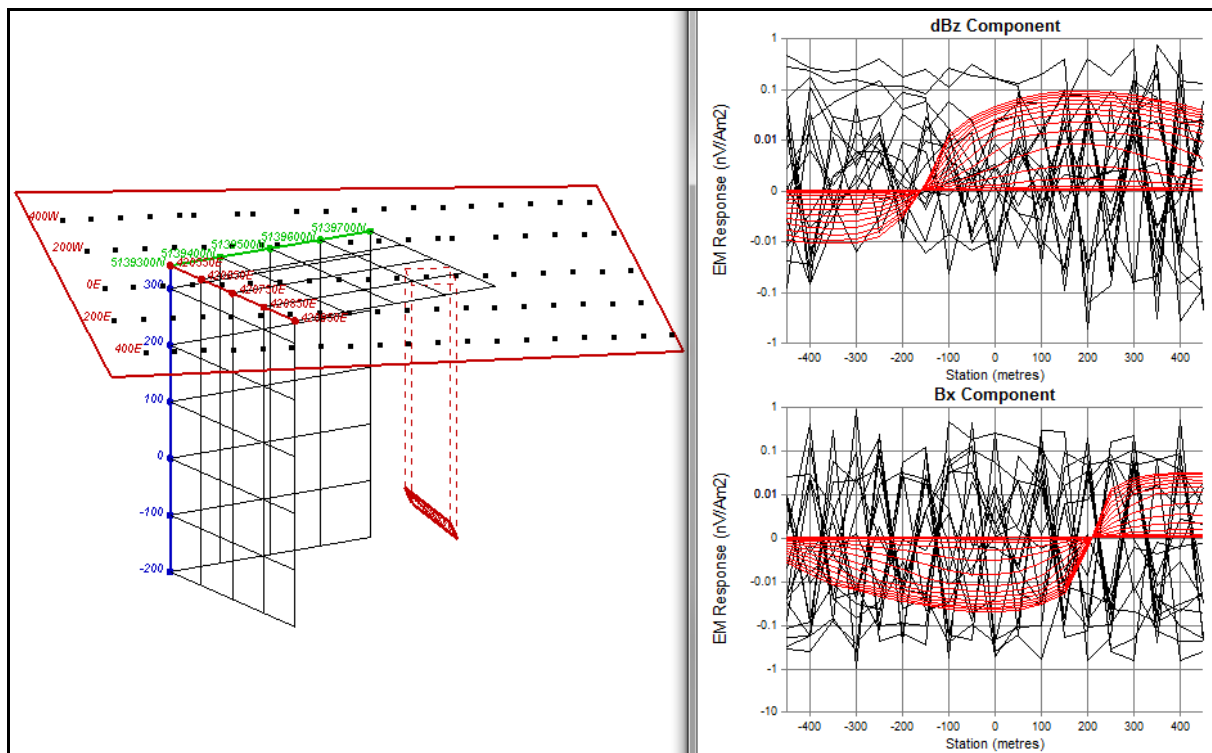


Figure 23: Savage forward modelling of a 100 x 100 m moderately dipping plate at 350 m depth with a conductance of 300 S. Black and red profiles represent the field and modelled response respectively.

## 7. CONCLUSION AND RECOMMENDATIONS

### 7.1 Parisien Lake 2011

Two Category 2 VTEM anomalous horizons were confirmed by the FLEM as small weak isolated conductive sources. The modelled plates PL1 and PL2 have been constrained sufficiently for shallow drilling, proposed in Table 5 below. Time-constants are weak at < 2 ms.

### 7.2 Lodge North 2011

Despite the presence of an extensive Category 2 anomalous VTEM horizon, no bedrock conductive sources were identified. The VTEM anomalies may be explained by the coincident magnetic feature. The lodge at East Bull Lake, central to the survey, returned a large cultural response.

### 7.3 Bullfrog West 2011

A single bedrock conductive response interpreted to be source by a small isolated body has been proposed for drilling; Table 5. The anomaly exhibits a small time-constant of 1.2 ms.

### 7.4 Bullfrog East 2011

Four lines of FLEM covering numerous Category 3 and a single Category 2 VTEM anomaly fail to register an anomalous bedrock response.

### 7.5 Road 2012

Seven lines of FLEM covering a cluster of very weak VTEM anomalies and a prospective feature identified from the ZTEM data failed to identify a bedrock conductive source.

### 7.6 Sables West 2012

Six lines of FLEM covering two weak VTEM anomalies and also situated over a prospective feature identified from the ZTEM data failed to identify a bedrock conductive source.

### 7.7 Savage 2012

Five lines of FLEM were surveyed over what is interpreted to be a feeder conduit to the East Bull Lake intrusion. The area also exhibits a coincident mag feature; however, no anomalous bedrock conductive source was identified.

**Table 5 – East Bull Lake Suggested Drillhole Locations**

	Number	Easting*	Northing*	RL	Dip	Azimuth	Length	Intersection
1	BFW_DH1	405500	5141200	320	75	180	150	110
2	PL_DH1	409545	5141300	332	75	180	100	30
3	PL_DH2	409755	5141555	335	75	190	80	40

\* NAD27, UTM Zone 17N

## APPENDIX 1

### EMBEDDED DATA FILES IN AMIRA FORMAT

*(Also available on CD included on back page of this Report)*



East Bull Lake FLEM 2011 Data



East Bull Lake FLEM 2012 Data

***(PLEASE NOTE: Click icon above to access attached files or, alternatively, go to “View”, “Navigation Panels”, “Attachments”)***

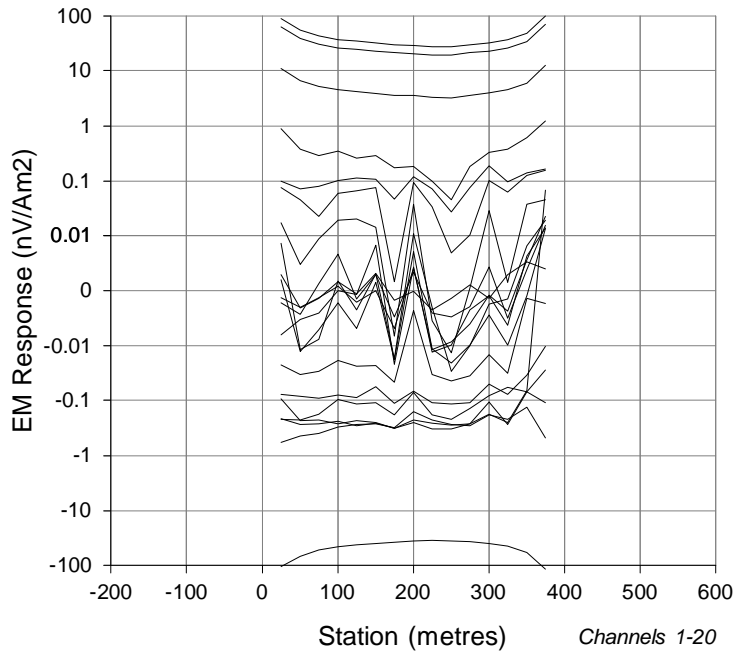
## **APPENDIX 2**

### **LOGARITHMIC AND LINEAR PROFILE PLOTS**

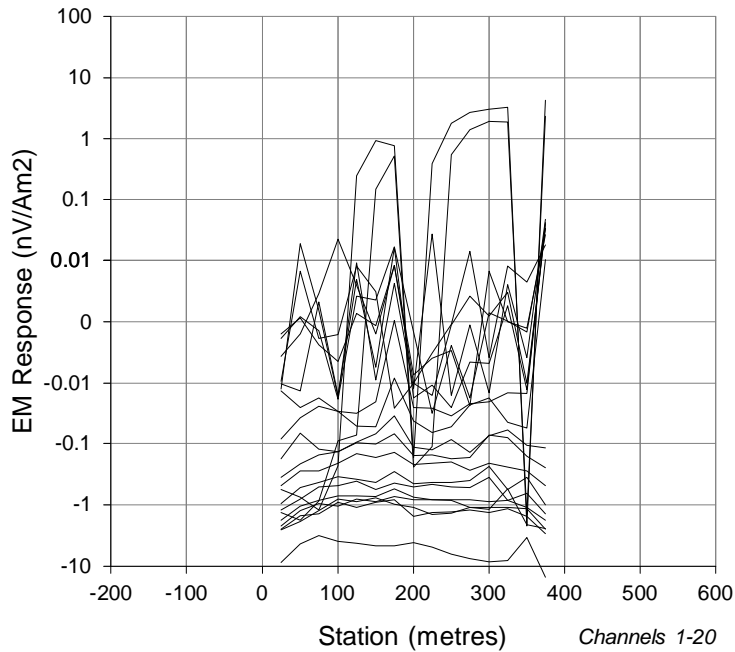
*(Also available on CD included on back page of this Report)*



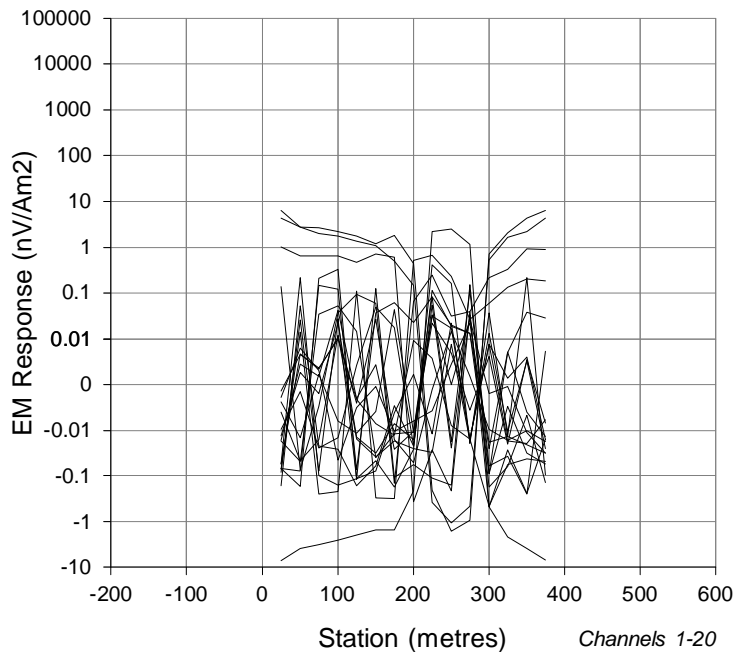
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

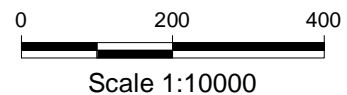
Loop : Bullfrog\_East  
 Tx Current : 20 A  
 Turn Off : 0.496 ms

### LOOP POINTS

LV1 : 406450mE, 5141000mN  
 LV2 : 406950mE, 5141000mN  
 LV3 : 406950mE, 5140600mN  
 LV4 : 406450mE, 5140600mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.5962	11 : 1.366
2 : 0.6212	12 : 1.577
3 : 0.6507	13 : 1.837
4 : 0.6877	14 : 2.161
5 : 0.7342	15 : 2.563
6 : 0.7917	16 : 3.061
7 : 0.8627	17 : 3.681
8 : 0.9512	18 : 4.450
9 : 1.061	19 : 5.404
10 : 1.197	20 : 6.589



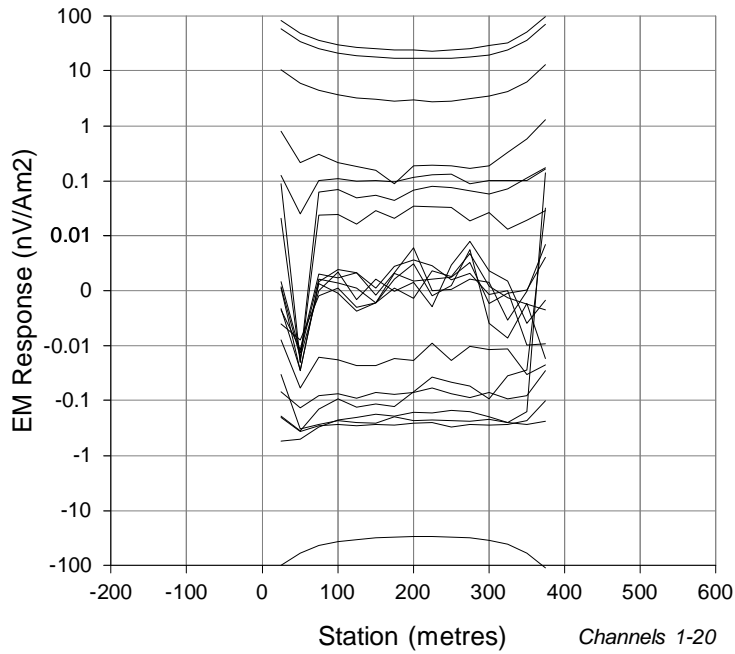
NEWEXCO

**East Bull Lake  
 Bullfrog East  
 20400**

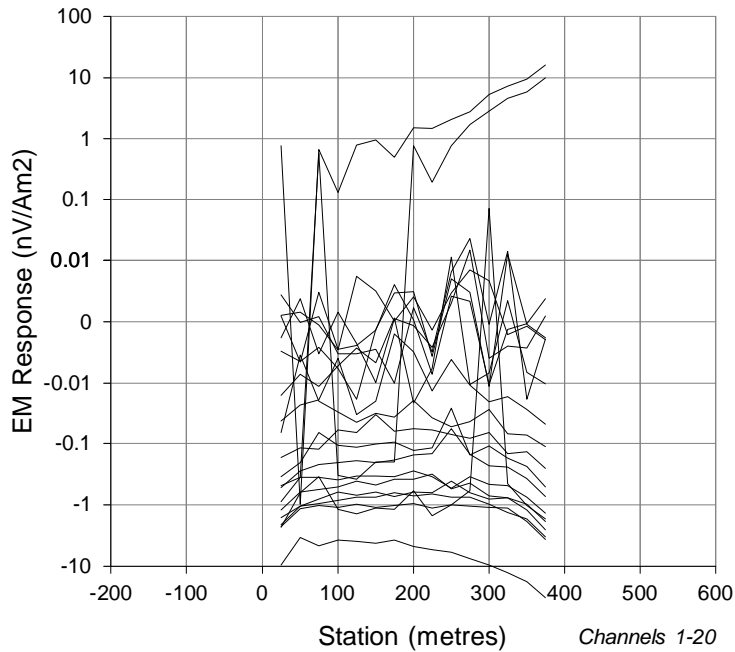
Author : B. Liss



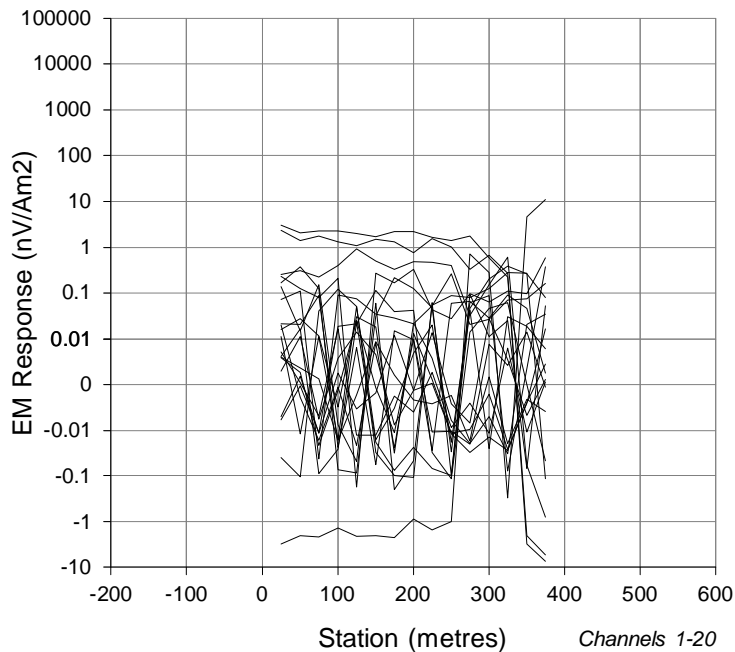
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

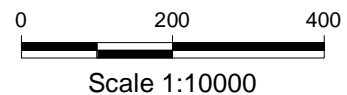
Loop : Bullfrog\_East  
 Tx Current : 20 A  
 Turn Off : 0.496 ms

### LOOP POINTS

LV1 : 406450mE, 5141000mN  
 LV2 : 406950mE, 5141000mN  
 LV3 : 406950mE, 5140600mN  
 LV4 : 406450mE, 5140600mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.5962	11 : 1.366
2 : 0.6212	12 : 1.577
3 : 0.6507	13 : 1.837
4 : 0.6877	14 : 2.161
5 : 0.7342	15 : 2.563
6 : 0.7917	16 : 3.061
7 : 0.8627	17 : 3.681
8 : 0.9512	18 : 4.450
9 : 1.061	19 : 5.404
10 : 1.197	20 : 6.589



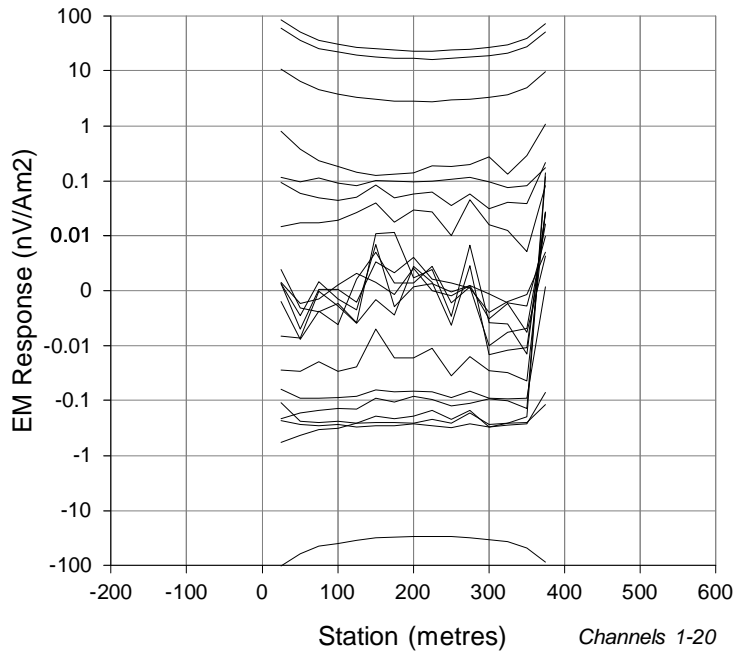
NEWEXCO

**East Bull Lake  
 Bullfrog East  
 20300**

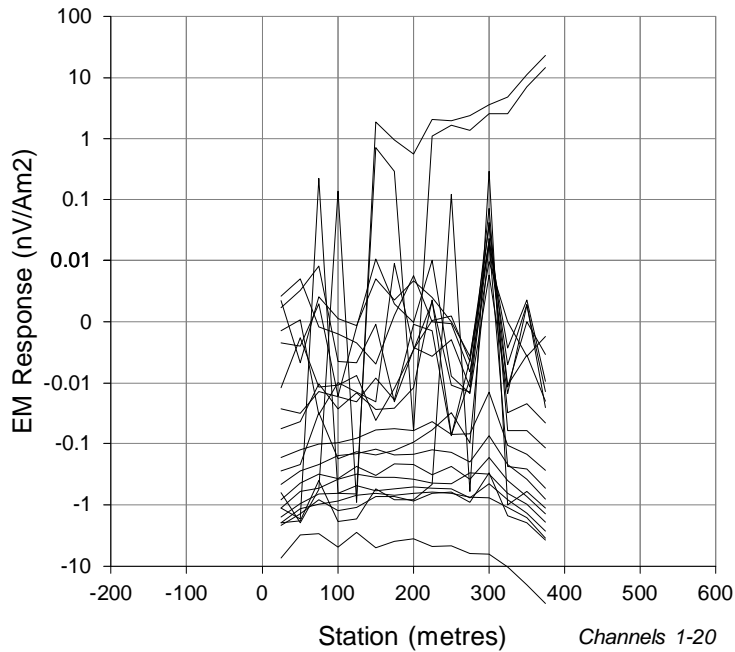
Author : B. Liss



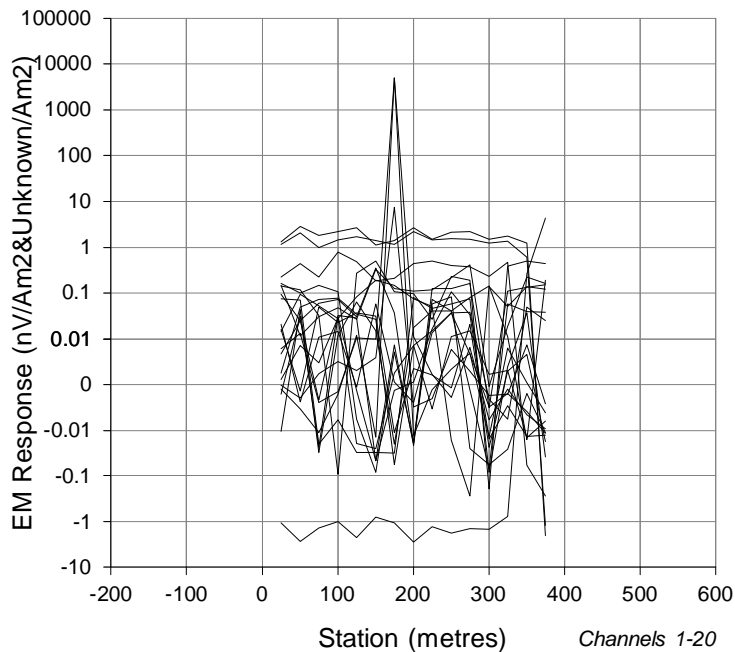
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

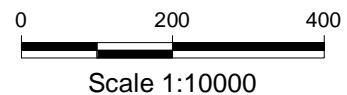
Loop : Bullfrog\_East  
 Tx Current : 20 A  
 Turn Off : 0.496 ms

### LOOP POINTS

LV1 : 406450mE, 5141000mN  
 LV2 : 406950mE, 5141000mN  
 LV3 : 406950mE, 5140600mN  
 LV4 : 406450mE, 5140600mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.5962	11 : 1.366
2 : 0.6212	12 : 1.577
3 : 0.6507	13 : 1.837
4 : 0.6877	14 : 2.161
5 : 0.7342	15 : 2.563
6 : 0.7917	16 : 3.061
7 : 0.8627	17 : 3.681
8 : 0.9512	18 : 4.450
9 : 1.061	19 : 5.404
10 : 1.197	20 : 6.589



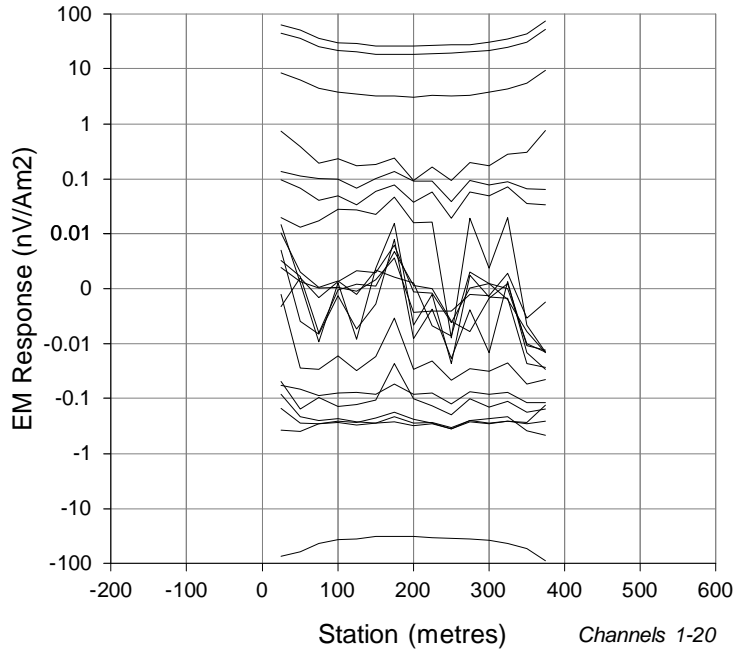
NEWEXCO

**East Bull Lake  
 Bullfrog East  
 20200**

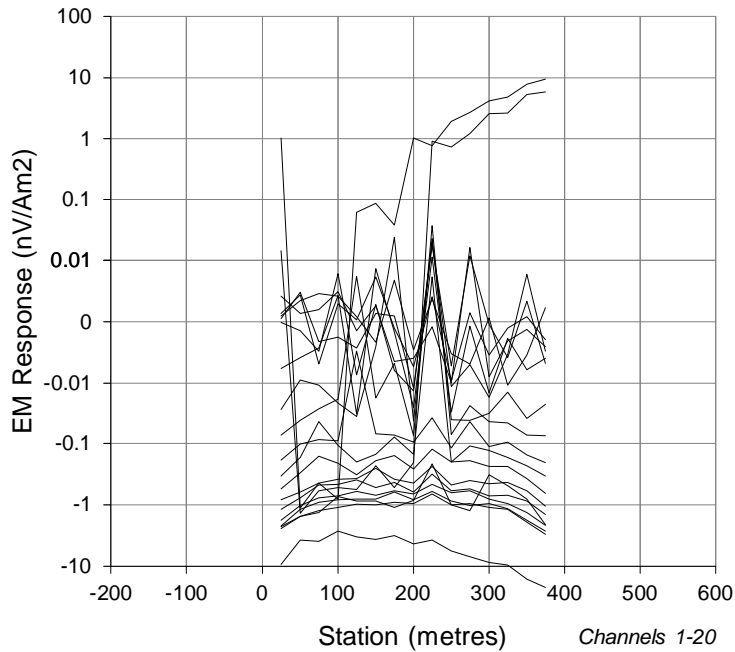
Author : B. Liss



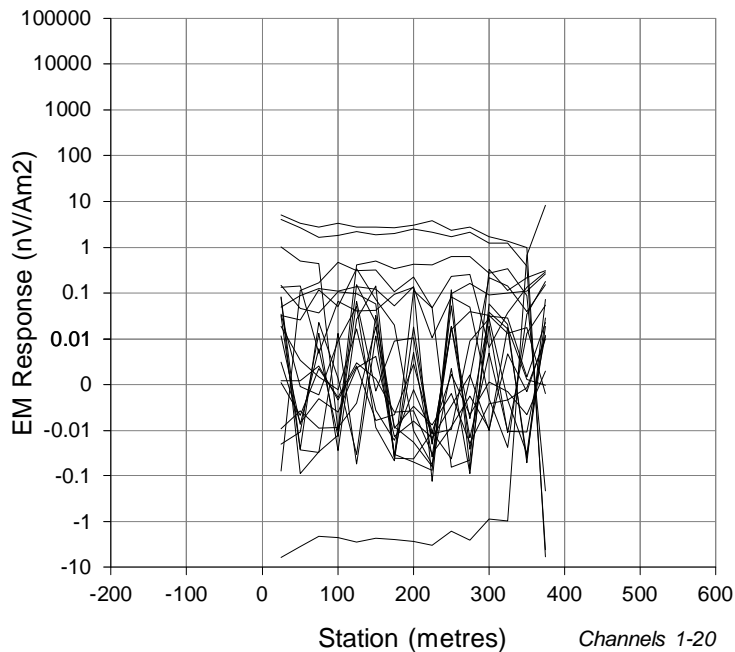
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

Loop : Bullfrog\_East  
 Tx Current : 20 A  
 Turn Off : 0.496 ms

### LOOP POINTS

LV1 : 406450mE, 5141000mN  
 LV2 : 406950mE, 5141000mN  
 LV3 : 406950mE, 5140600mN  
 LV4 : 406450mE, 5140600mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.5962	11 : 1.366
2 : 0.6212	12 : 1.577
3 : 0.6507	13 : 1.837
4 : 0.6877	14 : 2.161
5 : 0.7342	15 : 2.563
6 : 0.7917	16 : 3.061
7 : 0.8627	17 : 3.681
8 : 0.9512	18 : 4.450
9 : 1.061	19 : 5.404
10 : 1.197	20 : 6.589



Scale 1:10000

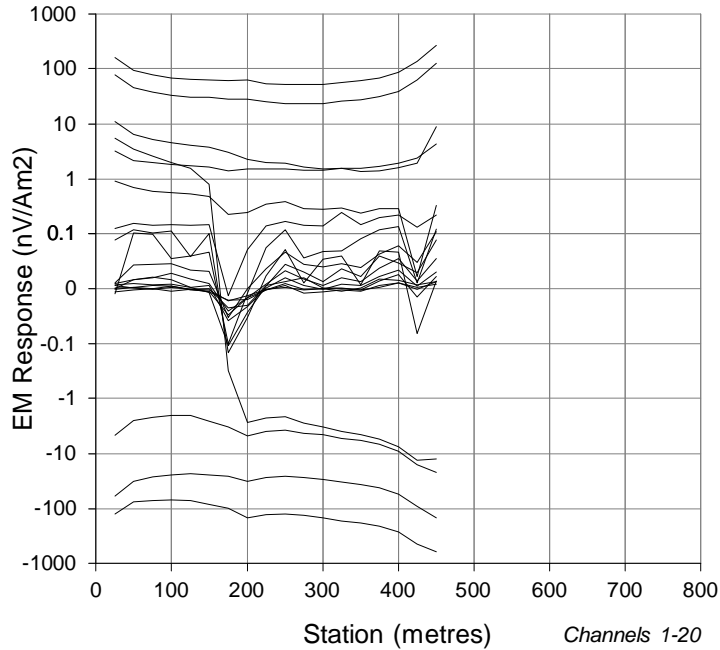
NEWEXCO

**East Bull Lake  
 Bullfrog East  
 20100**

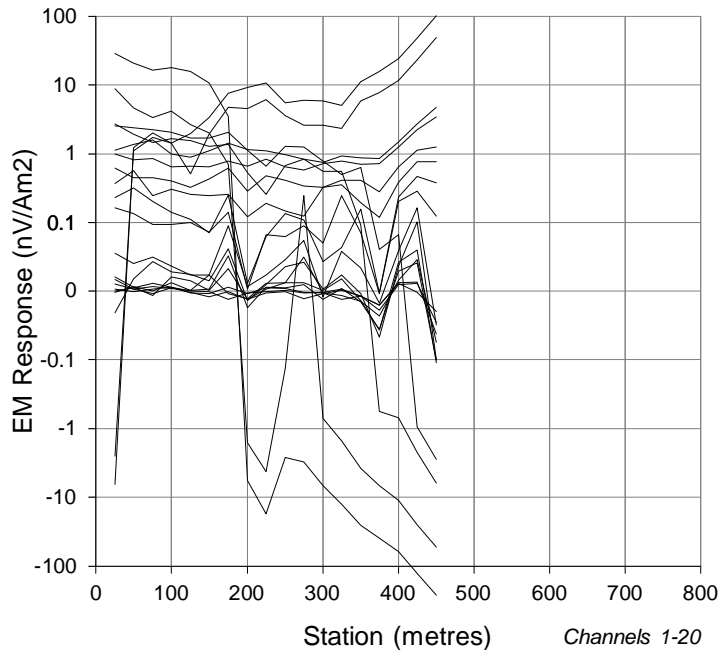
Author : B. Liss



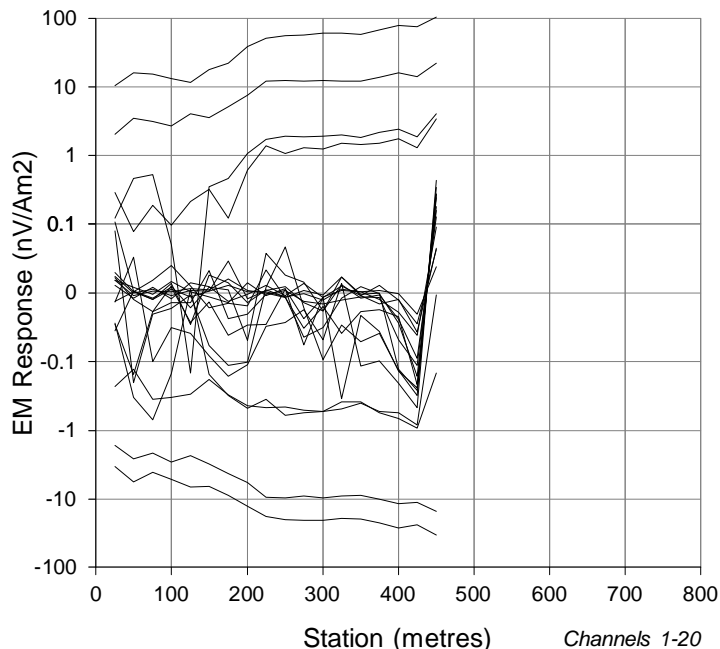
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

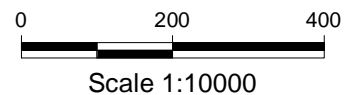
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



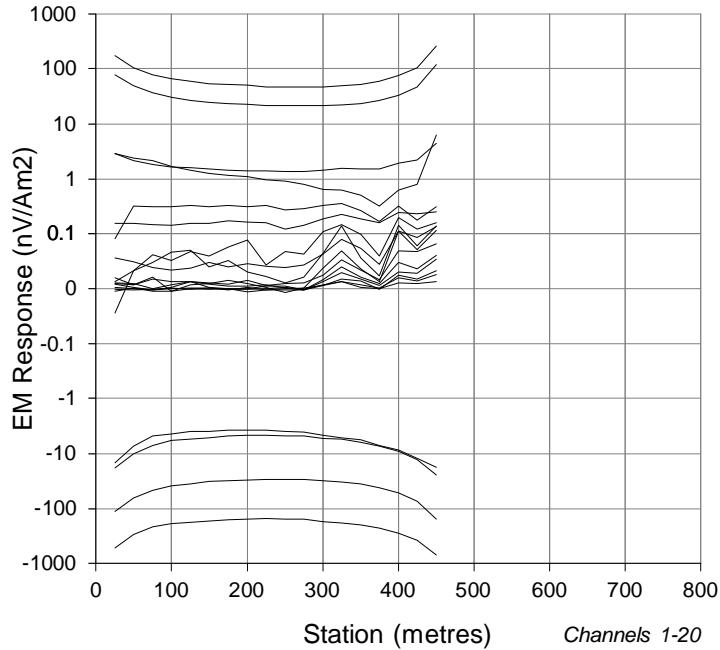
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 11100.00**

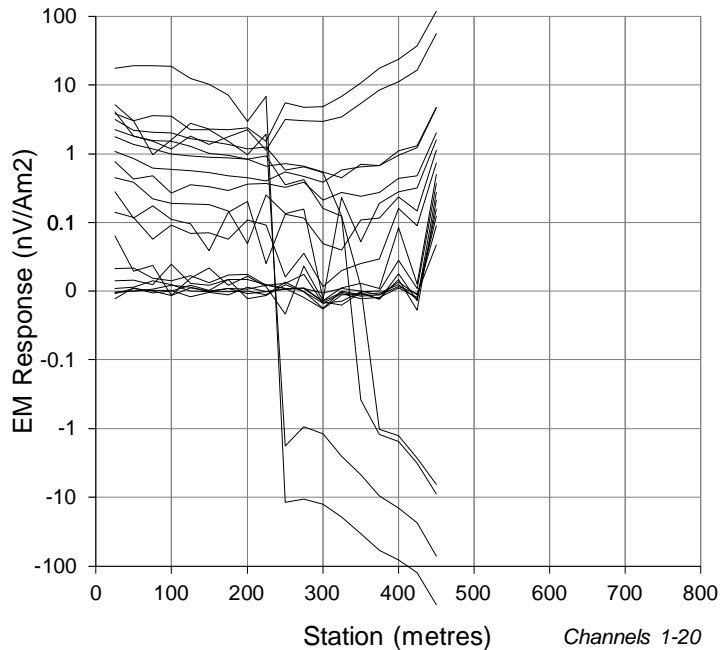
Author : B. Liss



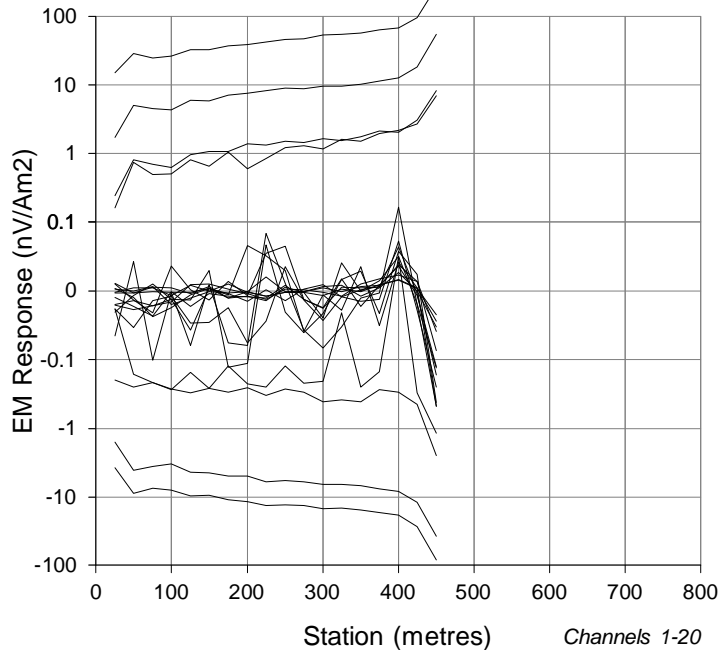
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

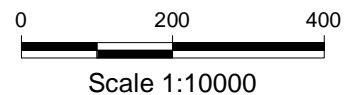
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



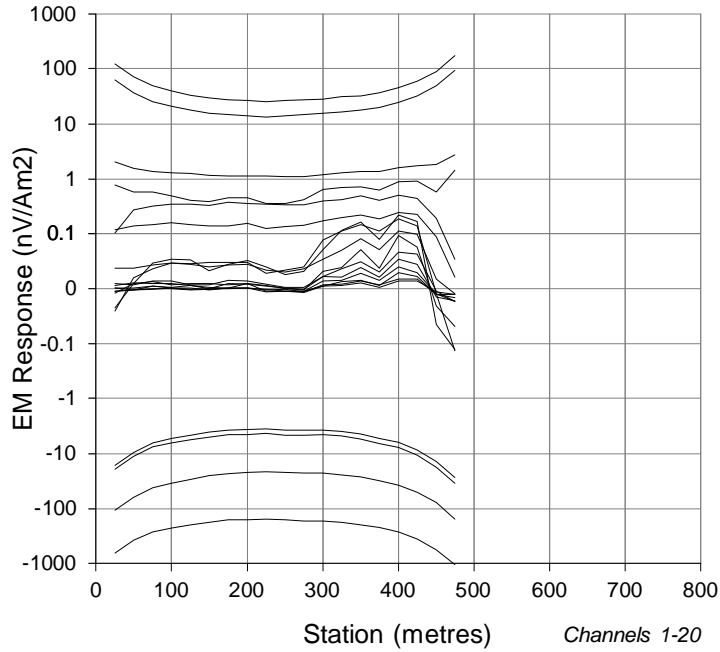
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 11000.00**

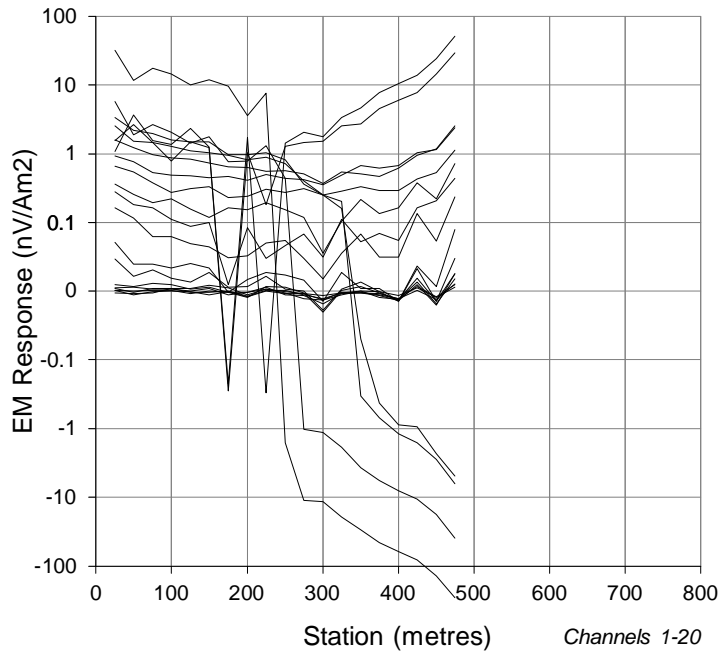
Author : B. Liss



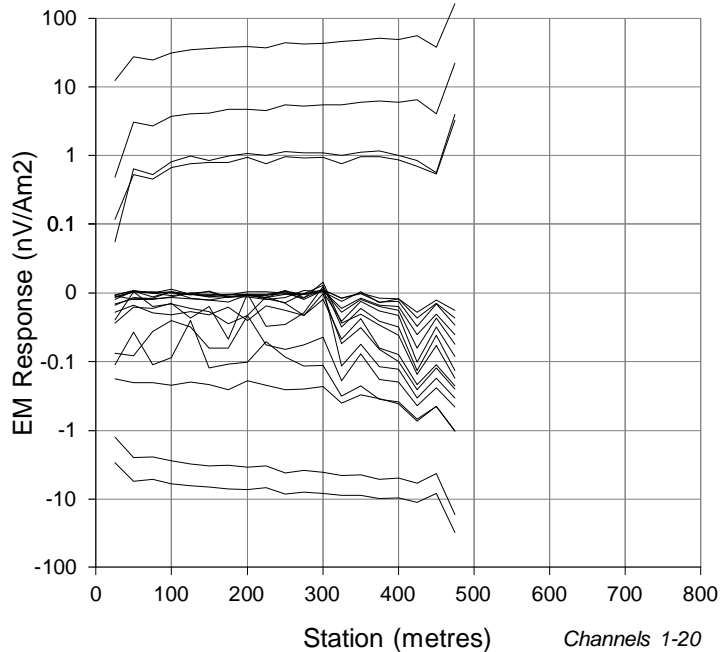
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

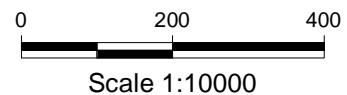
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



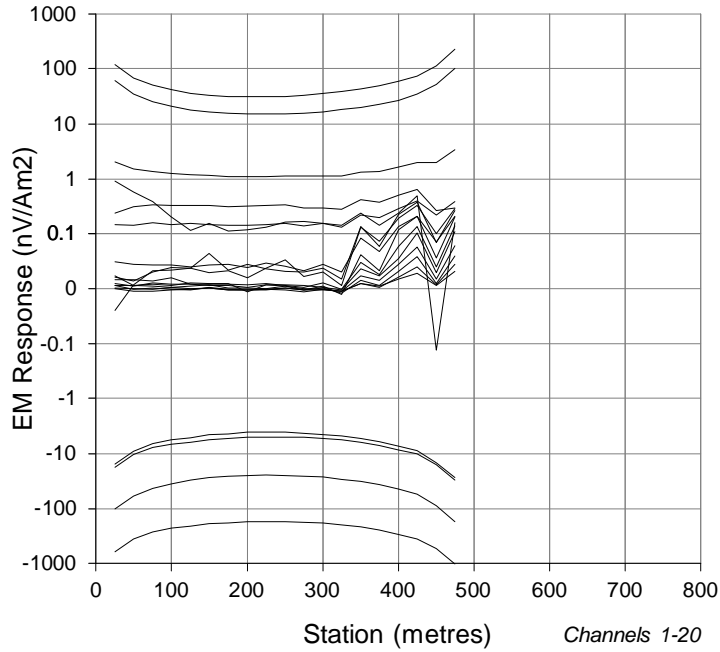
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10900.00**

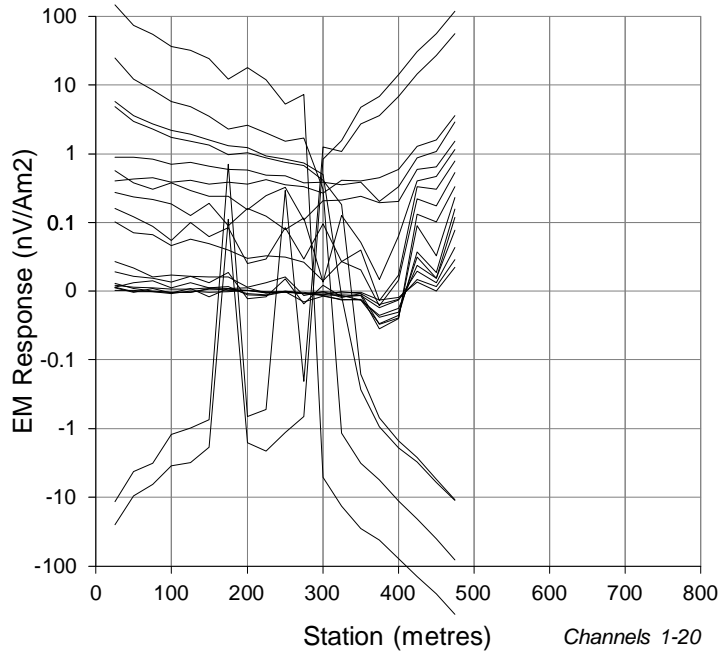
Author : B. Liss



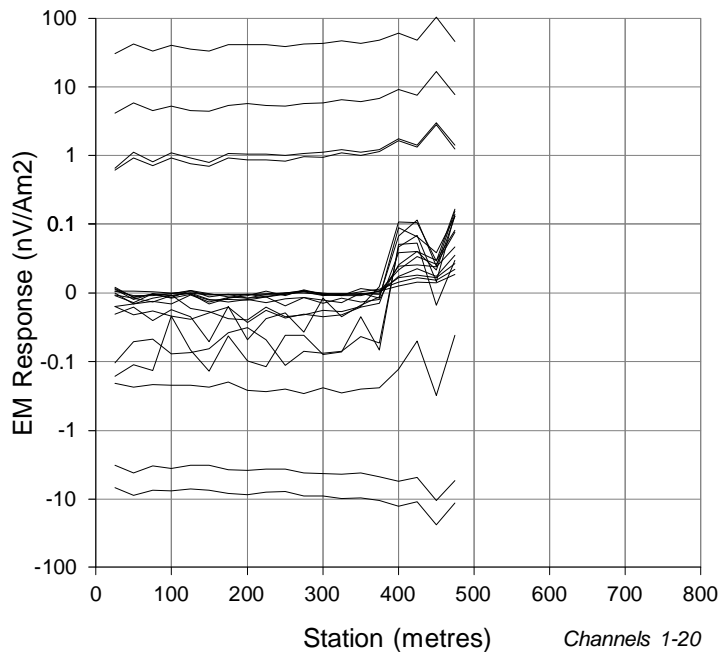
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

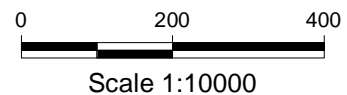
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



