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LØKKEN PROJECT

An Interpretation of the Fixed-Loop Electromagnetic Surveys

May 2012

REPORT NO: **594**

FOR: **Drake Resources Pty Ltd**

AUTHOR: **Nicholas Ebner**

DATE: **June 2012**

APPROVED: _____

Distribution List:

Drake Resources Pty Ltd
Newexco Services Pty Ltd

MAP SHEET: **N/A**
COMMODITY: **Cu, Pb, Zn**
PROJECTION: **WGS84**

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TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

SUMMARY

Surface FLEM surveys were undertaken to follow up on anomalous electromagnetic responses identified from the airborne VTEM surveys flown at Løkken in 2011. 19 lines (15.3 km) and 449 stations were completed over anomalies at both projects.

The Løkken Fixed Loop surveys constrained five targets for drilling including two ranked Category 1 at Damlia Northwest and Jordhus North. Two further Category 1.5 targets are defined at Litlevatnet where size may be an issue. A weaker source at Halsetåsen has been defined for drilling but is recommended for geological review.

1. INTRODUCTION

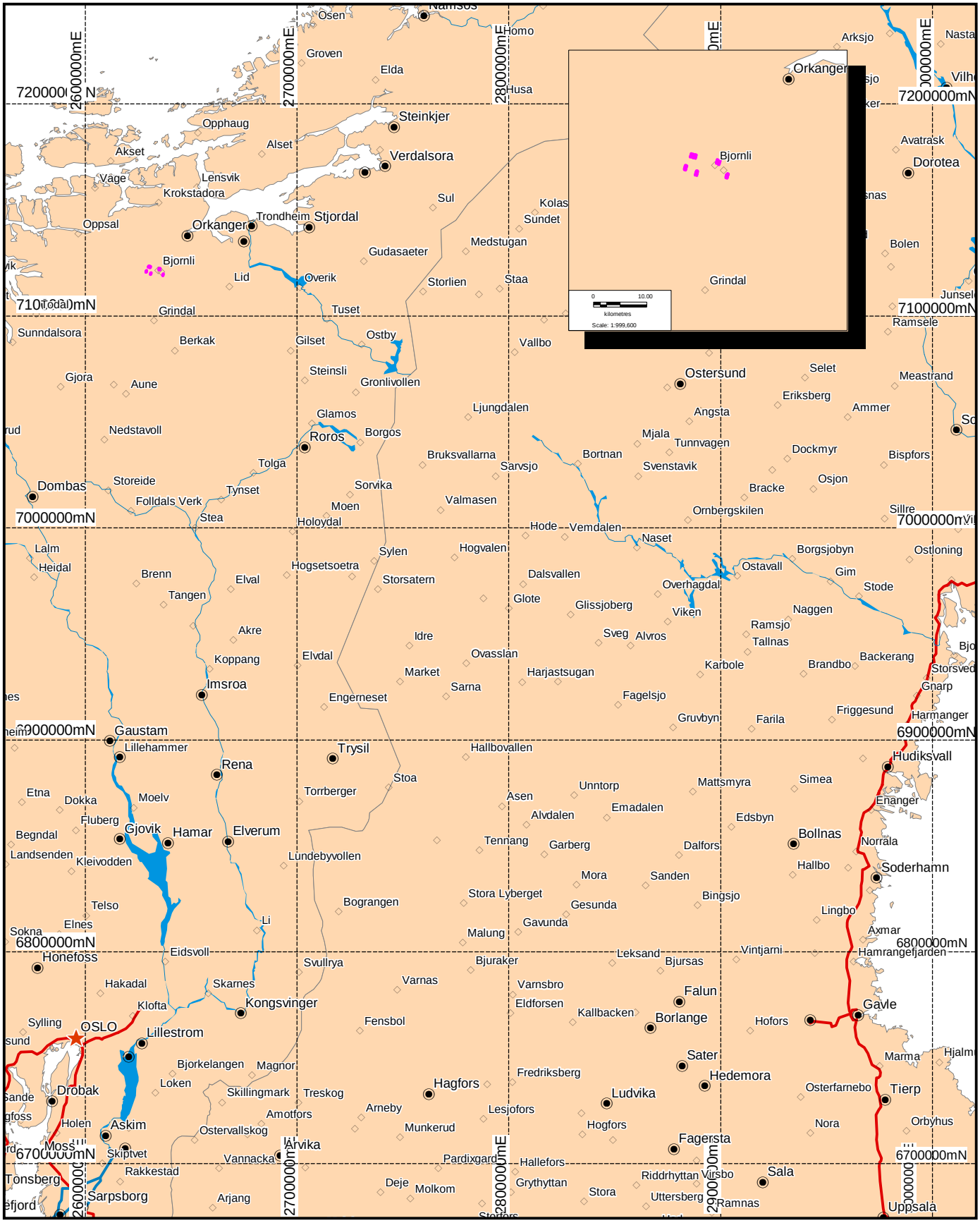
From March through May 2012, Fixed-Loop Electromagnetic surveys (FLEM) were completed for Drake Resources Pty Ltd over the Løkken Project, Figure 1. The surveys were initiated by Drake Resources; Soumen Malmi OY (SMOY) was contracted to undertake the acquisition. Newexco Services Pty Ltd (Newexco) was commissioned to design, supervise and subsequently process and interpret the FLEM data.

Five areas were identified for surveying based on previous interpretations of the VTEM[1] data (Geotech survey AM1044) acquired in August 2011. The purpose of the follow up work is to confirm the presence of conductive anomalies which may be associated with copper and zinc mineralisation of the paleoproterozoic volcano-sedimentary sequences of central Norway.

Raw data was provided by SMOY in the form of Protem system raw data output. Interpretation of the results was facilitated by thin-plate modelling, inversion and conductivity-depth imaging utilising the software Maxwell, Grendl and EMax respectively.

This report documents the processing and interpretation of the airborne geophysical survey at Løkken, including recommendations for targeting and planning of further geophysics and proposed drilling.

[1] *Versatile Time Domain Electromagnetics*



Drake Resources Limited
Løkken
Fixed Loop EM

Scale 1:2,500,000 — 0 25 50 75 100km

DWG: 1531 | Date: 18-Jun-2012

Newexco Services Pty Ltd

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2. PREVIOUS WORK

A comprehensive interpretation of the VTEM survey at Løkken, which led to the proposal of the FLEM, is provided in Newexco Report 595[2]. The interpretation of the VTEM data is thoroughly documented in the spreadsheets, also provided in Appendix 3 of this report.