NEWEXCO

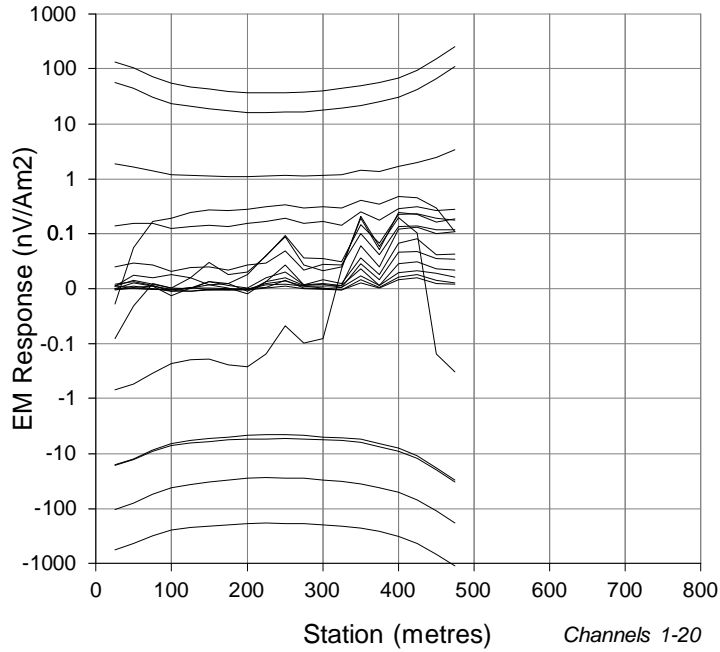
**East Bull Lake  
 Bullfrog West  
 10800.00**

Author : B. Liss

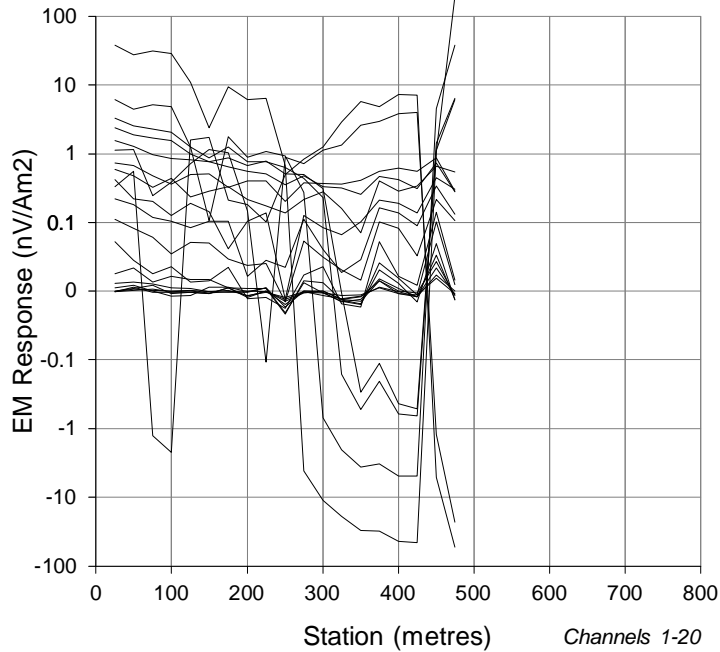




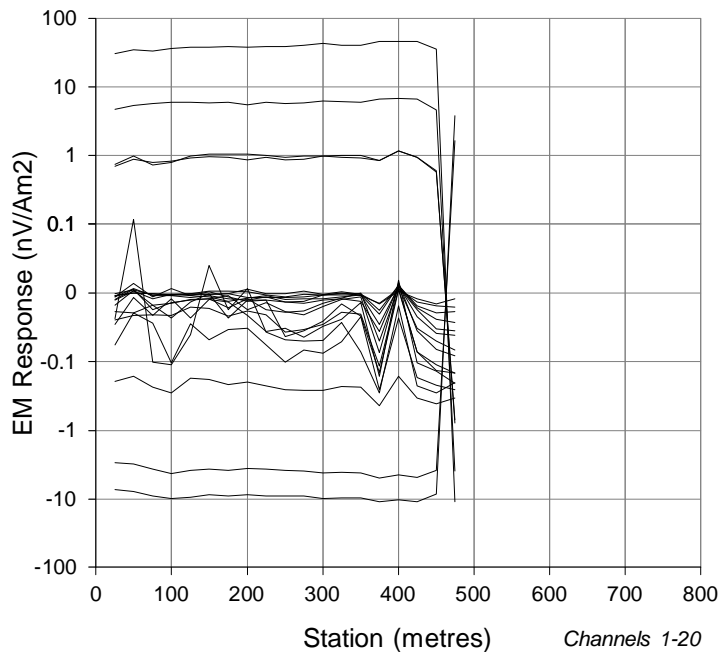
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649

0 200 400

Scale 1:10000

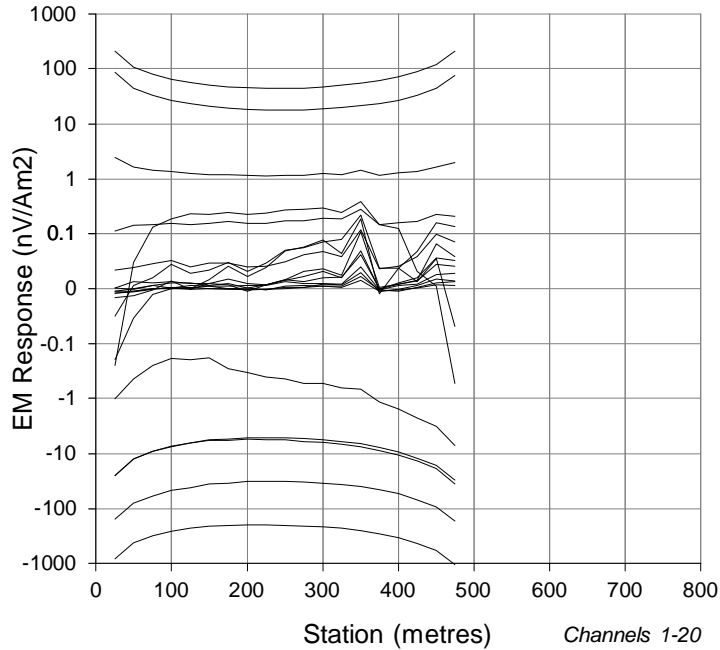
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10700.00**

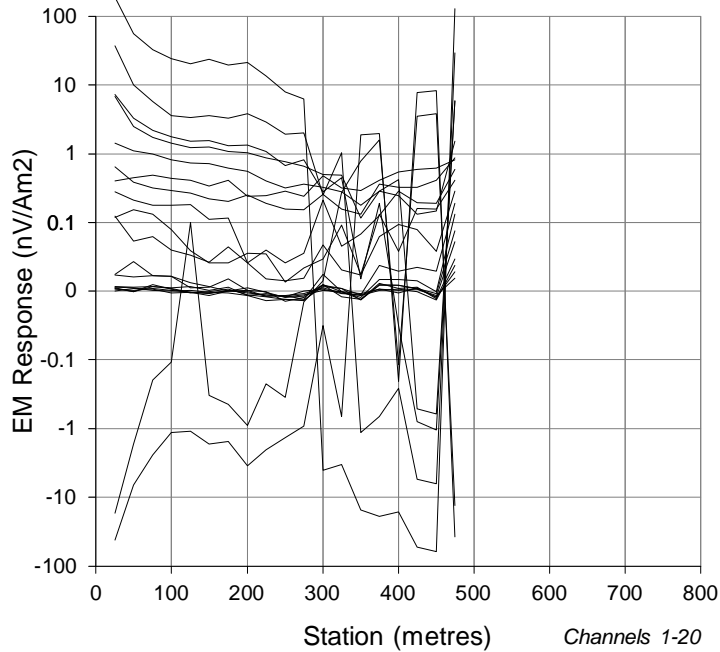
Author : B. Liss



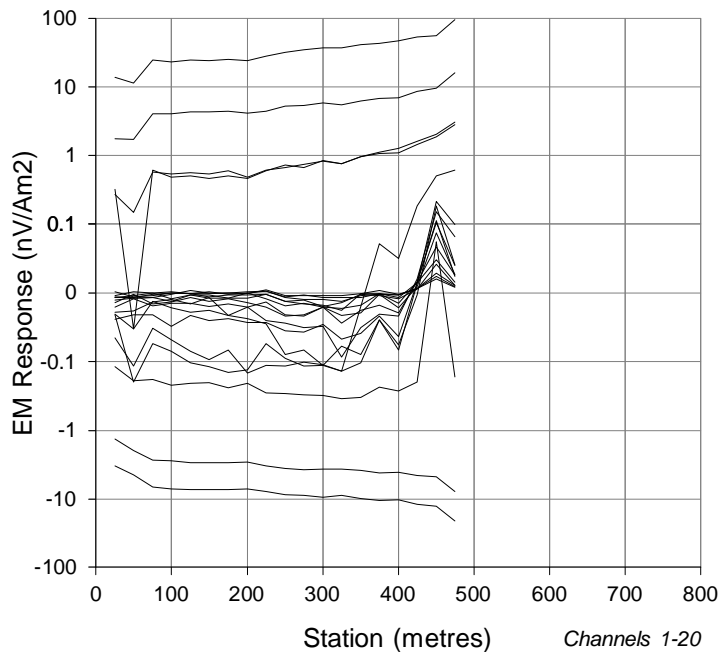
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

#### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



Scale 1:10000

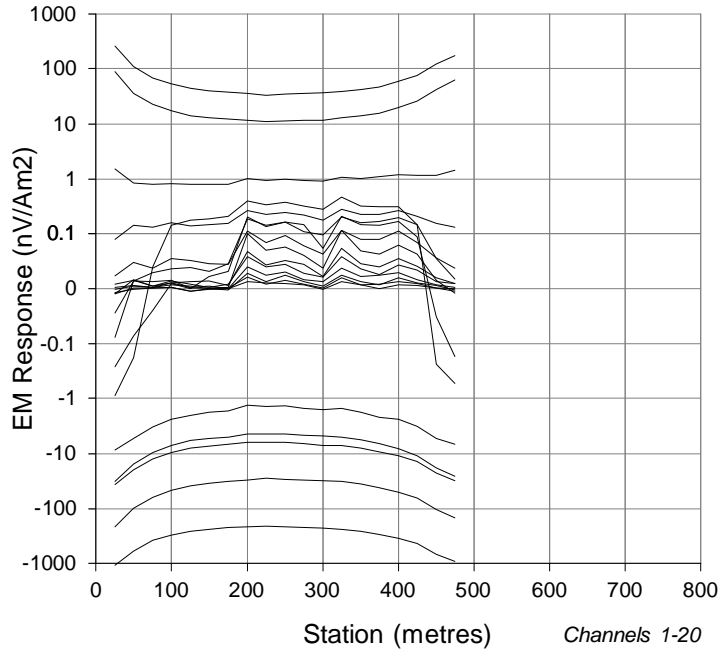
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10600.00**

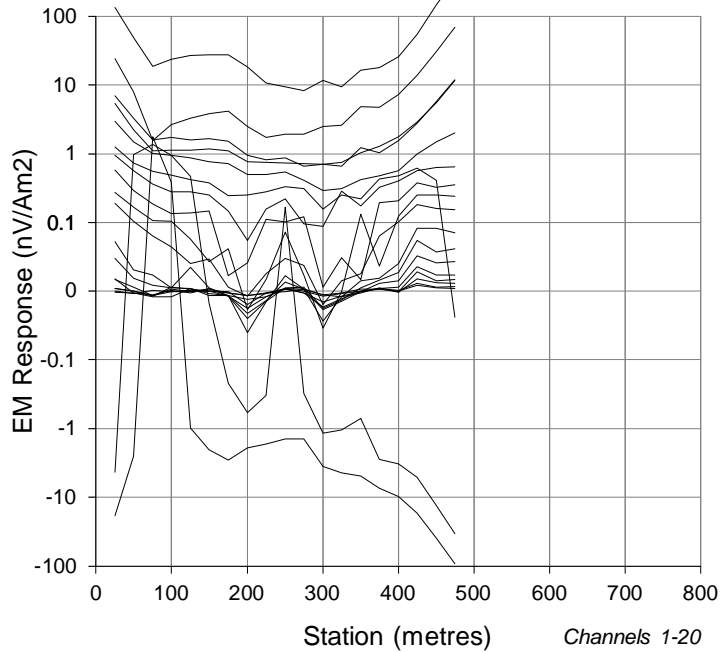
Author : B. Liss



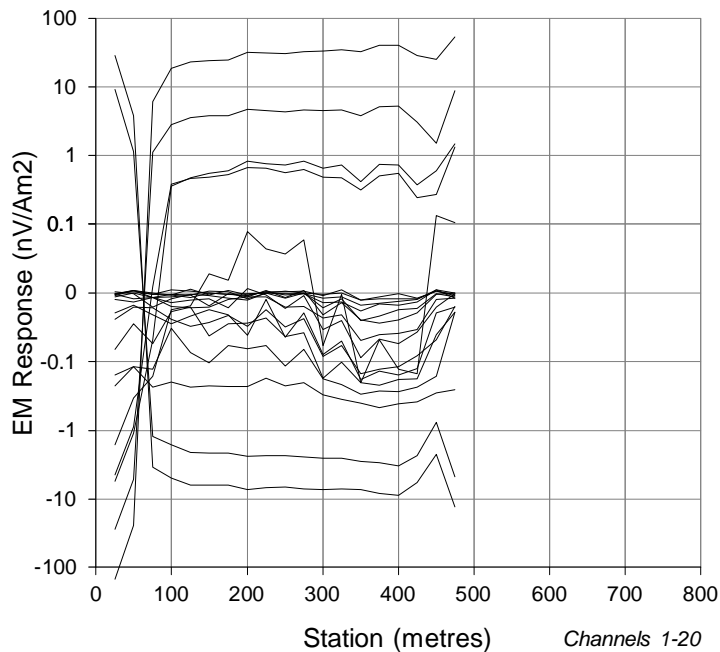
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

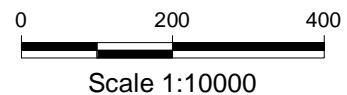
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



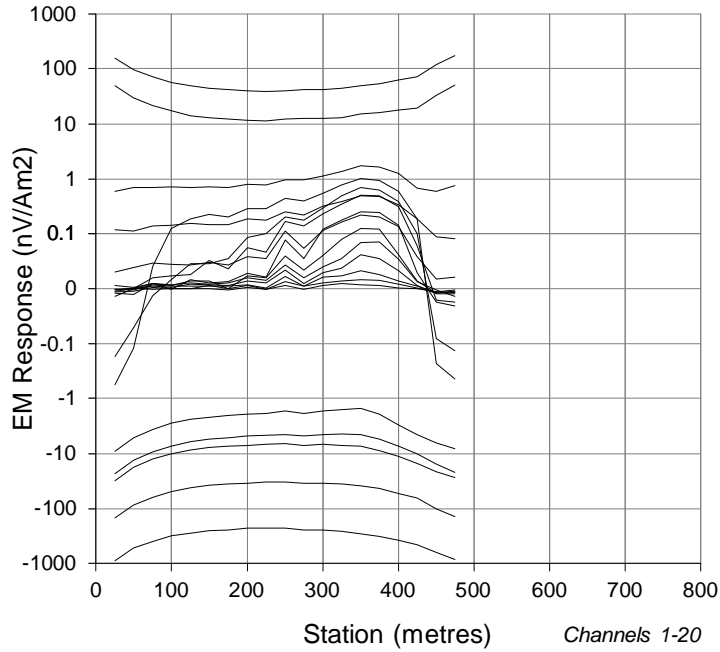
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10500.00**

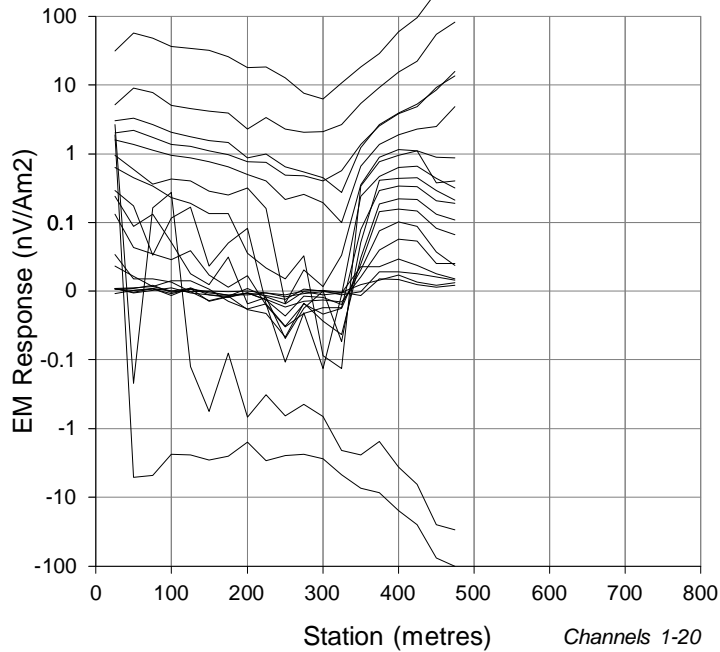
Author : B. Liss



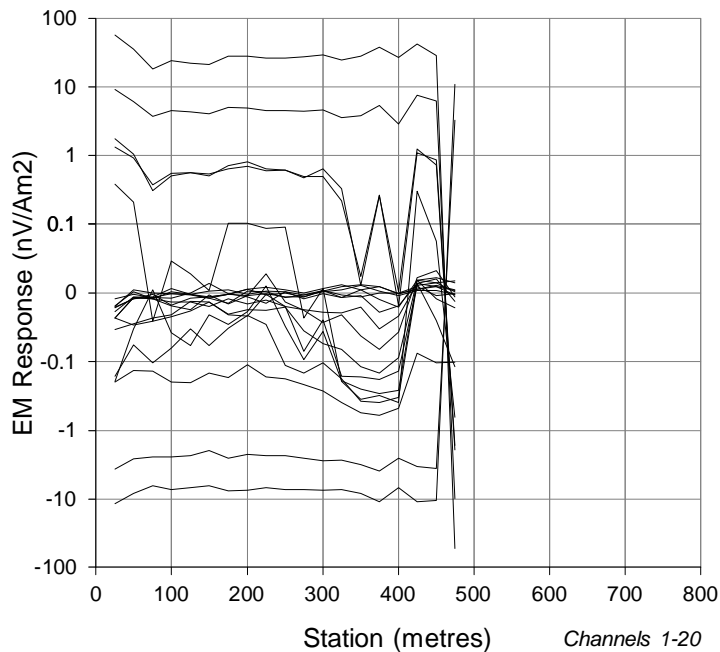
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

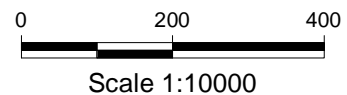
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



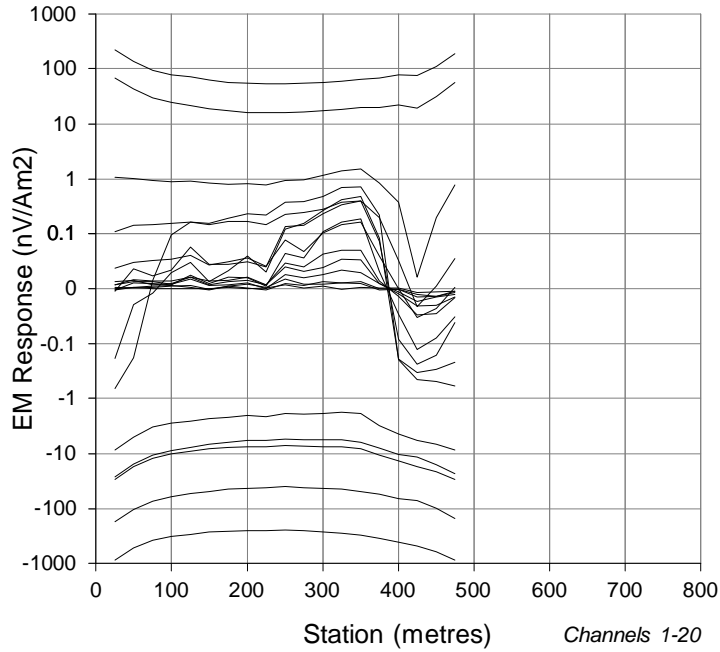
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10400.00**

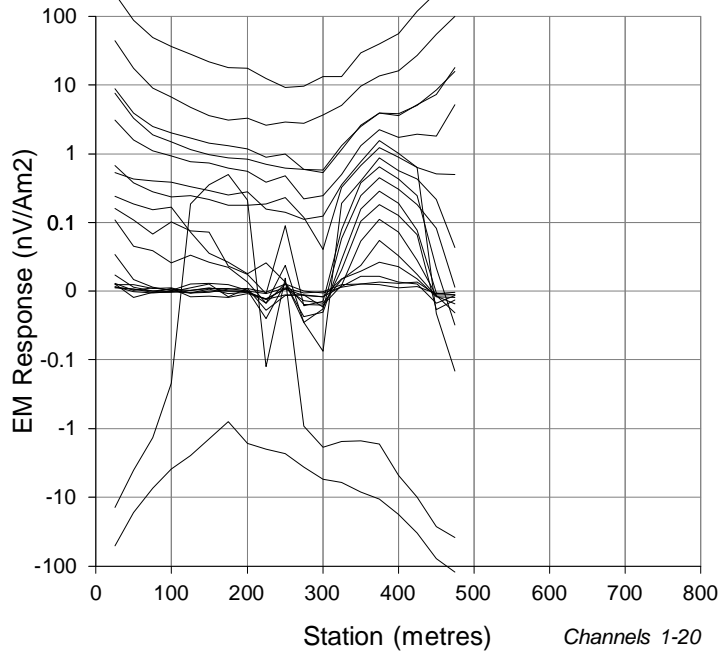
Author : B. Liss



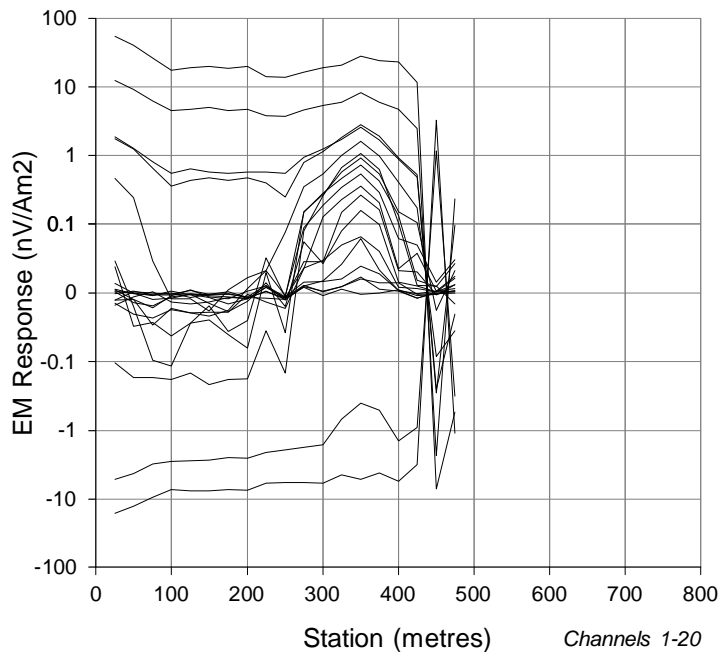
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

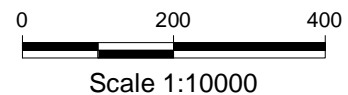
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



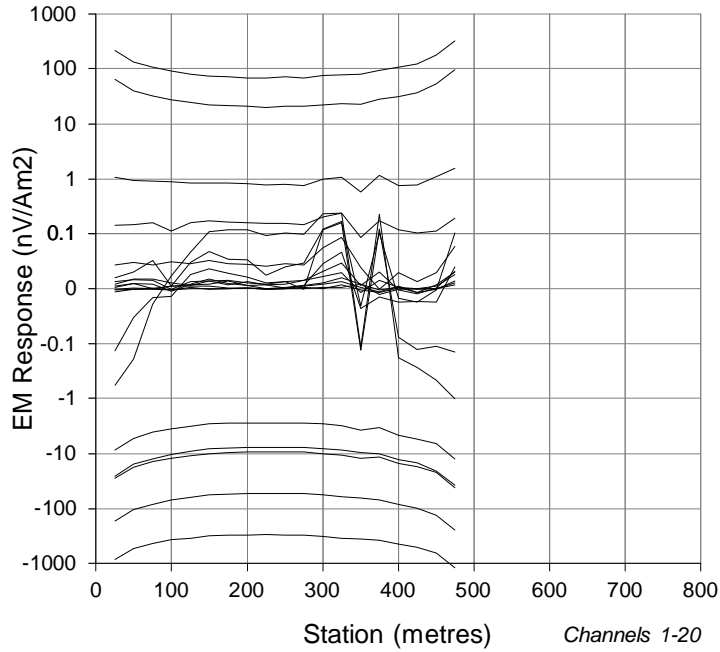
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10300.00**

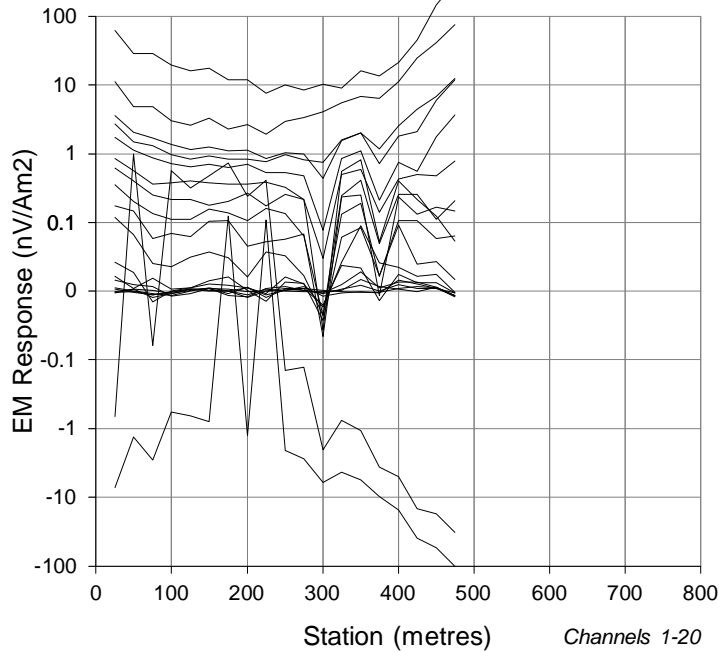
Author : B. Liss



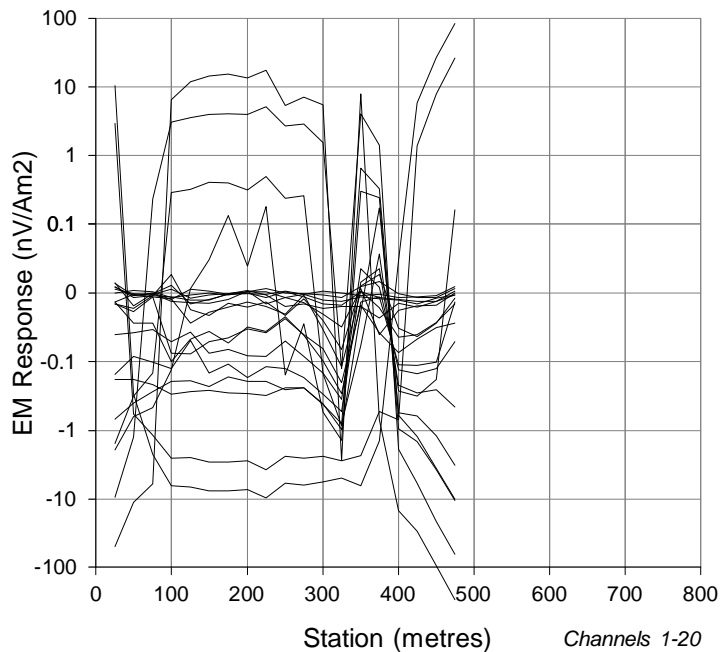
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



Scale 1:10000

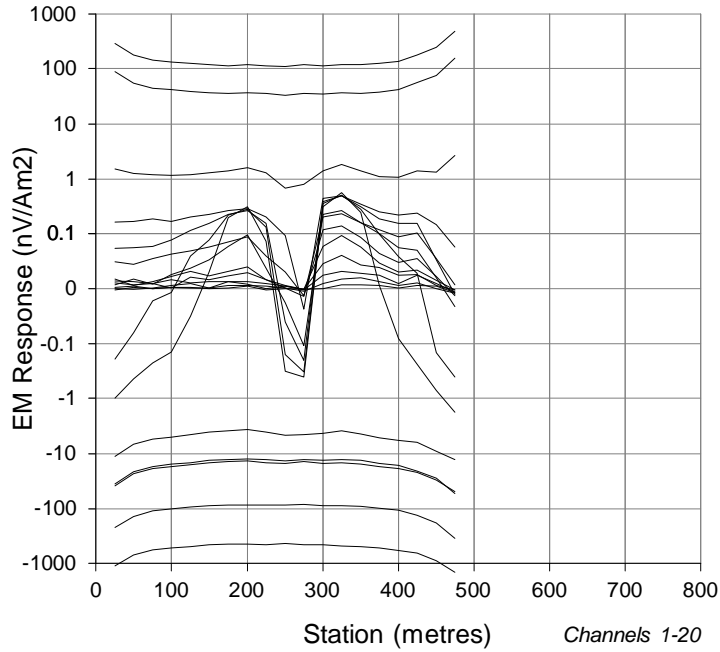
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10200.00**

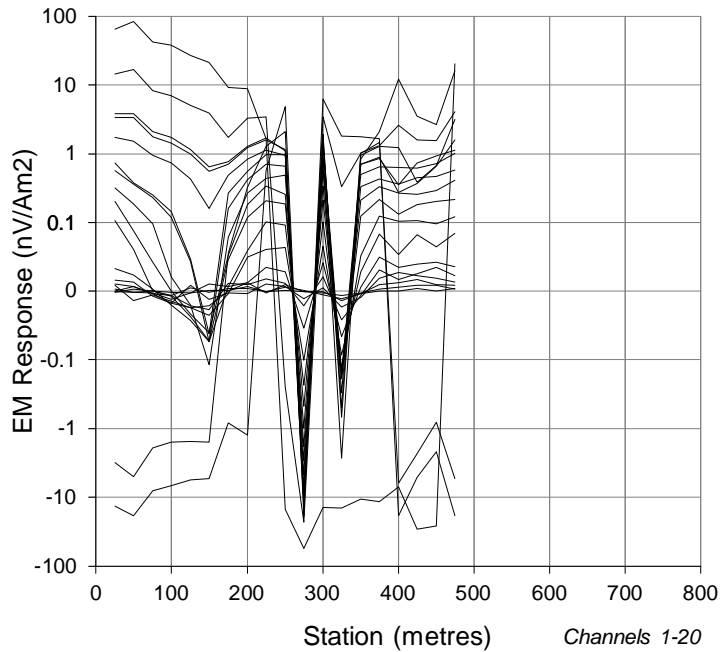
Author : B. Liss



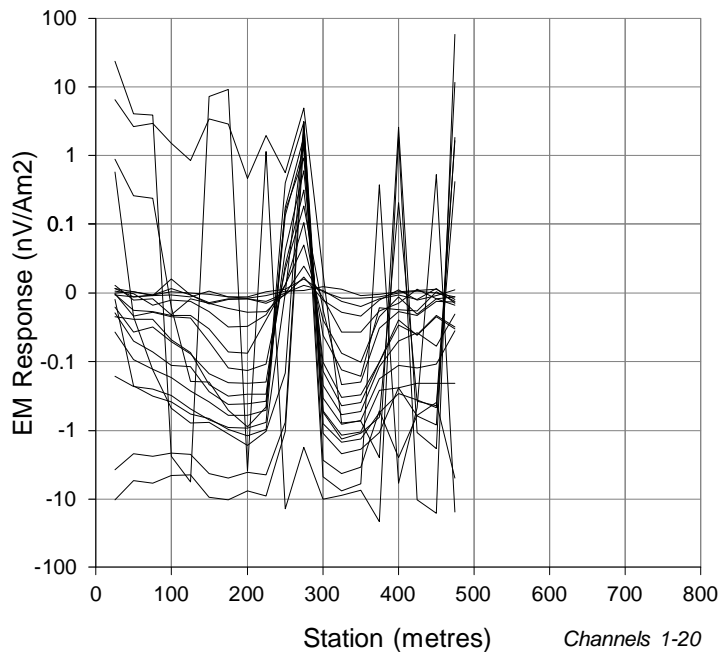
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 17-11-2011  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

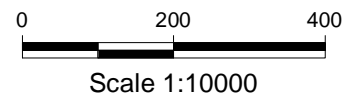
Loop : Bullfrog\_West  
 Tx Current : 20 A  
 Turn Off : 0.56 ms

### LOOP POINTS

LV1 : 406350mE, 5141300mN  
 LV2 : 406350mE, 5140800mN  
 LV3 : 405150mE, 5140800mN  
 LV4 : 405150mE, 5141300mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6562	11 : 1.426
2 : 0.6812	12 : 1.637
3 : 0.7107	13 : 1.897
4 : 0.7477	14 : 2.221
5 : 0.7942	15 : 2.623
6 : 0.8517	16 : 3.121
7 : 0.9227	17 : 3.741
8 : 1.011	18 : 4.510
9 : 1.121	19 : 5.464
10 : 1.257	20 : 6.649



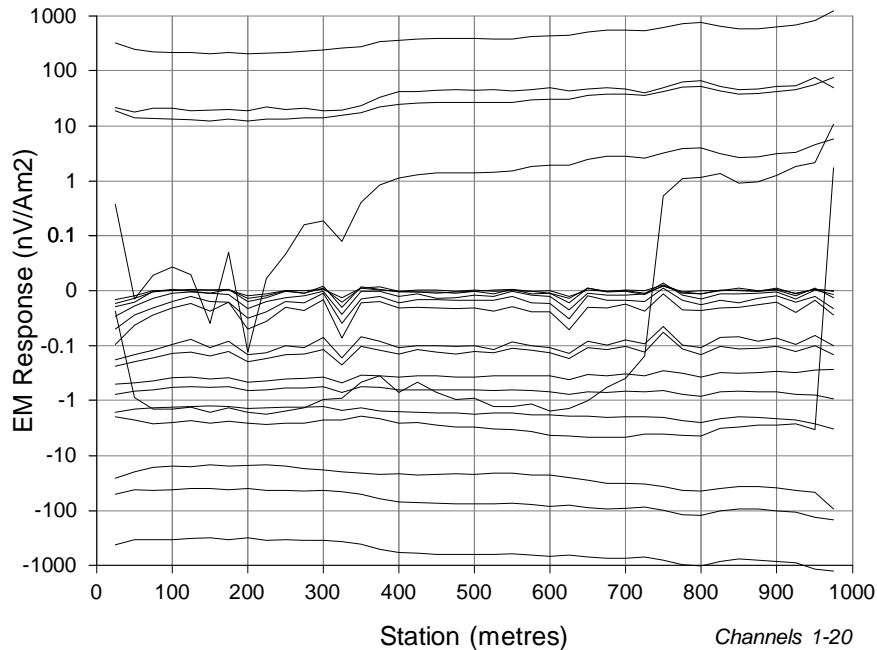
NEWEXCO

**East Bull Lake  
 Bullfrog West  
 10100.00**

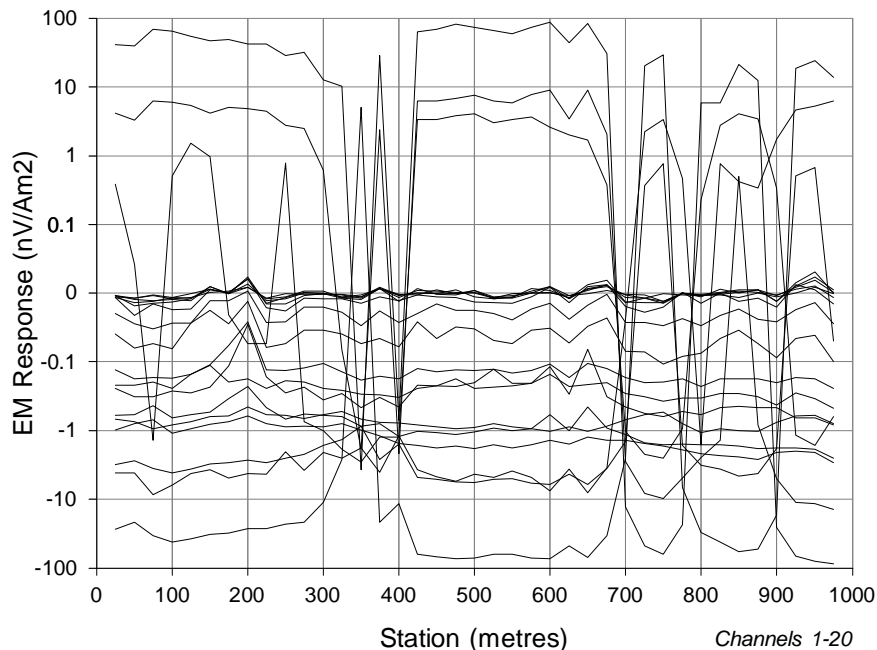
Author : B. Liss



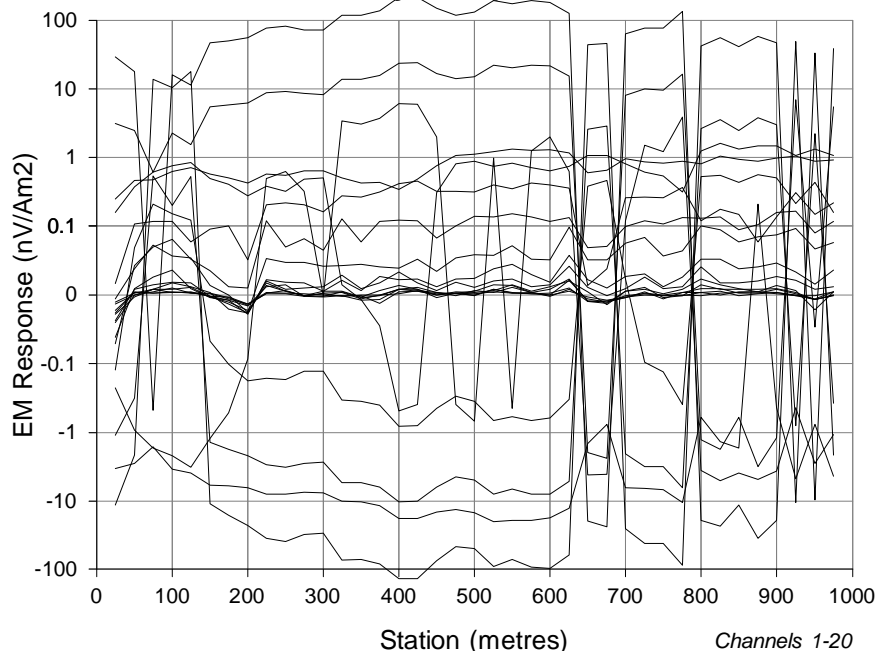
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

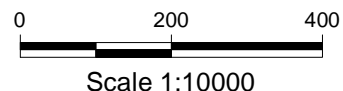
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



NEWEXCO

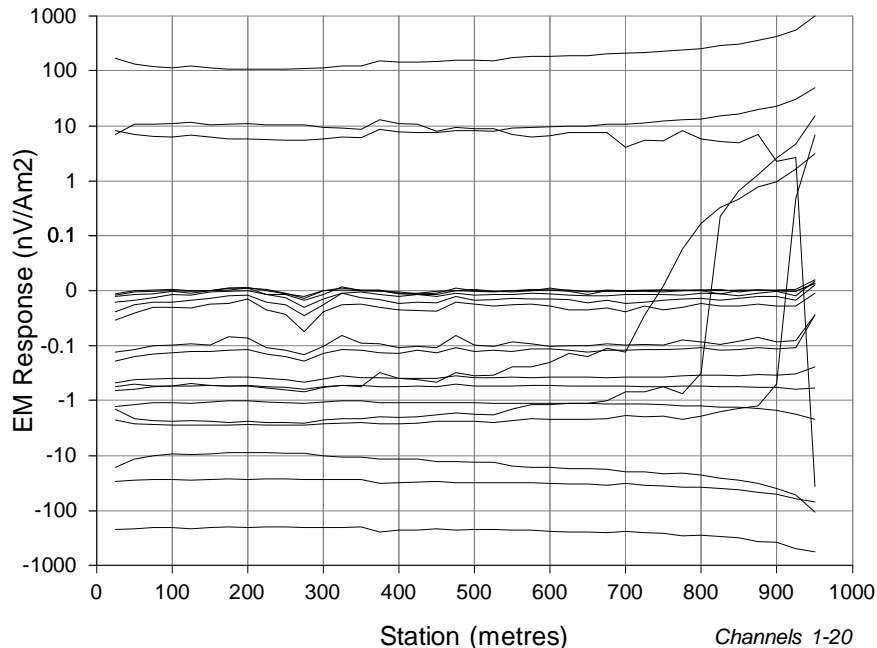
**East Bull Lake  
 Lodge North  
 40800**

Author : B. Liss

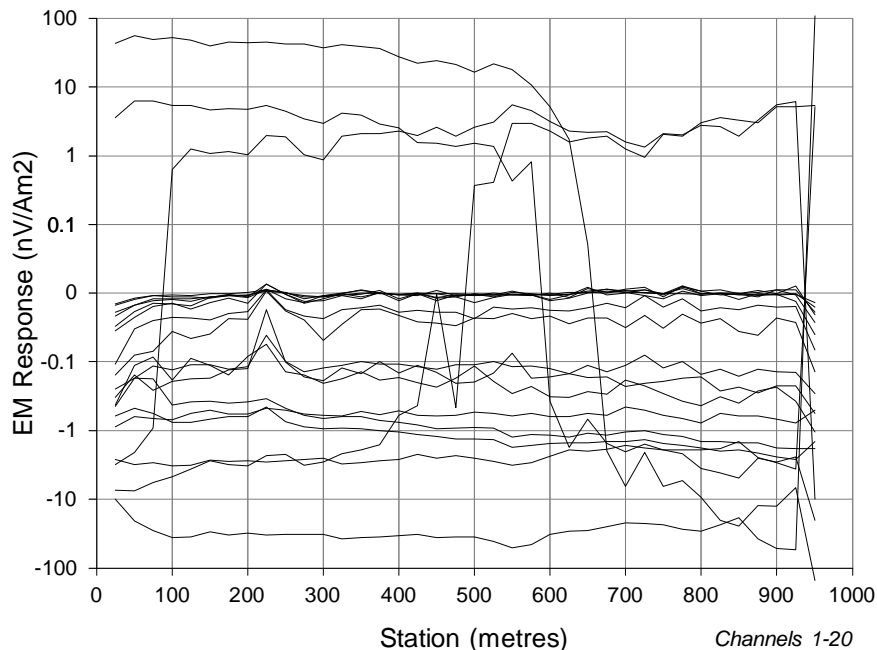




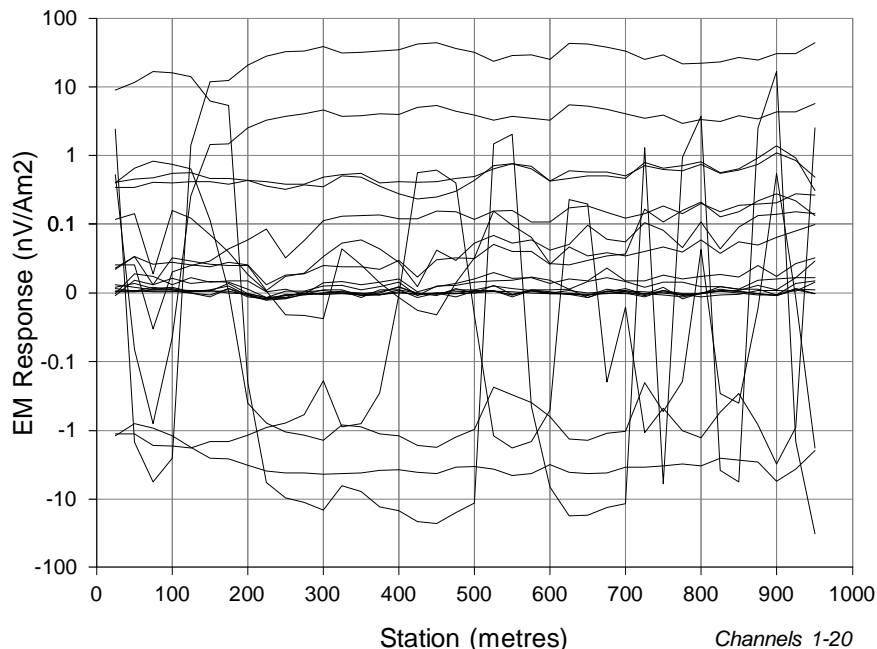
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

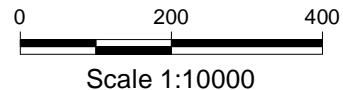
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS


LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

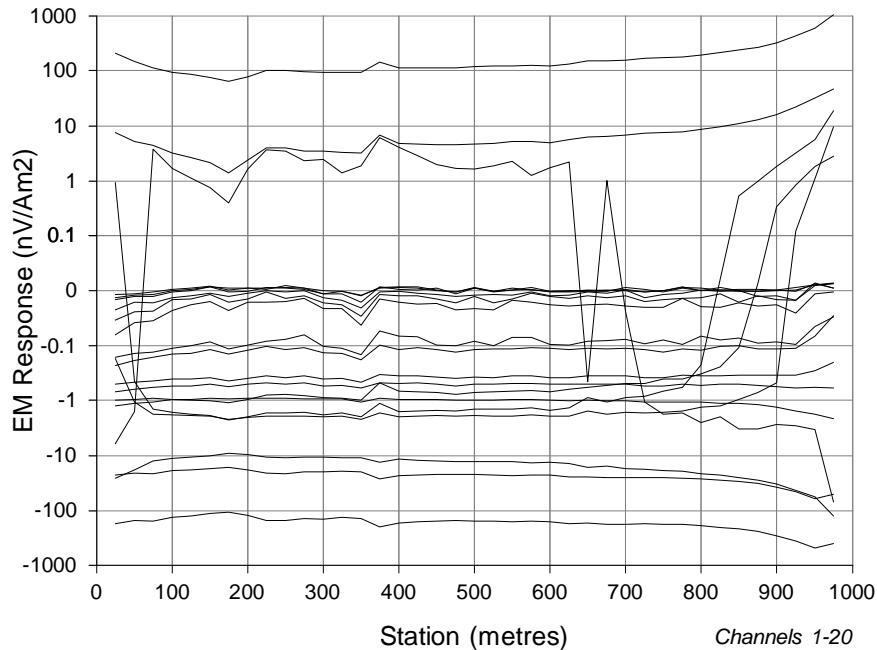
1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