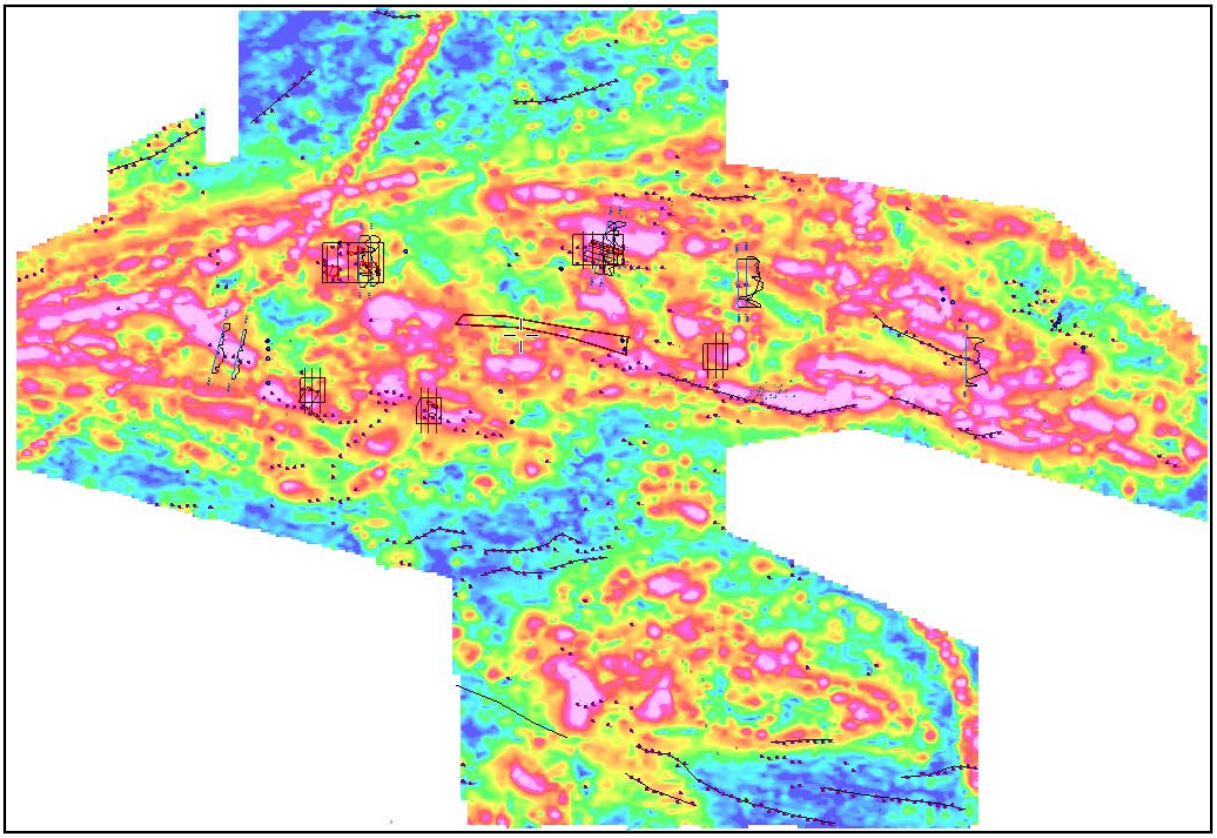


Figure 2: Løkken VTEM survey, grid of TMI analytical signal overlaid by anomaly picks and FLEM status.

[2] Drake Løkken VTEM Interpretation Report 595. Newexco Services Pty Ltd, 2012

3. SURVEY DETAILS

3.1 Personnel

Supervising Geologist:	David Borton
Supervising Geophysicists:	Nicholas Ebner
	Nigel Hungerford
Contractor:	Suomi Malmi OY
Contractor Job #:	N/A
Contractor Supervisor / Geophysicist:	Antti Kivinen
Crew Chief:	Henri
Field Hand #1:	Pekka

3.2 Survey Specifications

Configuration:	In-Loop, Slingram, Fixed Loop
Line spacing:	Varied
Line direction:	Varied
Number Turns:	1
Components:	Z, X, Y
Base Frequency:	2.5Hz
Typical Current:	20 A
Coordinate System:	WGS84, UTM Zone 32 N

3.3 Equipment

Transmitter:	Protem
Motor Generator:	Honda 7 kVA
Receiver:	RVR
Receiver Coil:	Protem
Sample Rate:	
Window Channel File:	Protem Standard
Stacked Data Recorded:	Yes
Time series Recorded:	No
GPS used:	Yes

3.3.1 RECEIVER SYSTEM

Data acquisition was achieved using a Protem Digital Geophysical Receiver built by Geonics. The receiver has the following specifications:

Model:	Protem
Dynamic Range	29 bits (175 dB)
Time channels:	20 or 30, preset
Frequency Range:	6 to 800 µs
Integration Time:	0.25 – 120 sec.
Sensor:	3D-3, orthogonal simultaneous operation
Temperature range:	-40°C to 50°C

3.3.2 TRANSMITTER

A Protem EM System, TEM57 – MK2 Transmitter was used in conjunction with a TEM67 Power Module, both manufactured by Geonics, to power the loop. The transmitter has the following specifications:

Model:	TEM57 – MK2
Input voltage:	18V to 60V DC
Maximum output current:	25 A, 50 A (pp)
Duty cycle:	50%, bipolar rectangular current.

The power module has the following specifications:

Model:	TEM67
Output:	18 – 90 VCD continuous control

3.4 Coverage

Table 1 – Løkken Survey Coverage 2012

Survey	Line	B_Freq	East_min	East_max	North_min	North_max	Stations	Distance
LK11	11100	2.5	528850	528850	6998300	6999200	25	900
	11250	2.5	529000	529000	6998300	6999200	24	900
	11400	2.5	529150	529150	6998300	6999200	24	900
LK24	24100	2.5	531125	531125	6997900	6998800	29	900
	24250	2.5	531275	531275	6997900	6998800	29	900
	24400	2.5	531425	531425	6997900	6998800	24	900
LK17	17100	2.5	529300	529300	7000875	7001600	22	725
	17300	2.5	529500	529500	7000900	7001600	22	700
	17500	2.5	529700	529700	7000900	7001600	22	700
	17700	2.5	529900	529900	7000900	7001600	22	700
	17900	2.5	530100	530100	7000900	7001600	22	700
	171100	2.5	530300	530300	7000900	7001600	21	700
LK115	115200	2.5	534300	534300	7001125	7001875	18	750
	115400	2.5	534500	534500	7001125	7001875	16	750
	115600	2.5	534700	534700	7001050	7001825	22	775
	115800	2.5	534900	534900	7001050	7001950	26	900
LK161	161100	2.5	536750	536750	6999000	6999675	23	675
	161250	2.5	536900	536900	6999000	6999900	29	900
	161400	2.5	537050	537050	6999000	6999900	29	900
Projection: WGS84 NUTM Zone 32						**ALL**	**449**	**15275**

4. DATA PRESENTATION AND PROCESSING

Digital data were supplied by SMOY. The recorded response (uV) was reduced according to the following formula and normalised by transmitter current (A).

dB/dt(nV/Am^2) = V(mV) * 192 / (I*2^n * RxArea/100)

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

Windowed survey data are located in Appendix 1. Windows use the standard Protem 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.

The roving vector receiver measures three orthogonal dB/dt field components where dBz is positive upwards, dBx is along line positive east and dBy is across line positive north.

The subroutine Emax is executed from Maxwell to transform the magnetic decay from pT/A to conductivity versus depth images (CDI). This assumes a 1D layered earth and can provide misleading depths and positions for steeply dipping sources. CDI's are used as an interpretation guide and visual aid for presentation where applicable.

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 Version 5.3.8.10787.

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

The interpretation of the VTEM survey yielded a great number of anomalous electromagnetic responses which were ranked according to their geophysical, geological and geochemical properties. Unique to the Løkken area however, is the presence of highly conductive barren sulphide/chert horizons which present as very strong conductors. Internal conversations with Gudmund Grammeltvedt described these Vasskis (vk) horizons as 'usually better conductors than the base metal horizons, hiding the anomalies of more interesting ores. An example is the Høydal deposit. In some places the vk can contain a lot of graphite and layered pyrite; sometimes it is rather a black chert with quartz, stilpnomelane +/- magnetite.' 'I think that the only way to exclude vk as the cause of an anomaly is to drill. In our interpretation, the vk horizons always lay stratigraphically above the massive sulphide horizons. The distance between them can be less than one metre to 10-20 metres. In some places vk and jasper occur together, but usually they are separated. Jasper is also a rock-type which occurs close to the massive ore horizons.'

It was determined that the barren vk horizons should not provide a gravity response in contrast to base-metal mineralisation of sufficient thickness and also shallow. Consequently, a number of gravity profiles were surveyed before commencement of the FLEM. If a coincident gravity high could be proven for a particular source (chosen for their suitability) then a FLEM survey was to be undertaken to constrain the conductor for further assessment and drilling. This process is documented in the spreadsheet provided in Appendix 3[3].