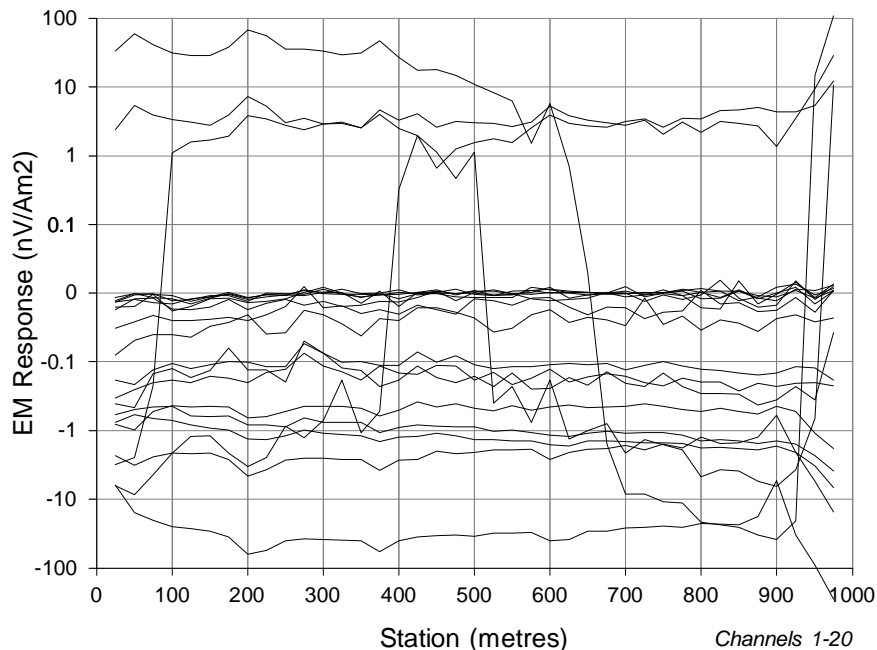
NEWEXCO  
**East Bull Lake  
 Lodge North  
 40700**  
 Author : B. Liss



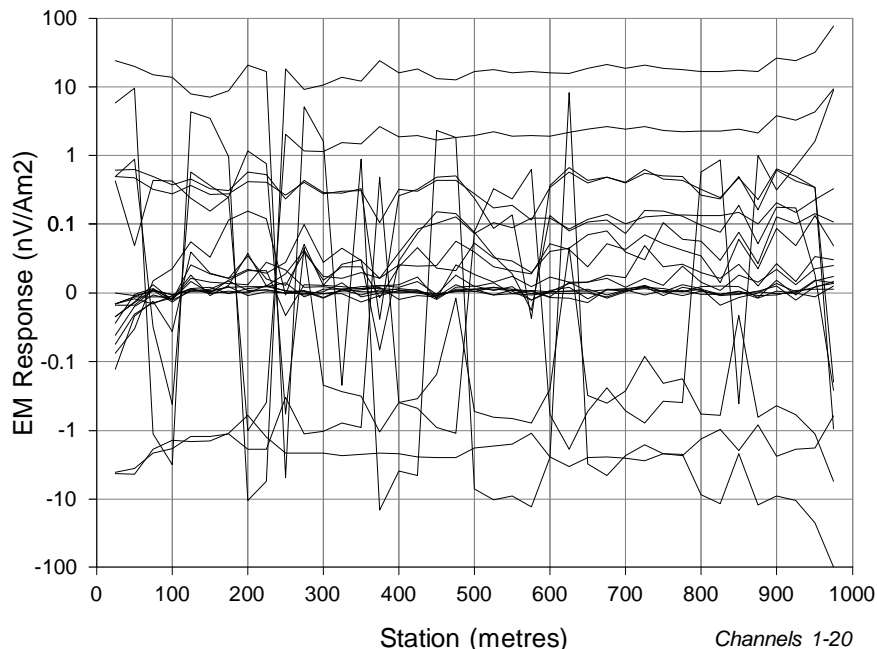
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

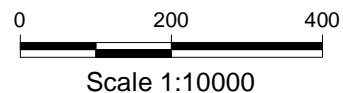
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



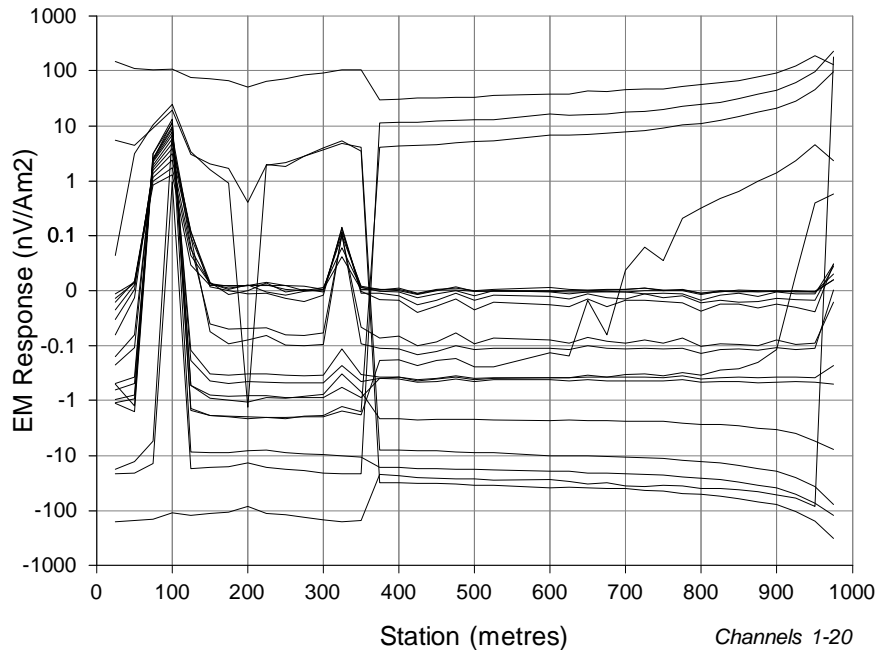
NEWEXCO

**East Bull Lake  
 Lodge North  
 40600**

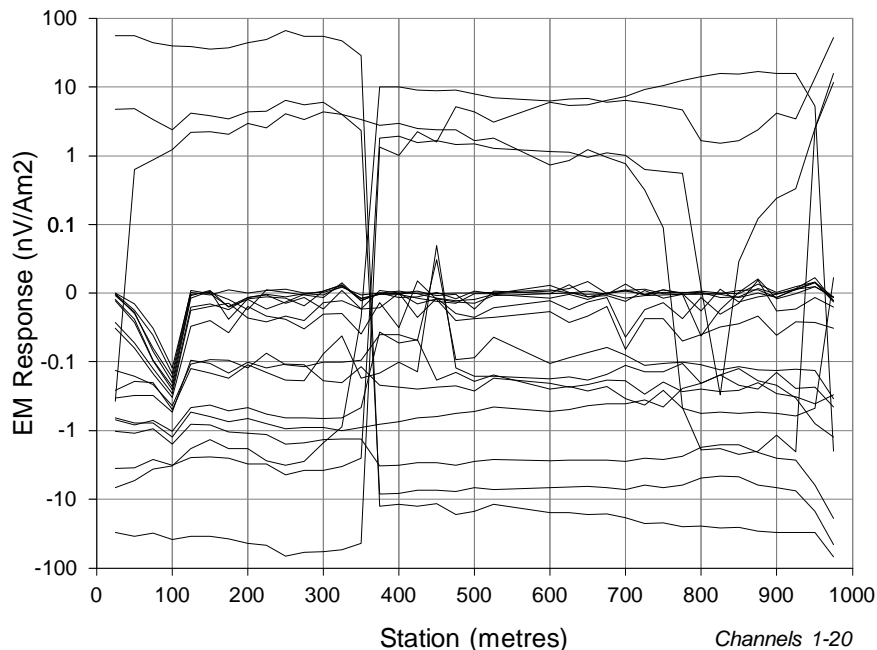
Author : B. Liss



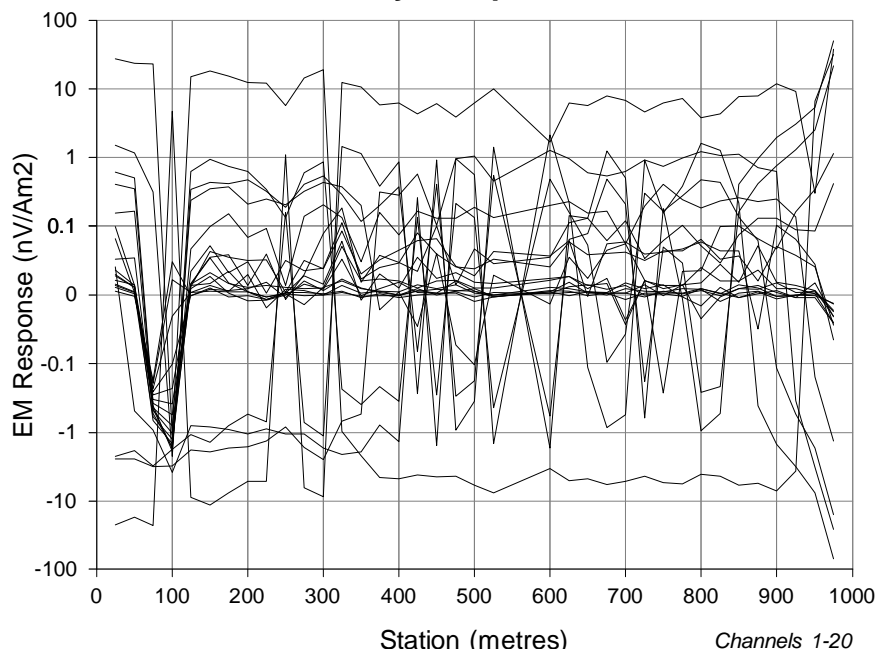
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

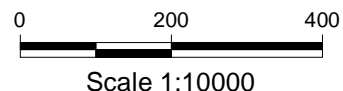
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS


LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

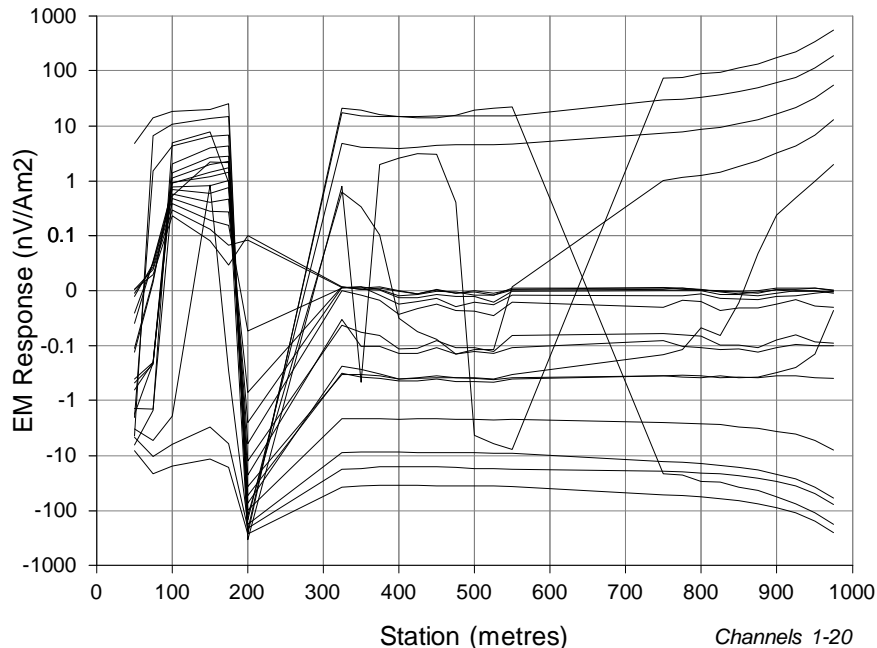
1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



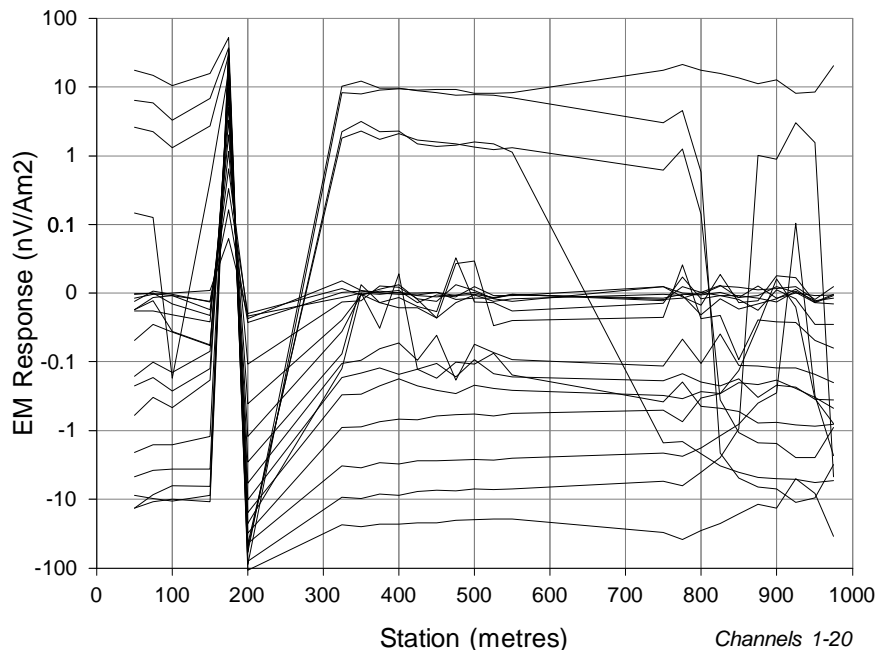
NEWEXCO  
**East Bull Lake  
 Lodge North  
 40500**  
 Author : B. Liss



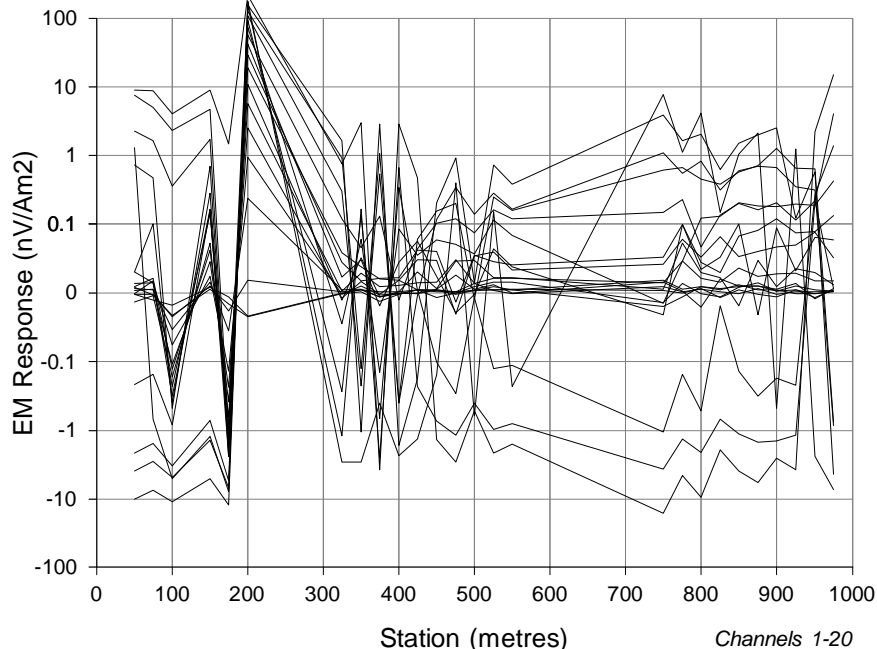
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

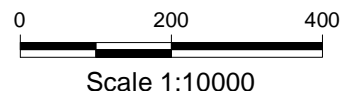
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



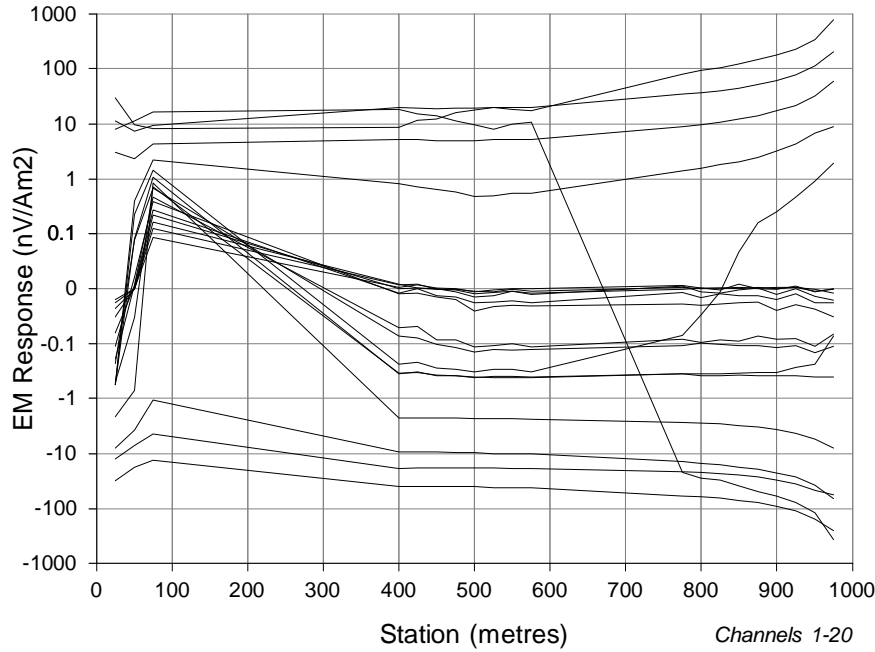
NEWEXCO

**East Bull Lake  
 Lodge North  
 40400**

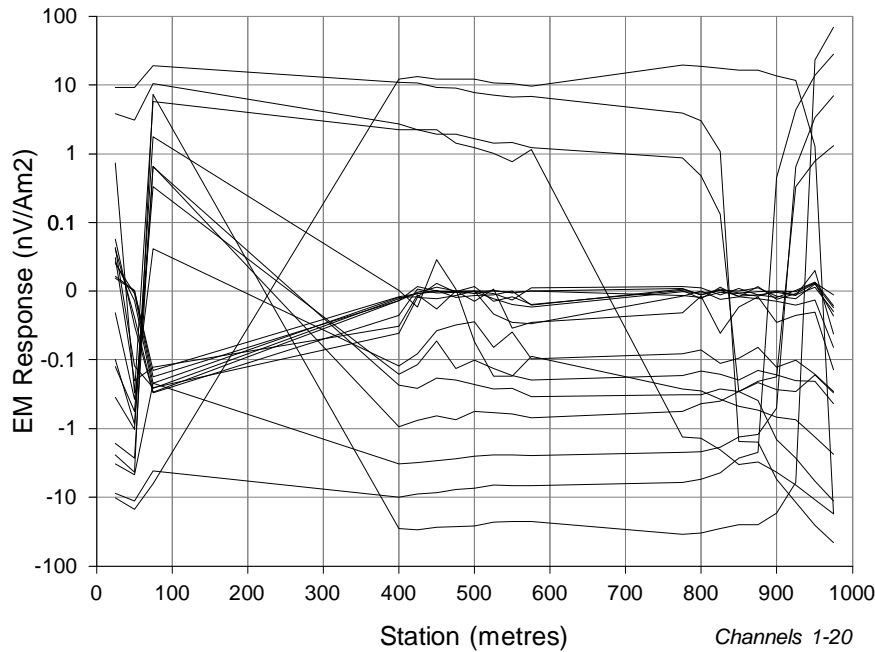
Author : B. Liss



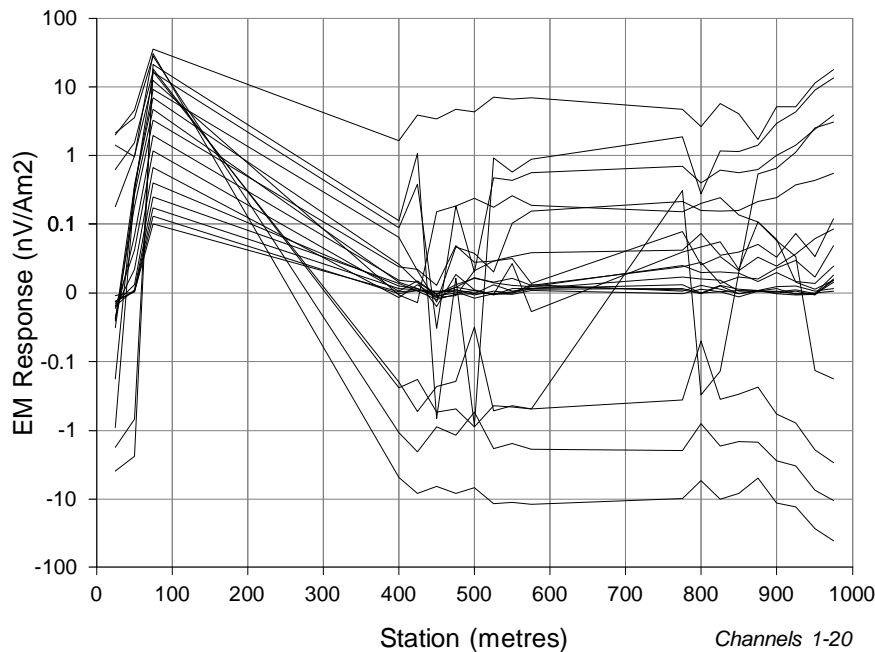
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

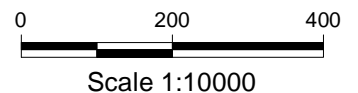
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



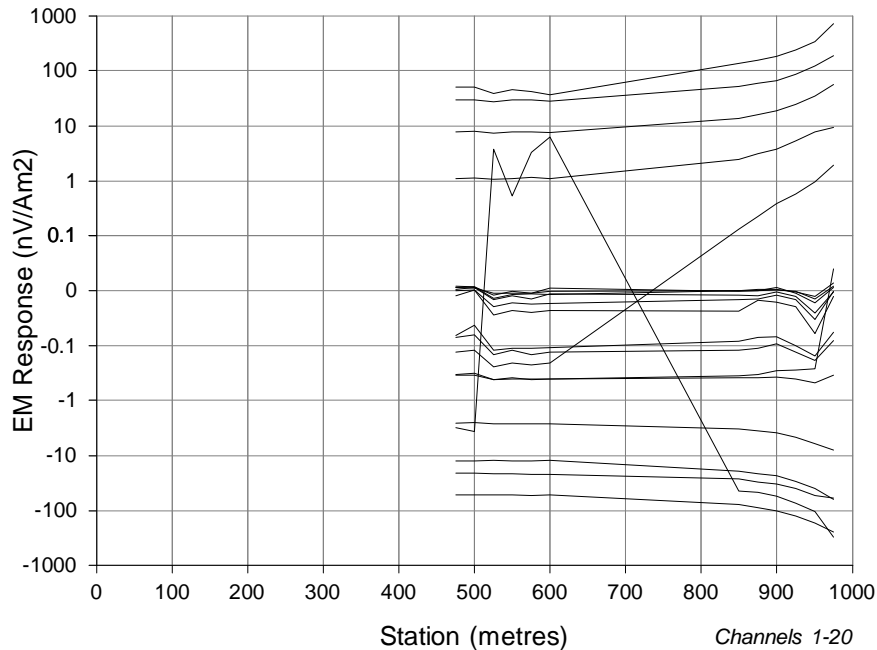
NEWEXCO

**East Bull Lake  
 Lodge North  
 40300**

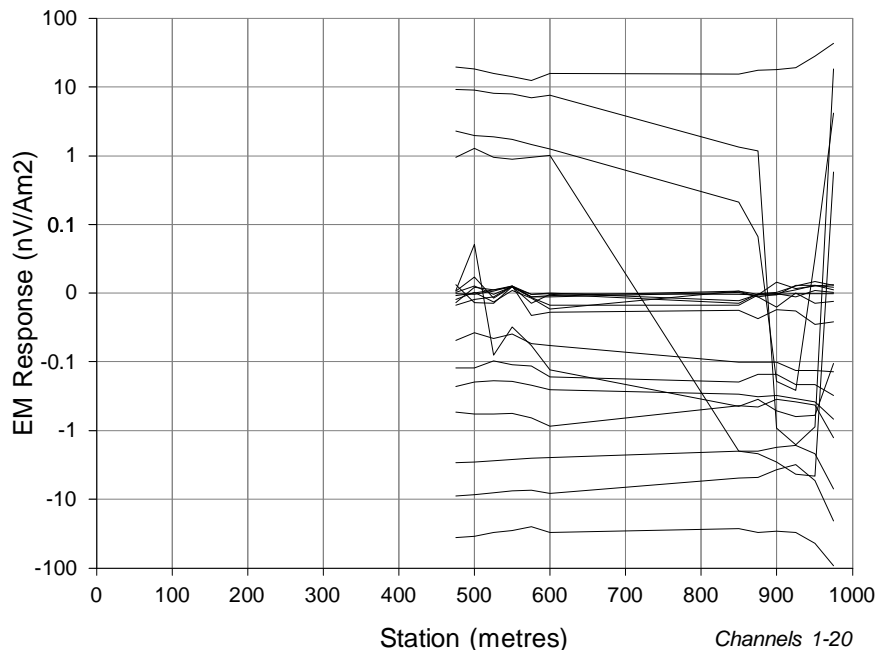
Author : B. Liss



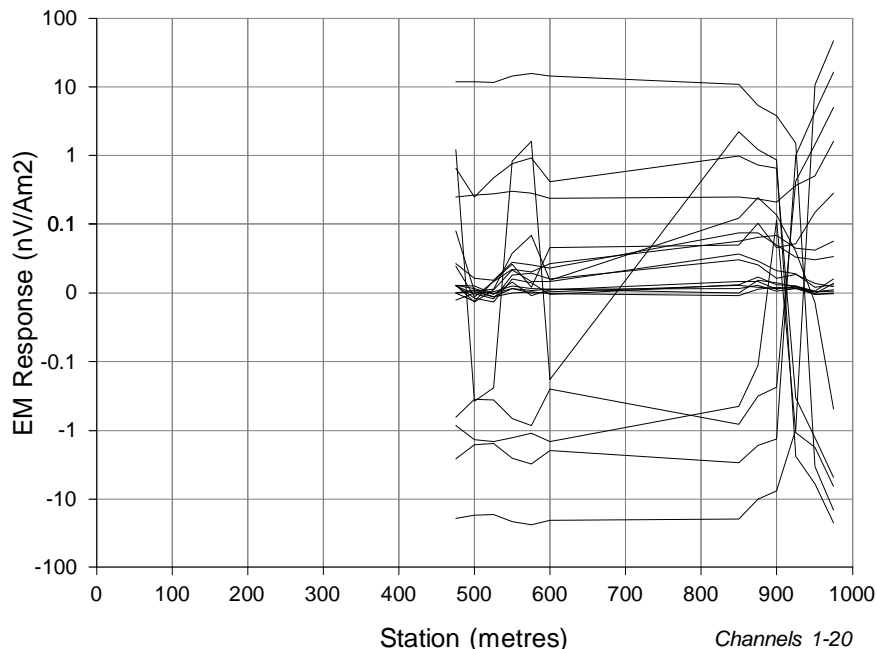
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

#### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



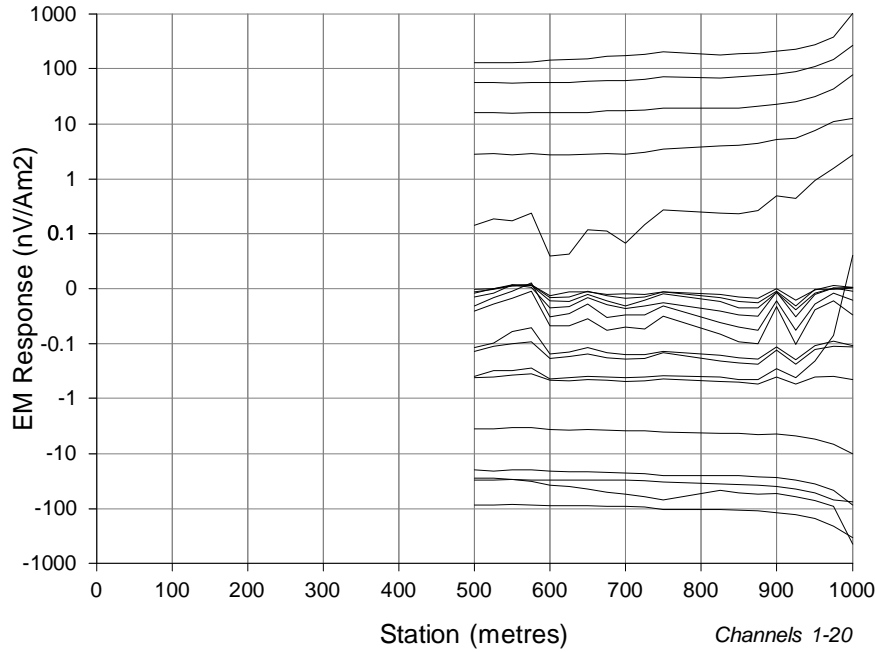
NEWEXCO

**East Bull Lake  
 Lodge North  
 40200**

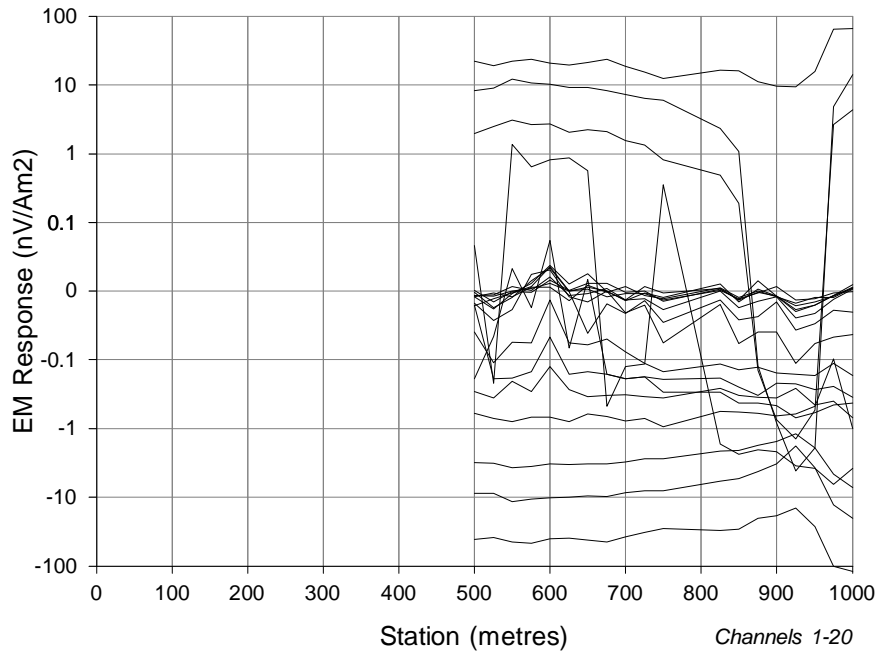
Author : B. Liss



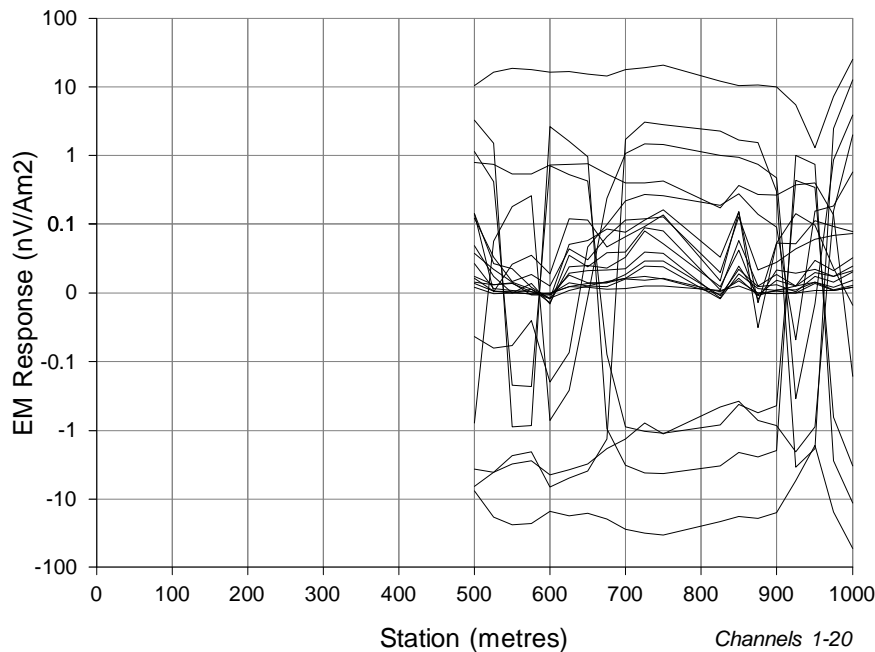
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 20-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

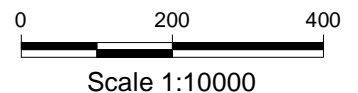
Loop : LodgeNth\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.604 ms

### LOOP POINTS

LV1 : 408850mE, 5143225mN  
 LV2 : 409700mE, 5143225mN  
 LV3 : 409700mE, 5142250mN  
 LV4 : 408850mE, 5142250mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7062	11 : 1.476
2 : 0.7312	12 : 1.687
3 : 0.7607	13 : 1.947
4 : 0.7977	14 : 2.271
5 : 0.8442	15 : 2.673
6 : 0.9017	16 : 3.171
7 : 0.9727	17 : 3.791
8 : 1.061	18 : 4.560
9 : 1.171	19 : 5.514
10 : 1.307	20 : 6.699



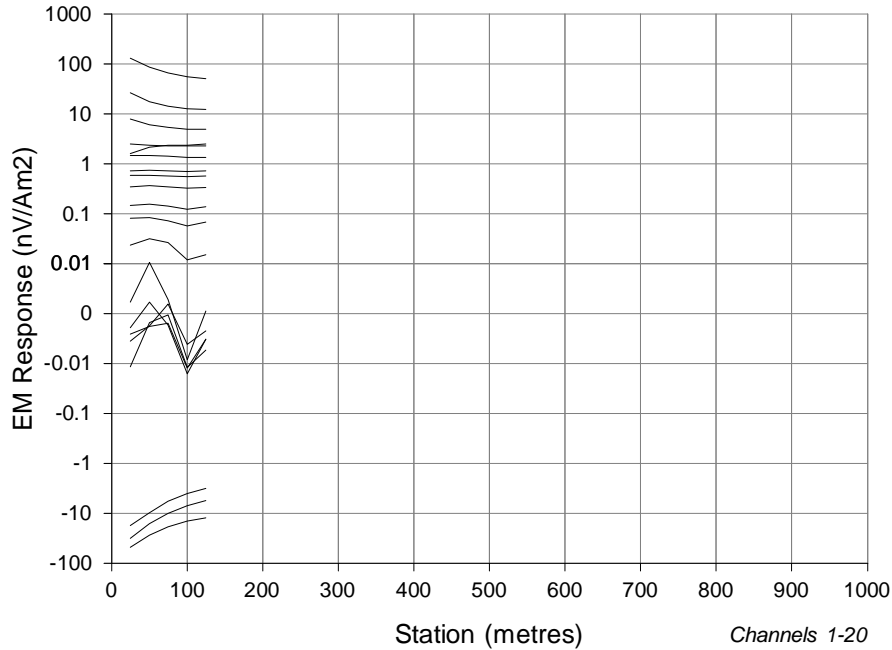
NEWEXCO

**East Bull Lake  
 Lodge North  
 40100**

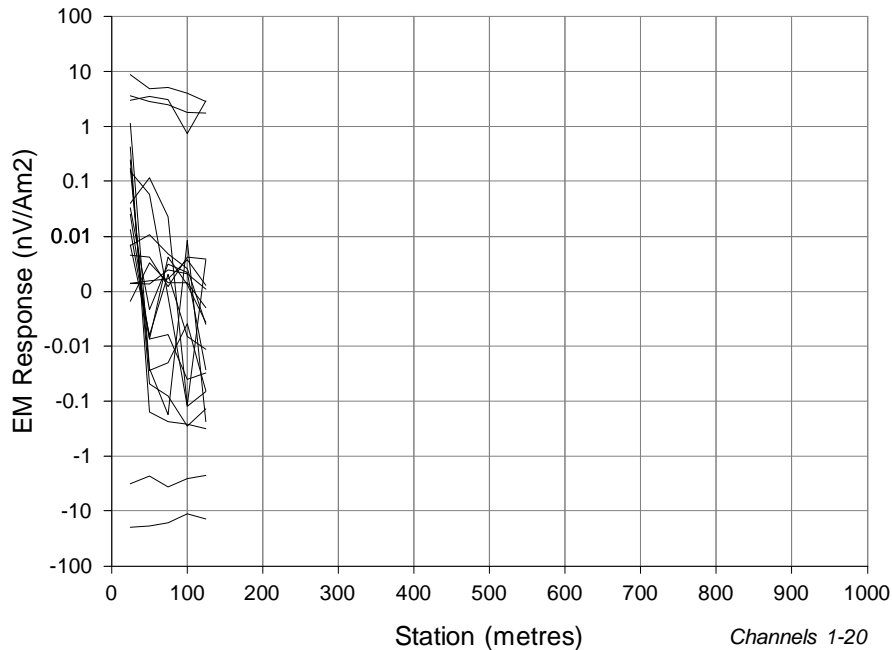
Author : B. Liss



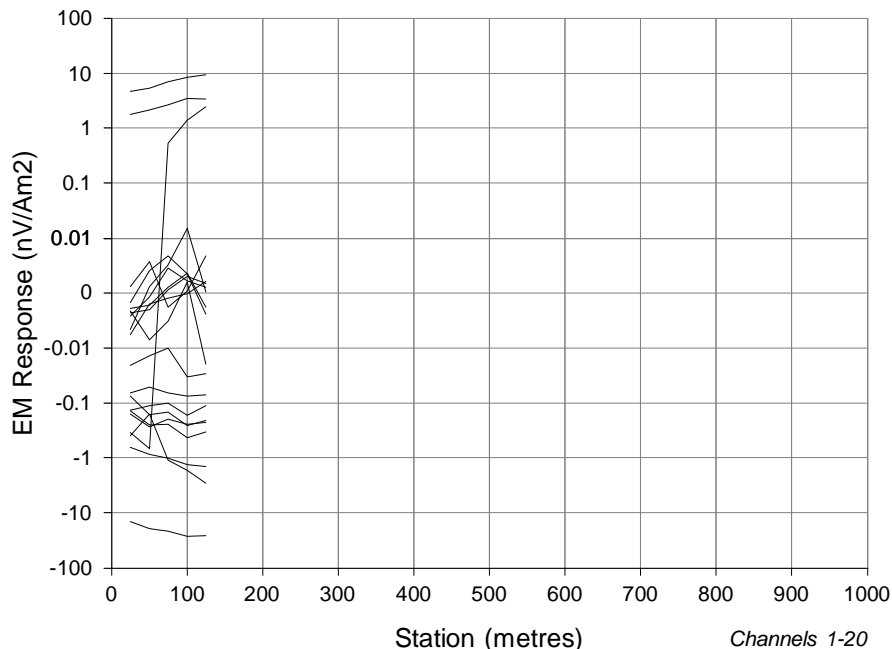
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



NEWEXCO

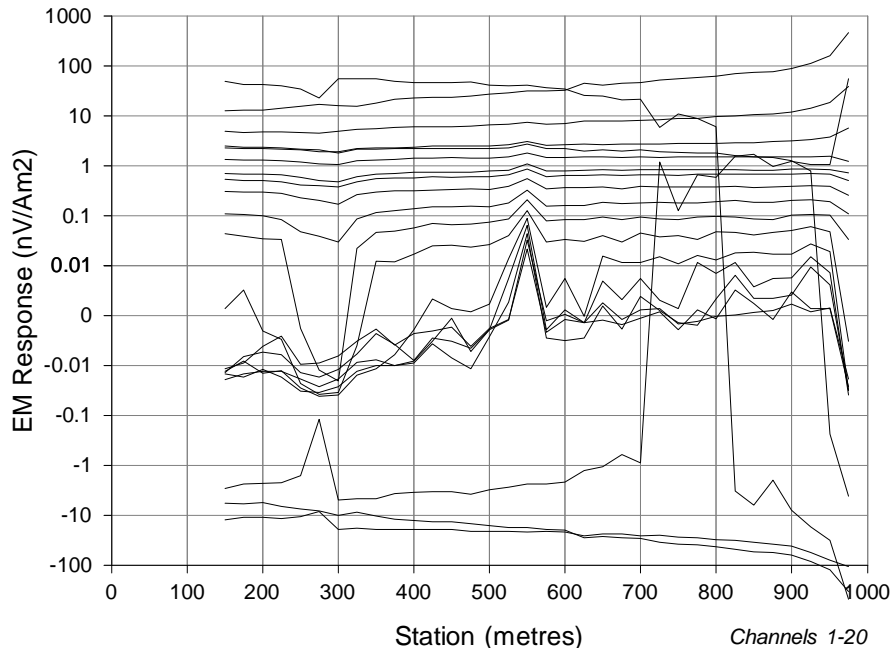
**East Bull Lake  
Parisien Lake  
001**

Author : B. Liss

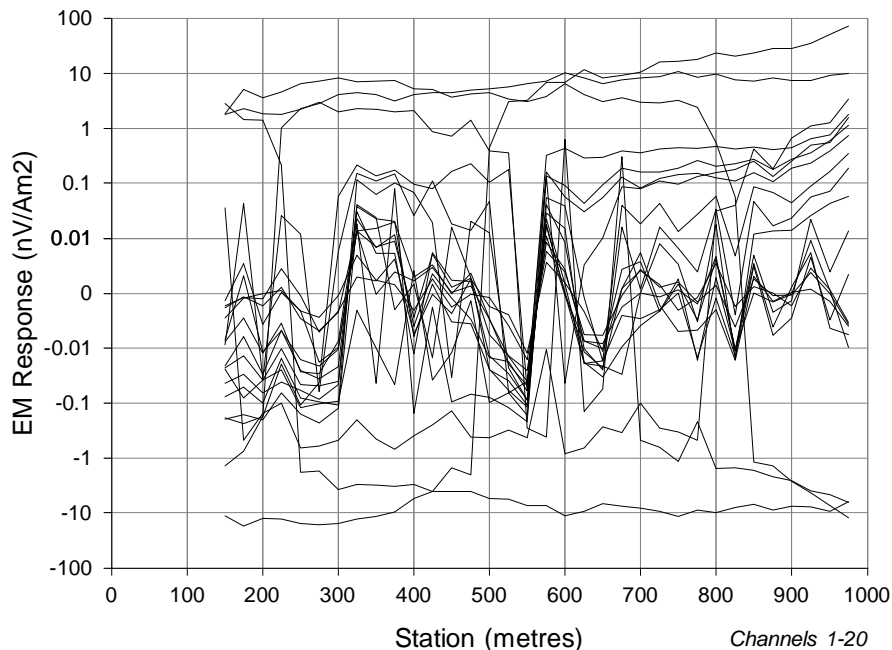




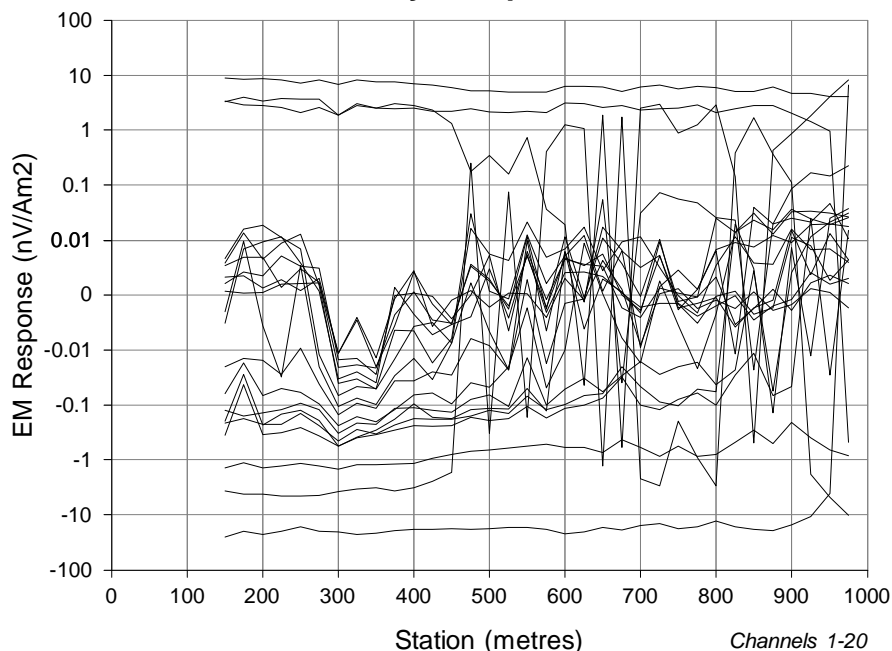
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

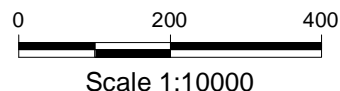
Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



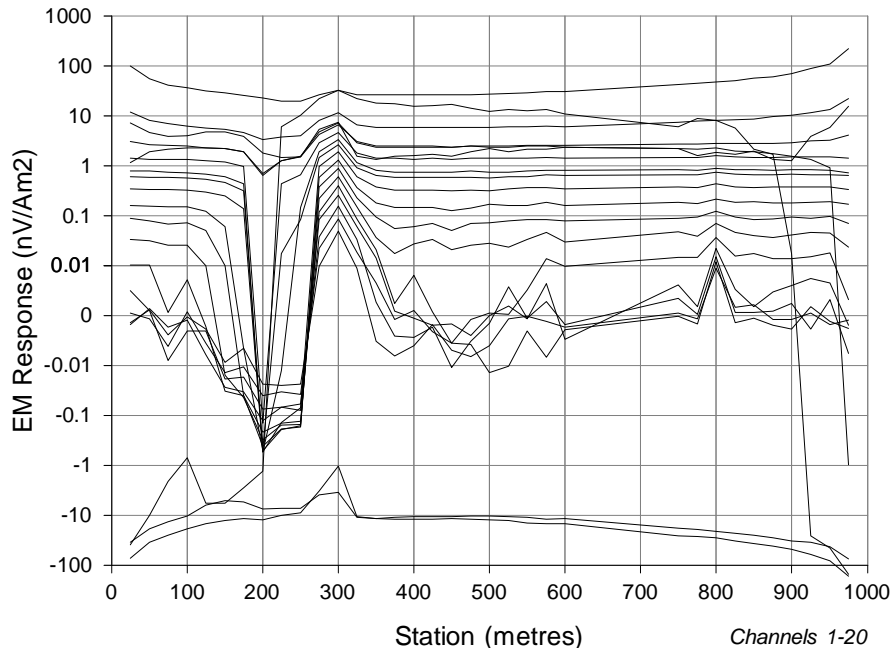
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 301**