Five FLEM surveys were subsequently undertaken at Løkken as shown in Figure 3 and Figure 4. An interpretation of the results follows.

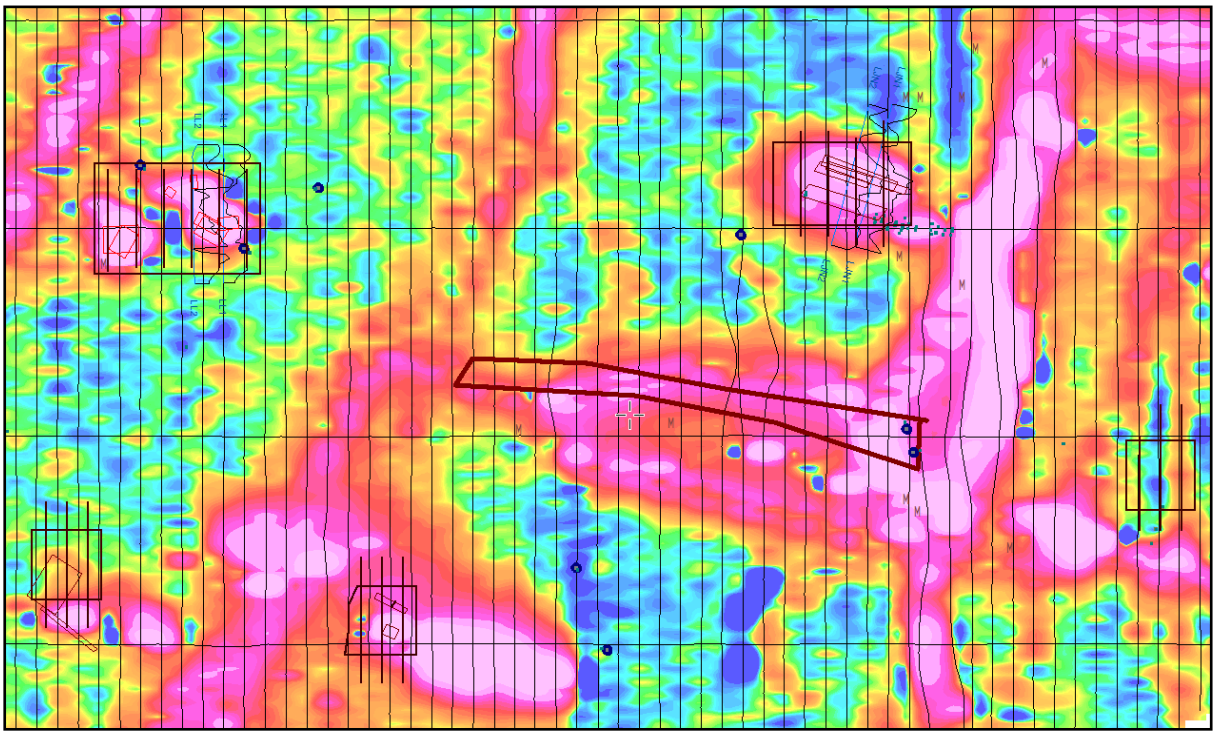


Figure 3: Løkken FLEM status overlaid on VTEM channel 28 (9.2 ms).

[3] Løkken VTEM Interpretation Report 595. Newexco Services Pty Ltd

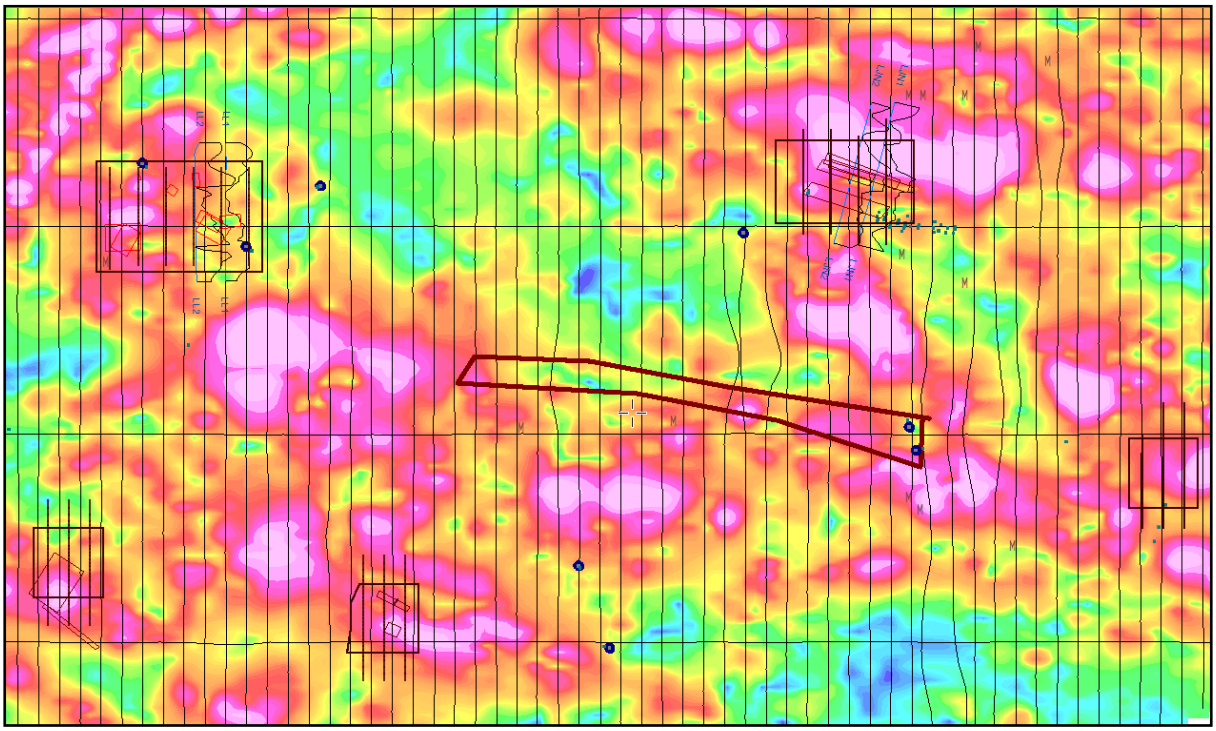


Figure 4: Løkken FLEM status overlaid on VTEM TMI Analytical Signal.

6.1 LK11 – Halsetåsen

Thick jasper units at Halsetåsen are coincident with an extensive conductive horizon marked by the anomaly picks of Figure 5. Several thin vk horizons are also present; however, of interest is the isolated nature of two magnetic features along strike, Figure 5. Coincident with the central mag feature is a weak anomalous VTEM response in the late-time with a long wavelength signal. No drilling is known to have effectively targeted either horizon local to the target response. Hole SV4 (BV1699) registered vk down-hole.

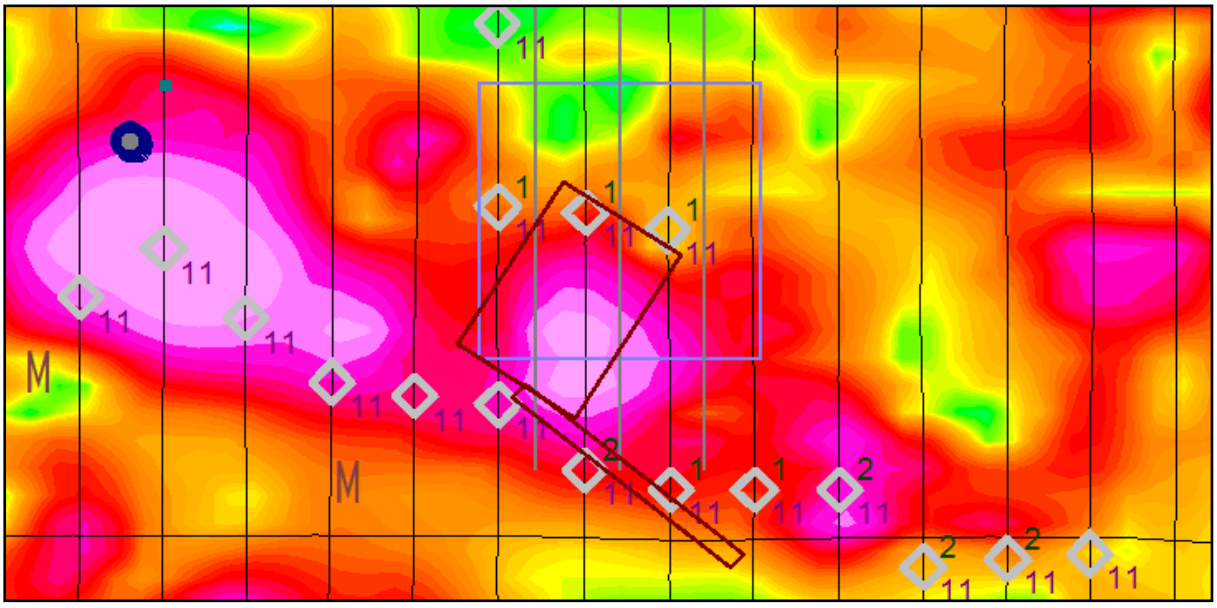


Figure 5: LK11. Raster image of TMI Analytical Signal overlaid by anomaly picks, FLEM status (grey lines) and modelled plates (deep red lines). Hole SV4 is visible as a grey dot above and east of an unknown hole marked as a blue circle.

To constrain the target for drilling, a single Fixed-Loop was deployed and three lines surveyed centrally over the anomaly. This revealed a strong near-surface conductive horizon coincident with the mapped Halsetasen jasper, as well as a further late-time broad response to the north. The interpreted jasper responds as a strong cross-over in all three components particularly on line 100 (west) where the line covers the complete response. Line 250 and 400 only partially cover this anomaly. The deep target response is also well defined with a clear Bx cross-over at 98700 mN, coincident with a peak in Bz; however, only on lines 250 and 400. Two sets of profiles are displayed in Figure 8 and Figure 9; further plots can be viewed in Appendix 2.

Modelling was able to accurately fit the observed response; however, some ambiguity remains since the target source can be flattened and still retain a sufficient fit to the data. Also, the extension of the jasper to the southeast marked by the blue circle in Figure 7 is not well constrained, but required to fit the data. Line 400 suggests the jasper follows in the area of the red circle, i.e. a dog-leg to the east. Figure 7 shows the final models with associated profiles in Figure 8 and Figure 9. The most robust interpretation suggests the deep target is along strike and down-dip of the outcropping jasper horizon. It does not have an extensive strike, nor is it electrically connected to the jasper unit modelled near surface. This has important implications since such jasper horizons are present in the plane of the Løkken ore.

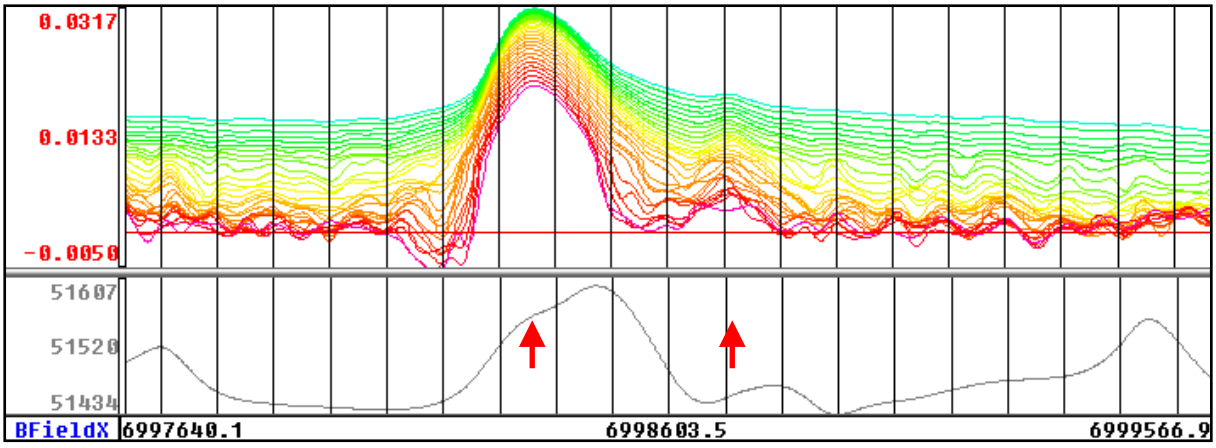


Figure 6: LK11 VTEM line 50430 Halsetasen jasper and target anomalies; left and right arrows respectively. Panels show VTEM logarithmic channels and TMI amplitude.

Decay curve analysis applied to the strongest Bz response of the interpreted jasper and deep target respectively, indicate equivalent time-constants of 3.3 ms, with a good fit to an exponential. Therefore, based on electrical properties alone, the target response is likely to be sourced by a similar unit to the interpreted jasper. The target horizon needs to be assessed on its geological merits, the interpreted geology and proximity to jasper and vk. Geophysically, this is rated as a Category 2 anomaly: drill-hole LK11_DH1 has been designed to test the source, subject to geological review.

Parameters below describe the modelled Fixed-Loop conductors, Figure 7. Plates modelled for the entire conductor are provided in the 3D *.dxf file in Appendix 3.

Plate	Japser	Deep Target	
East (centre top)	529001	528815	mE
North (centre top)	6998276	6998459	mN
Depth	20	230	m
Dip	70	60	degrees
Dip Direction	37	32	degrees
Rotation	-4	0	degrees
Strike Length	500	250	m
Depth Extent	100	700	m
Conductance	200	75	S