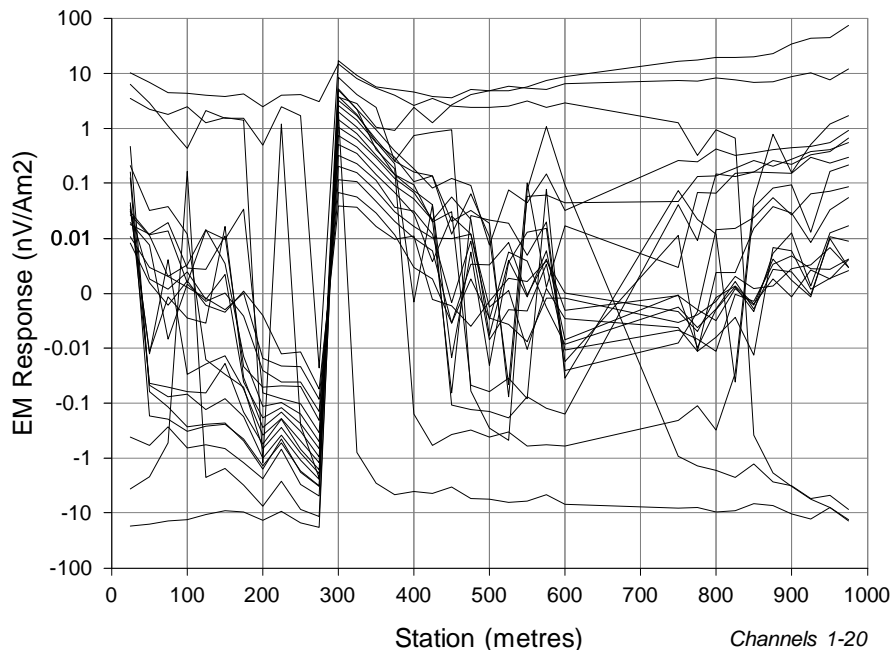
Author : B. Liss



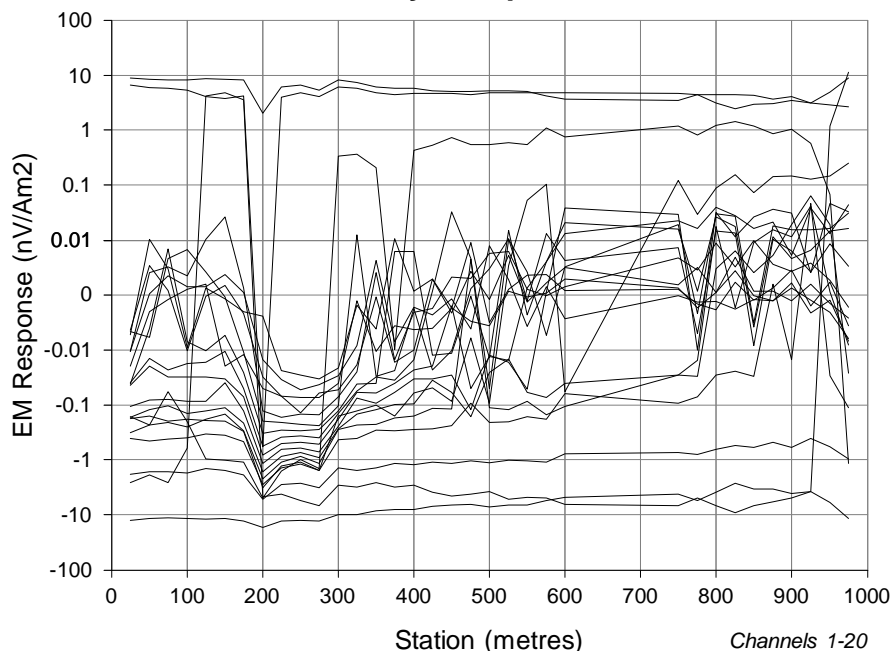
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

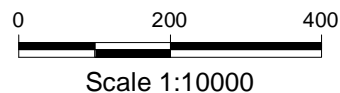
Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



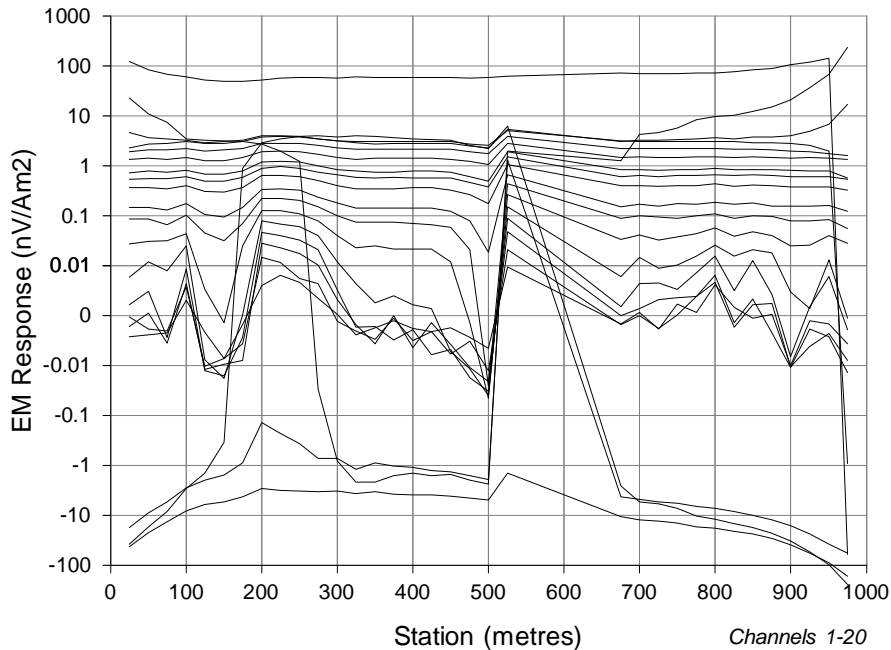
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 302**

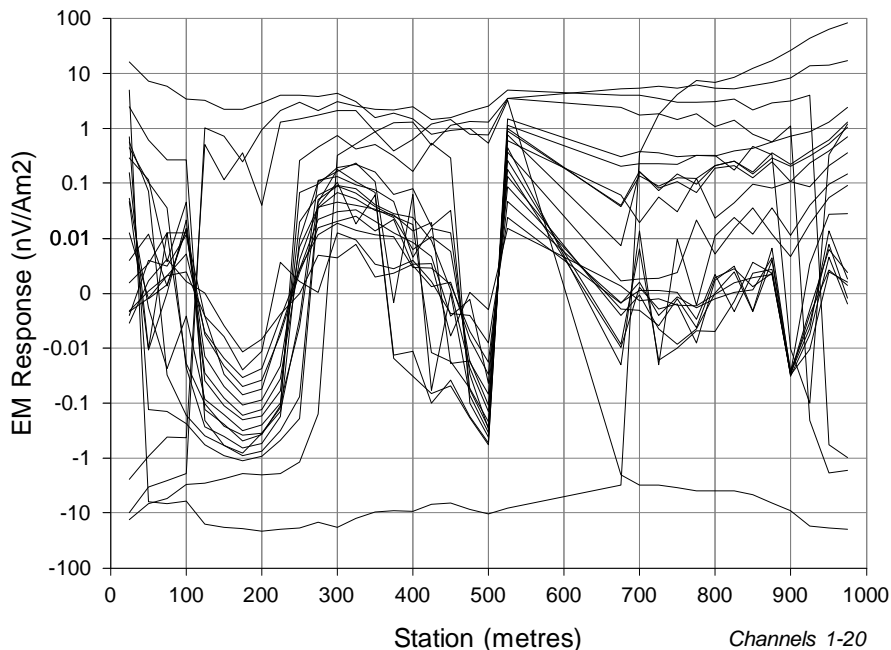
Author : B. Liss



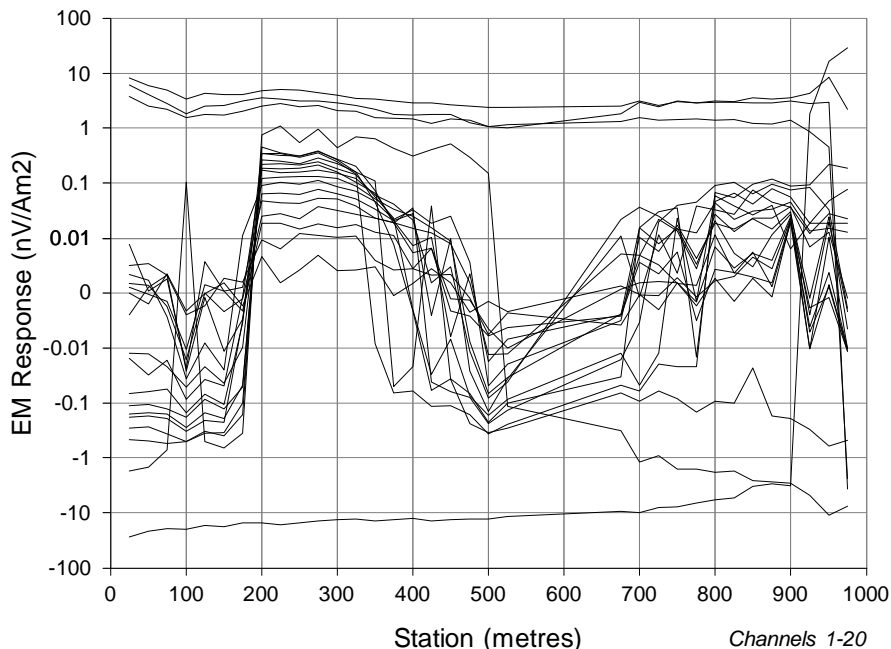
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

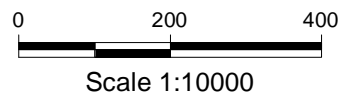
Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



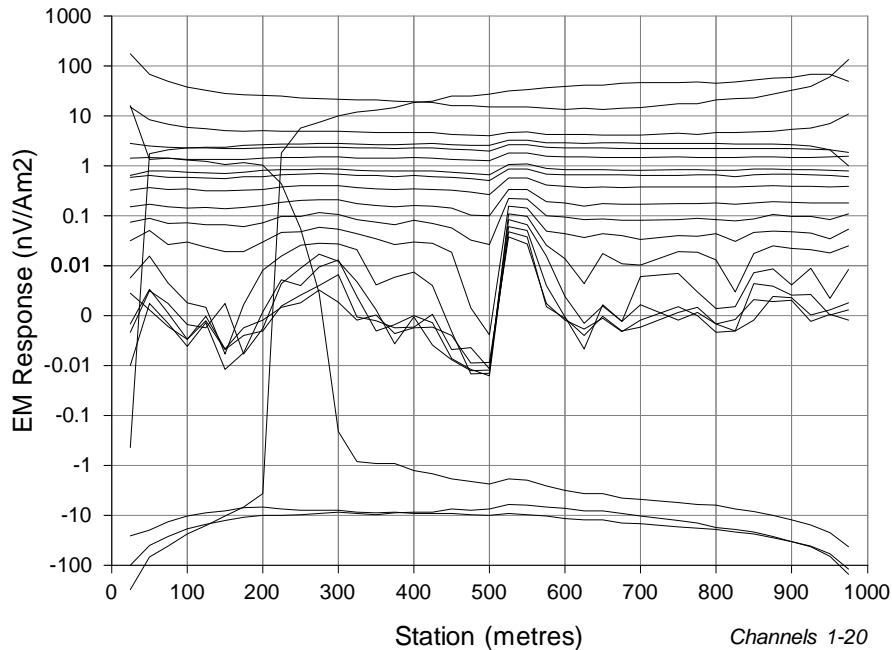
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 303**

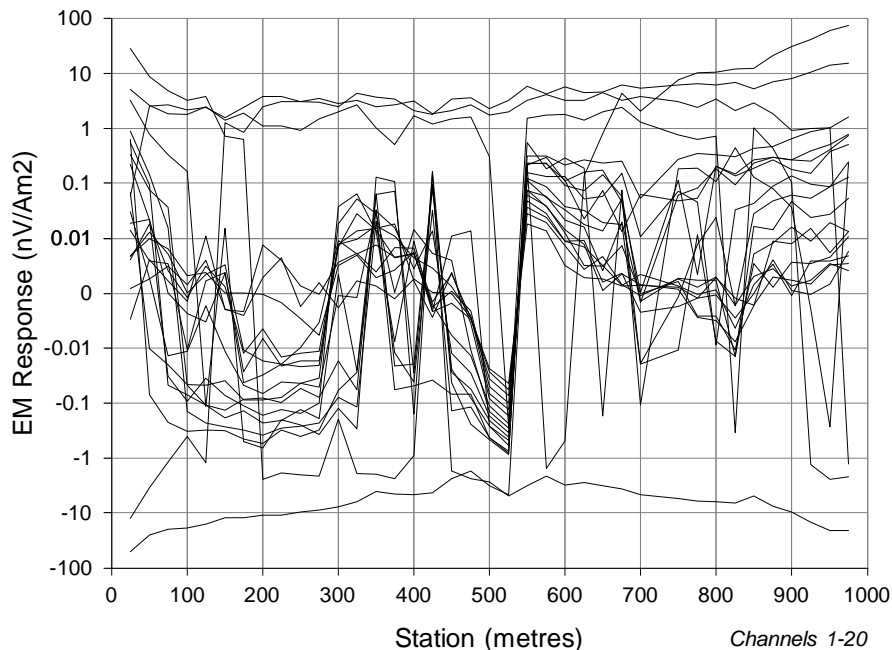
Author : B. Liss



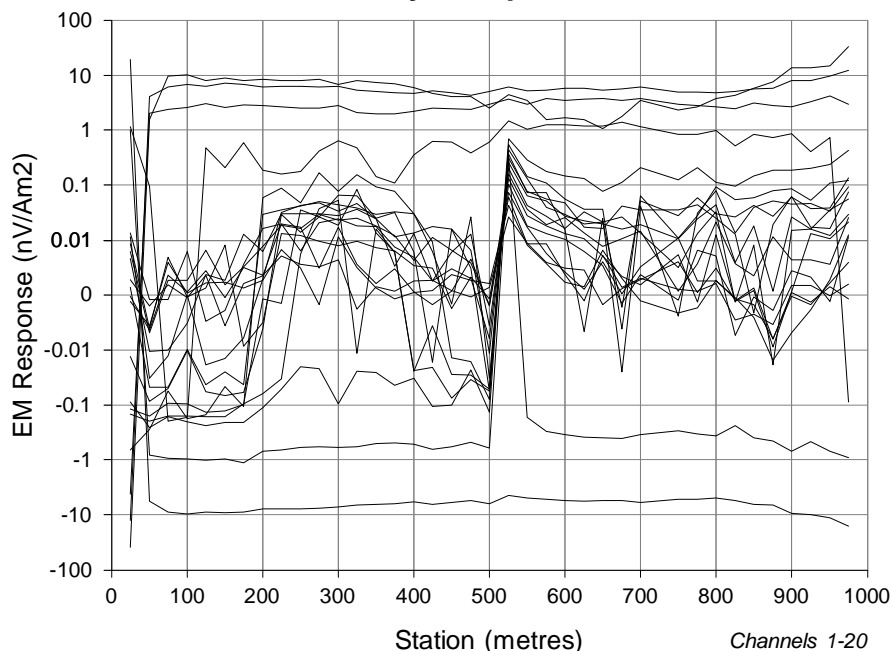
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

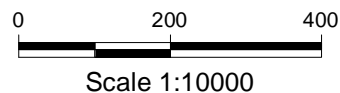
Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



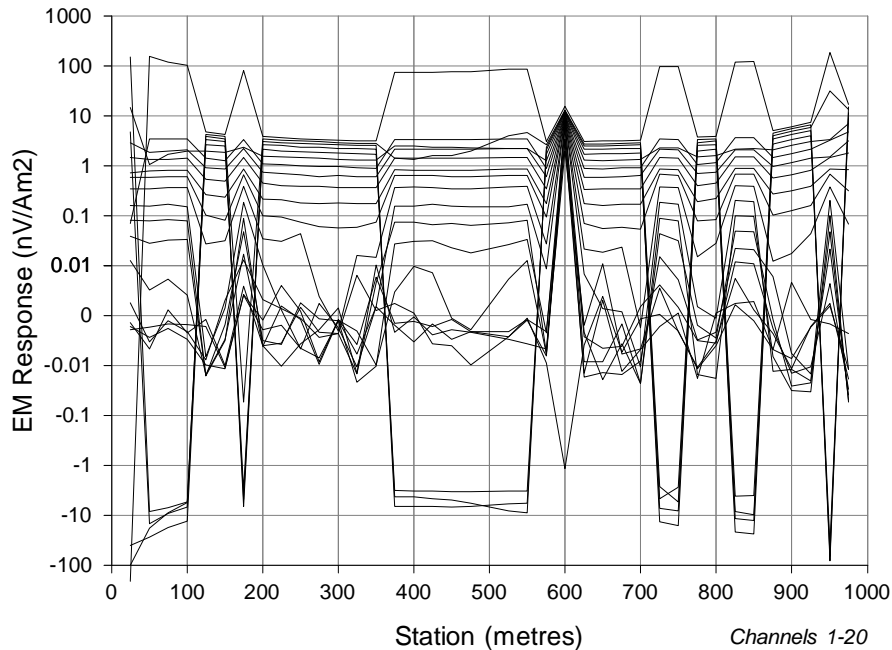
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 304**

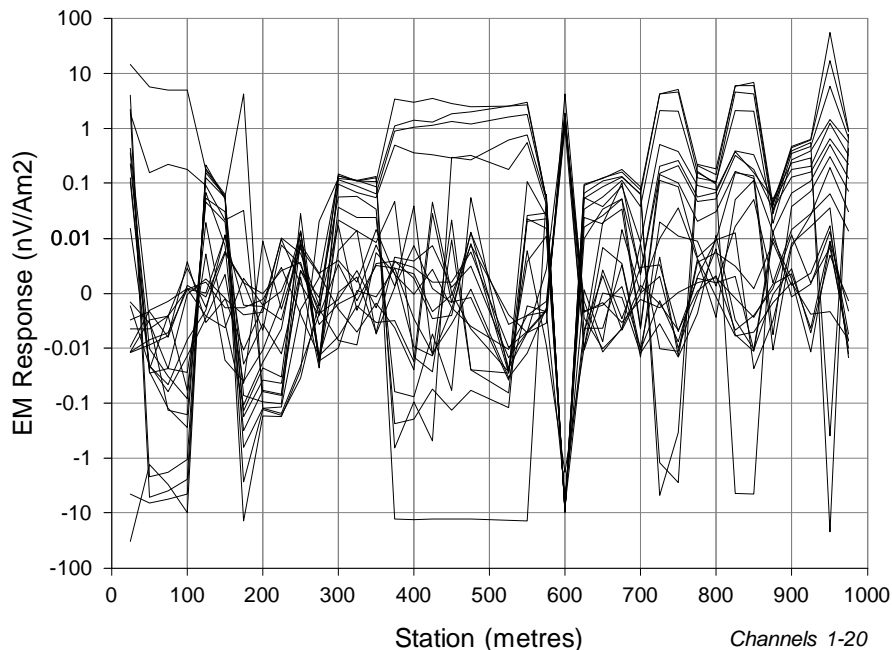
Author : B. Liss



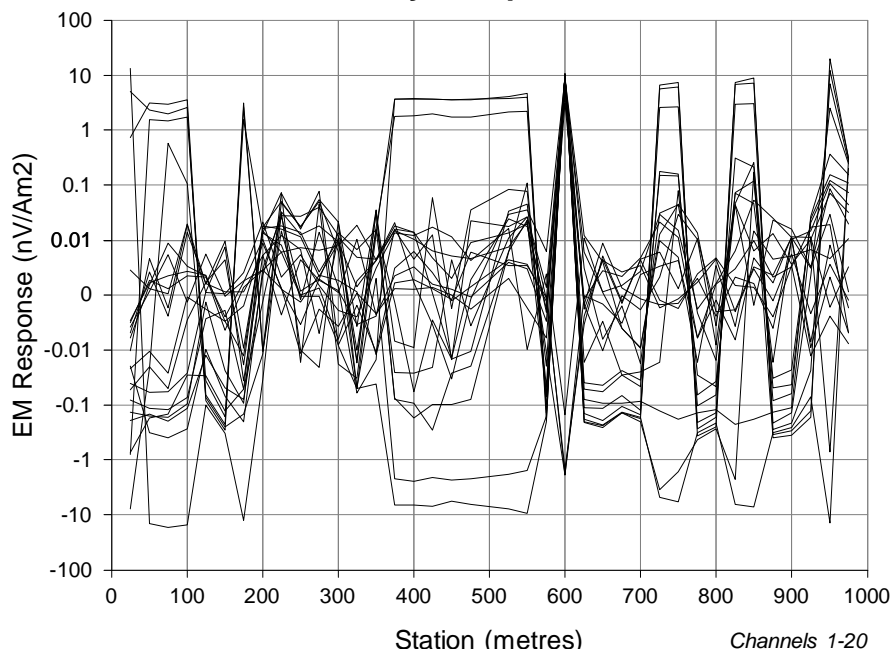
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

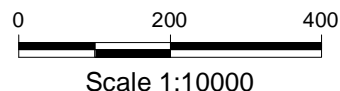
Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1	: 0.6762	11	: 1.446
2	: 0.7012	12	: 1.657
3	: 0.7307	13	: 1.917
4	: 0.7677	14	: 2.241
5	: 0.8142	15	: 2.643
6	: 0.8717	16	: 3.141
7	: 0.9427	17	: 3.761
8	: 1.031	18	: 4.530
9	: 1.141	19	: 5.484
10	: 1.277	20	: 6.669



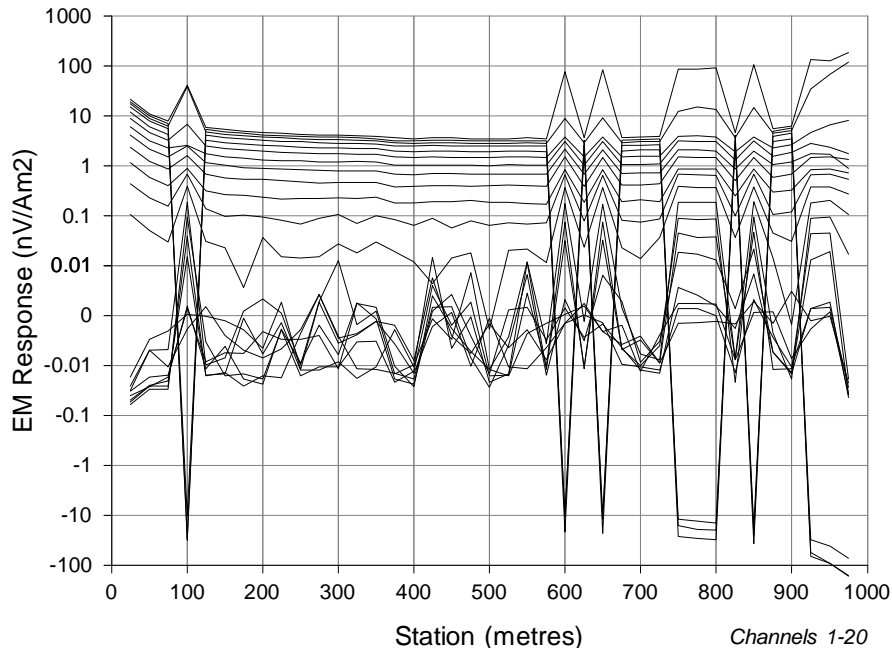
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 305**

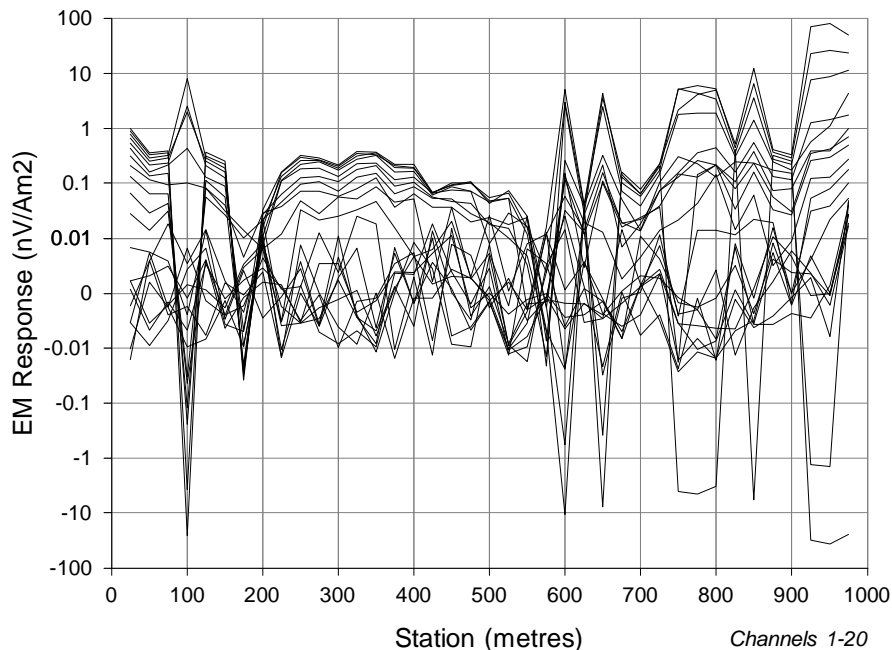
Author : B. Liss



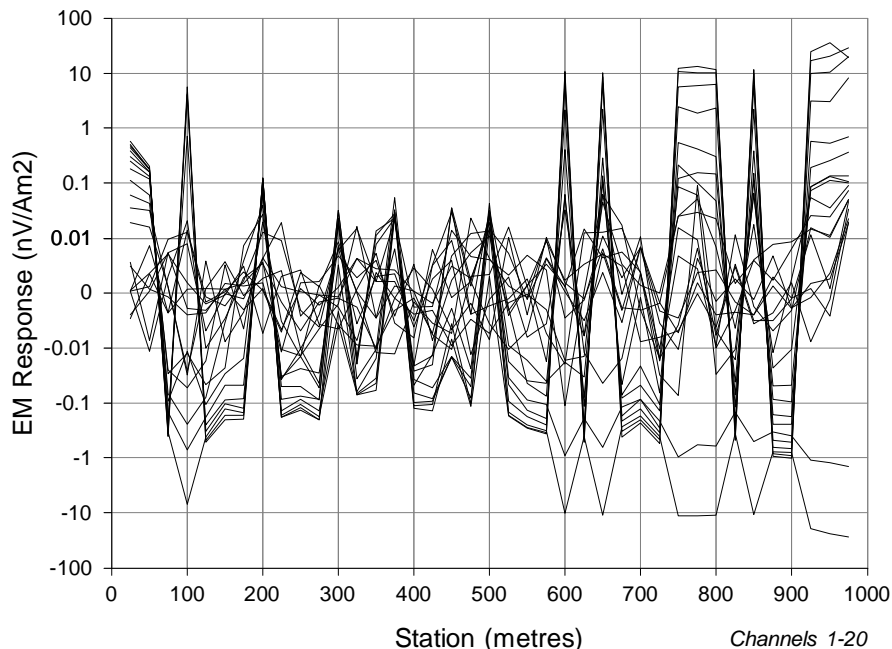
### dBz Component



### dBx Component



### dBy Component



#### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

#### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



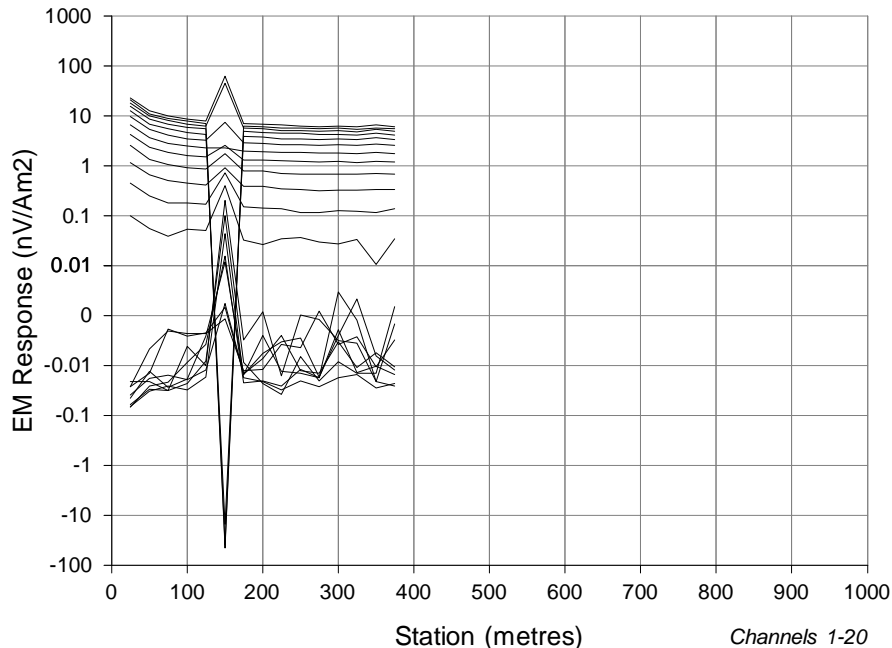
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 306**

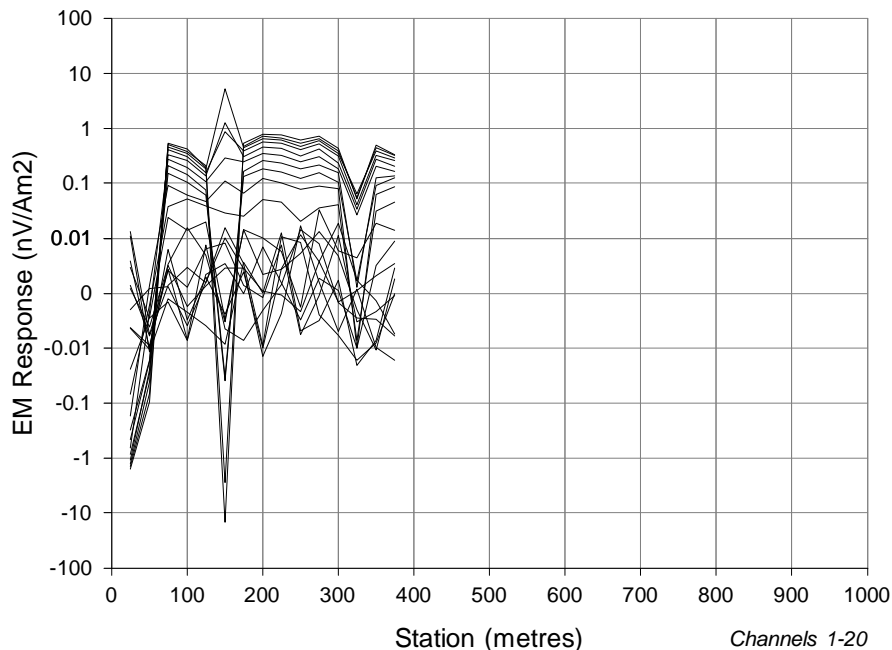
Author : B. Liss



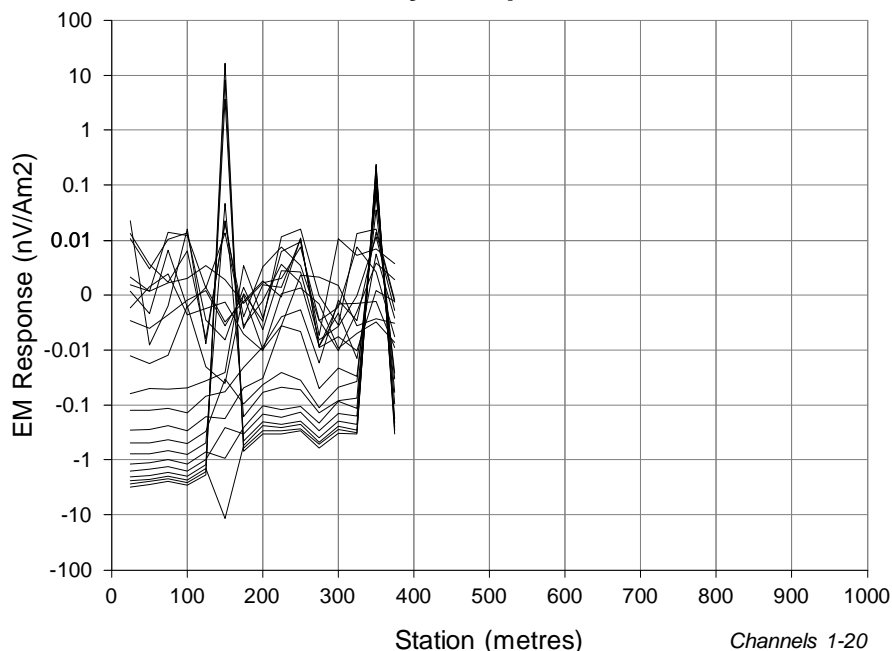
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration: Fixed Loop  
 Contractor : Abitibi  
 Date : 12-11-11  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

Loop : ParisienLake\_Loop  
 Tx Current : 20 A  
 Turn Off : 0.58 ms

### LOOP POINTS

LV1 : 409400mE, 5142000mN  
 LV2 : 410100mE, 5142000mN  
 LV3 : 410100mE, 5141000mN  
 LV4 : 409400mE, 5141000mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6762	11 : 1.446
2 : 0.7012	12 : 1.657
3 : 0.7307	13 : 1.917
4 : 0.7677	14 : 2.241
5 : 0.8142	15 : 2.643
6 : 0.8717	16 : 3.141
7 : 0.9427	17 : 3.761
8 : 1.031	18 : 4.530
9 : 1.141	19 : 5.484
10 : 1.277	20 : 6.669



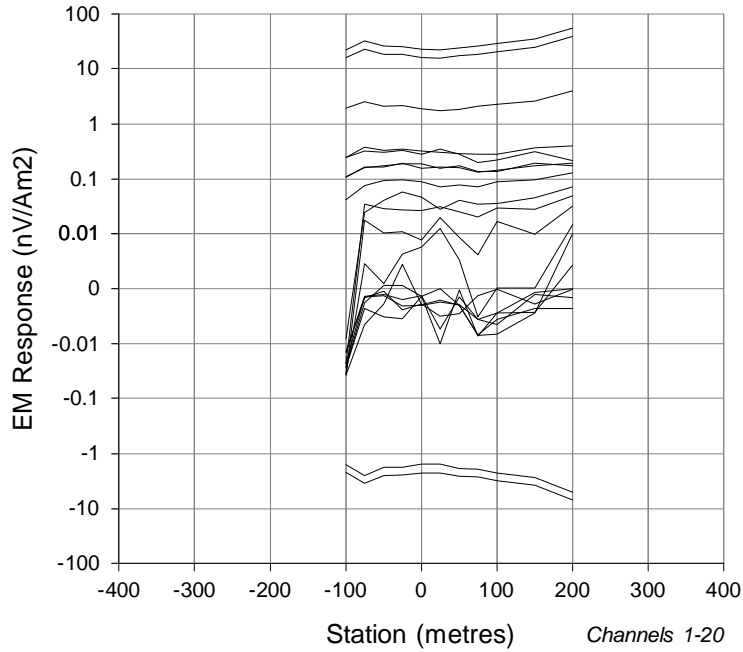
NEWEXCO

**East Bull Lake  
 Parisien Lake  
 307**

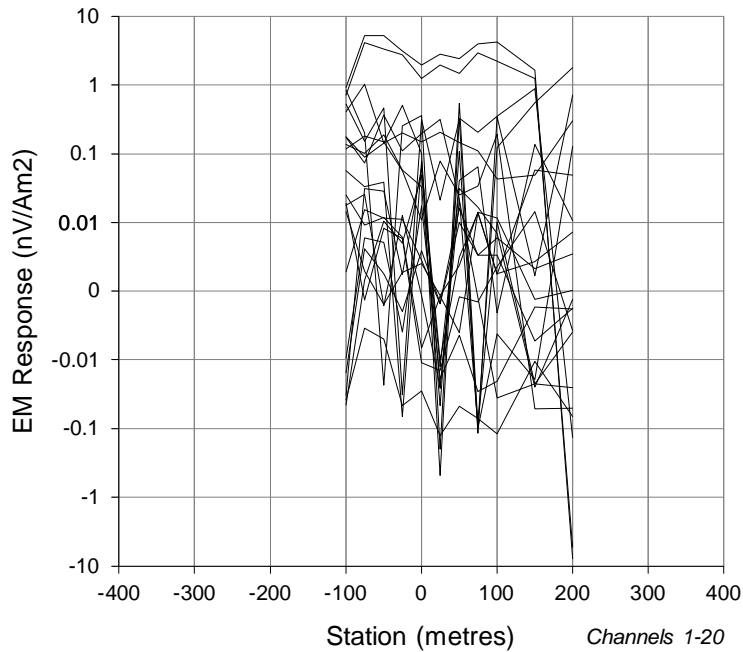
Author : B. Liss



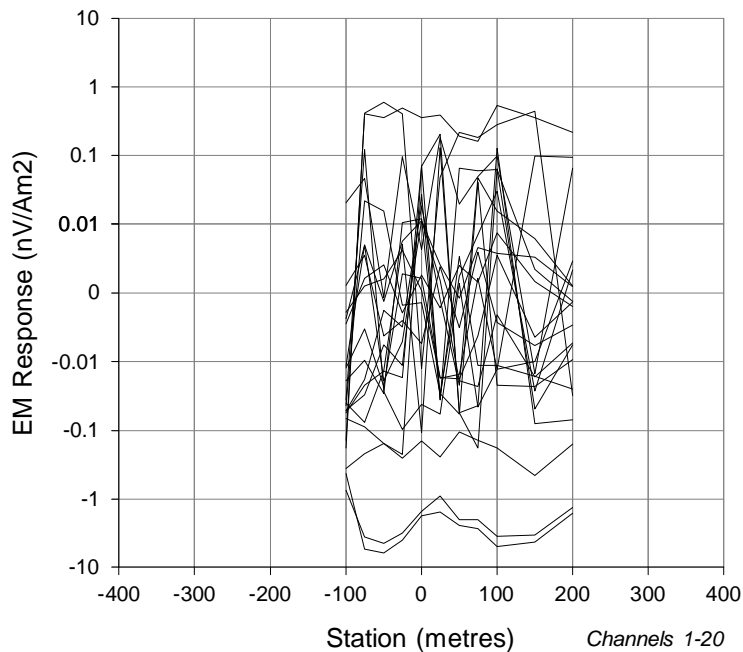
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

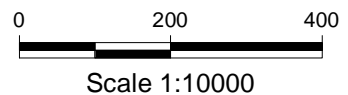
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS

LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092



NEWEXCO

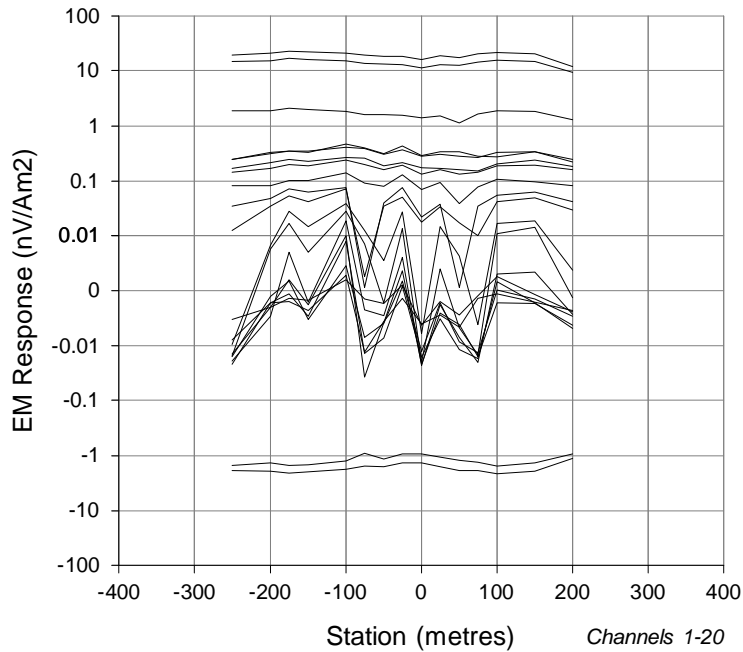
**EastBullLake  
 Road  
 0E**

Author : B. Liss

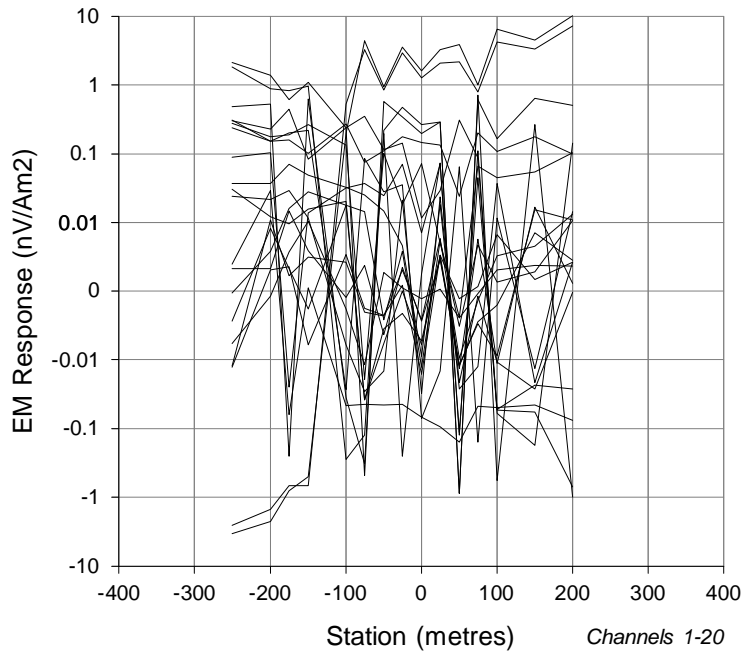




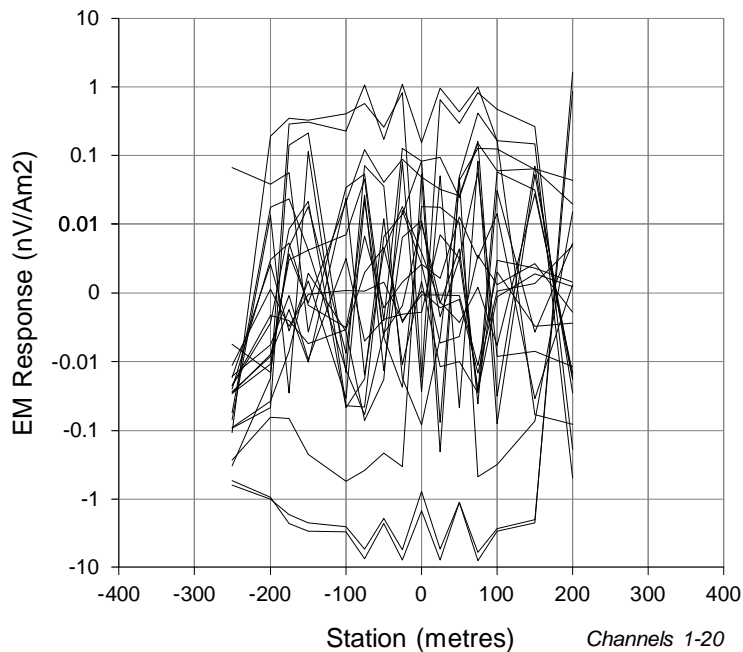
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

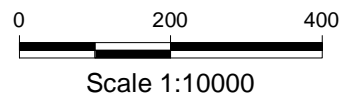
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS

LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092



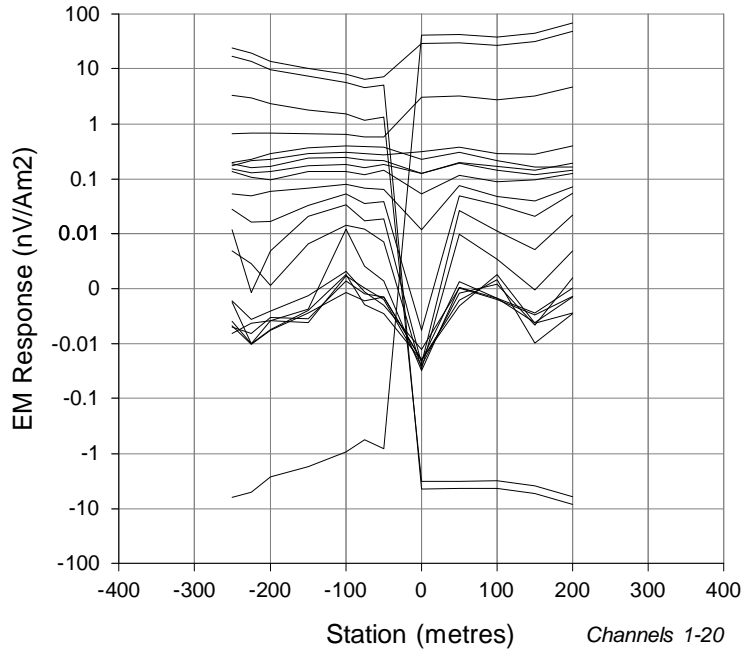
NEWEXCO

**EastBullLake  
 Road  
 100E**

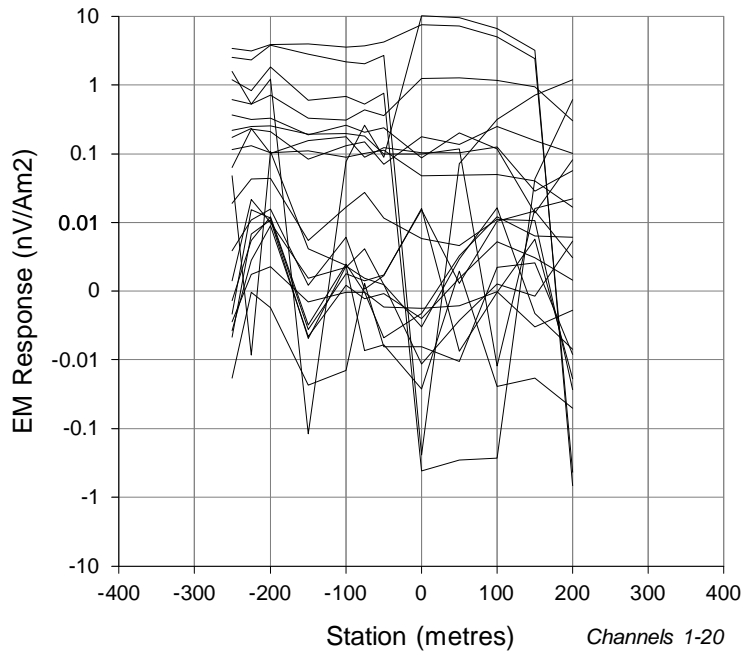
Author : B. Liss



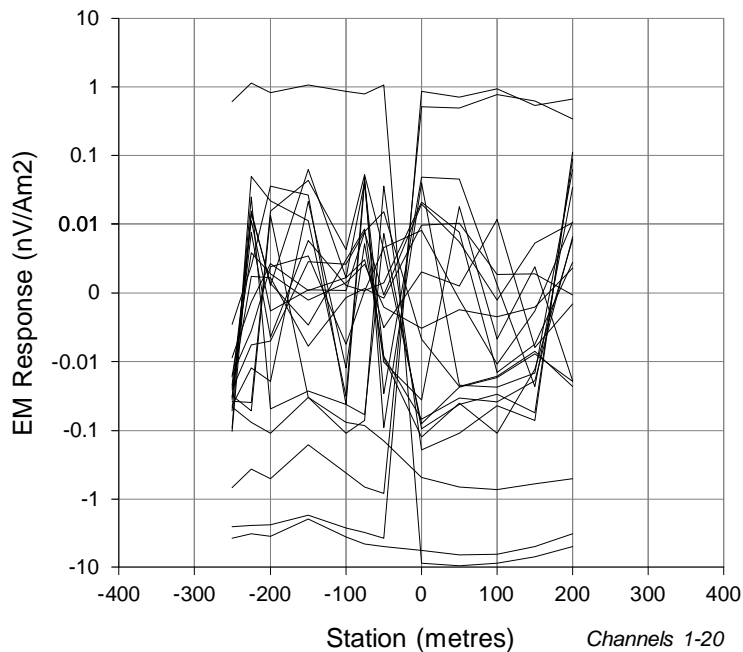
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