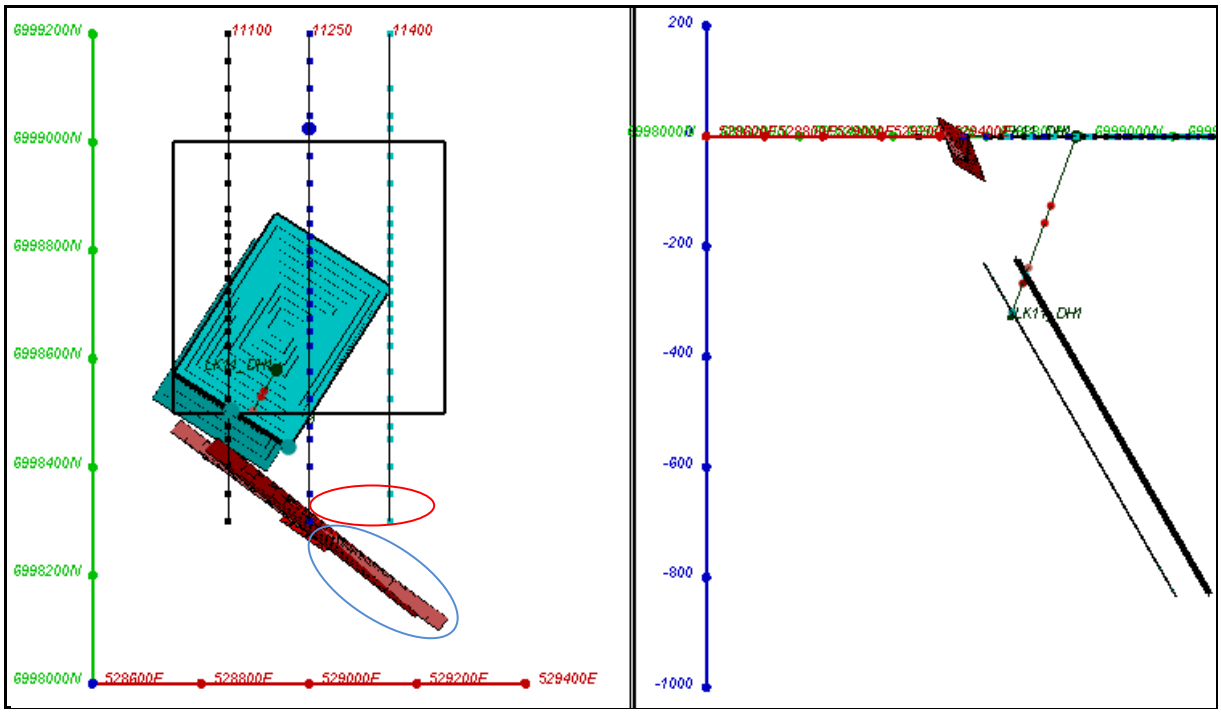


Figure 7: LK11 modelling showing the interpreted jasper in red, up-dip of the target source in blue. Darker plates are modelled over channels 8 – 13 (4-13 ms), light plates over channels 5 – 9 (2-5 ms).

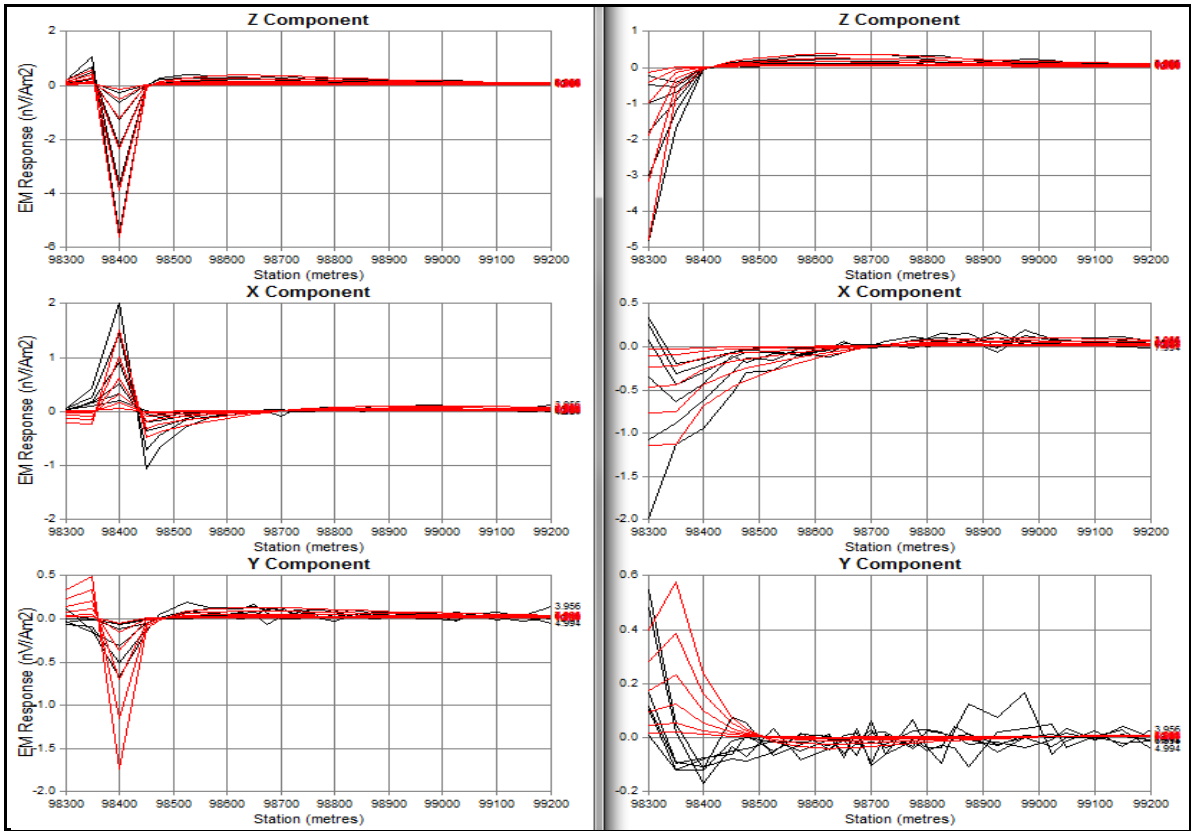


Figure 8: LK11 lines 100, 250 modelling; channels 8 – 13 (4-13 ms). Black and red profiles represent field and modelled response respectively.

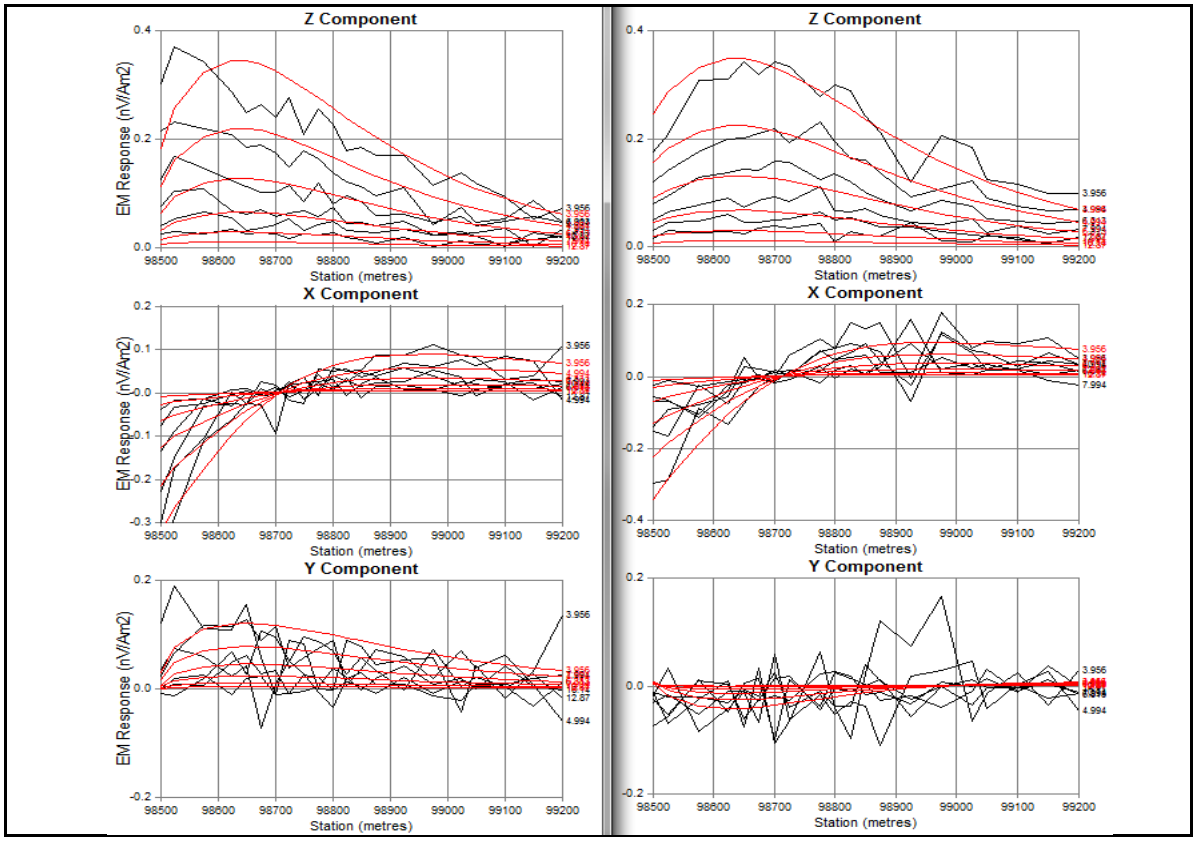


Figure 9: LK11 lines 100, 250 modelling focussed on the deeper source; channels 8 – 13 (4-13 ms). Black and red profiles represent field and modelled response respectively.

6.2 LK24 – Damlia Northwest

A conductive horizon, LK23, strikes WNW through the Damlia prospect, Figure 10. Offset from this to the north, a long-wavelength VTEM anomaly is clearly visible, exhibiting the typical signature of a deep, perhaps flat-lying source; Figure 12. A mapped vk horizon is coincident with the anomalous response; however, given the implied geometry and depth, the vk is likely to be above the main source.

A FLEM survey was subsequently undertaken to constrain the deep target horizon in the presence of the extensive conductor to the south. The FLEM response exhibits two clear anomalies: a sharp cross-over in dBz,x coincident with LK23 and a long wavelength single dBz peak coincident with LK24; Figure 14. The northern response supports the hypothesis of a deep flat lying source.

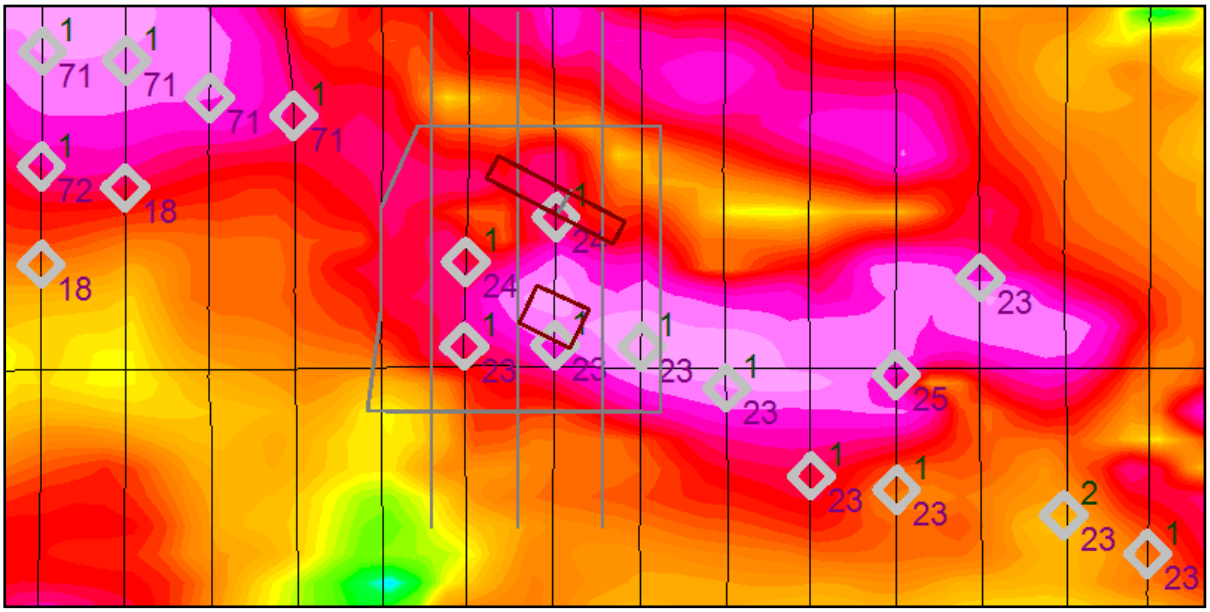


Figure 10: LK24. Raster image of TMI Analytical Signal overlaid by anomaly picks, FLEM status (grey lines) and modelled plates (deep red lines).

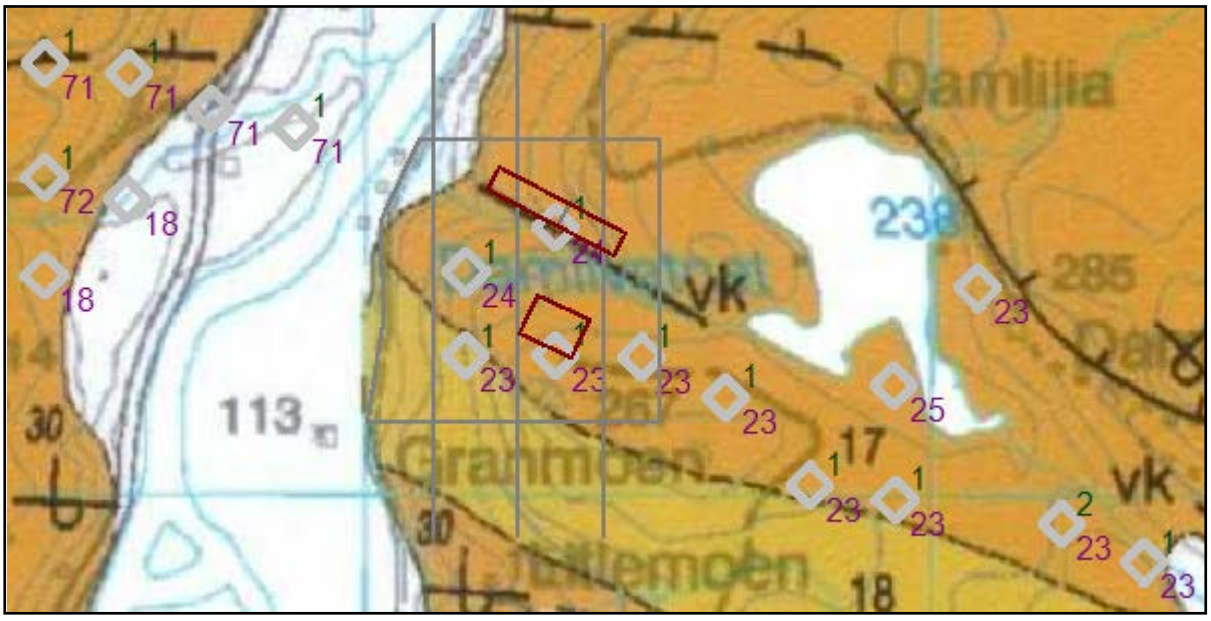


Figure 11: LK24. Løkken geology is overlaid by anomaly picks, FLEM status (grey lines) and modelled plates (deep red lines). A vk horizon is mapped directly above the modelled target plate but not up-dip.

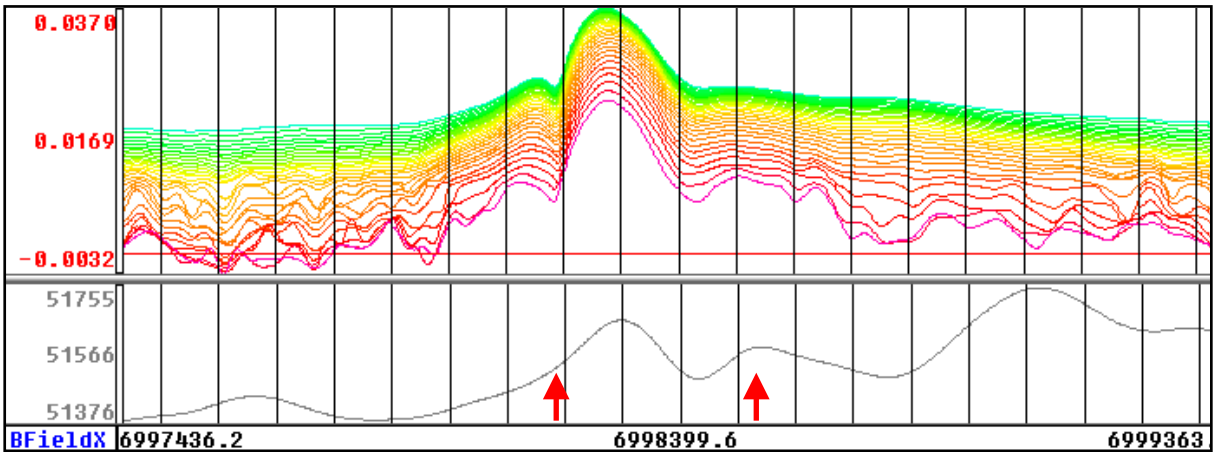


Figure 12: LK24 VTEM line 50580 Damlia conductive horizon and target anomaly; left and right arrows respectively. Panels show VTEM logarithmic channels and TMI amplitude.