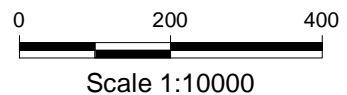
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS


LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

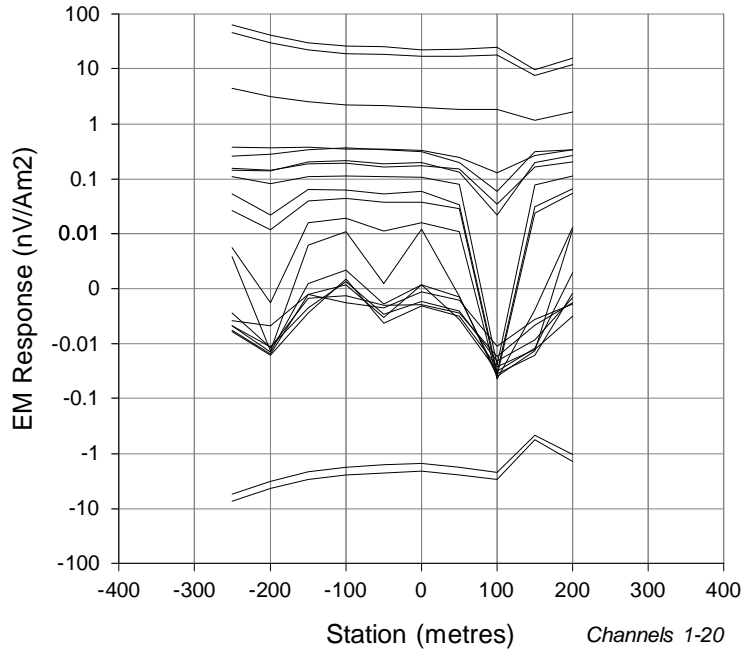
1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092



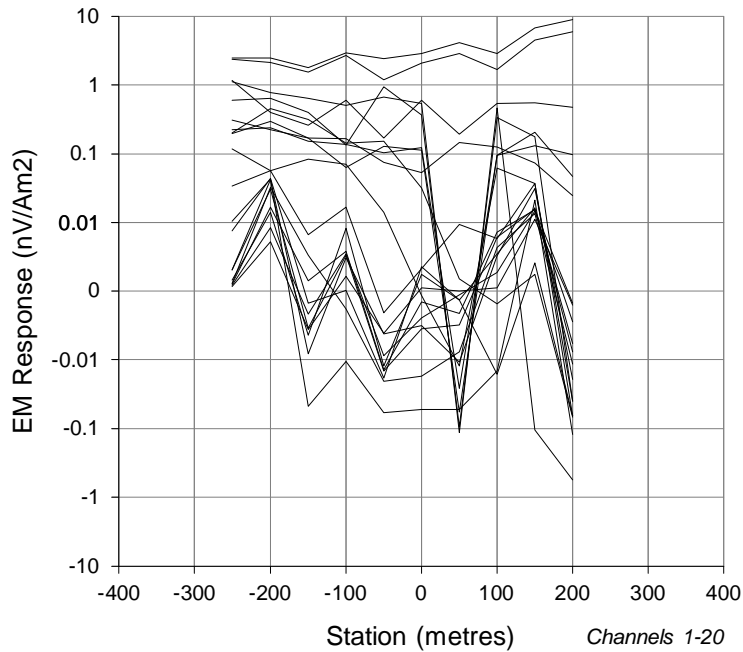
NEWEXCO  
**EastBullLake  
 Road  
 100W**  
 Author : B. Liss



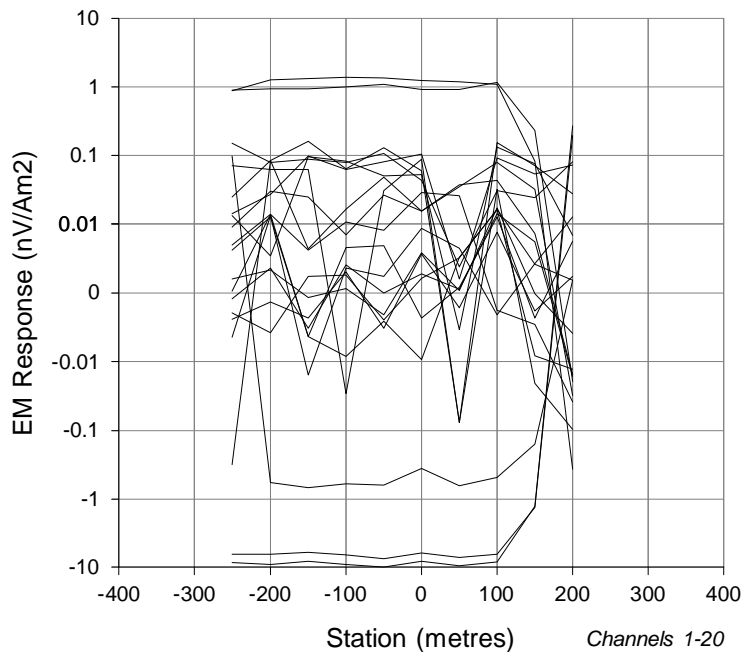
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

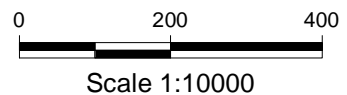
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS

LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

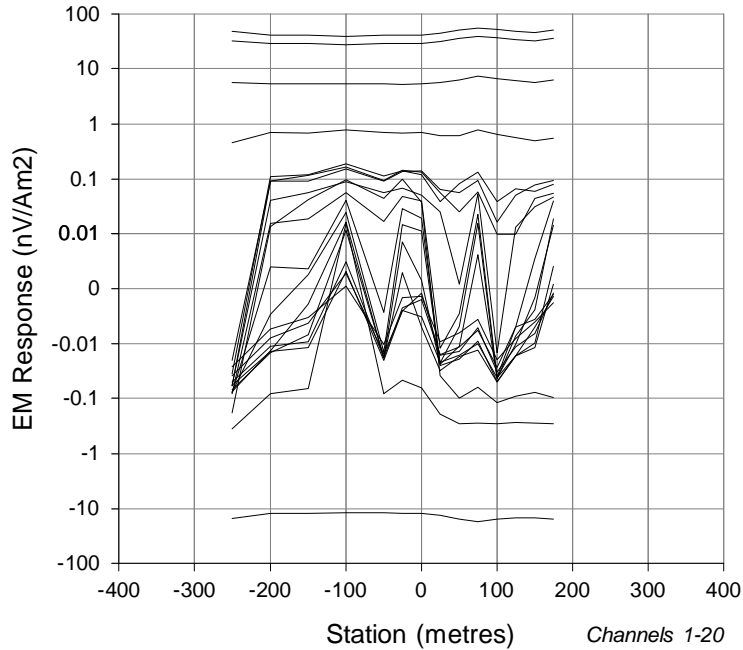
### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092

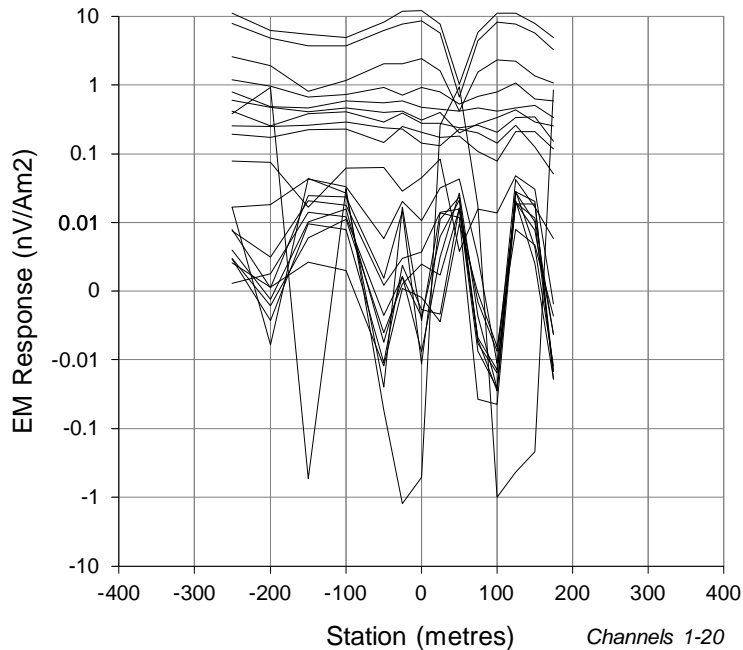


NEWEXCO	
<b>EastBullLake Road 200E</b>	
Author : B. Liss	

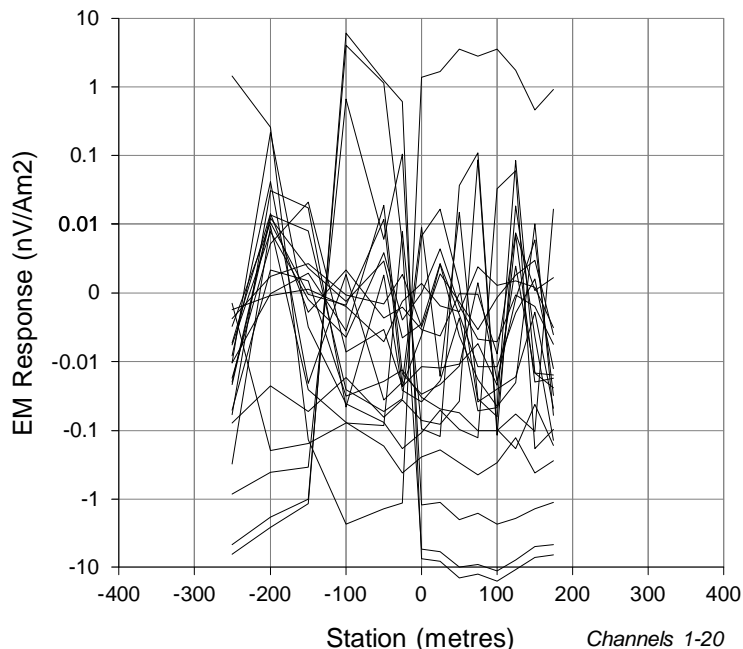
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

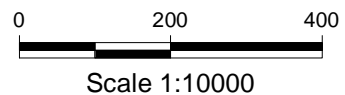
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS

LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

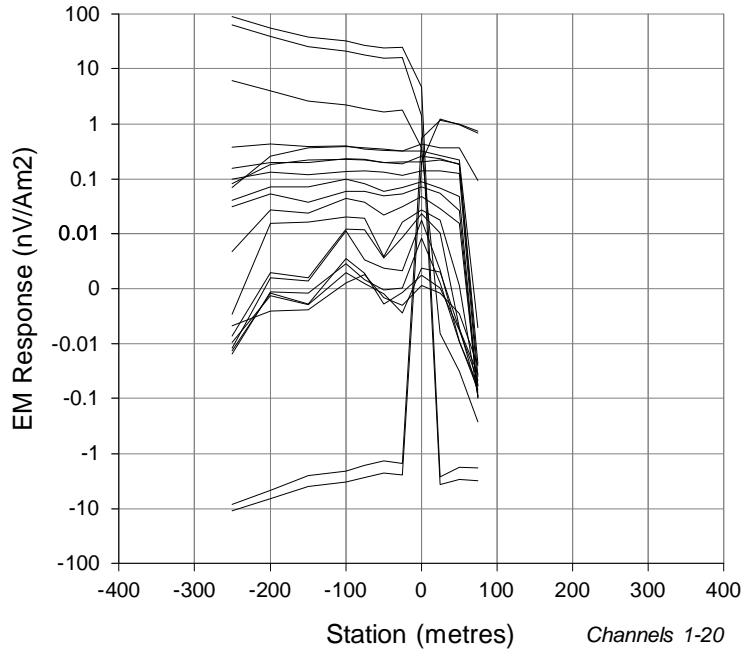
### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092

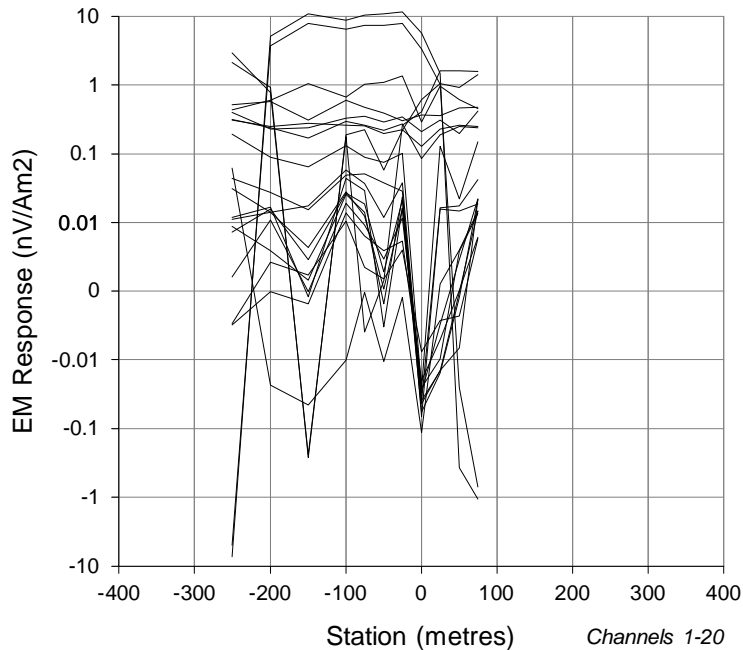


NEWEXCO	
<b>EastBullLake Road 200W</b>	
Author : B. Liss	

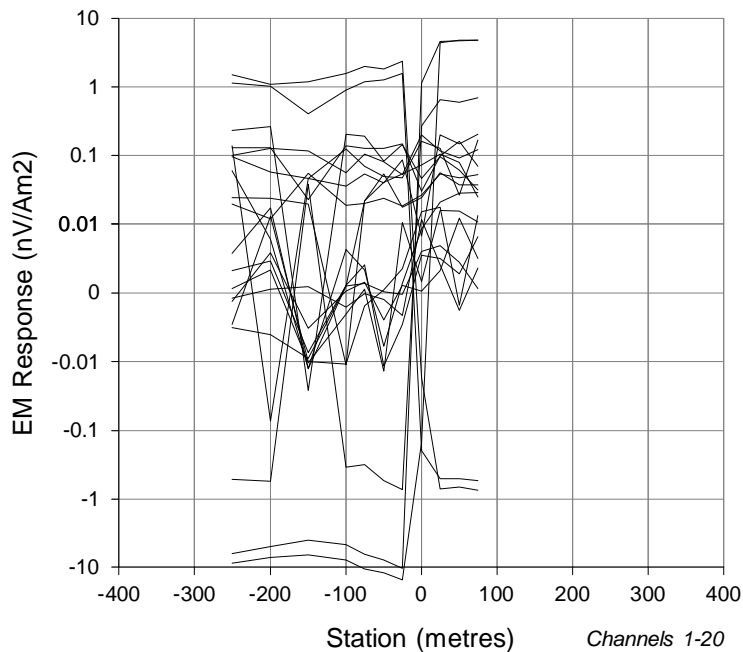
### dBz Component



### dBx Component



### dBy Component



### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 18-4-2012  
 Client : Mustang

### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

### TRANSMITTER

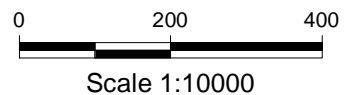
Loop : Road\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.52 ms

### LOOP POINTS

LV1 : 408398.4mE, 5140980.37mN  
 LV2 : 408396.62mE, 5140982.15mN  
 LV3 : 408398.4mE, 5140423.62mN  
 LV4 : 407798.95mE, 5140420.06mN

### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.0992	11 : 0.8692
2 : 0.1242	12 : 1.080
3 : 0.1537	13 : 1.340
4 : 0.1907	14 : 1.664
5 : 0.2372	15 : 2.066
6 : 0.2947	16 : 2.564
7 : 0.3657	17 : 3.184
8 : 0.4542	18 : 3.953
9 : 0.5642	19 : 4.907
10 : 0.7002	20 : 6.092



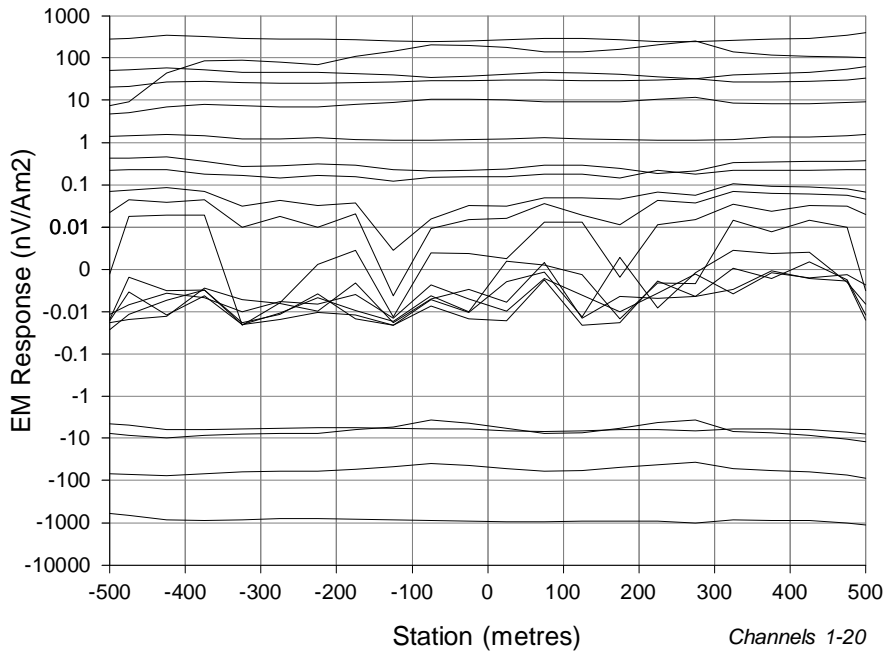
NEWEXCO

**EastBullLake  
 Road  
 300E**

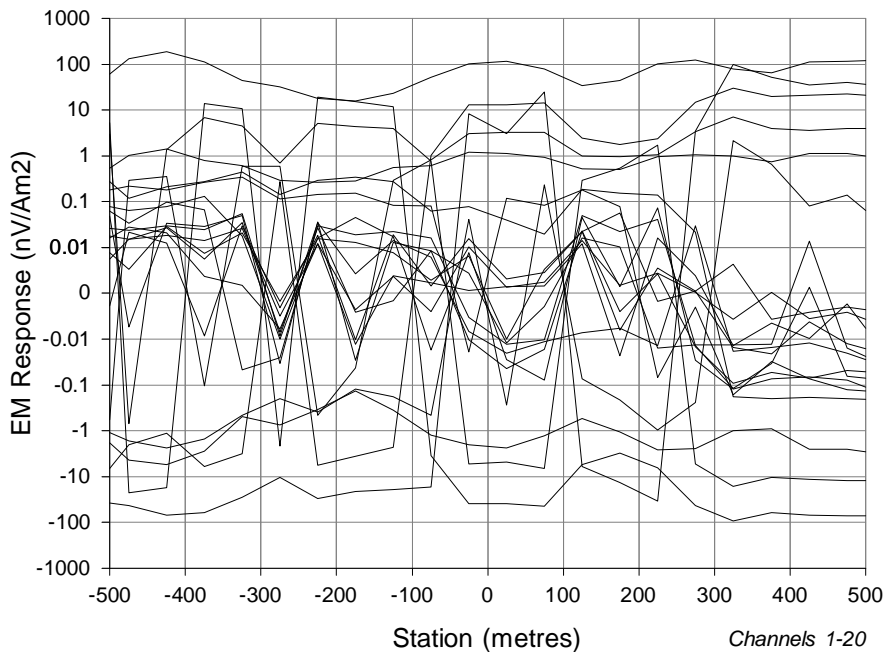
Author : B. Liss



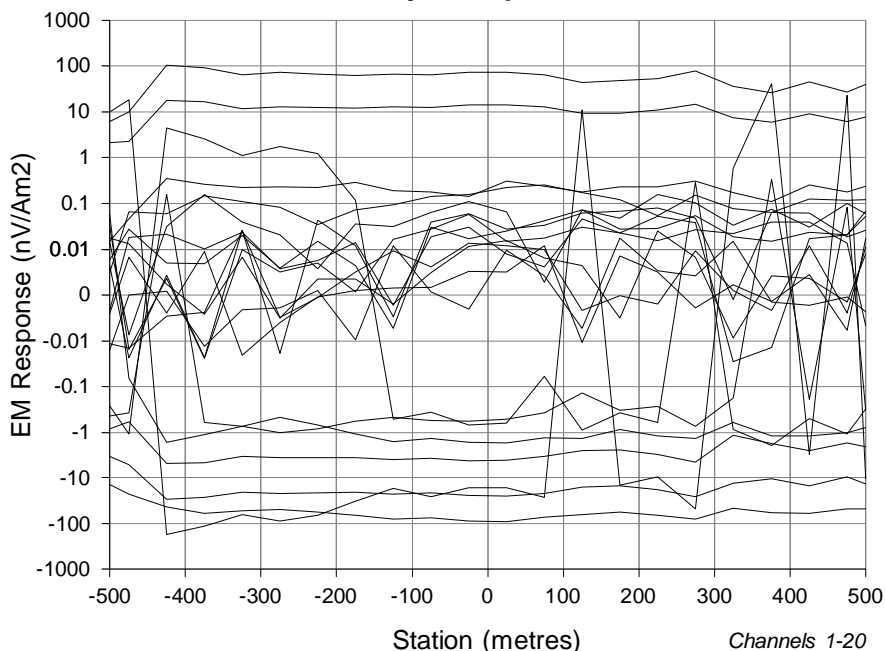
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

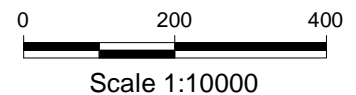
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6992	11 : 1.469
2 : 0.7242	12 : 1.680
3 : 0.7537	13 : 1.940
4 : 0.7907	14 : 2.264
5 : 0.8372	15 : 2.666
6 : 0.8947	16 : 3.164
7 : 0.9657	17 : 3.784
8 : 1.054	18 : 4.553
9 : 1.164	19 : 5.507
10 : 1.300	20 : 6.692



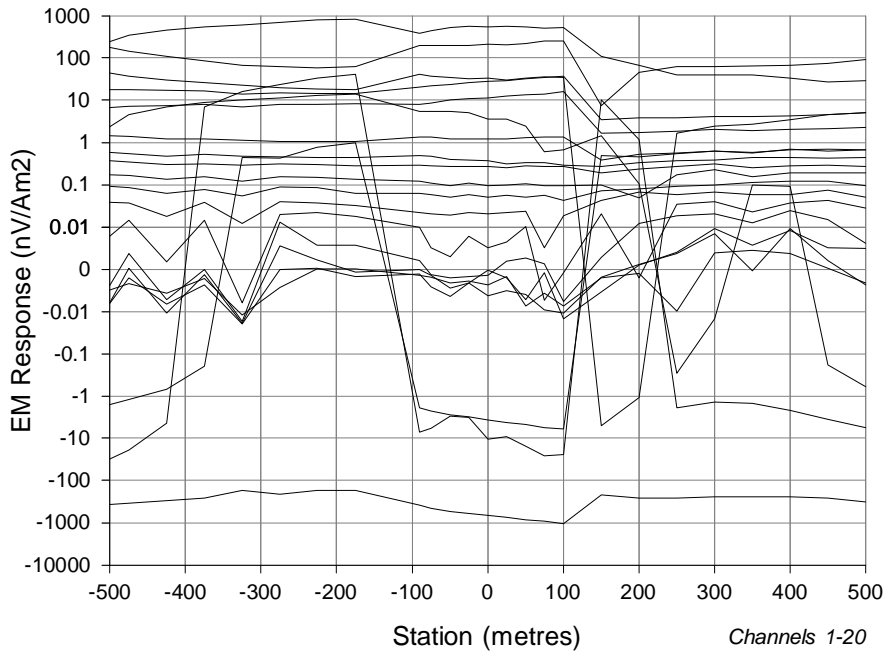
NEWEXCO

**EastBullLake  
 SablesWest  
 600E**

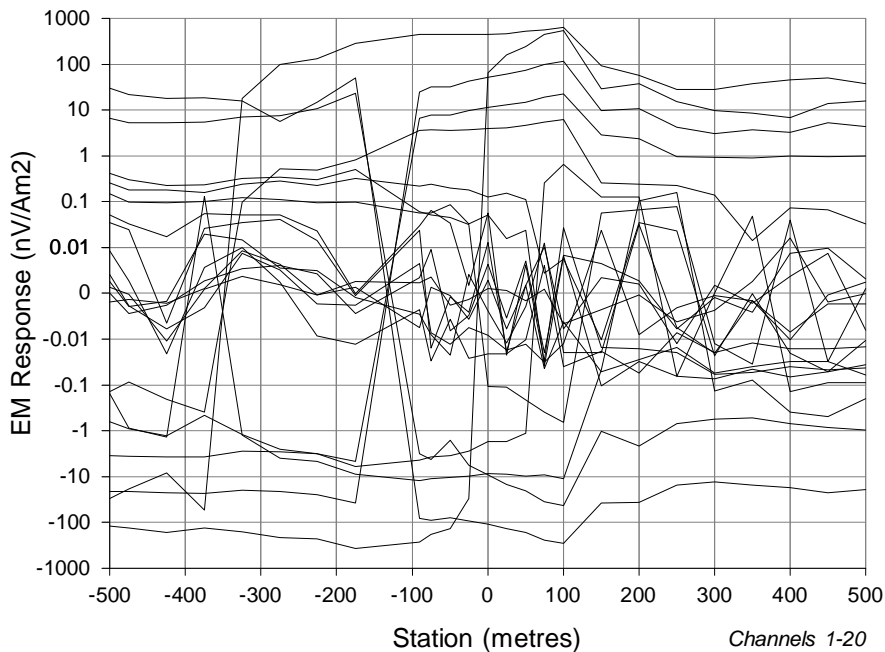
Author : B. Liss



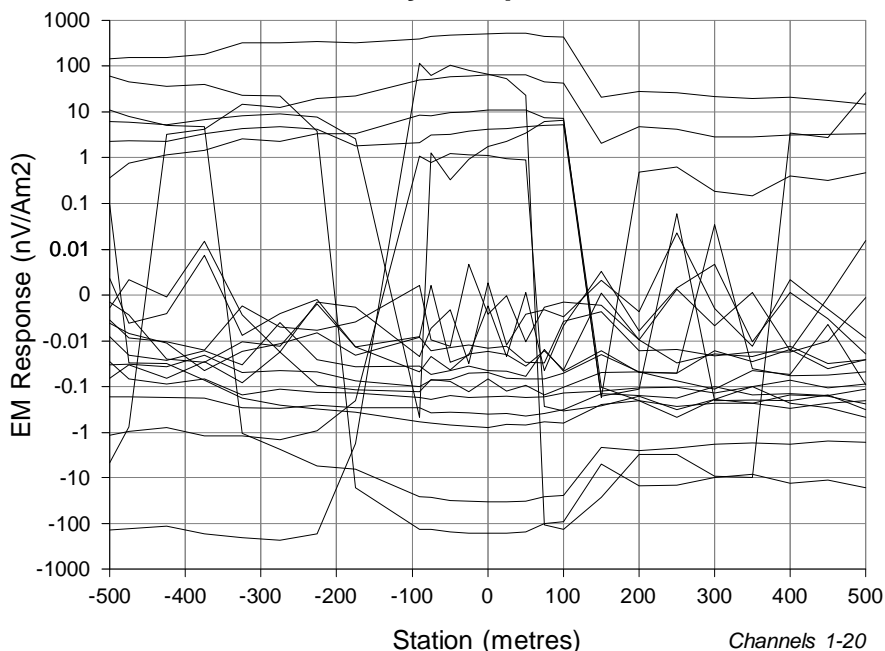
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

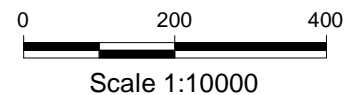
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6992	11 : 1.469
2 : 0.7242	12 : 1.680
3 : 0.7537	13 : 1.940
4 : 0.7907	14 : 2.264
5 : 0.8372	15 : 2.666
6 : 0.8947	16 : 3.164
7 : 0.9657	17 : 3.784
8 : 1.054	18 : 4.553
9 : 1.164	19 : 5.507
10 : 1.300	20 : 6.692



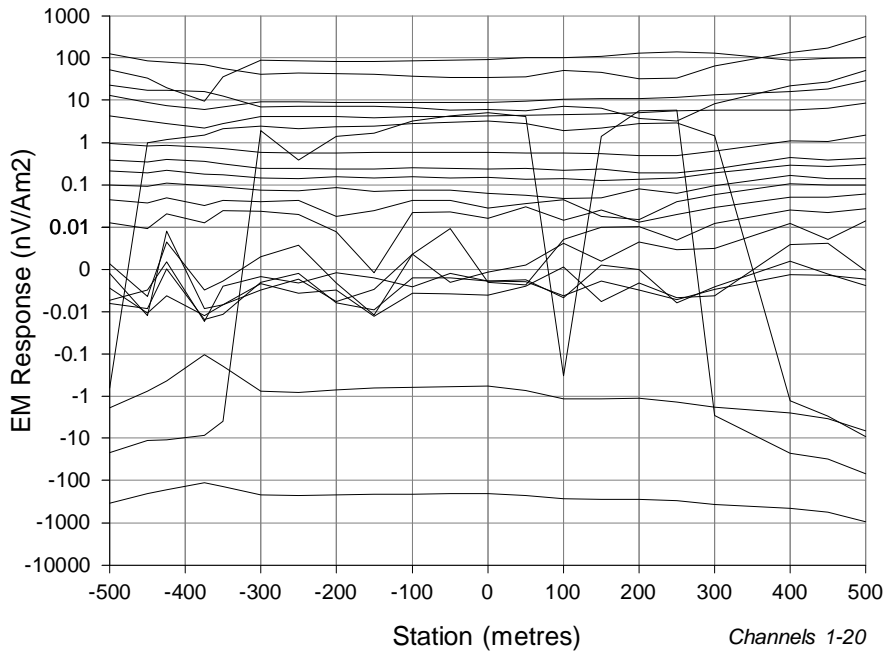
NEWEXCO

**EastBullLake  
SablesWest  
400W**

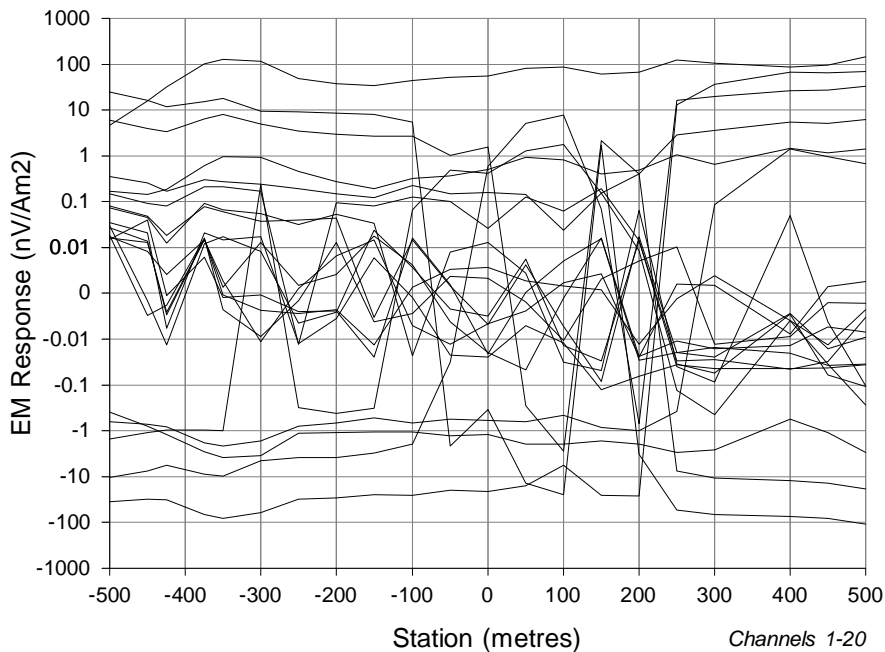
Author : B. Liss



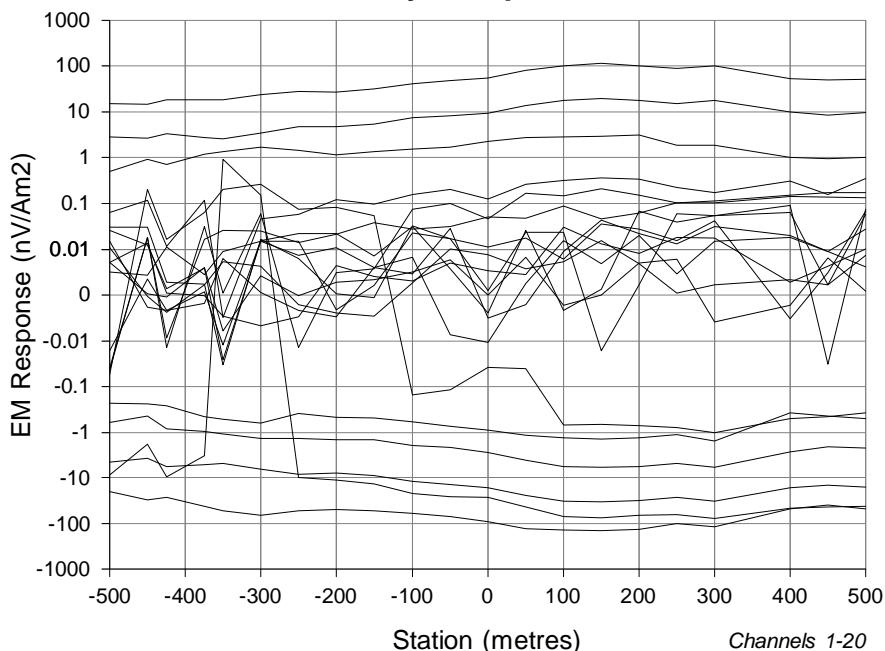
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

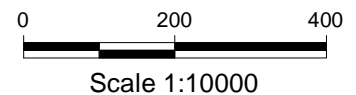
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1	: 0.6992	11	: 1.469
2	: 0.7242	12	: 1.680
3	: 0.7537	13	: 1.940
4	: 0.7907	14	: 2.264
5	: 0.8372	15	: 2.666
6	: 0.8947	16	: 3.164
7	: 0.9657	17	: 3.784
8	: 1.054	18	: 4.553
9	: 1.164	19	: 5.507
10	: 1.300	20	: 6.692



NEWEXCO

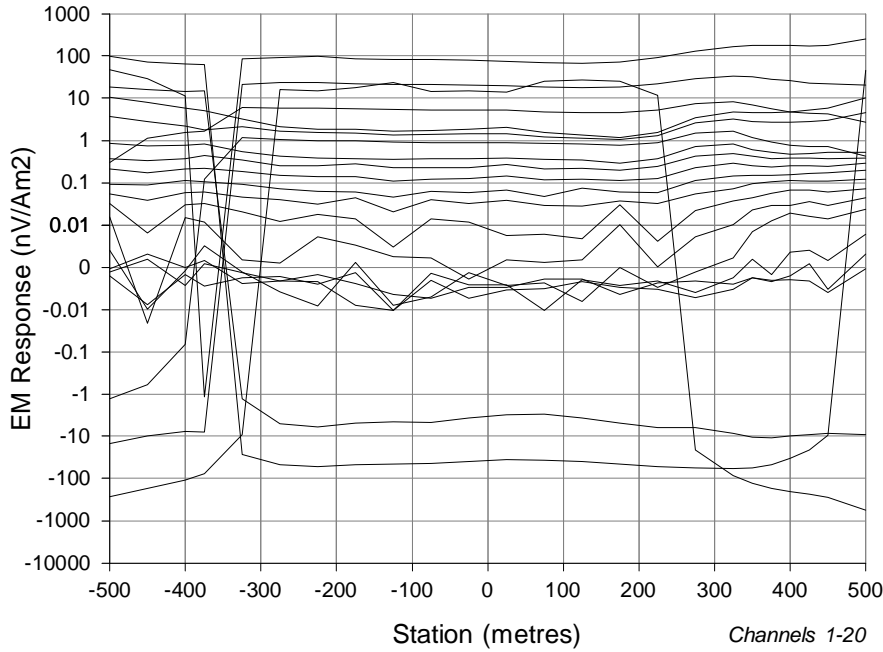
**EastBullLake  
 SablesWest  
 400E**

Author : B. Liss

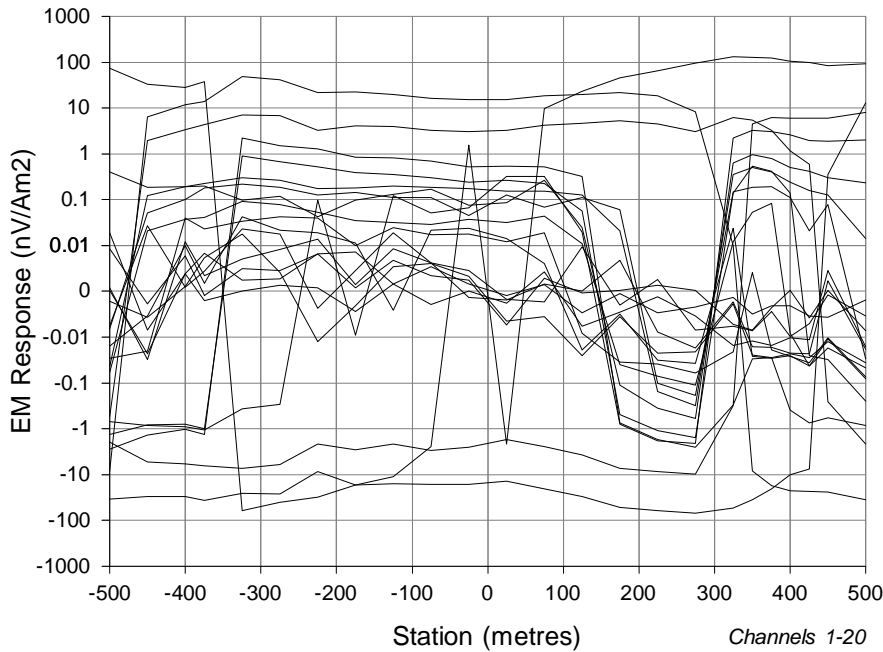




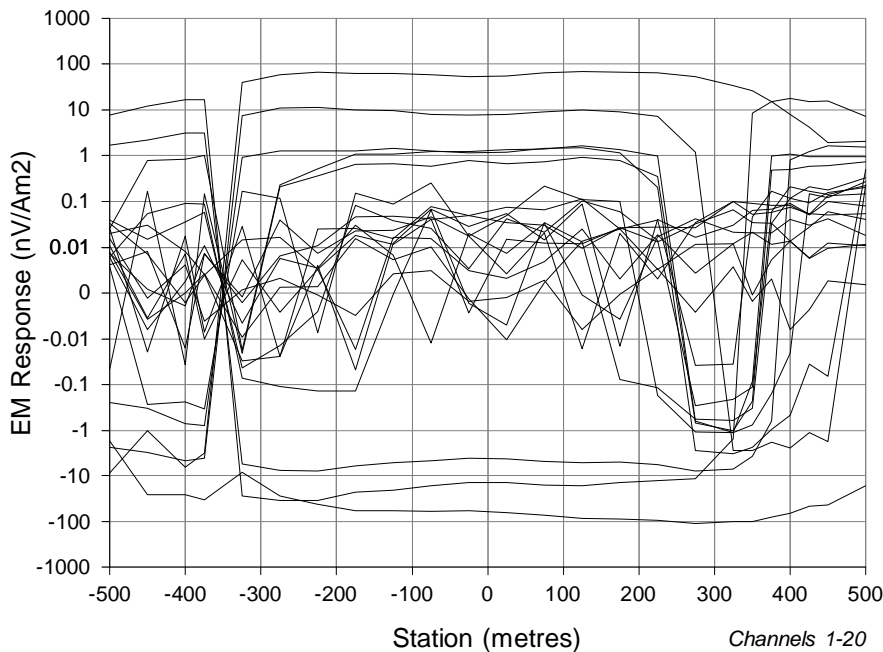
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

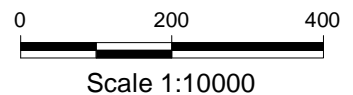
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1	: 0.6992	11	: 1.469
2	: 0.7242	12	: 1.680
3	: 0.7537	13	: 1.940
4	: 0.7907	14	: 2.264
5	: 0.8372	15	: 2.666
6	: 0.8947	16	: 3.164
7	: 0.9657	17	: 3.784
8	: 1.054	18	: 4.553
9	: 1.164	19	: 5.507
10	: 1.300	20	: 6.692



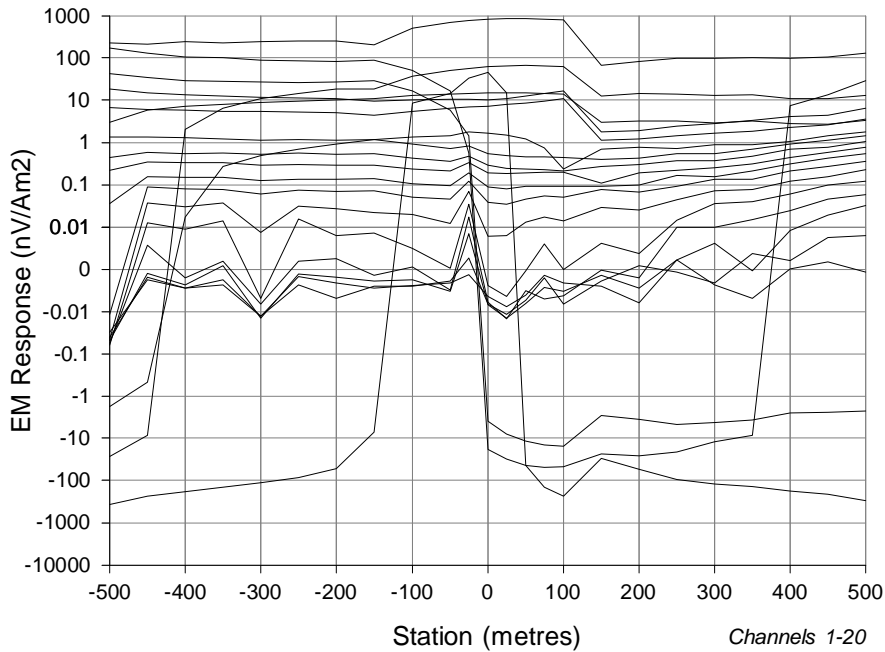
NEWEXCO

**EastBullLake  
 SablesWest  
 300E**

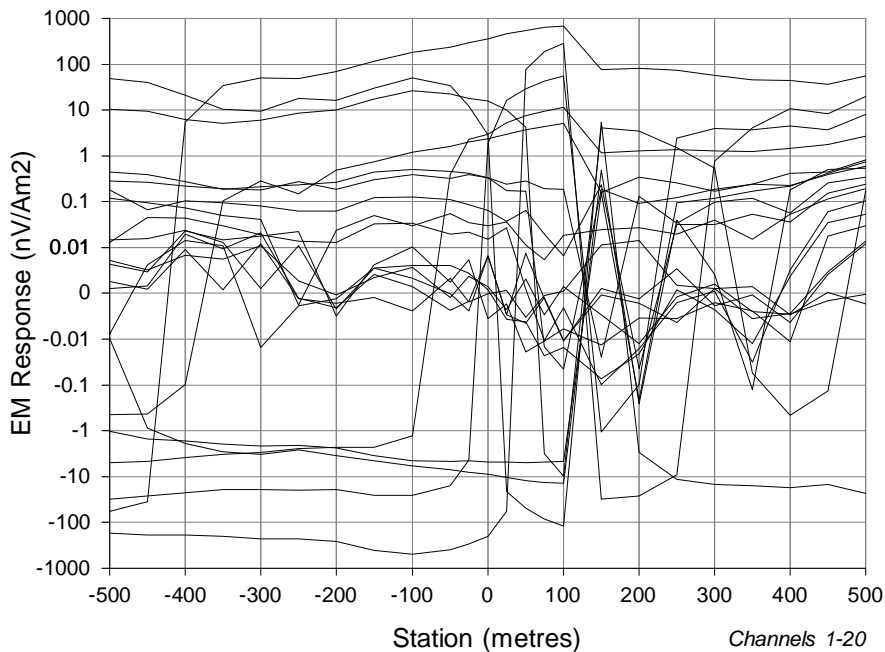
Author : B. Liss



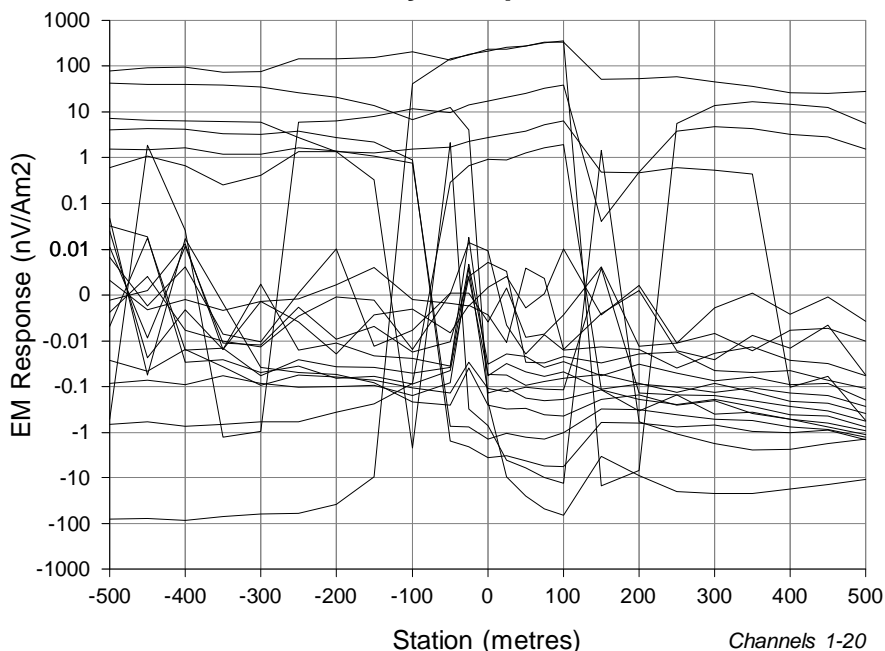
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