Modelling of the response produced a good fit to the observed data, particularly on lines 250 and 400; Figure 14. LK23 is not a strike extensive conductor which is likely to indicate variation in the conductivity along strike. The target response, LK24, is modelled to a depth of 120 m striking in a similar WNW direction and dipping moderately to the northeast.

Decay curve analysis suggests a time-constant of 3 and 11 ms for the LK23 and LK24 anomalies. Both exhibit very good fits to an exponential. The signature of the target anomaly could be satisfied by either flat-lying thin plate, or a thick source analogous to the Løkken orebody; this makes LK24 an ideal target especially given its interpreted dip to be at the very least, different to the regional LK23 anomaly. LK24 is therefore considered a Category 1 target. Drill-hole LK24_DH1 has been design to test this modelled plate; Figure 13.

Parameters below describe the modelled Fixed-Loop conductors, Figure 13. Plates modelled for the entire conductor are provided in the 3D *.dxf file in Appendix 3.

Plate	LK23	LK24	
East (centre top)	531323	531332	mE
North (centre top)	6998234	6998452	mN
Depth	25	120	m
Dip	58	28	degrees
Dip Direction	26	27	degrees
Rotation	0	0	degrees
Strike Length	100	250	m
Depth Extent	140	50	m
Conductance	320	1000	S

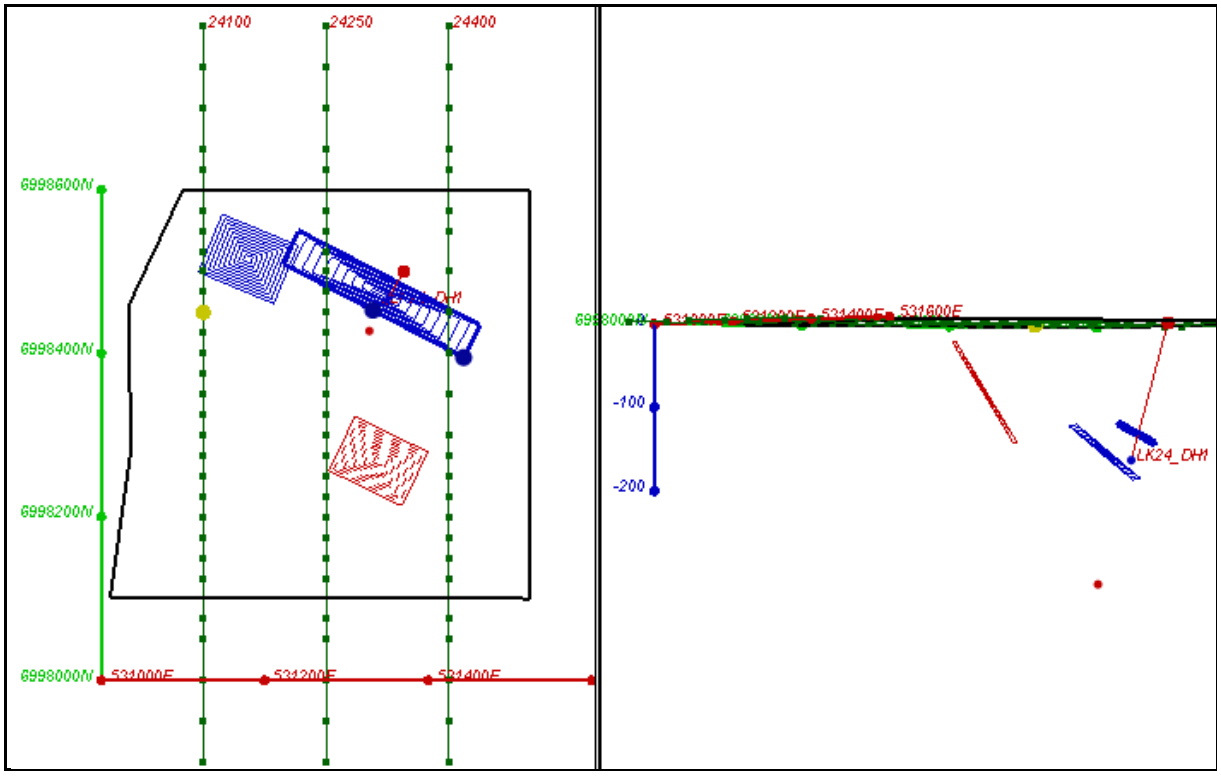


Figure 13: LK24 modelling in blue. The red plate is interpreted to be an isolated part of the extensive LK23 conductor. View from above and along strike, southeast.

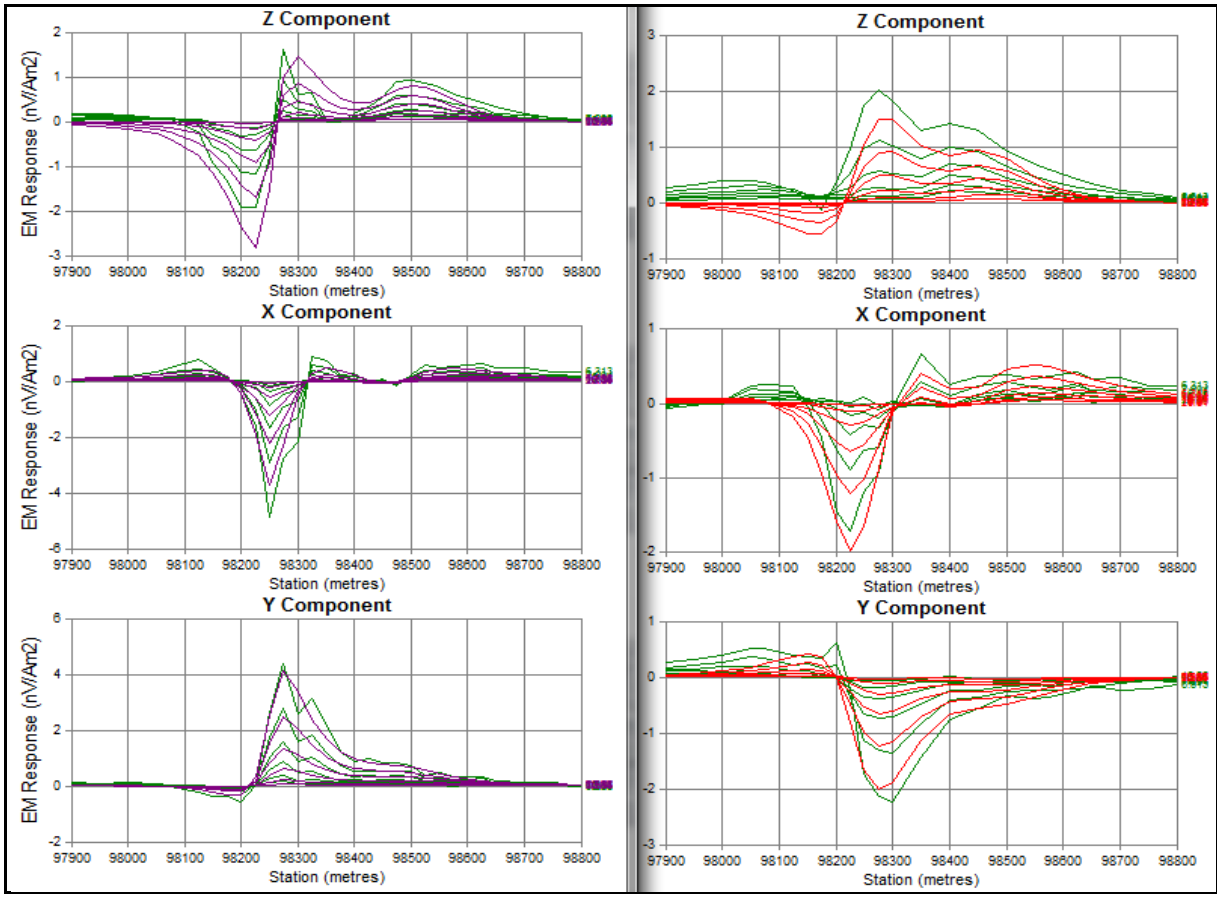


Figure 14: LK11 lines 100, 250 modelling; channels 10 – 15 (6-21 ms). Green profiles represent the observed response.