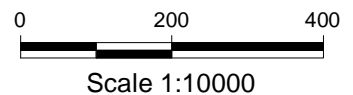
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.6992	11 : 1.469
2 : 0.7242	12 : 1.680
3 : 0.7537	13 : 1.940
4 : 0.7907	14 : 2.264
5 : 0.8372	15 : 2.666
6 : 0.8947	16 : 3.164
7 : 0.9657	17 : 3.784
8 : 1.054	18 : 4.553
9 : 1.164	19 : 5.507
10 : 1.300	20 : 6.692



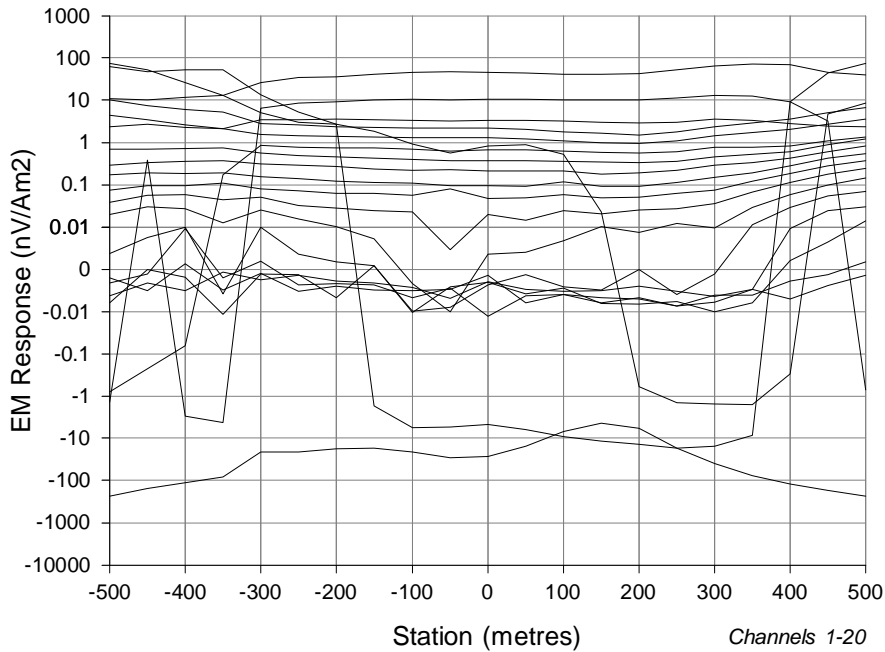
NEWEXCO

**EastBullLake  
 SablesWest  
 200W**

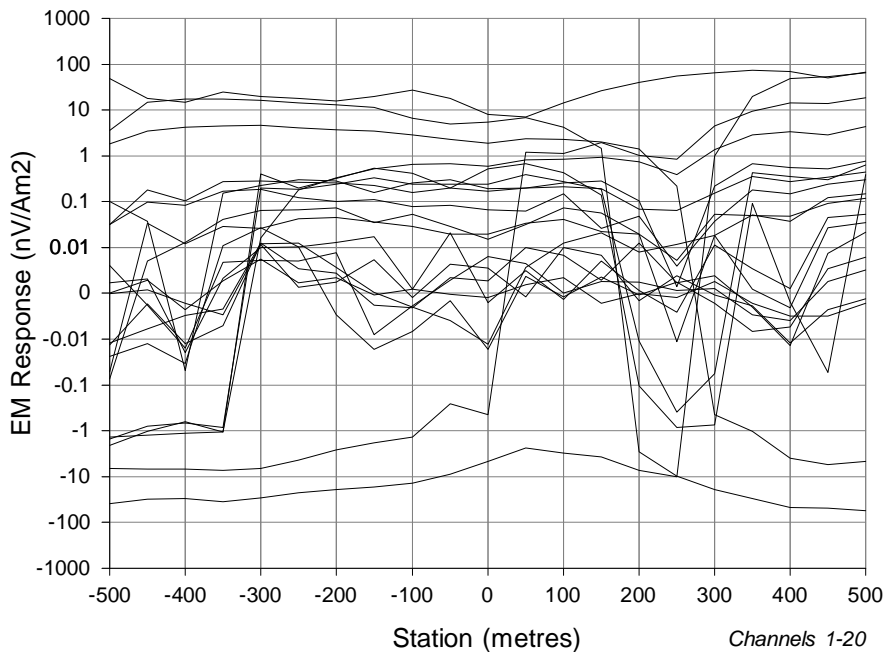
Author : B. Liss



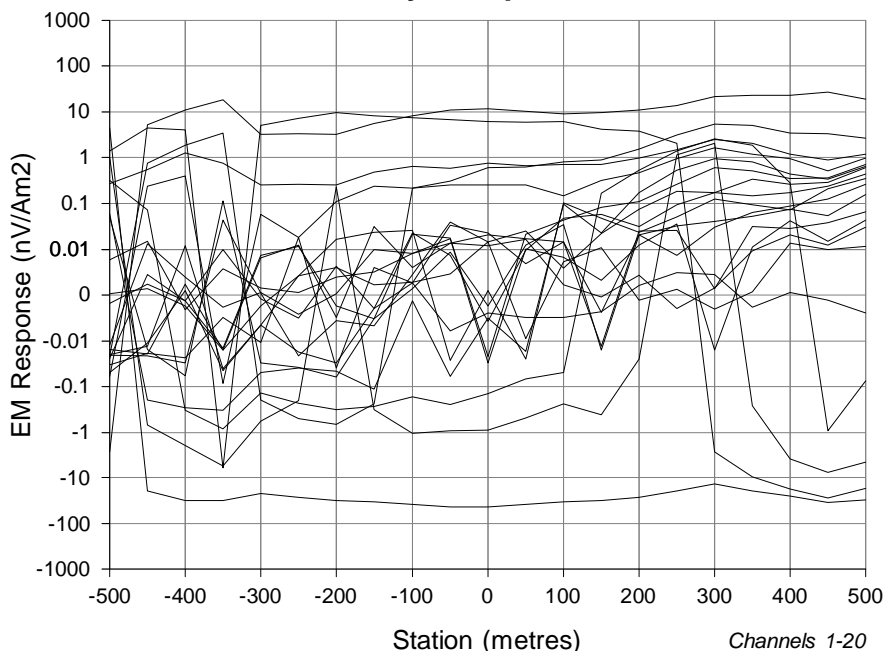
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

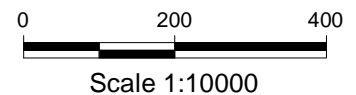
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1	: 0.6992	11	: 1.469
2	: 0.7242	12	: 1.680
3	: 0.7537	13	: 1.940
4	: 0.7907	14	: 2.264
5	: 0.8372	15	: 2.666
6	: 0.8947	16	: 3.164
7	: 0.9657	17	: 3.784
8	: 1.054	18	: 4.553
9	: 1.164	19	: 5.507
10	: 1.300	20	: 6.692



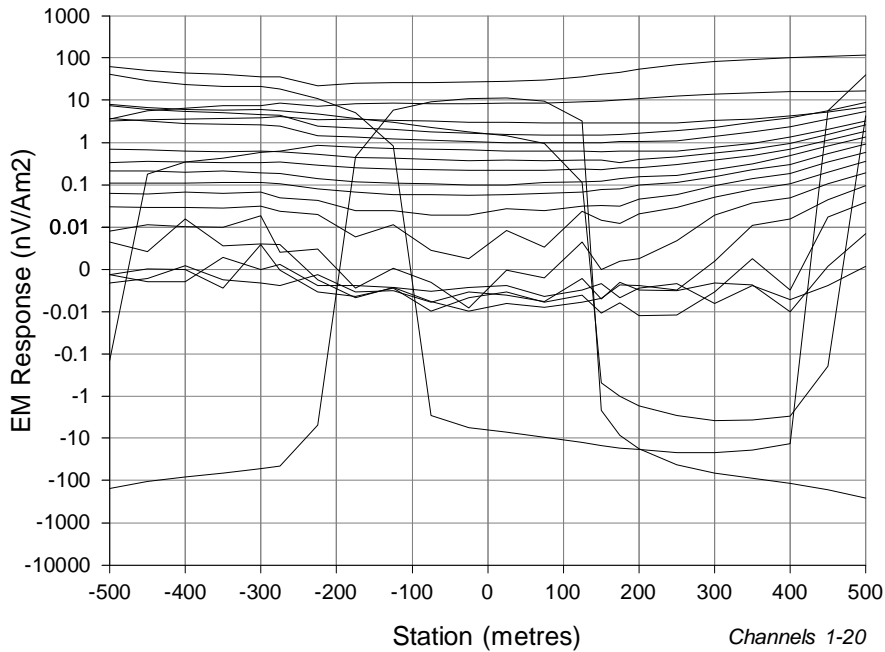
NEWEXCO

**EastBullLake  
SablesWest  
200E**

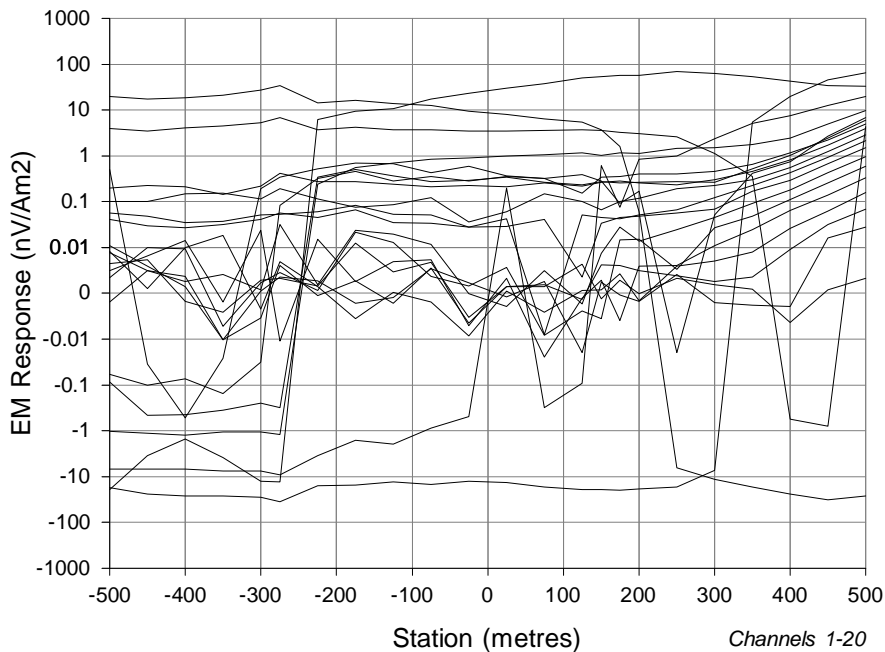
Author : B. Liss



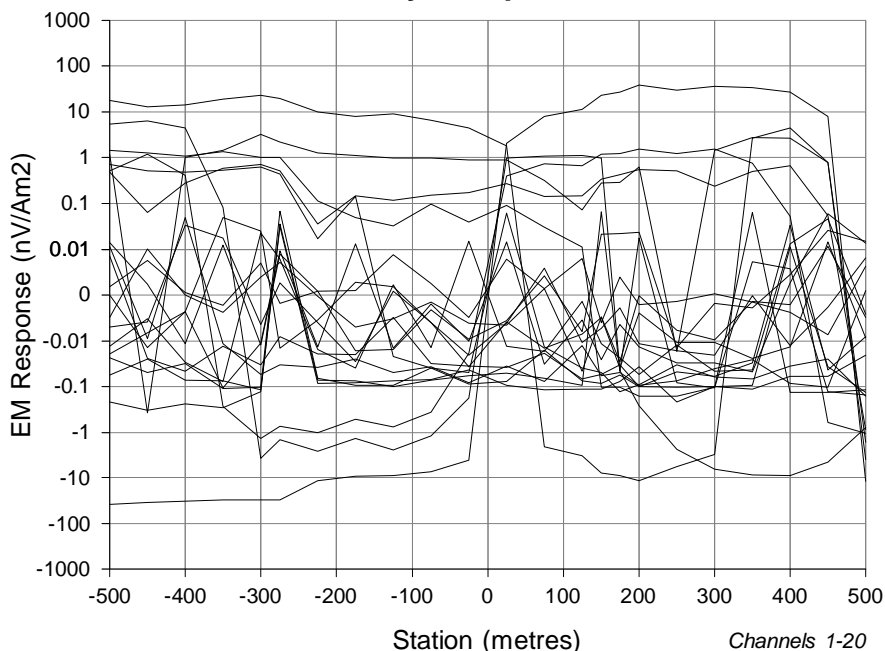
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Abitibi  
 Date : 14-4-2012  
 Client : Mustang

#### RECEIVER

Receiver : SMARTem24  
 Frequency : 30 Hz  
 Component : B(x,y,z)  
 Rx Area : 200 turn-m

#### TRANSMITTER

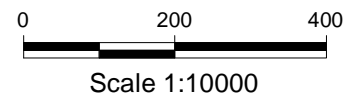
Loop : SablesWest\_NAD27  
 Tx Current : 20 A  
 Turn Off : 0.6 ms

#### LOOP POINTS

LV1 : 410797.36mE, 5144010.01mN  
 LV2 : 411794.3mE, 5143545.13mN  
 LV3 : 411329.42mE, 5142548.19mN  
 LV4 : 410332.48mE, 5143013.07mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1	: 0.6992	11	: 1.469
2	: 0.7242	12	: 1.680
3	: 0.7537	13	: 1.940
4	: 0.7907	14	: 2.264
5	: 0.8372	15	: 2.666
6	: 0.8947	16	: 3.164
7	: 0.9657	17	: 3.784
8	: 1.054	18	: 4.553
9	: 1.164	19	: 5.507
10	: 1.300	20	: 6.692



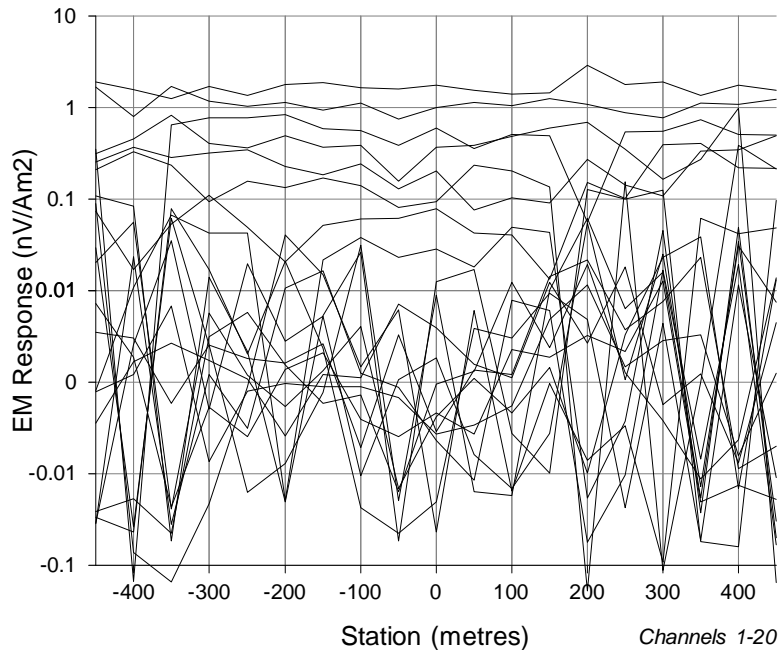
NEWEXCO

**EastBullLake  
 SablesWest  
 OE**

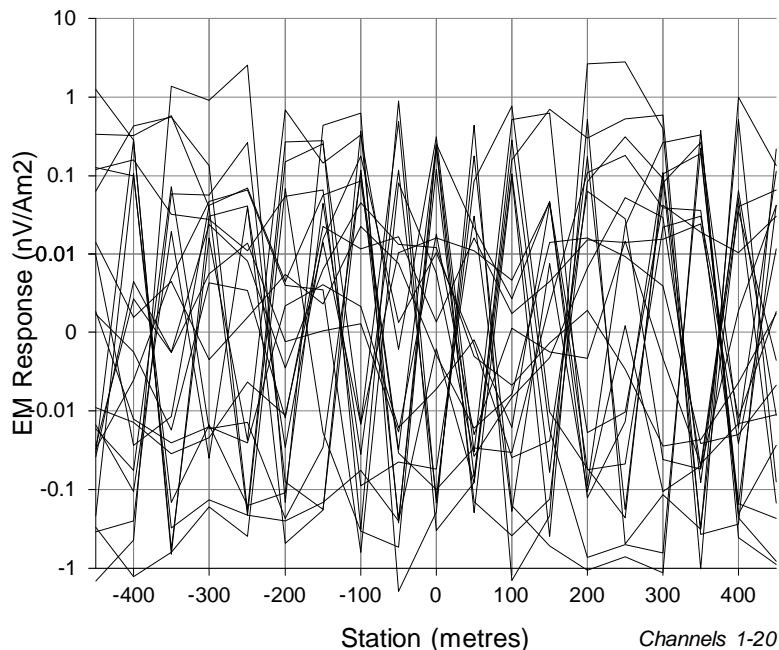
Author : B. Liss



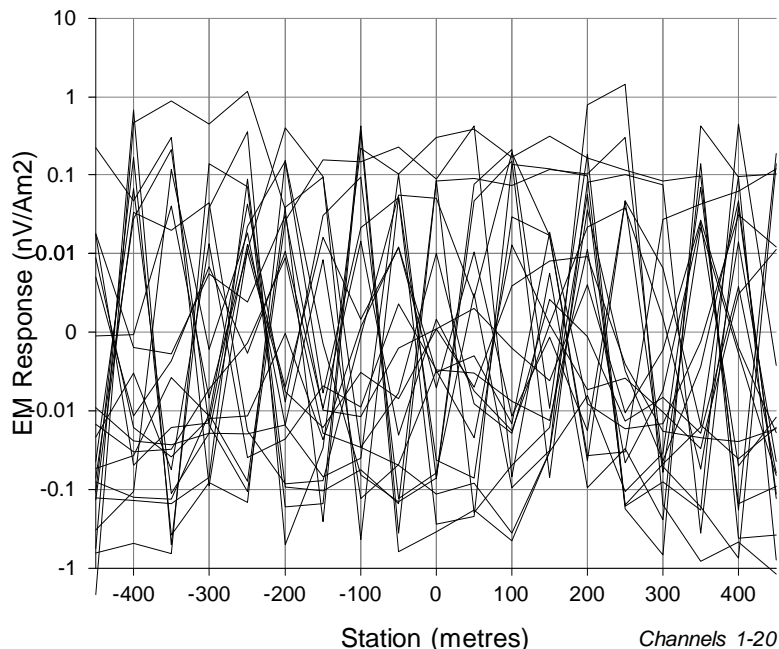
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Quantec  
 Date : 29/06/2012  
 Client : Mustang

#### RECEIVER

Receiver : Geonics Protem  
 Frequency : 7.5 Hz  
 Component : B(x,y,z)  
 Rx Coil : 3D-3 Coil

#### TRANSMITTER

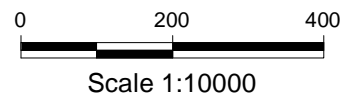
Loop : Savage  
 Tx Current : 10.5 A  
 Turn Off : 0.36 ms

#### LOOP POINTS

LV1 : 420518mE, 5140173mN  
 LV2 : 421458mE, 5139759mN  
 LV3 : 421079mE, 5138852mN  
 LV4 : 420030mE, 5139316mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7125	11 : 3.557
2 : 0.7875	12 : 4.415
3 : 0.8850	13 : 5.507
4 : 1.007	14 : 6.902
5 : 1.162	15 : 8.682
6 : 1.362	16 : 10.95
7 : 1.617	17 : 13.85
8 : 1.942	18 : 17.55
9 : 2.357	19 : 22.26
10 : 2.885	20 : 28.27



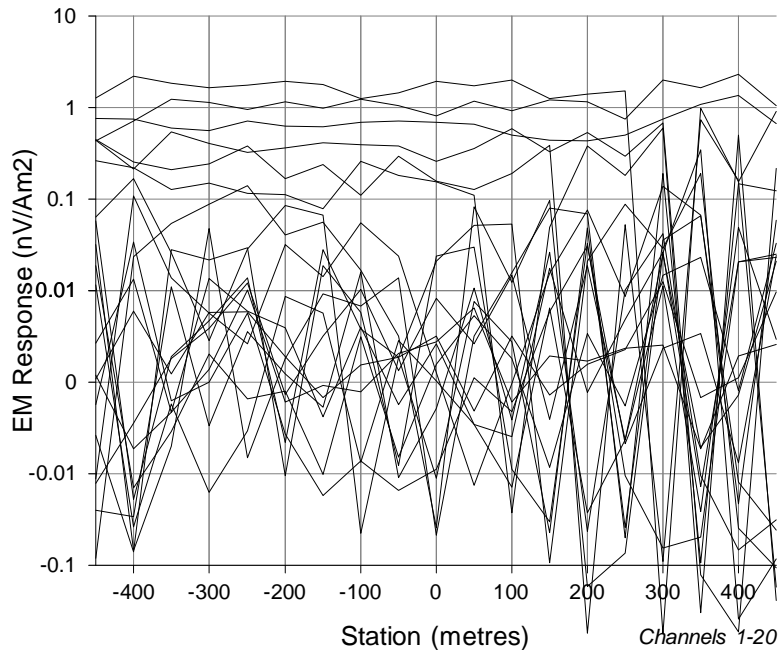
NEWEXCO

**East Bull Lake  
 Savage  
 200E**

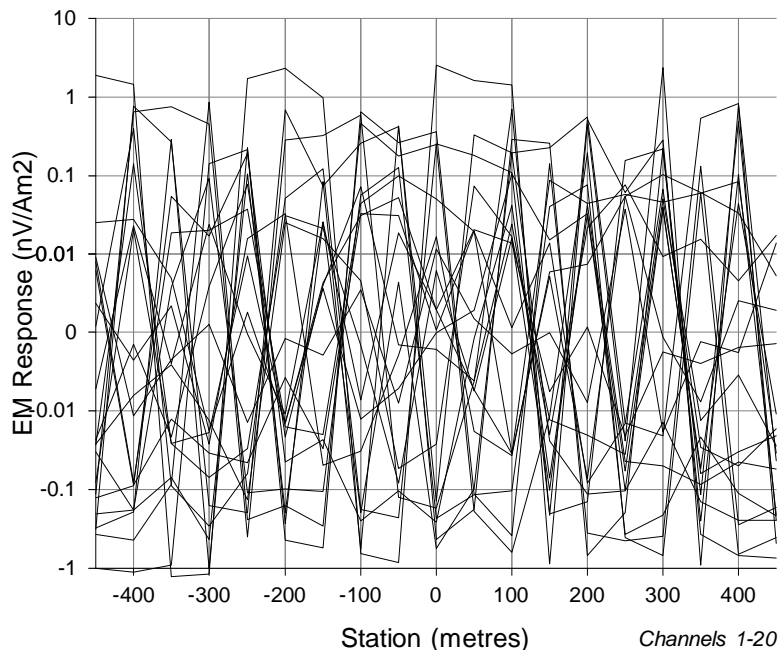
Author : B. Liss



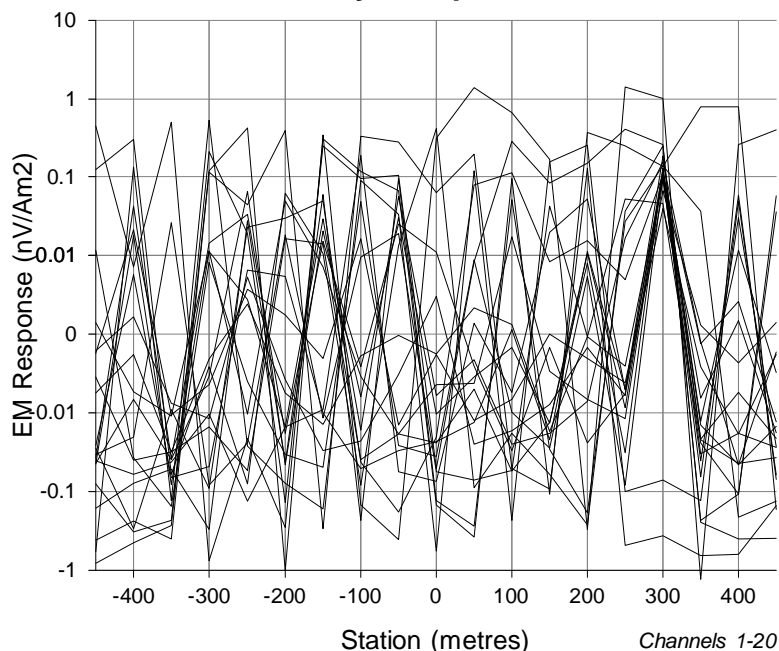
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Quantec  
 Date : 29/06/2012  
 Client : Mustang

#### RECEIVER

Receiver : Geonics Protem  
 Frequency : 7.5 Hz  
 Component : B(x,y,z)  
 Rx Coil : 3D-3 Coil

#### TRANSMITTER

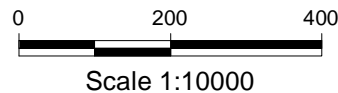
Loop : Savage  
 Tx Current : 10.5 A  
 Turn Off : 0.36 ms

#### LOOP POINTS

LV1 : 420518mE, 5140173mN  
 LV2 : 421458mE, 5139759mN  
 LV3 : 421079mE, 5138852mN  
 LV4 : 420030mE, 5139316mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7125	11 : 3.557
2 : 0.7875	12 : 4.415
3 : 0.8850	13 : 5.507
4 : 1.007	14 : 6.902
5 : 1.162	15 : 8.682
6 : 1.362	16 : 10.95
7 : 1.617	17 : 13.85
8 : 1.942	18 : 17.55
9 : 2.357	19 : 22.26
10 : 2.885	20 : 28.27



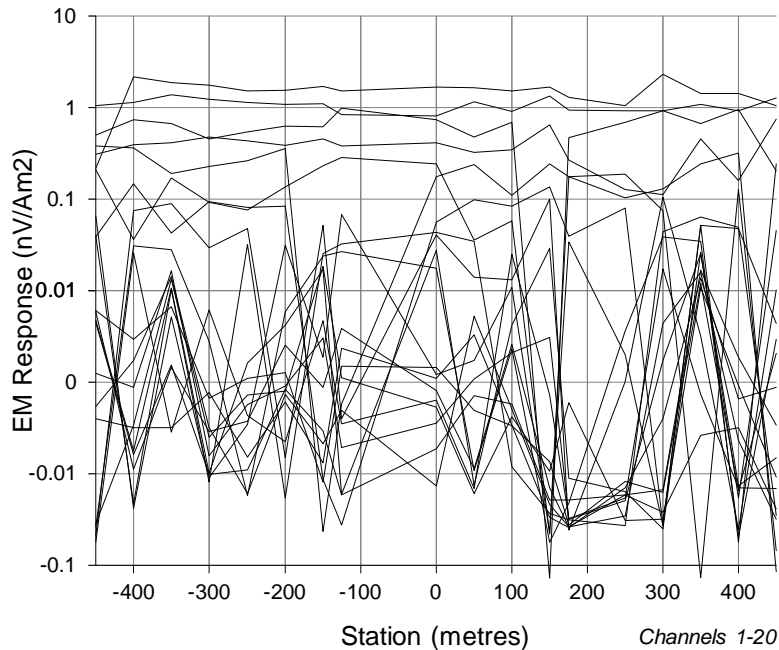
NEWEXCO

**East Bull Lake  
 Savage  
 OE**

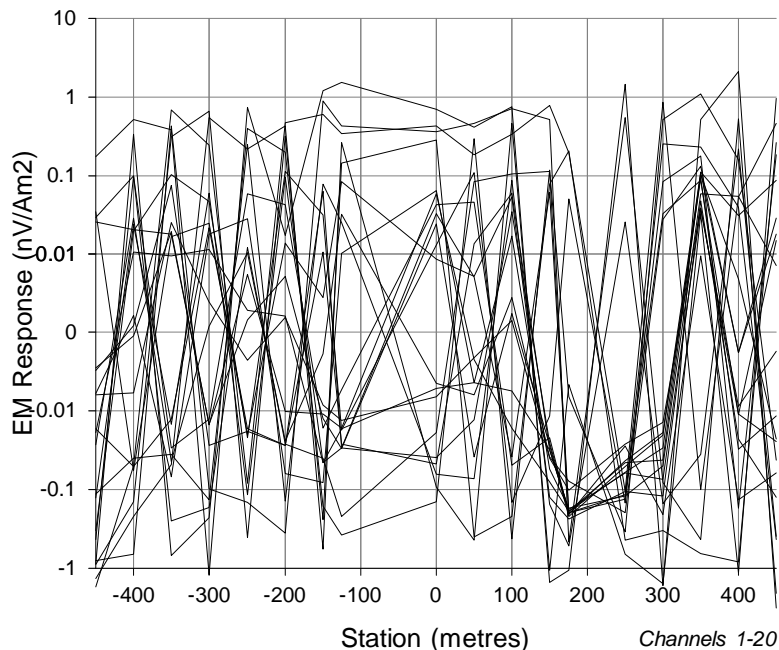
Author : B. Liss



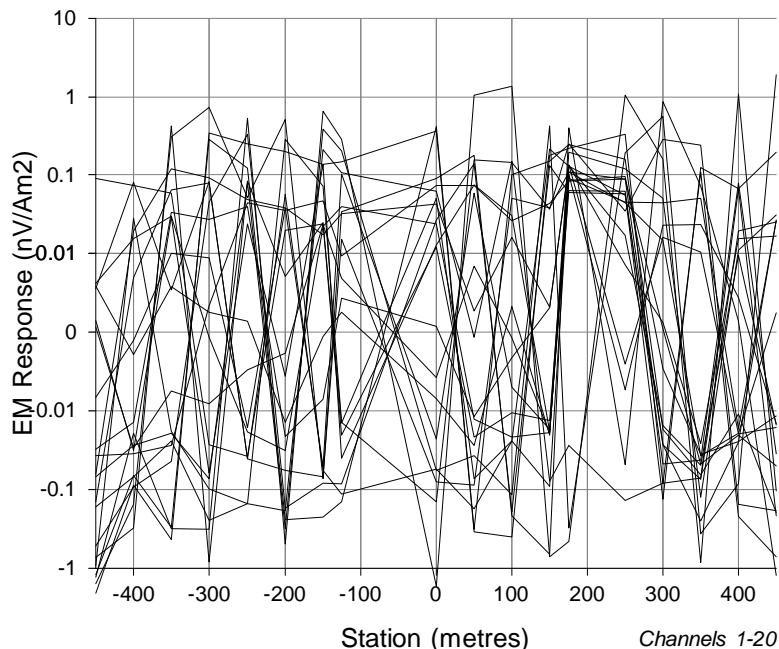
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Quantec  
 Date : 29/06/2012  
 Client : Mustang

#### RECEIVER

Receiver : Geonics Protem  
 Frequency : 7.5 Hz  
 Component : B(x,y,z)  
 Rx Coil : 3D-3 Coil

#### TRANSMITTER

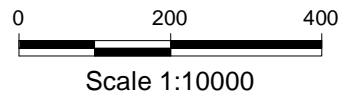
Loop : Savage  
 Tx Current : 10.5 A  
 Turn Off : 0.36 ms

#### LOOP POINTS

LV1 : 420518mE, 5140173mN  
 LV2 : 421458mE, 5139759mN  
 LV3 : 421079mE, 5138852mN  
 LV4 : 420030mE, 5139316mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7125	11 : 3.557
2 : 0.7875	12 : 4.415
3 : 0.8850	13 : 5.507
4 : 1.007	14 : 6.902
5 : 1.162	15 : 8.682
6 : 1.362	16 : 10.95
7 : 1.617	17 : 13.85
8 : 1.942	18 : 17.55
9 : 2.357	19 : 22.26
10 : 2.885	20 : 28.28



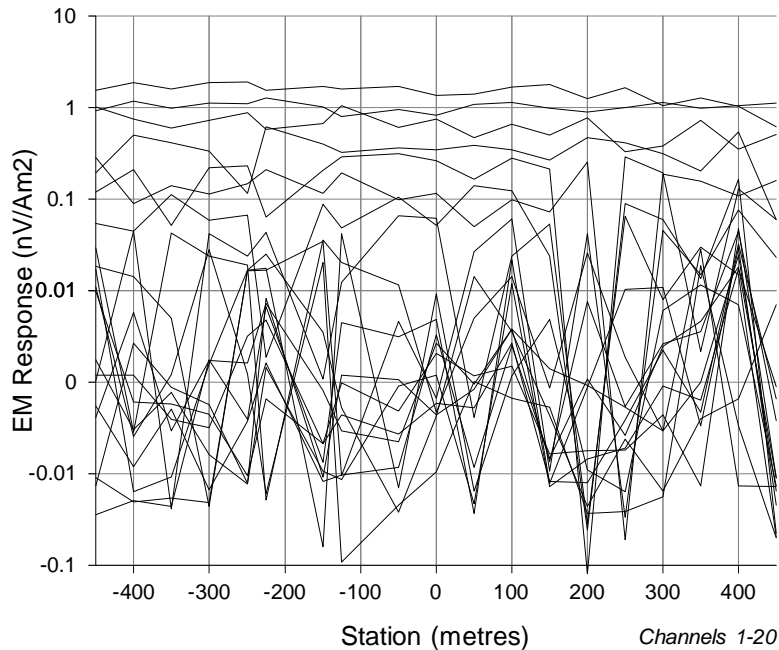
NEWEXCO

**East Bull Lake  
 Savage  
 200W**

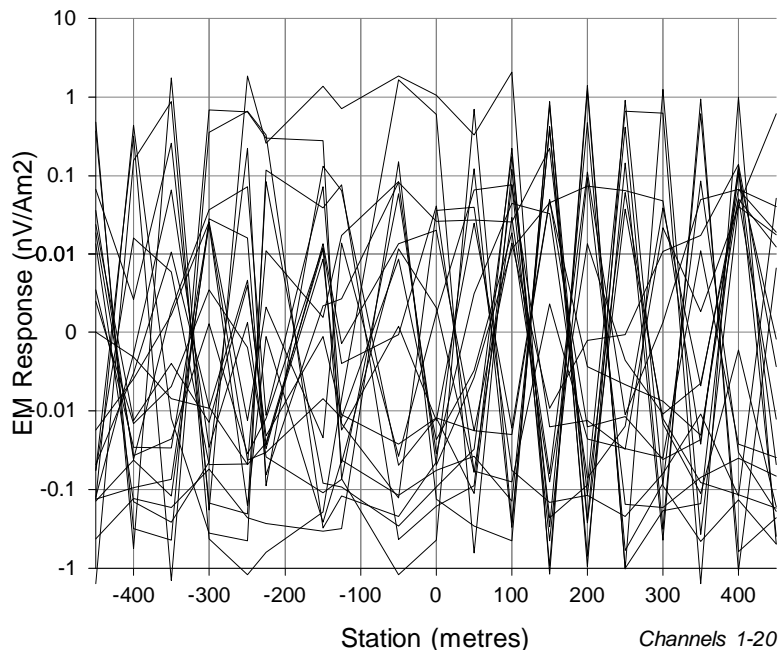
Author : B. Liss



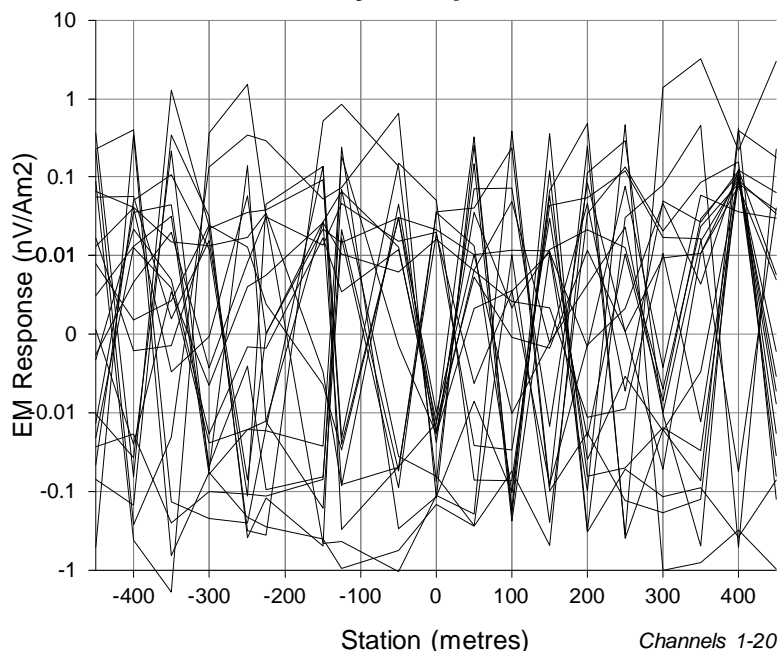
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Quantec  
 Date : 29/06/2012  
 Client : Mustang

#### RECEIVER

Receiver : Geonics Protem  
 Frequency : 7.5 Hz  
 Component : B(x,y,z)  
 Rx Coil : 3D-3 Coil

#### TRANSMITTER

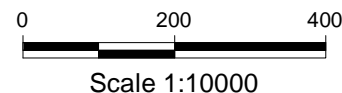
Loop : Savage  
 Tx Current : 10.5 A  
 Turn Off : 0.36 ms

#### LOOP POINTS

LV1 : 420518mE, 5140173mN  
 LV2 : 421458mE, 5139759mN  
 LV3 : 421079mE, 5138852mN  
 LV4 : 420030mE, 5139316mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7125	11 : 3.557
2 : 0.7875	12 : 4.415
3 : 0.8850	13 : 5.507
4 : 1.007	14 : 6.902
5 : 1.162	15 : 8.682
6 : 1.362	16 : 10.95
7 : 1.617	17 : 13.85
8 : 1.942	18 : 17.55
9 : 2.357	19 : 22.26
10 : 2.885	20 : 28.28



NEWEXCO

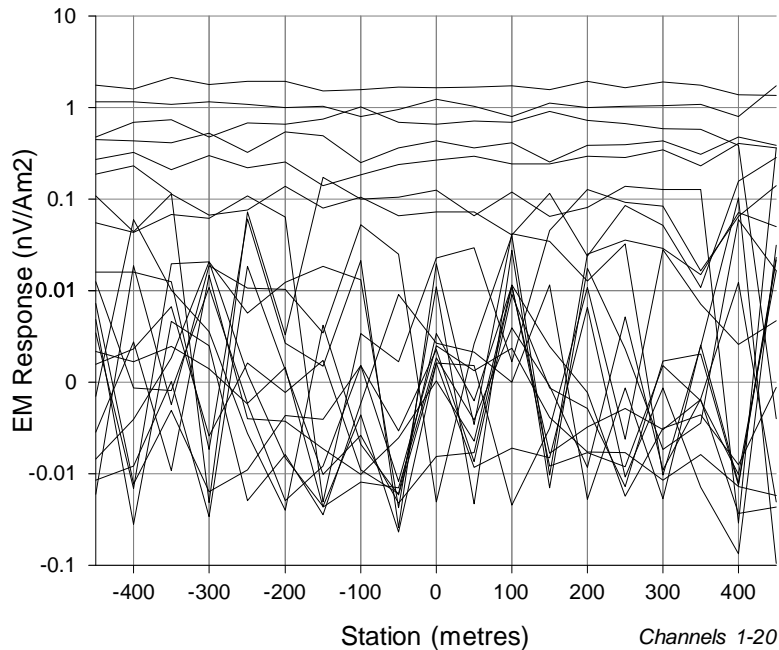
**East Bull Lake  
 Savage  
 400W**

Author : B. Liss

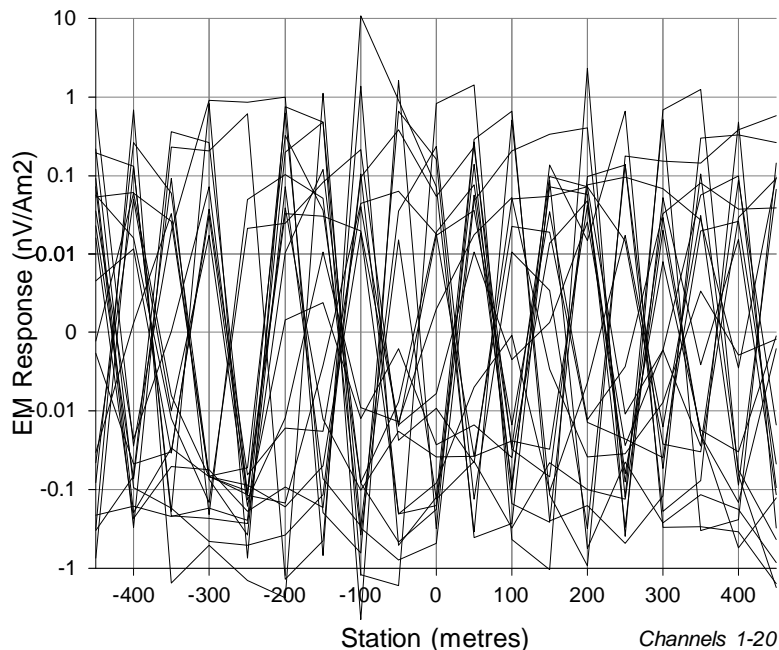




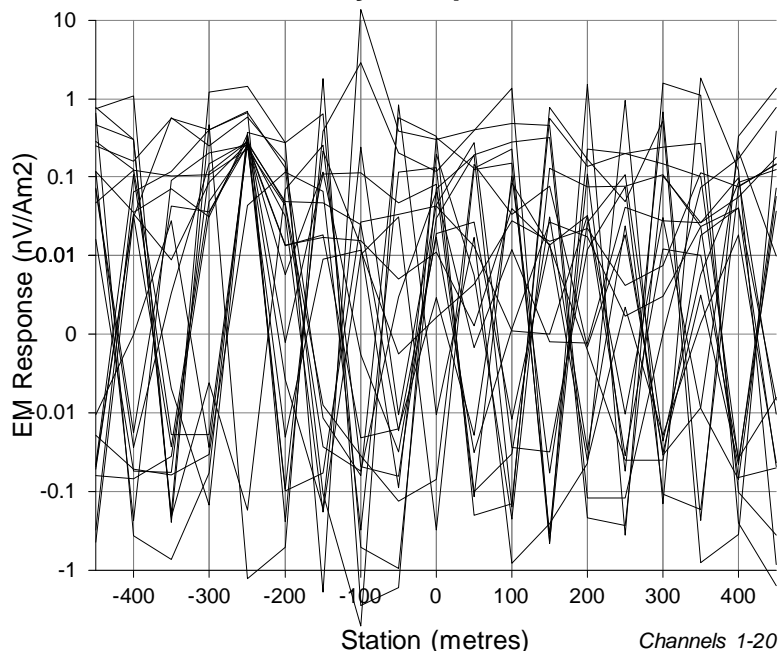
### dBz Component



### dBx Component



### dBz Component



#### SURVEY PARAMETERS

Configuration : Fixed Loop  
 Contractor : Quantec  
 Date : 29/06/2012  
 Client : Mustang

#### RECEIVER

Receiver : Geonics Protem  
 Frequency : 7.5 Hz  
 Component : B(x,y,z)  
 Rx Coil : 3D-3 Coil

#### TRANSMITTER

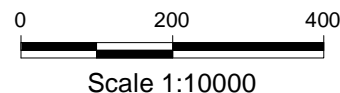
Loop : Savage  
 Tx Current : 10.5 A  
 Turn Off : 0.37 ms

#### LOOP POINTS

LV1 : 420518mE, 5140173mN  
 LV2 : 421458mE, 5139759mN  
 LV3 : 421079mE, 5138852mN  
 LV4 : 420030mE, 5139316mN

#### WINDOW TIMES (ms): Centre From the start of the Ramp

1 : 0.7225	11 : 3.567
2 : 0.7975	12 : 4.425
3 : 0.8950	13 : 5.517
4 : 1.017	14 : 6.912
5 : 1.172	15 : 8.692
6 : 1.372	16 : 10.96
7 : 1.627	17 : 13.86
8 : 1.952	18 : 17.56
9 : 2.367	19 : 22.27
10 : 2.895	20 : 28.28



NEWEXCO

**East Bull Lake  
 Savage  
 400E**

Author : B. Liss



## APPENDIX 3

### MapInfo \*.tab FILES AND 3D \*.dxf of PLATES

*(Also available on CD included on back page of this Report)*



East Bull Lake FLEM 2011 Path



East Bull Lake FLEM 2012 Path



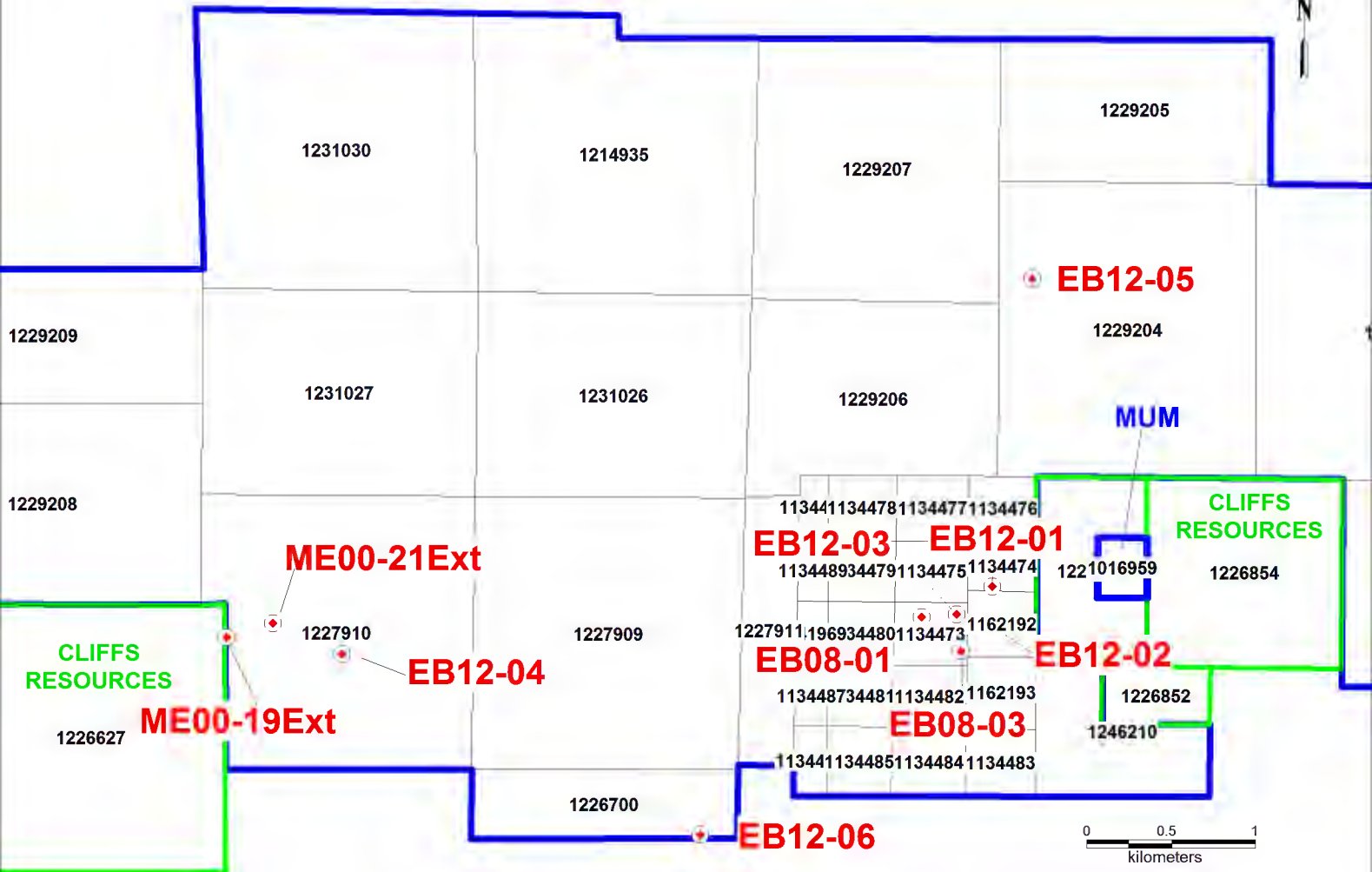
East Bull Lake FLEM Plates

***(PLEASE NOTE: Click icon above to access attached files or, alternatively, go to "View", "Navigation Panels", "Attachments")***

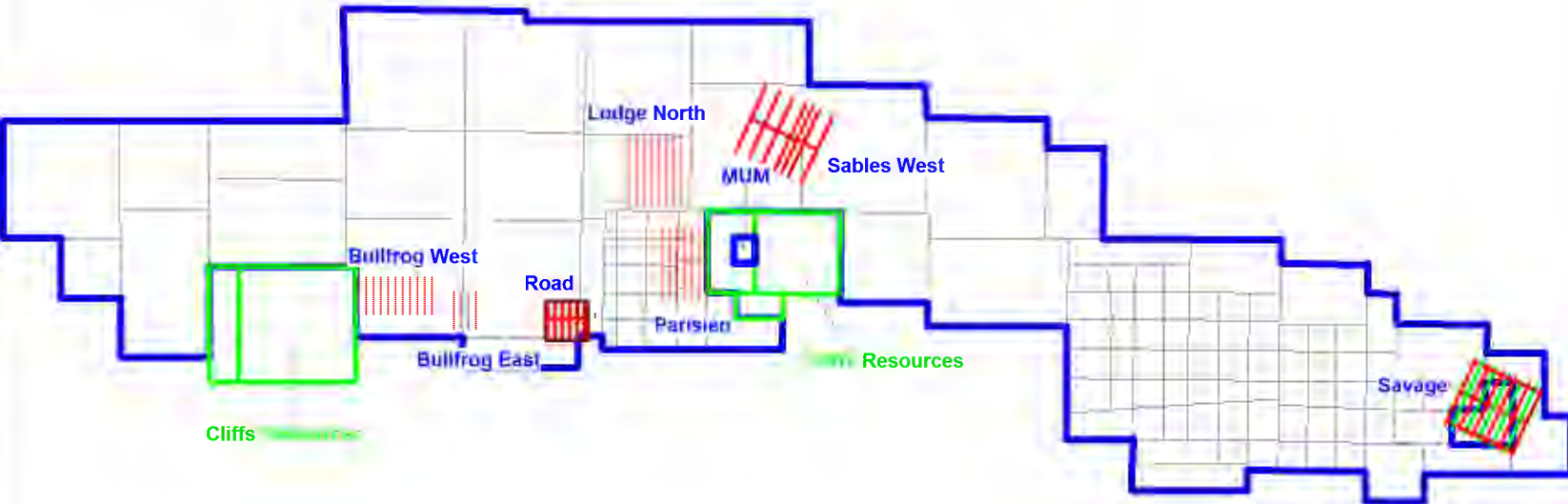


**MUSTANG MINERALS CORP.  
EAST BULL LAKE PROPERTY**

**DDH'S PULSED WITH BHEM**

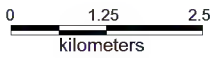


**MUSTANG MINERALS CORP. (MUM)**  
**EAST BULL LAKE PROPERTY**  
**2012 GRID LOCATIONS**

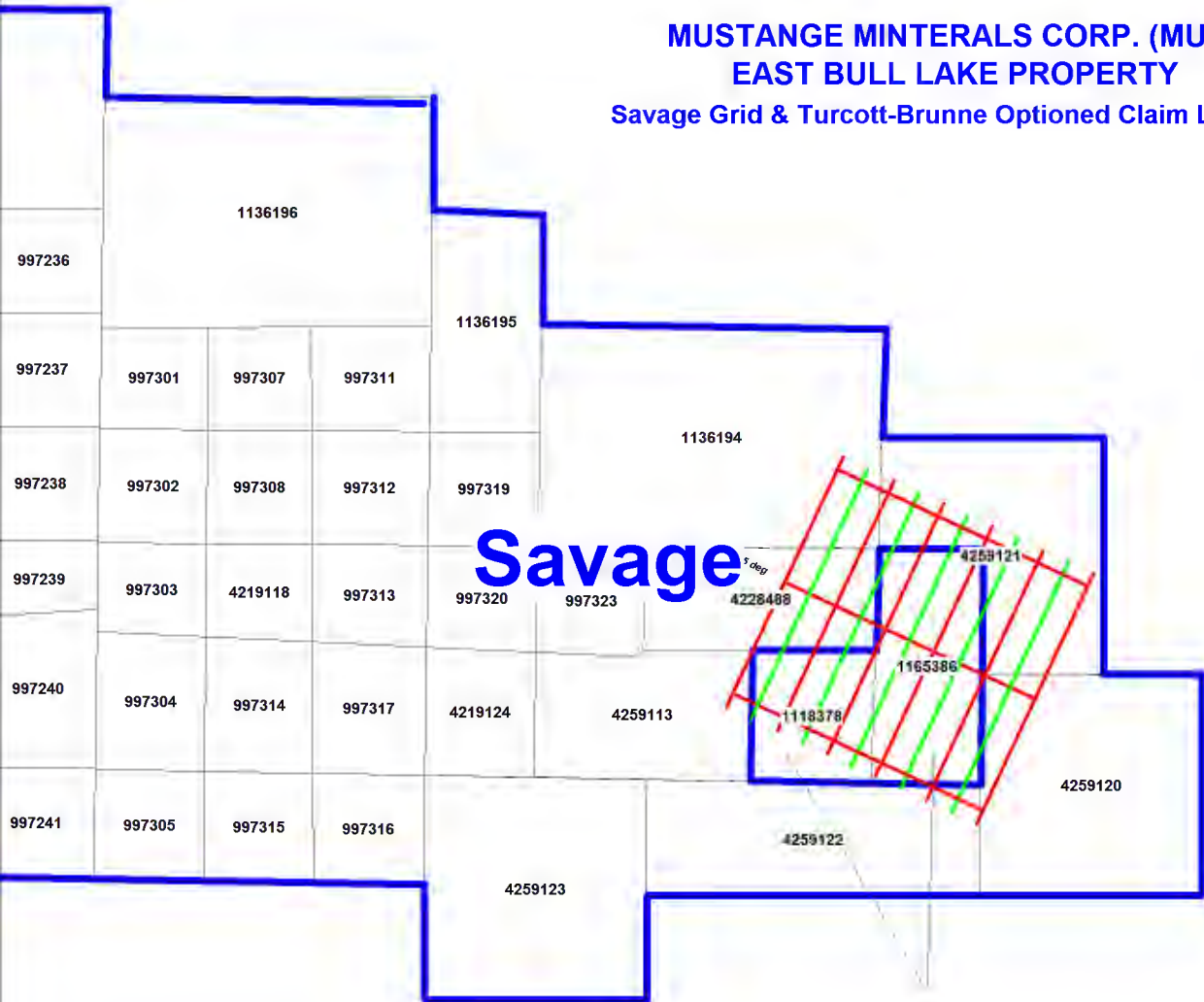


Cliffs

Resources

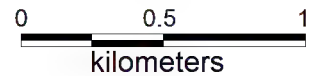


**MUSTANGE MINTERALS CORP. (MUM)**  
**EAST BULL LAKE PROPERTY**  
Savage Grid & Turcott-Brunne Optioned Claim Location



**Savage**

**Turcott-Brunne Optioned Claims**





# NEWEXCO PTY LTD

Mining and Exploration Services

A.B.N. 890 883 169 01  
 15 Joel Terrace, East Perth WA 6004  
 Ph: +61 8 9227 1266  
 Fax: +61 8 9227 1677  
 Email: hrh@newexco.com.au  
 Website: www.newexco.com.au

## Memorandum

**To:** C. Wilkinson

**Client:** WSA/MUM

**From:** Nicholas Ebner

**Project:** East Bull Lake

**c.c.:** D. Stevenson

**Date:** 21<sup>st</sup> August, 2012

**Subject:** DHEM Interpretation

**Memo No:** NX20413

This memo concerns the interpretation of the down-hole electromagnetic surveys completed by Abitibi and Quantec at East Bull Lake in June 2012. Quantec were commissioned to resurvey after one hole was recorded incorrectly. See Newexco memo NX20370 for a demonstration of the problems.

These holes were drilled to target FLEM and MT/ZTEM anomalous responses. No significant bedrock anomalous responses were identified. No time-constant was recorded greater than 1.8 ms. An off-end response at significant depth recorded in Hole EB12-06 may warrant follow-up using a high power DHEM system.

Attached to this memo are complete and revised holes with correct survey data, collar location and system specifications. Note that contractor delivered data contains numerous errors and should not be archived.

**Table 1 – East Bull Lake DHEM 2012 Summary**

Number	Contractor	Date	Frm	To	Comments
ME00-19ext	Abitibi	29/04/2012	15	350	Recorded erroneously.
ME00-21ext	Abitibi	28/04/2012	10	260	Recorded erroneously.
ME00-14	Abitibi	29/04/2012	-	-	Blocked.
ME00-17	Abitibi	29/04/2012	-	-	Blocked.
EB08-01	Abitibi	3/05/2012	20	225	Very small off-hole at 185 m.
EB08-03	Abitibi	2/05/2012	20	170	Very small off-holes at 70 and 125 m.
EB12-01	Abitibi	3/05/2012	20	140	Very small off-hole at 40 and off-end at 140 m.
EB12-02	Abitibi	3/05/2012	20	234	Very small off-holes at 65 and 180 m.
EB12-03	Abitibi	2/05/2012	20	283	Off-hole at 90, on-hole at 135 m. Probably same source.
EB12-05	Abitibi	5/05/2012	20	445	No anomalies.
EB12-05	Quantec	23/06/2012	310	955	No anomalies.
EB12-06	Abitibi	23/06/2012	20	975	Possible off-end anomaly at depth.
ME00-19ext	Quantec	21-06-2012	20	329	Very small off-hole at 95 and off-end at 350 m.
ME00-21ext	Quantec	21-06-2012	20	245	Multiple weak responses from 170 - 250 m.

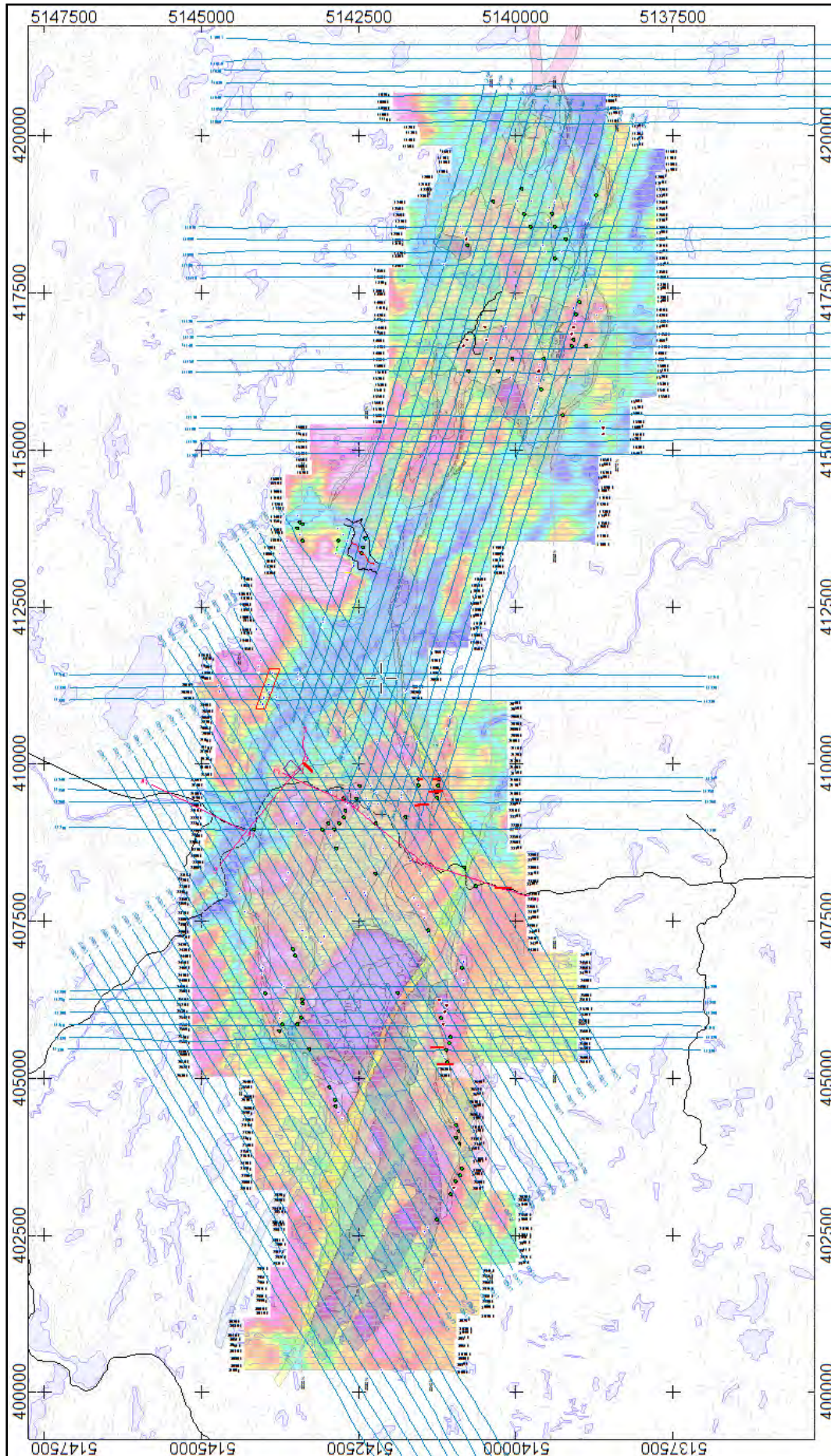


Figure 1: East Bull Lake Status Plan. Hole traces shown in bold red.



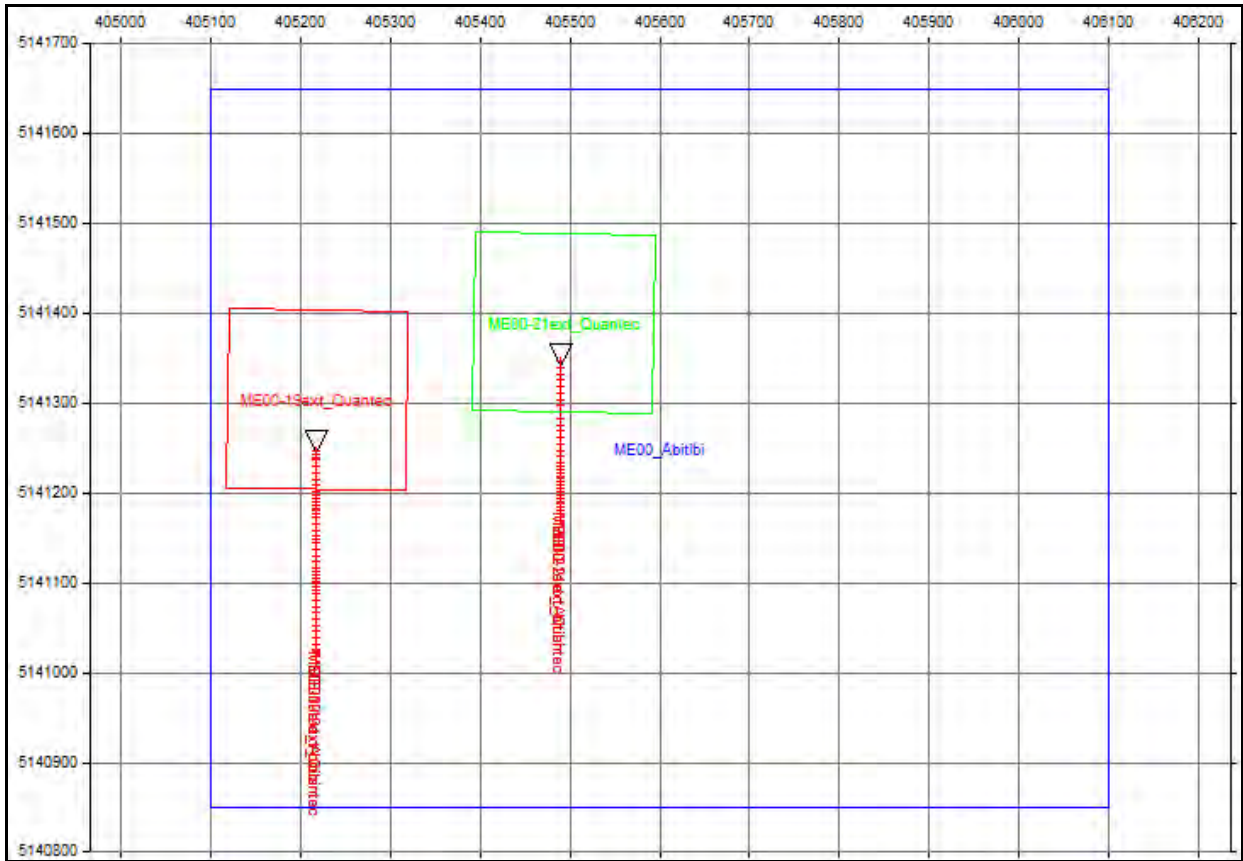


Figure 2: Bullfrog DHEM status as recorded by Abitibi and Quantec. Abitibi used a single large loop to survey both holes: ME00\_Abitibi.

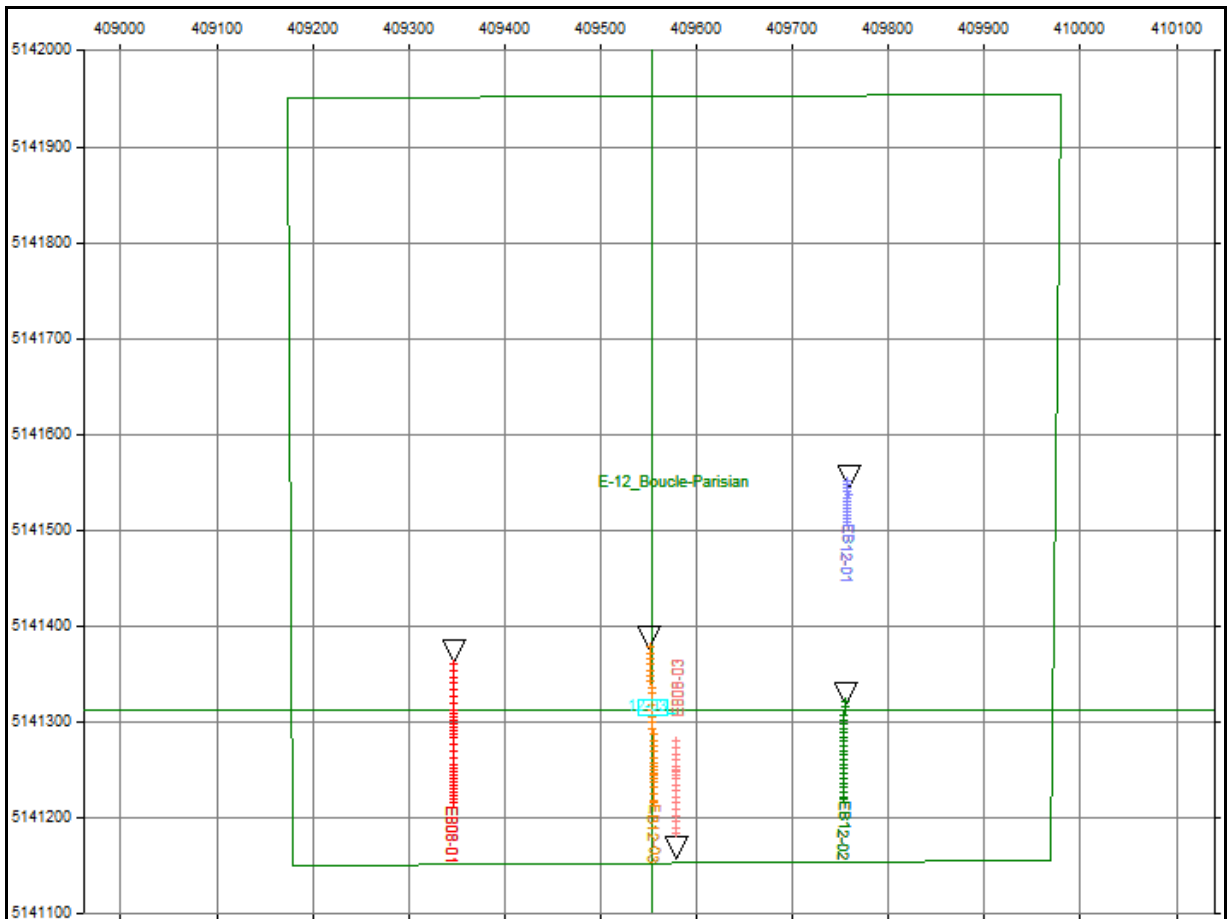


Figure 3: Parisien Lake DHEM status as recorded by Abitibi.

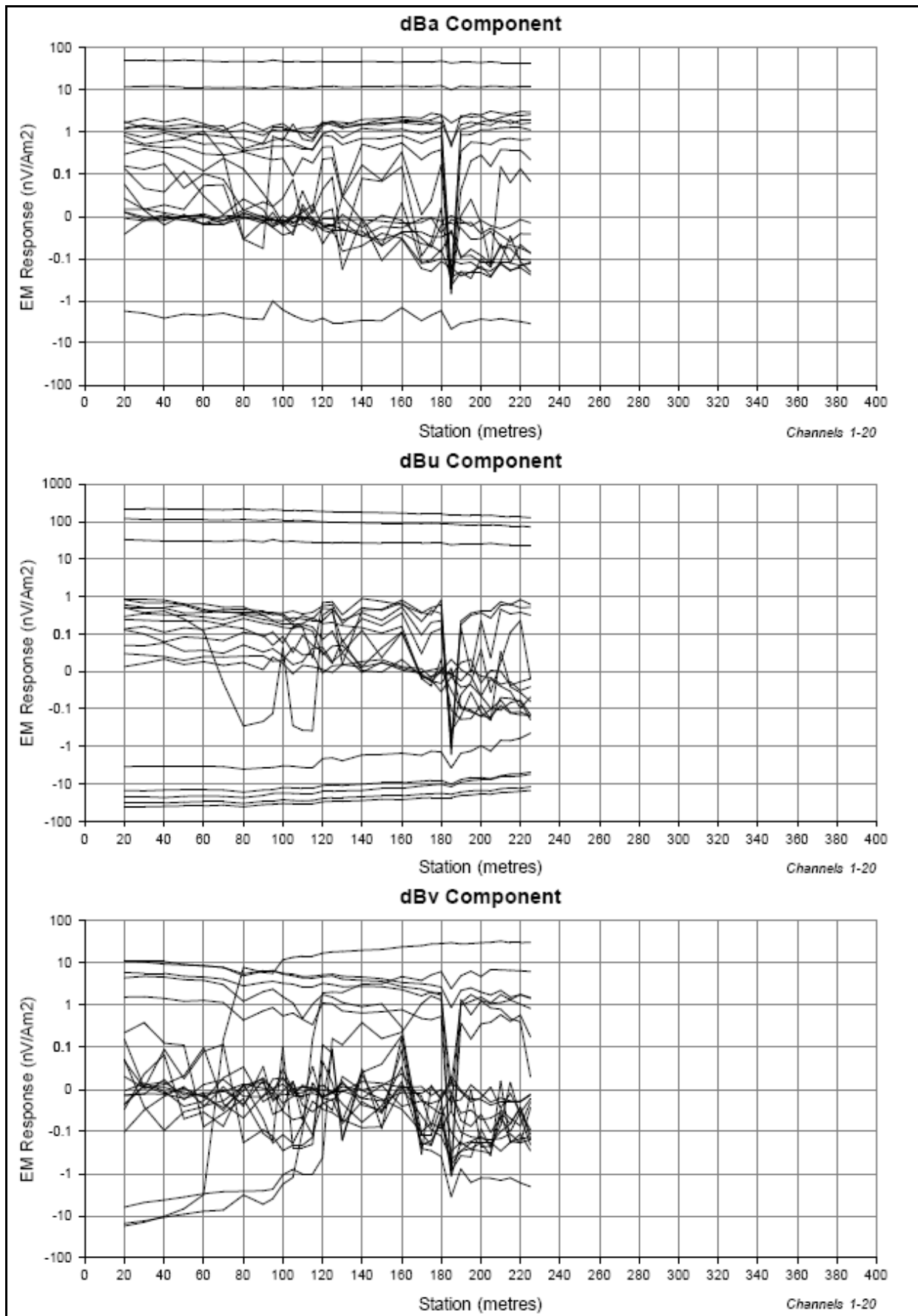


Figure 4: EB08-01 (Abitibi) logarithmic amplitude versus depth showing AUV components.

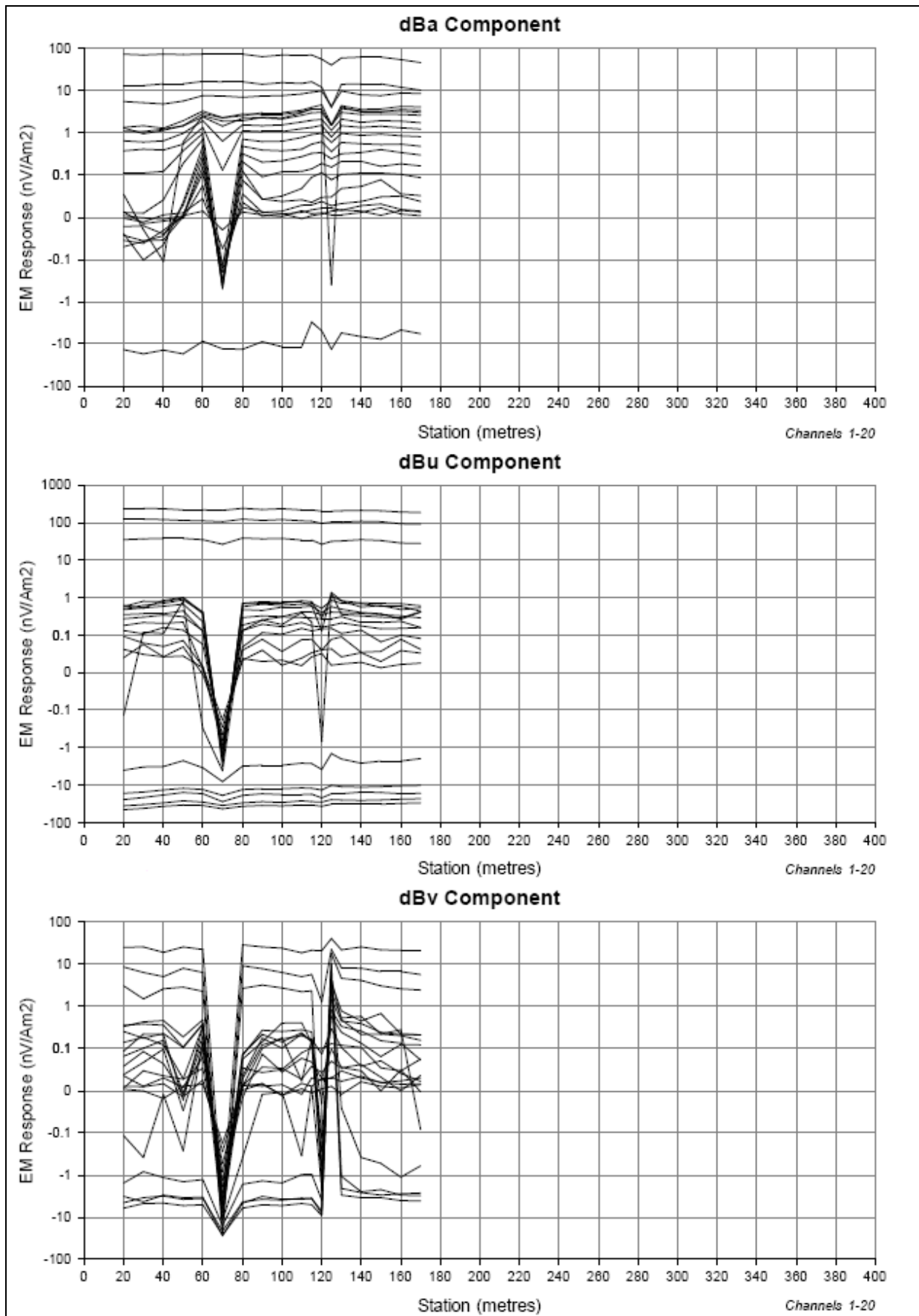


Figure 5: EB08-03 (Abitibi) amplitude versus depth showing AUV components.

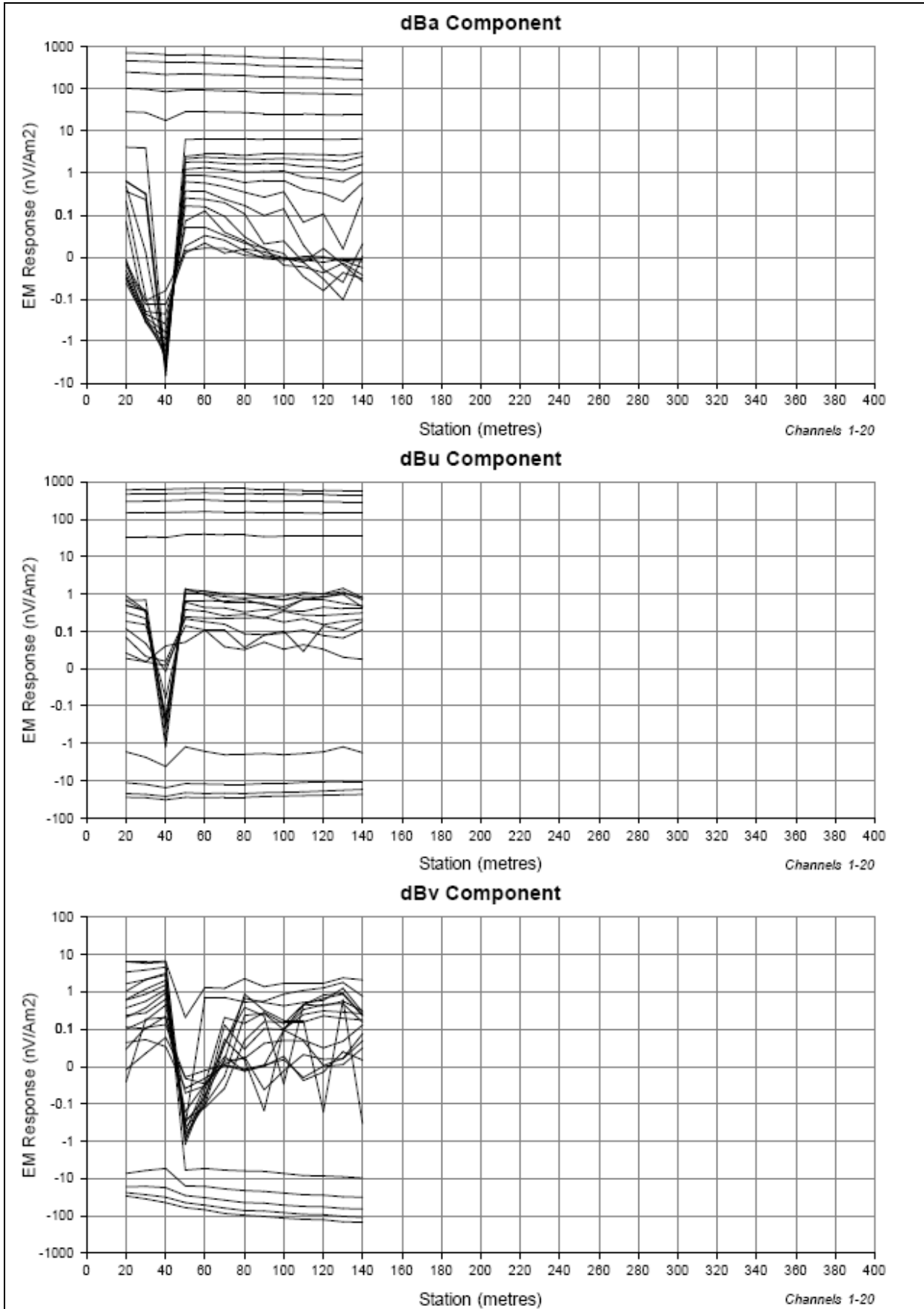


Figure 6: EB12-01 (Abitibi) amplitude versus depth showing AUV components.

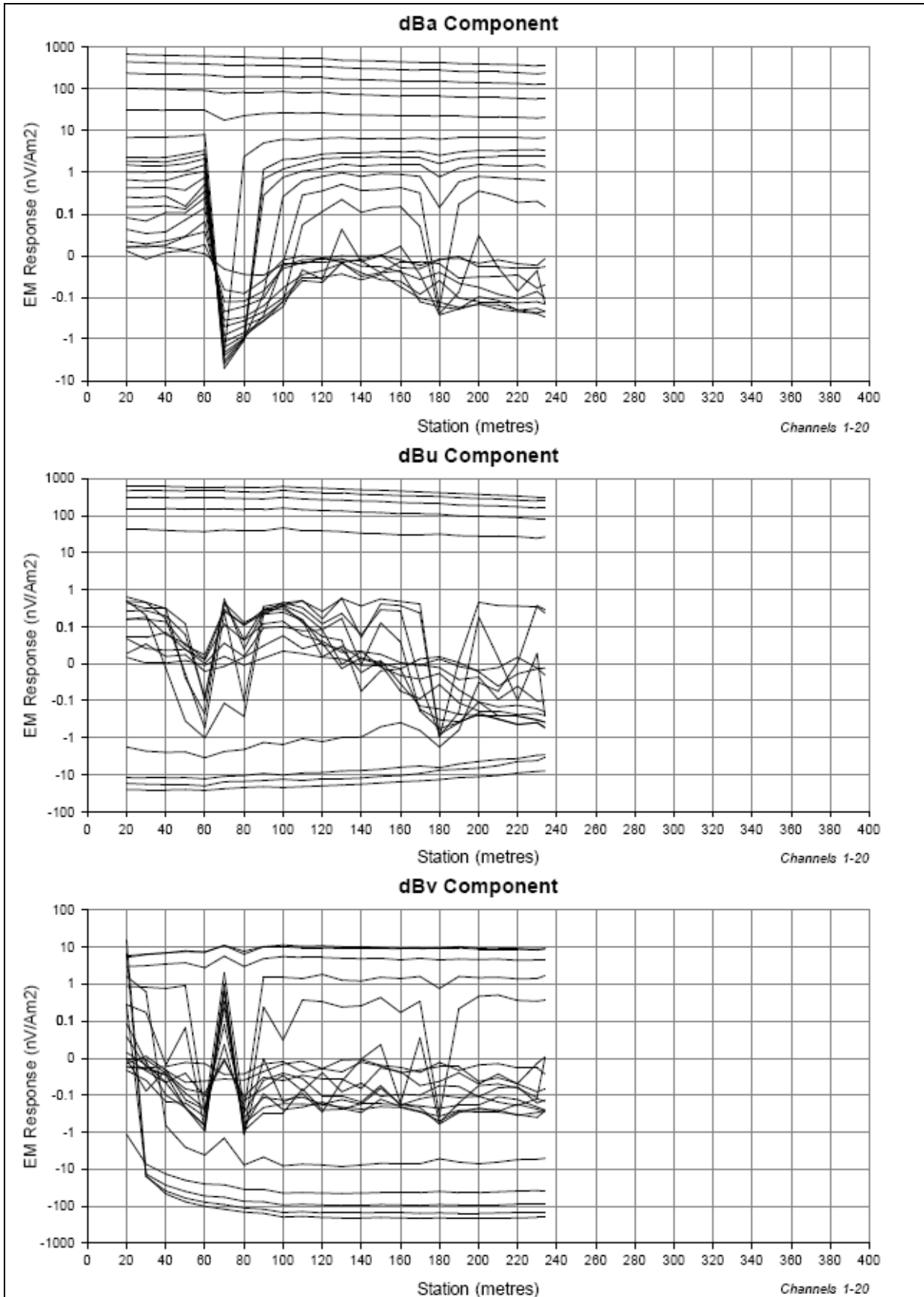


Figure 7: EB12-02 (Abitibi) amplitude versus depth showing AUV components.

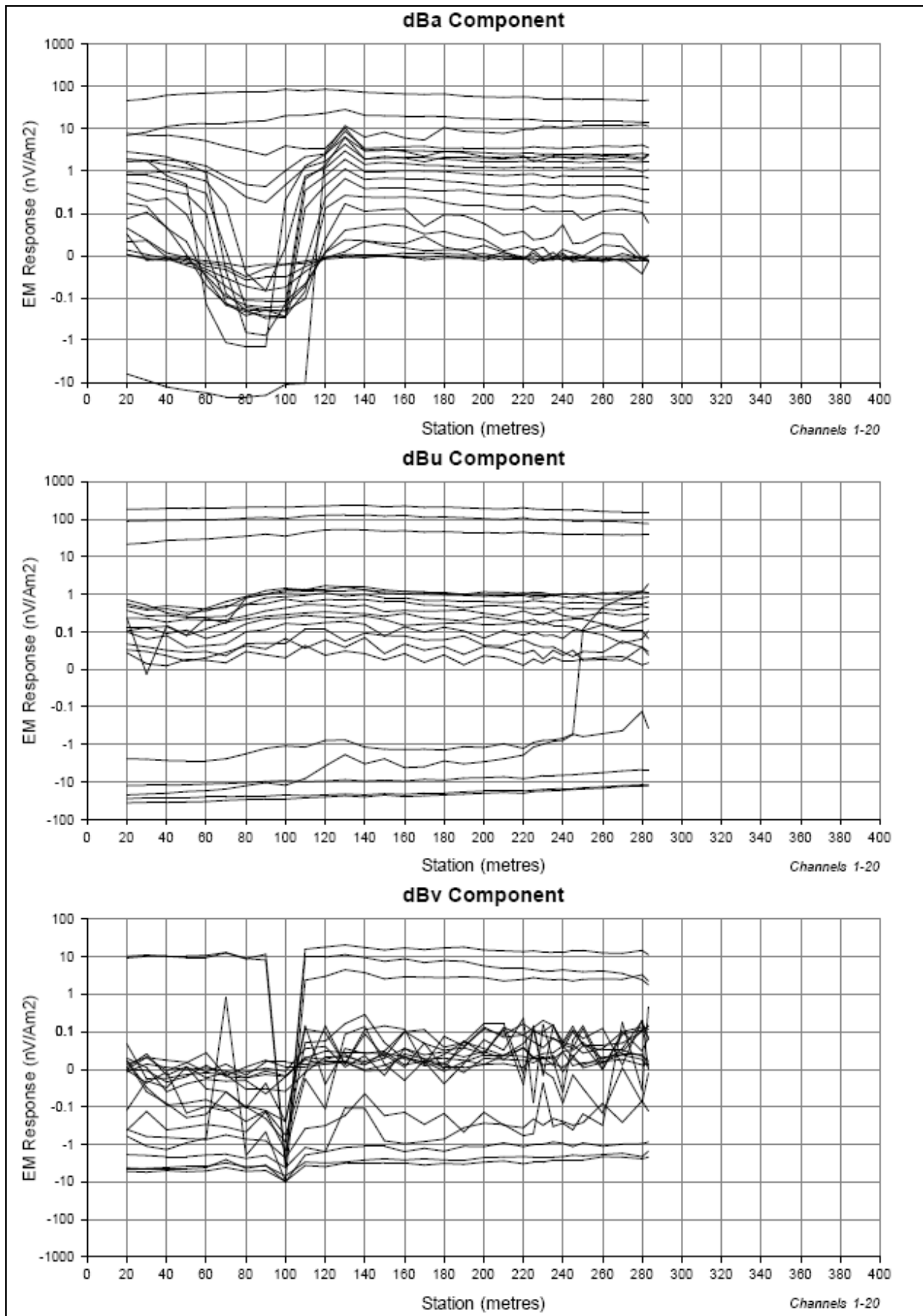


Figure 8: EB12-03 (Abitibi) amplitude versus depth showing AUV components.

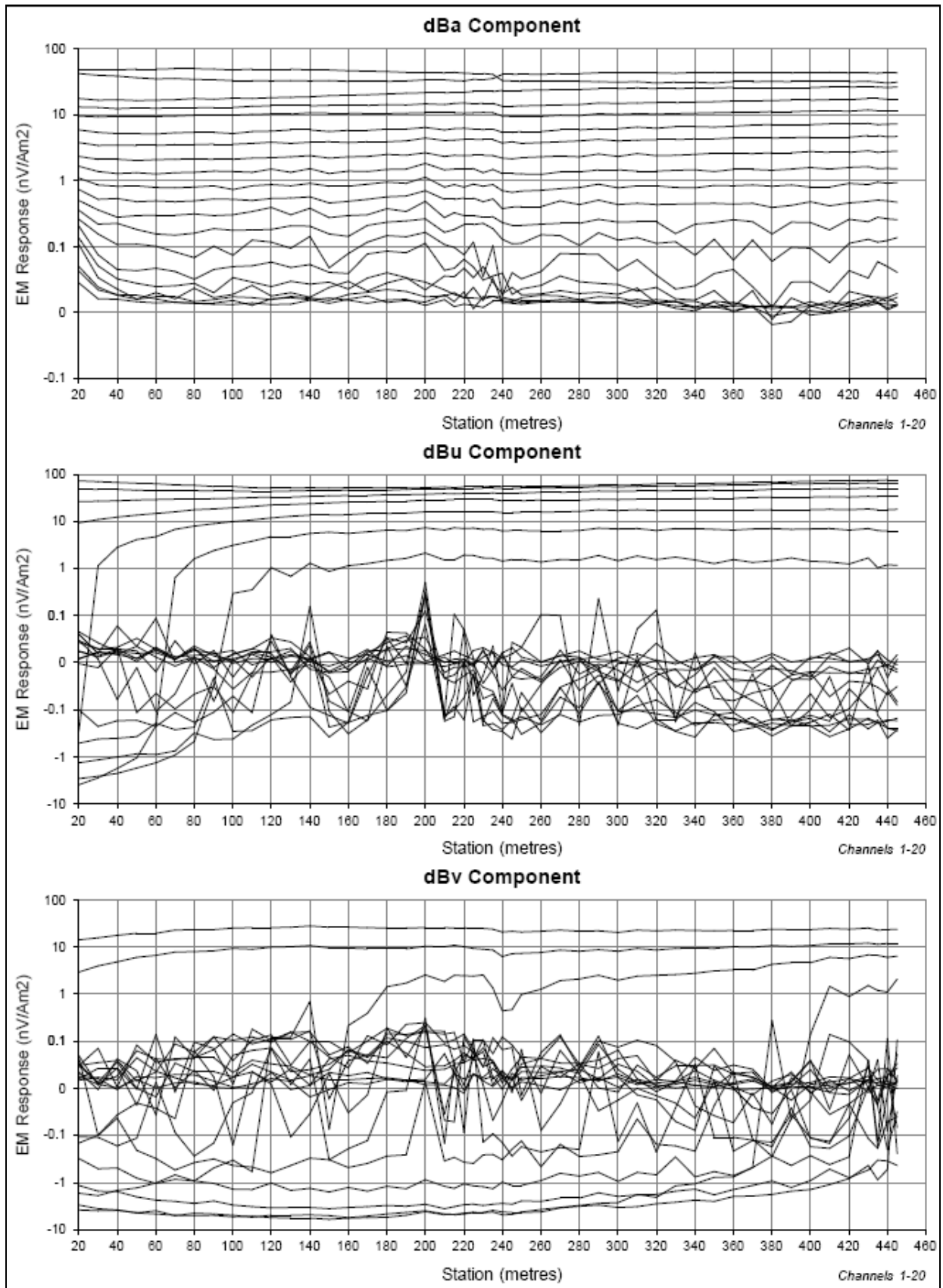


Figure 9: EB12-05 (Abitibi) amplitude versus depth showing AUV components.

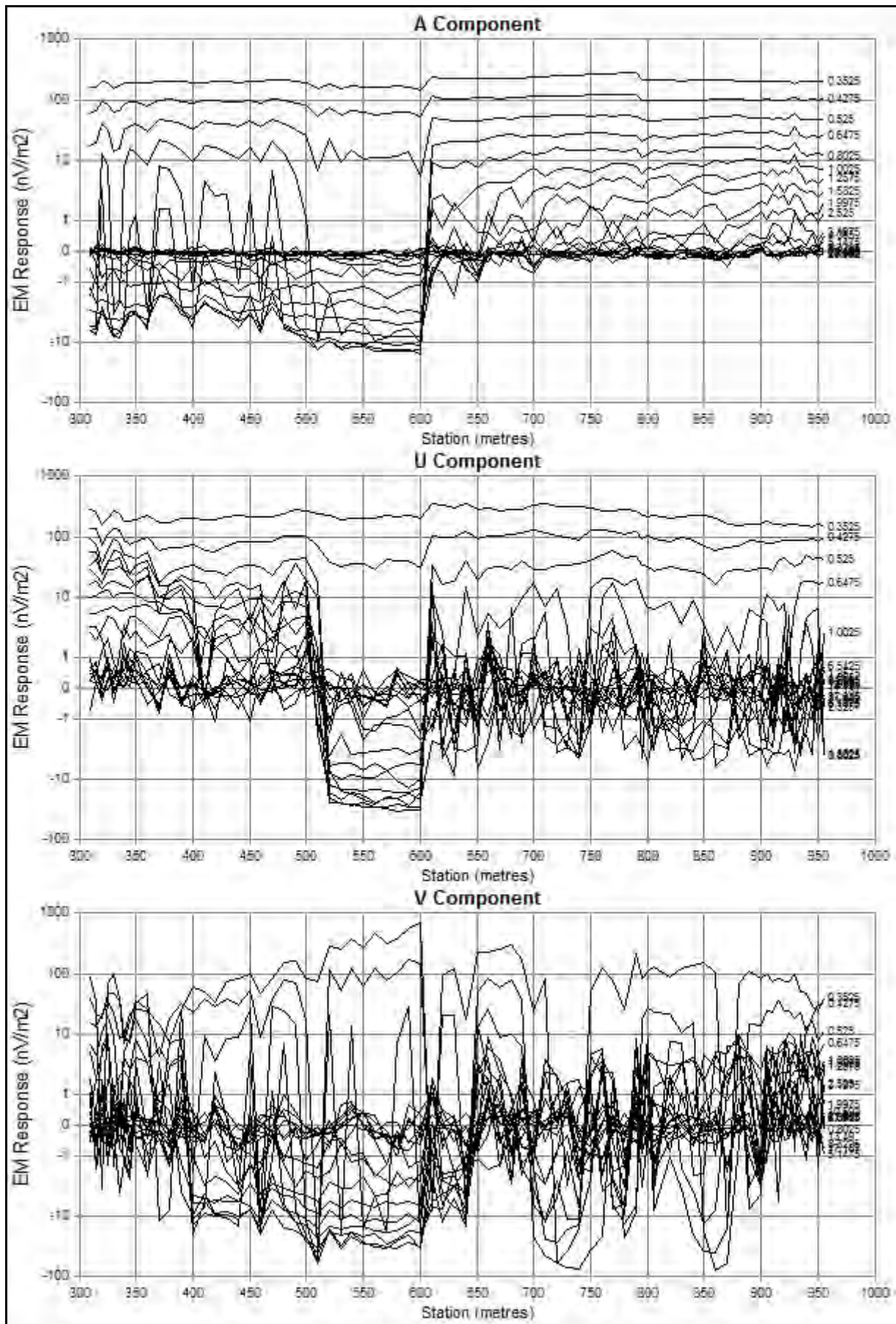


Figure 10: EB12-05 (Quantec) amplitude versus depth showing AUV components (scale 1:5000).



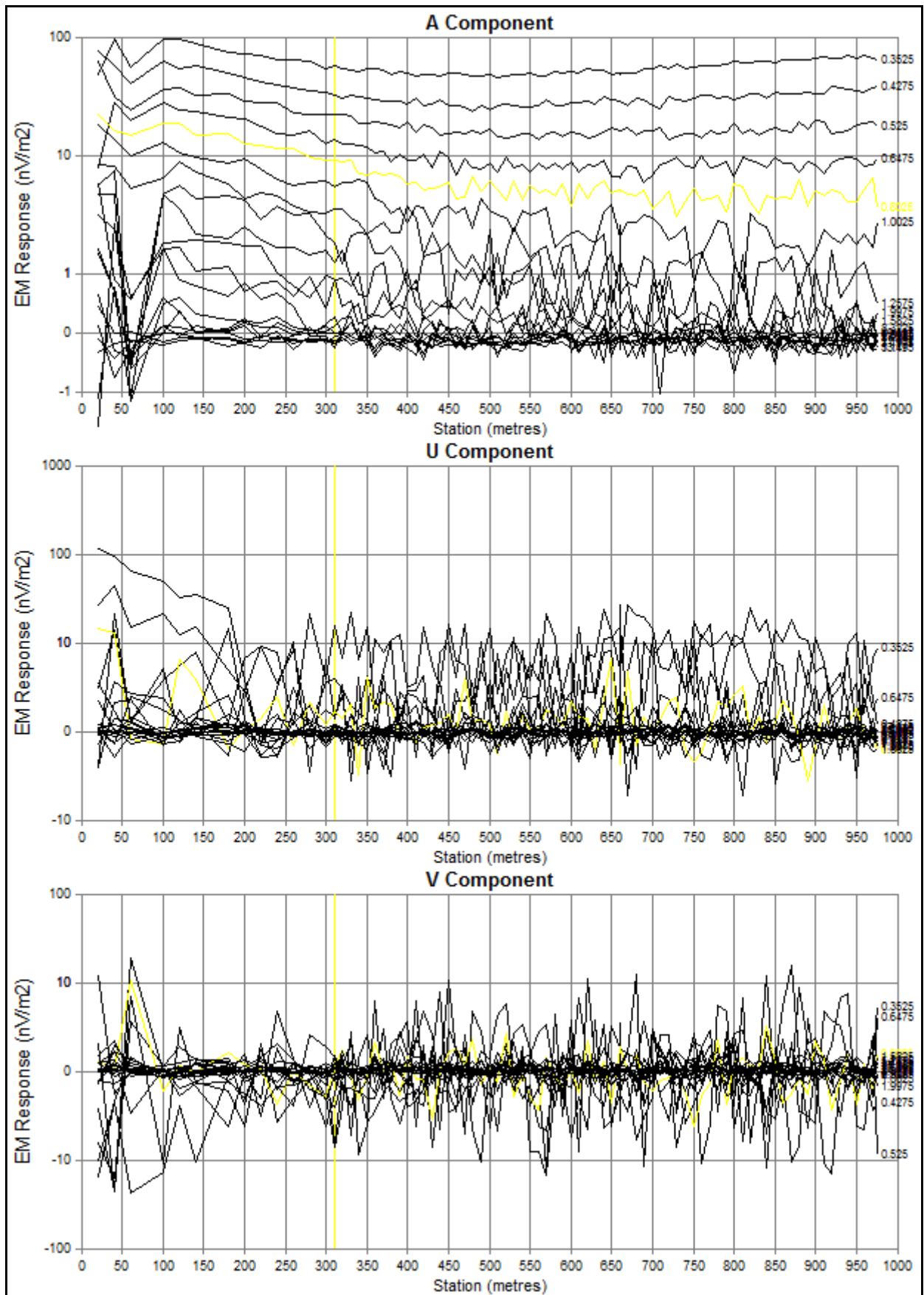


Figure 11: EB12-06 (Quantec) amplitude versus depth showing AUV components (scale 1:5000).

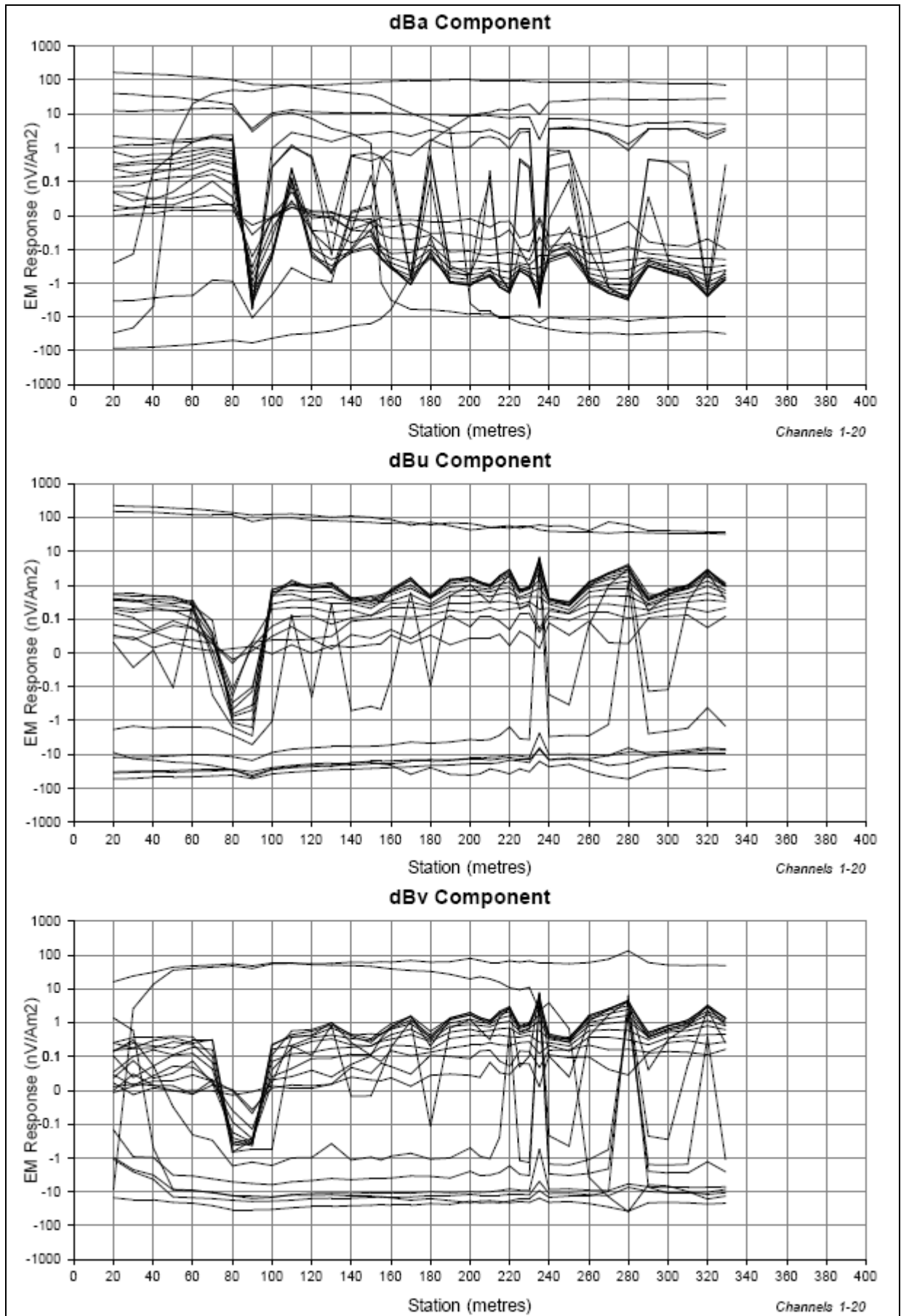


Figure 12: ME00-19ext (Abitibi) amplitude versus depth showing AUV components. This data was erroneously recorded and should not be used.

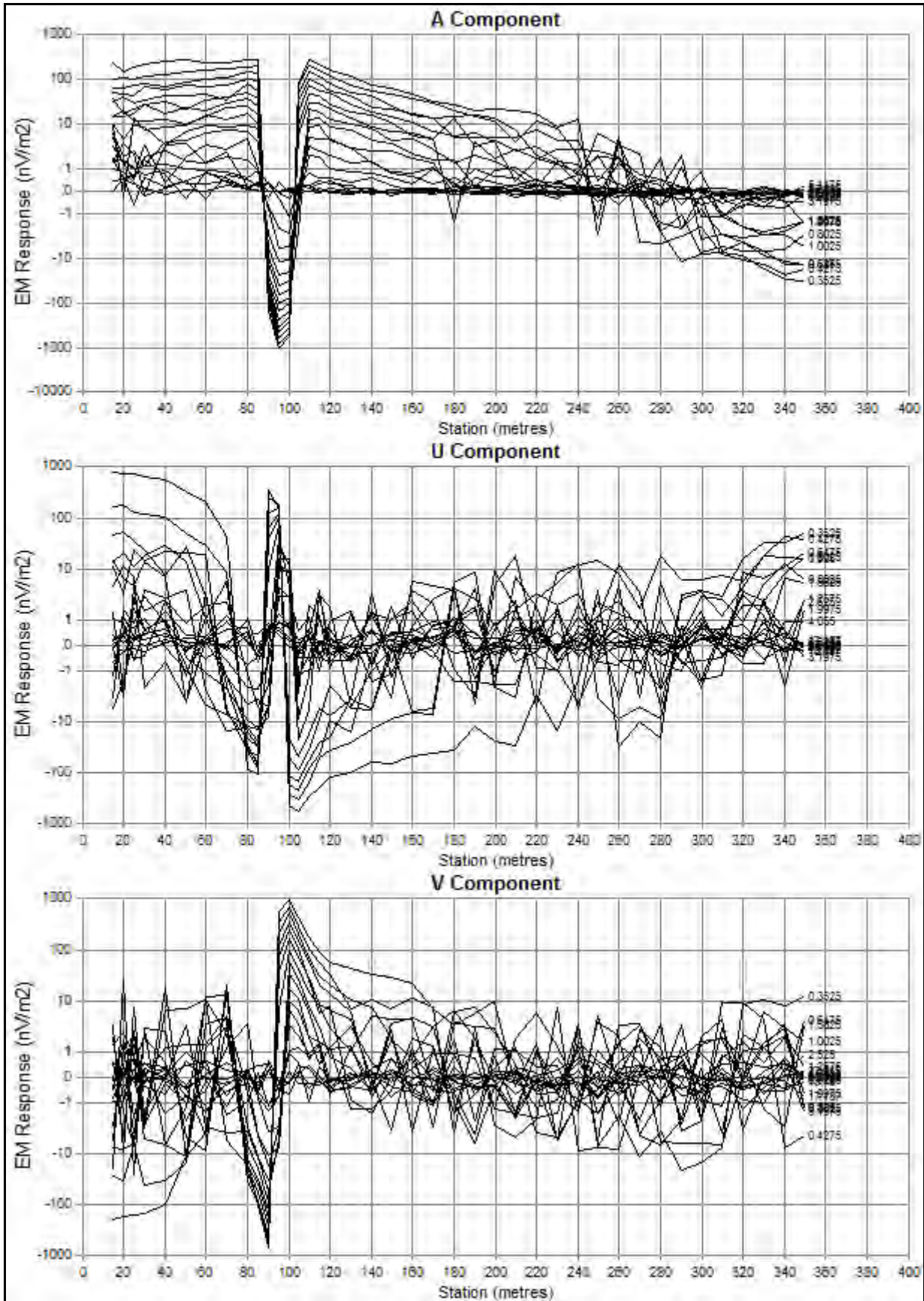
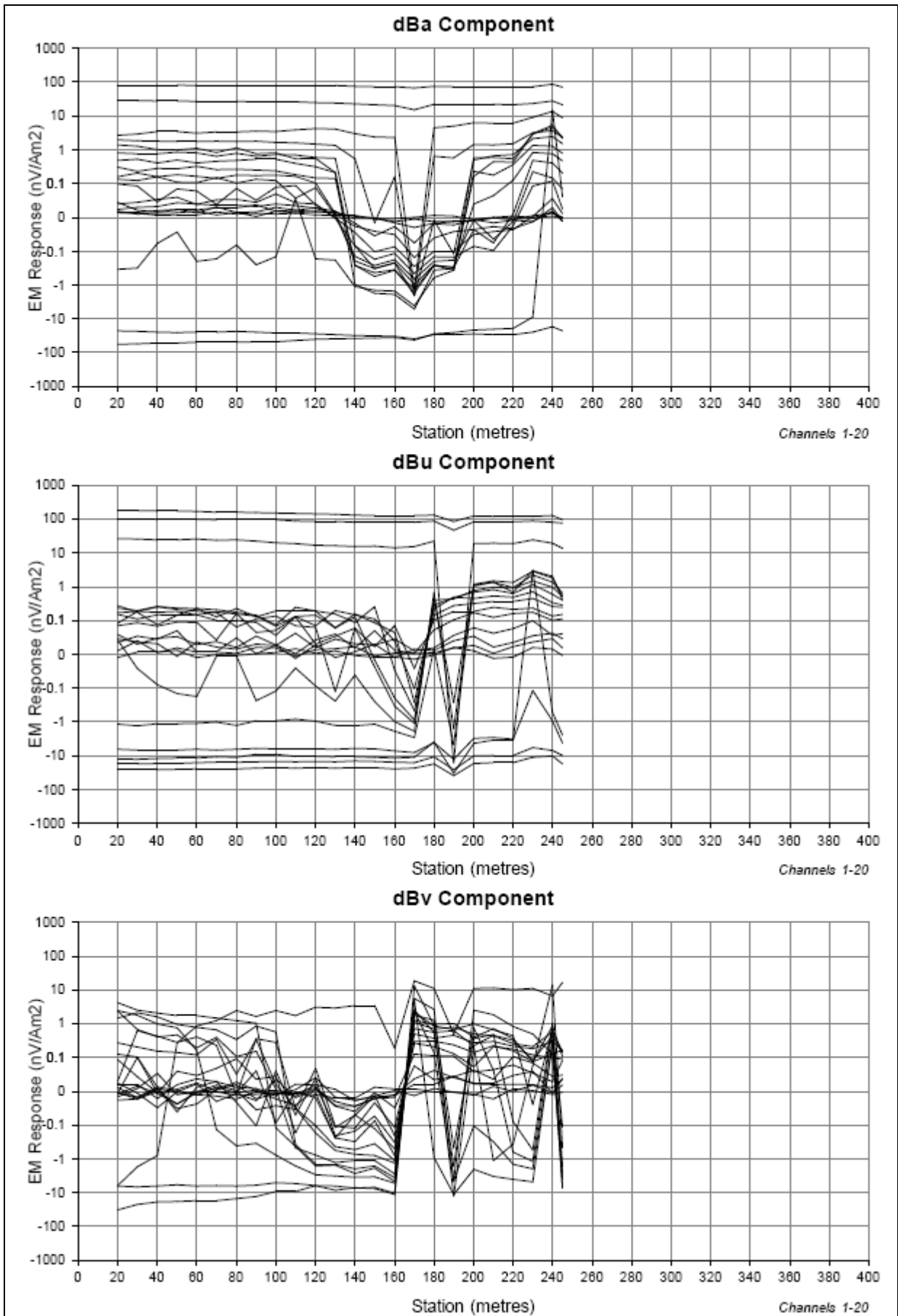


Figure 13: ME00-19ext (Quantec) amplitude versus depth showing AUV components.



**Figure 14: ME00-21ext (Abitibi) amplitude versus depth showing AUV components. This data was erroneously recorded and should not be used.**



## INTERPRETATION

### Parisien Lake

#### EB08-01

This hole was logged by Abitibi from 20 to 230 m. No anomalous response was recorded in this hole apart from a very small (high frequency) off-hole response at 185 m; Figure 4. An attempt at modelling this source was made; however, the conductor must be smaller than 10 m across and consequently was abandoned.

#### EB08-03

Abitibi logged Hole EB08-03 from 20 to 170 m. Two very small high-frequency off-hole responses were recorded at 70 and 125 m down hole; Figure 5. Neither is greater than 10 m in extent; the deeper source is weaker, although it is clearly positioned above and left of hole based on the negative-positive cross-over of the radial components. No further work is recommended.

#### EB12-01

Abitibi logged Hole EB12-01 from 20 to 140 m; Figure 6. A clearly visible off-hole anomaly exists at 40 m down hole; however the wavelength is <20 m suggesting the source is very small. Decay curve analysis indicates a time-constant of 1.5 ms. A weak rise in the dBa component on the last station at 140 m suggests an off-end anomaly with a smaller time-constant than the shallower source. No further work is recommended.

**Mustang 2012 Drill Report states:** *the hole targeted a weak TDEM response proximal to and stratigraphically below hole EB08-04 (0.31% Cu and 0.81ppm 3E / 3.0m at 54.0m). According to OGS Map P3274 (1974), the hole should've collared into inclusion-bearing leucogabbro and nodular anorthosite of the Lower Series. EB12-01 collared in fg Gabbro, mixed Gabbro and Diabase before coring altered Syenite at 85m. The Syenite was not expected, though EB08-01 located 400m to the southwest had intersected 13m of "granite" near the top of the hole.*

*No appreciable sulphides were intersected to explain the conductive response and no appreciable assay results were returned.*

#### EB12-02

Abitibi logged Hole EB12-02 from 20 to 240 m. Two poorly defined off-hole anomalous responses were identified at 65 and 180 m down hole; Figure 7. The shallower source displays the highest amplitude but similarly to Hole EB12-01 the wavelength is very short, suggesting a very small conductor. Decay curve analysis indicates a time-constant of 1.8 ms; consequently, no further work is recommended.

**Mustang 2012 Drill Report states:** *the hole targeted a weak TDEM response proximal to and stratigraphically below Hole EB08-05. EB12-02 collared in fg Gabbro then into a 40m interval of varied-textured Gabbro (perhaps part of the Border Zone or the PLDZ) before stopping in a massive uniform Syenite unit.*

*No appreciable sulphides were intersected to explain the conductive response and the best assay was 0.18% Cu / 0.3m at 108.8m.*

### EB12-03

Abitibi logged Hole EB12-03 from 20 to 300 m; Figure 8. An anomalous off-hole response was recorded at 90 m which may be the up-dip extension of the weak on-hole response at 135 m: this is certainly supported by the geological interp provided below. Decay curve analysis indicates the off-hole response has the stronger time-constant of 2.8 ms. The conductive horizon may be extensive but nowhere does the geophysical response lead to a more encouraging source. Again, this source is typical of the thin weak conductors so far identified at Parisien Lake and Bullfrog. No further work is recommended.

**Mustang 2012 Drill Report states:** *the hole targeted the down-dip extension of a narrow discreet high-grade massive sulphide lens exposed at surface by trenching and intersected in Hole EB08-02 at 88.4m (9.3% Cu and 12.5ppm PGE over 1.1m).*

*At 135.5m, EB12-03 intersected a narrow, 10cm massive cpy-po vein (15.8% Cu over 0.3m) contained within a mineralised interval grading 0.41% Cu and 0.77ppm PGE over 2.7m. This narrow vein was intersected somewhat shallower than anticipated but may very well be the down-dip extension of the targeted lens or perhaps is a parallel horizon. Another anomalous interval was encountered at 108.6m and graded 0.25% Cu, and 0.49ppm PGE over 1.7m.*

## ZTEM Target 1

### EB12-05

This hole was originally surveyed by Abitibi from 20 to 440 m downhole before the hole was extended and surveyed from 310 to 950 m by Quantec; Figure 9 and Figure 10 respectively. The hole was drilled and surveyed to target interesting features in the ZTEM and MT data.

No anomalous responses which could be attributed to bedrock conductors were identified. Strange offsets in the response occur in the Quantec data at 520, 600 and 780 m and may suggest distinct geological boudries / conductivity contrasts; Figure 10.

**Mustang 2012 Drill Report states:** *the hole was originally planned to go to 650m to test the upper portion of the ZTEM response at ~600m depth. The hole was first stopped at 573m as it had gone through what was originally thought to be possible footwall intrusive (Syenite). The drill was then moved to drill EB12-06. In the meantime, thin section work of the "Syenite" showed that the unit was an altered Leucogabbro. Upon the completion of EB12-06, the drill was returned to EB12-05 and the hole was extended to 955m.*

*The upper portion of the hole was dominated by Leucogabbronorite and Leucogabbro to 600m where a Fault zone consisting of very blocky ground, some broken core and gouge to 771m, grey Gabbro dominated the bottom portion of the hole.*

*At 247.7m, the hole intersected disseminated cpy grading 0.44% Cu, 2.6ppm Pt, and 15.7ppm Pd over 0.3m within a 6.5m weakly mineralized mixed Gabbro interval. No other significant sulphides were encountered in the hole and no feature was intersected to explain the MT responses. Abitibi Geophysics completed a BHEM survey to 573m and Quantec completed a BHEM survey from 300m to 955m including the blocky faulted interval between 600m and 771m.*

## ZTEM Target 2

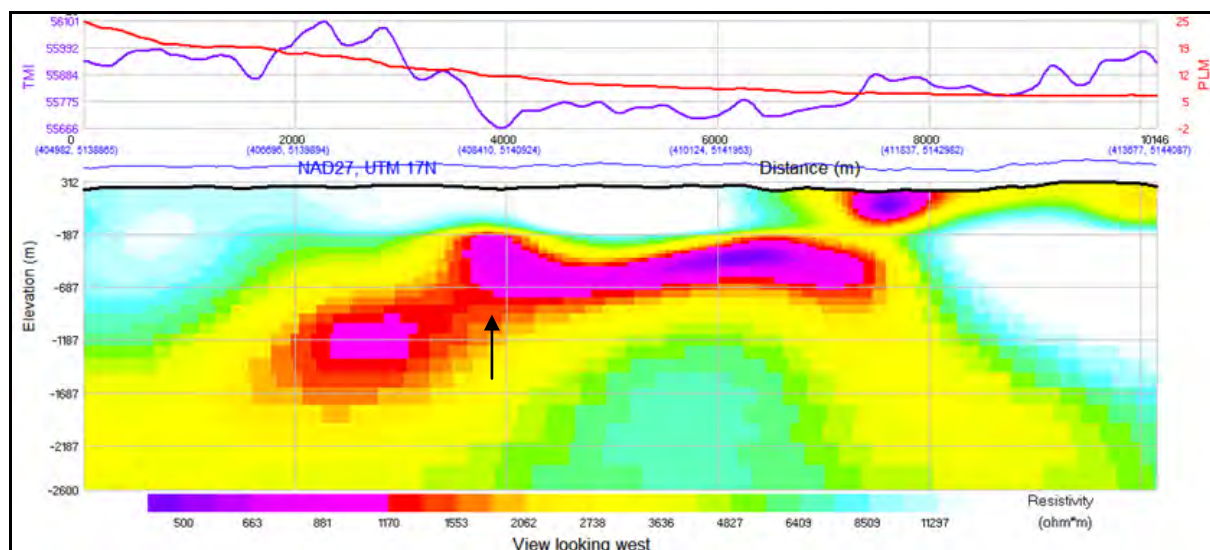
### EB12-06

Quantec surveyed Hole EB12-06 from 50 – 950 m; Figure 11. The hole was originally drilled to test an area in the ZTEM and MT data which presents itself as anomalous, immediately south of the Folsom Lake Deformation Zone. South of this zone the ZTEM 2D inverted results appear to indicate a deeper continuation of the EBL intrusion contradictory to mapping and existing geological interpretations; Figure 16. Whether the ZTEM is showing a conductor at the base of the intrusion or a response associated with the deformation zone is unclear. This hole is within the Road prospect where a FLEM survey was conducted in mid April, 2012. The FLEM did not identify any anomalous conductive sources: see Newexco Report # 612.

DHEM in EB12-06 did not identify an anomalous response apart from a subtle increase in the dBa signal in the first 4 channels (< 1 ms); Figure 17. The response increases toward the end of the hole from a depth of ~500 m and does not appear to be associated with primary field leakage into the off-time based on the orientation of coupling vectors shown in Figure 17. This leaves two options: either a deep conductive horizon beyond the current depth of the hole, or a change in the bulk conductivity of the intrusion at depth. The signal is too weak to produce a response in either cross-component meaning no vector information exists to direct us toward the source. All that remains is to resurvey the hole with a larger loop and more current to increase the transmit signal.

**Mustang 2012 Drill Report states:** *similar to EB12-05, the hole was originally planned to go deep -- to 730m to test the upper portion of the ZTEM response at ~700m depth. The hole, collared in the footwall of the EBLI Complex intersected a swarm of Diabase (>80% of hole) and host rock Syenite.*

*No appreciable sulphides or other source was intersected to explain the MT responses.*



**Figure 16: Road. ZTEM Geotech 2d inversion for line 1360. Taken from: 'Inversion results of 11154\_topo\_v1.ppt'. Black arrow marks the position of the Folsom Lake Deformation Zone.**



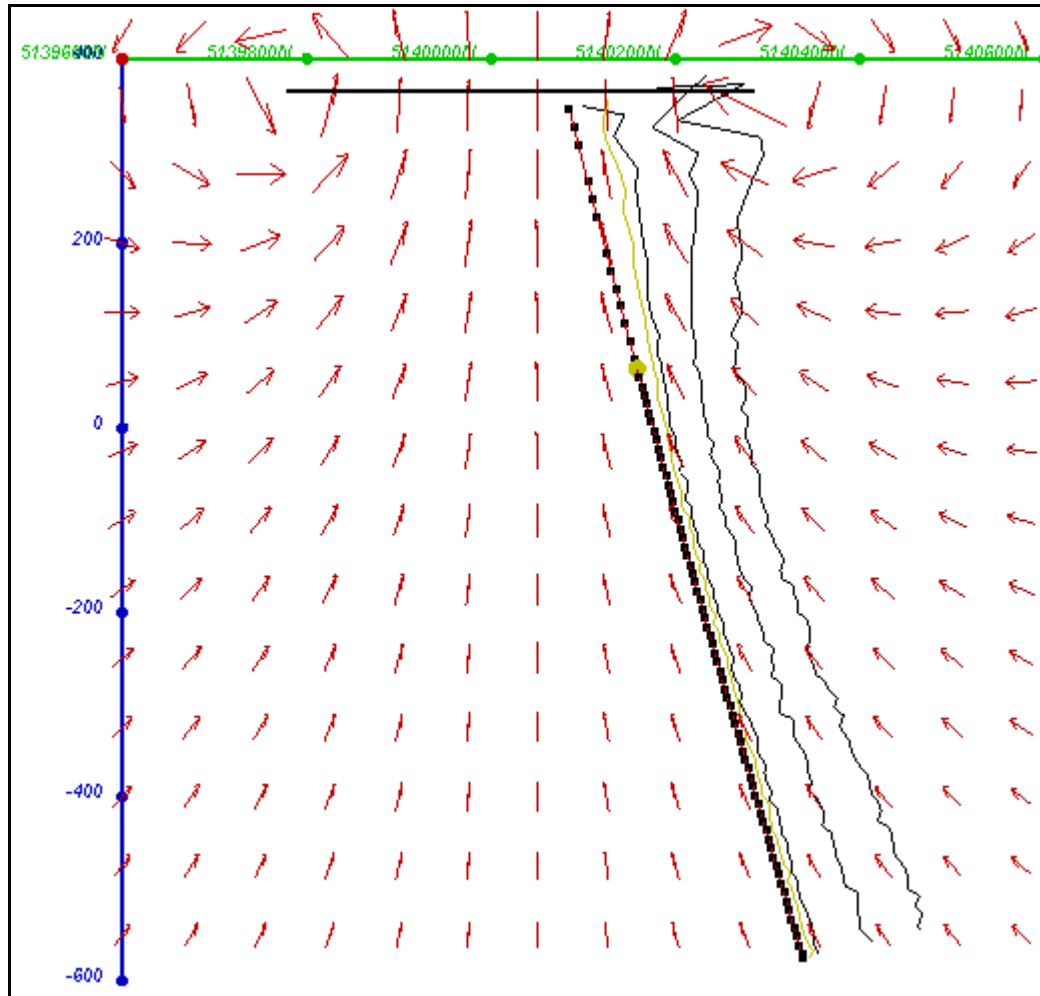


Figure 17: EB12-06 DHEM dBa channels 1 – 4 (0.4 - 1 ms) showing the primary field vectors in the plane of the hole (408026 mE).

## Bullfrog

DHEM was originally recorded at Bullfrog by Abitibi, in holes ME00-19, 21. Two further holes, ME0014, 17 were also attempted but were blocked near surface and could not be surveyed. The Abitibi holes were set up with a single loop 1000 x 800 m.

Acquisition errors, primarily identified in hole ME00-19, required the holes to be resurveyed. Quantec was engaged to complete this. Figure 12 and Figure 13 show the logarithmic profiles of data recorded by Abitibi and Quantec respectively. A comparison of the two datasets clearly demonstrates contamination of the signal exists across orthogonal components in the Abitibi data; justified by the extreme similarity in the responses. The effect of such contamination is to change the geometry and location of modelled conductors and could result in the incorrect proposal of drill-holes.

The following sections describe the data recorded subsequently by Quantec.

### ME00-19

This hole was surveyed by Quantec from 15 to 350 m downhole. Two anomalous responses were identified, a high frequency, well defined off-hole anomalous response at 95 m and a weak off-end response from 350 m down hole. The shallow anomaly is small, Maxwell modelling achieved a conductive source of approximately 10 x 20 m in extent; Figure 19. A good fit was achieved to both the dBa,v components suggesting the source is right of hole; Figure 18. The poorly defined dBu component means the source may contribute a response from both above and below the hole which is difficult to model and would extend the source marginally in size; Figure 18. Decay curve analysis indicates a time-constant of 1.4 ms, consequently, the source is certainly thin and small in extent.

The off-end anomalous response is only partially covered and therefore poorly constrained. Rudimentary modelling was undertaken and provides an approximate location for the source of the response; Figure 18 and Figure 19. Decay curve analysis indicated a time-constant of 0.5 ms again suggesting the source is too weak to warrant follow-up attention; Figure 20.

### ME00-21

This hole was surveyed by Quantec from 20 to 250 m downhole. Numerous weak off-hole anomalous responses were recorded from 170 m through 250 m. Decay curve analysis was attempted on stations where the highest amplitude peaks were recorded 175 and 250 m, both achieving a good fit to an exponential with a time-constant of ~1 ms. These sources do not demonstrate sufficiently clear responses to be modelled. Their high frequency also suggests the respective sources are likely to be very small; < 15 m in extent. No long wavelength responses were identified, as such, no further work is recommended.

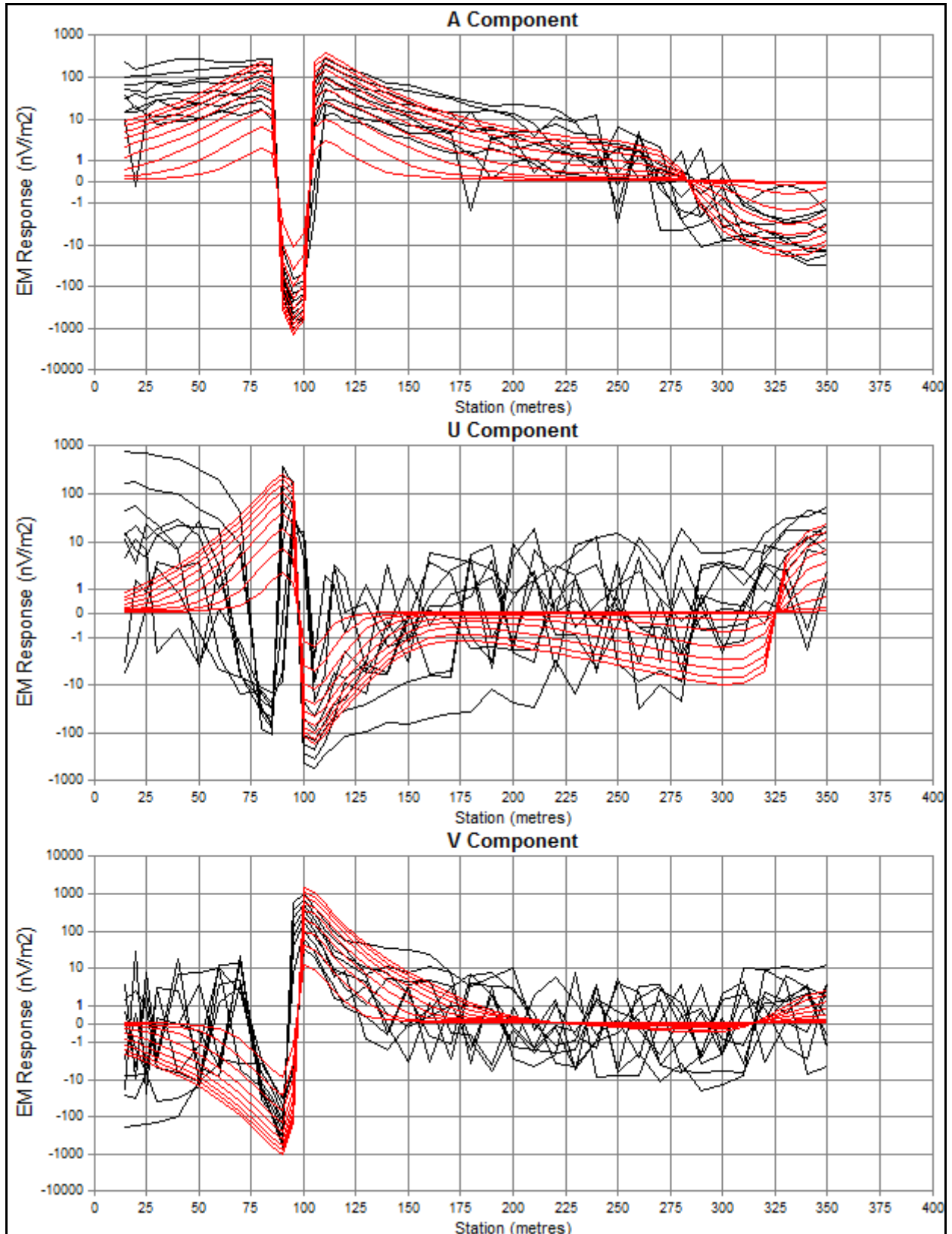


Figure 18: ME00-19ext logarithmic profiles of channels 1 – 9 (0.1 – 0.5 ms). Black and red profiles represent field and modelled response respectively.

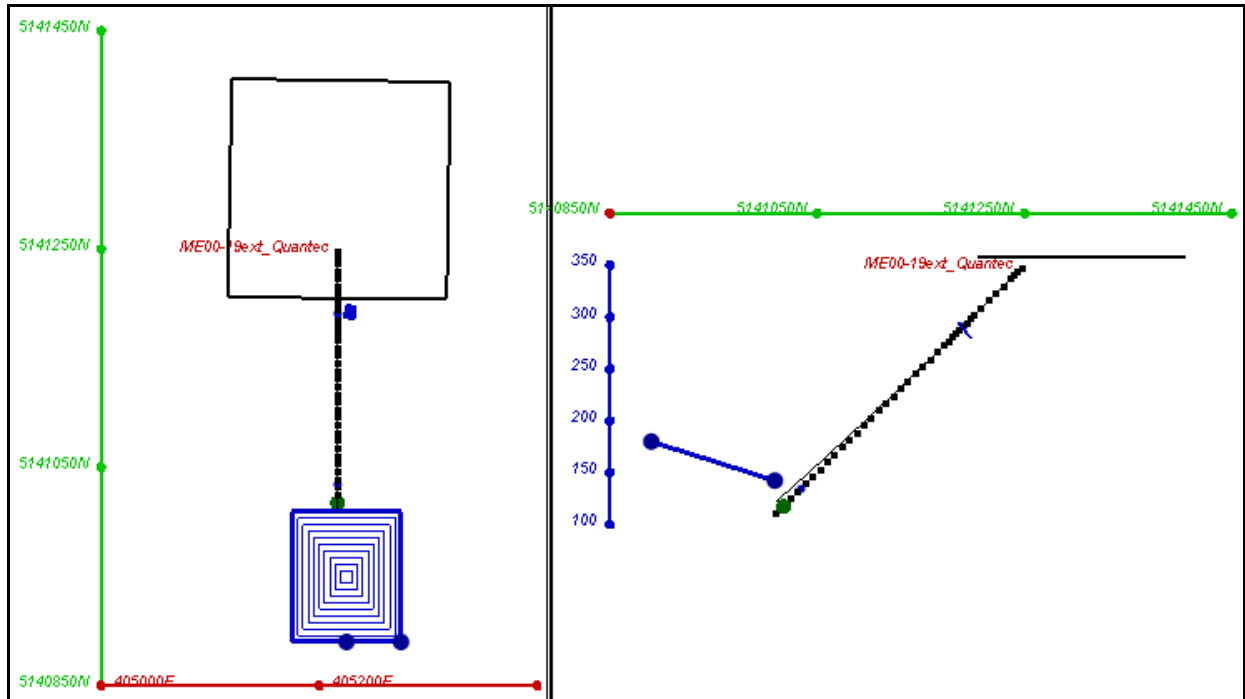


Figure 19: ME00-19ext modelling of off-hole responses at 95 m 350 m down hole. Corresponding profiles are shown in Figure 18.

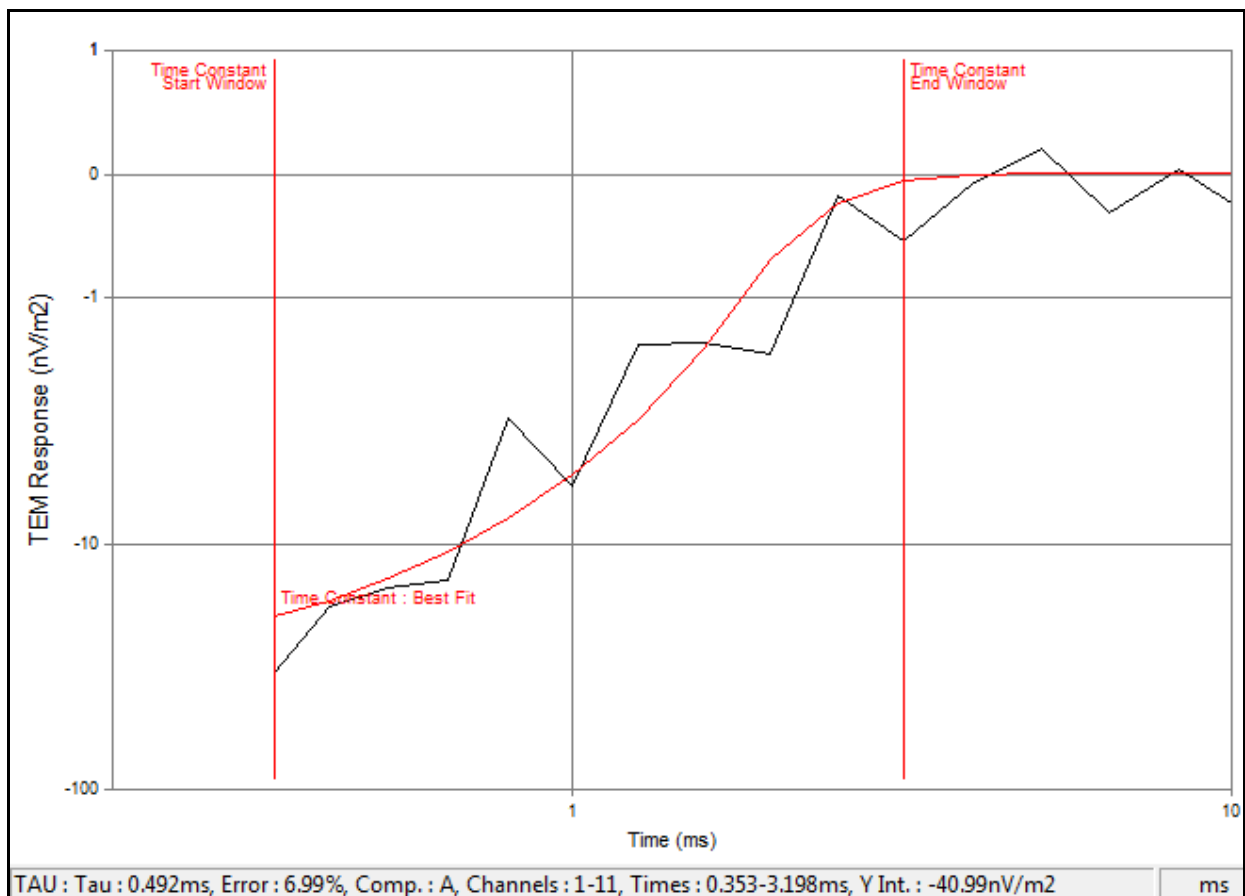


Figure 20: ME00-19ext decay-curve analysis at 250 m down hole. An adequate fit to an exponential suggests a 0.5 ms source.

## SURVEY SPECIFICATIONS

- Contractor: Quantec
- System: Geonics Digital Protem, BH43-3D Coil, EM-37 Tx.
- Components: AUV
- Datum / Proj: NAD27 UTM Zone 17N

**Table 2 – East Bull Lake DHEM Surveys - Quantec**

Number	Easting	Northing	RL	Dip	Azimuth	Length	Freq	Frm	To
<b>EB12-05</b>	410006	5143382	347	80	220	973	7.5	310	955
<b>EB12-06</b>	408026	5140080	364	75	0	955	7.5	20	975
<b>ME00-19ext</b>	405217	5141258	358	45	180	335	7.5	15	350
<b>ME00-21ext</b>	405489	5141354	379	45	180	250	7.5	10	260

- Contractor: Abitibi
- System: Protem 67D, BH43-3D Coil, Terrascope PRO5U Tx.
- Components: AUV
- Datum / Proj: NAD27 UTM Zone 17N

**Table 3 – East Bull Lake DHEM Surveys - Abitibi**

Number	Easting	Northing	RL	Dip	Azimuth	Length	Freq	Frm	To
<b>EB08-01</b>	409346	5141376	365	45	180	205	30	20	225
<b>EB08-02</b>	409578	5141171	371	50	0	150	30	20	170
<b>EB12-01</b>	409758	5141558	365	70	180	120	30	20	140
<b>EB12-02</b>	409755	5141330	371	65	180	214	30	20	234
<b>EB12-03</b>	409550	5141390	378	55	180	263	30	20	283
<b>EB12-05</b>	410006	5143382	347	80	220		30	20	445
<b>ME00-19ext</b>	405217	5141258	358	45	180	309	30	20	329
<b>ME00-21ext</b>	405489	5141354	379	45	180	225	30	20	245

Holes marked in grey were recorded erroneously.

- Component direction:
  - dBa/dt – Parallel to hole axis, positive up hole.
  - dBu/dt – Perpendicular to hole axis: toward 12 o' clock when looking down hole.
  - dBv/dt – Perpendicular to hole axis: toward 9 o' clock when looking down hole.

### Results:

The polarity of each component was checked to ensure the system was set up using the correct component orientations. The hole position was corrected for trajectory using orientation survey data. Data quality is was adequate. All recorded components are displayed on a log-lin plots, Figure 4 to Figure 15.

**Tx loop: E-12\_Boucle-Parisian (800 x 800 m)**

	East	North	RL
<b>LV1</b>	409173	5141952	352
<b>LV2</b>	409979	5141955	352
<b>LV3</b>	409969	5141156	352
<b>LV4</b>	409179	5141151	352

**Tx loop: EB12-05 (800 x 800 m)**

	East	North	RL
<b>LV1</b>	410762	5143468	347
<b>LV2</b>	410233	5142868	347
<b>LV3</b>	409632	5143381	347
<b>LV4</b>	410453	5143989	347

**Tx loop: EB12-06\_Quantec (500 x 500 m)**

	East	North	RL
<b>LV1</b>	408283	5140277	364
<b>LV2</b>	408272	5139778	364
<b>LV3</b>	407772	5139786	364
<b>LV4</b>	407779	5140285	364

**Tx loop: ME00-19ext, 21ext Abitibi (1000 x 800 m)**

	East	North	RL
<b>LV1</b>	405100	5141650	365
<b>LV2</b>	406100	5141650	365
<b>LV3</b>	406100	5140850	365
<b>LV4</b>	405100	5140850	365

**Tx loop: ME00-19est\_Quantec (200 x 200 m)**

	East	North	RL
<b>LV1</b>	405317	5141204	358
<b>LV2</b>	405116	5141206	358
<b>LV3</b>	405120	5141406	358
<b>LV4</b>	405320	4141403	358

**Tx loop: ME00-21est\_Quantec(200 x 200 m)**

	East	North	RL
<b>LV1</b>	405595	5141488	379
<b>LV2</b>	405592	5141289	379
<b>LV3</b>	405391	5141292	379
<b>LV4</b>	405394	5141492	379