6.3 LK17 – Litlevatnet

A cluster of VTEM responses exhibiting a high tau >3 ms, were identified at Litlevatnet; Figure 15. Significant variation in amplitude and tau in the area made targeting difficult. The area was the focus of exploration by Orkla Industrier in 1981 – 82 to whom the prospect was known as Segelvann/Sugustad. Orkla drilled three holes 1 – 3, the first two (easternmost, Figure 16) were targeting reflective horizons (foliated shear/thrust zones) from an earlier seismic survey. Orkla concluded in their report[4] that south of drill-hole 3 'a sulphidic stringer-zone and possible massive ores should be explored for'. This area coincides with one of the stronger VTEM anomalies, subsequently constrained by the FLEM; Figure 16.

Before the FLEM survey was undertaken, two gravity profiles were recorded over the eastern EM anomalies; Figure 15 to Figure 17. These data demonstrated the presence of a shallow high-density source, enough to warrant FLEM acquisition to constrain the source for drilling.

Six lines of FLEM were consequently surveyed at Litlevatnet with an 800 x 1200 m loop. The response confirmed the interpretation of the VTEM data suggesting two conductive sources are present in the east and west of the FLEM survey area; Figure 18. These sources both show approximately symmetrical peaks in dBz with bipolar cross-over's in dBx - suggestive of a flat-lying source. Further weak anomalies were identified to the north.

Modelling of both major conductors was straight-forward, revealing two north to northeast dipping sources at 50 to 100 m depth, Figure 17 and Figure 18. Decay curve analysis indicates time-constants of 3.5 and 4.3 ms for the western and eastern sources respectively. Both are considered Category 1.5 targets for which test holes LK17_DH1, LK17_DH2 have been proposed.

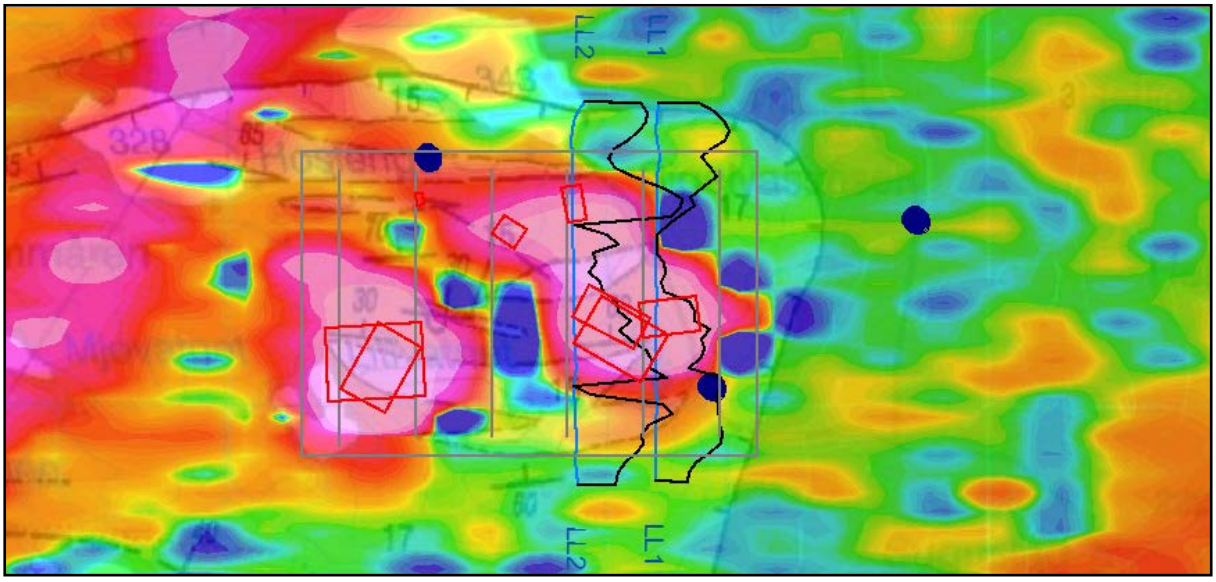


Figure 15: LK17. Raster image of VTEM channel 28 (9.2 ms) overlaid by FLEM status (grey lines), modelled plates (red) and gravity profiles.

[4] Diamond drilling in the Segelvann/Sugustad area, geological report of drill-holes 1, 2 and 3. BV1847, Report # L. V. 13. 6th May, 1982.

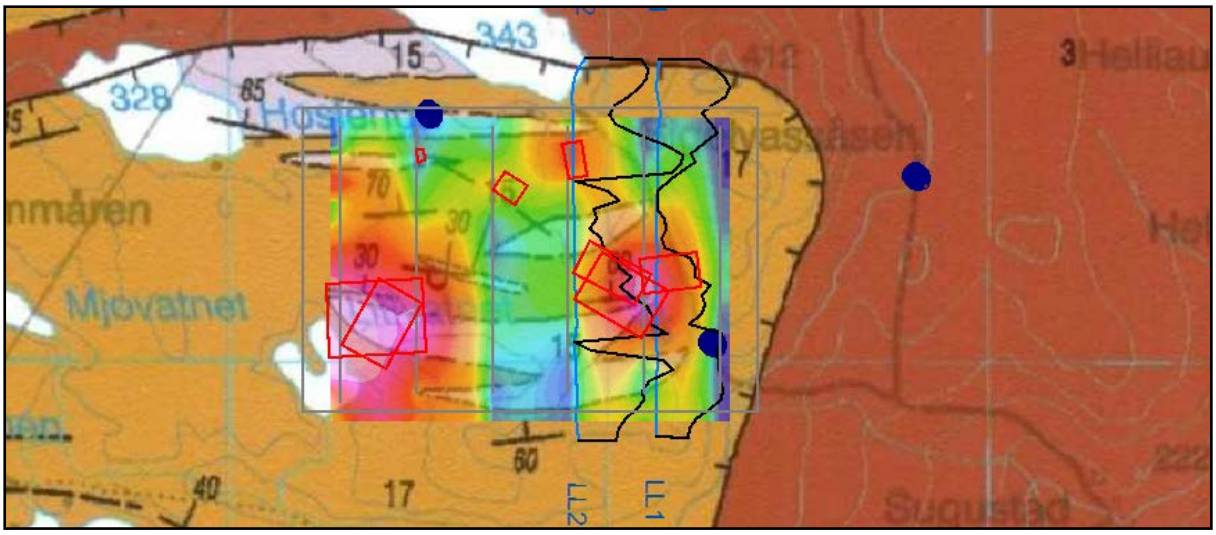


Figure 16: LK17. Løkken geology is overlaid by semitransparent raster image of FLEM total-field channel 10, FLEM status (grey lines), modelled plates (red) and gravity profiles. 1981,2 drill-holes are shown as blue dots; numbers 1 to 3 from east to west.

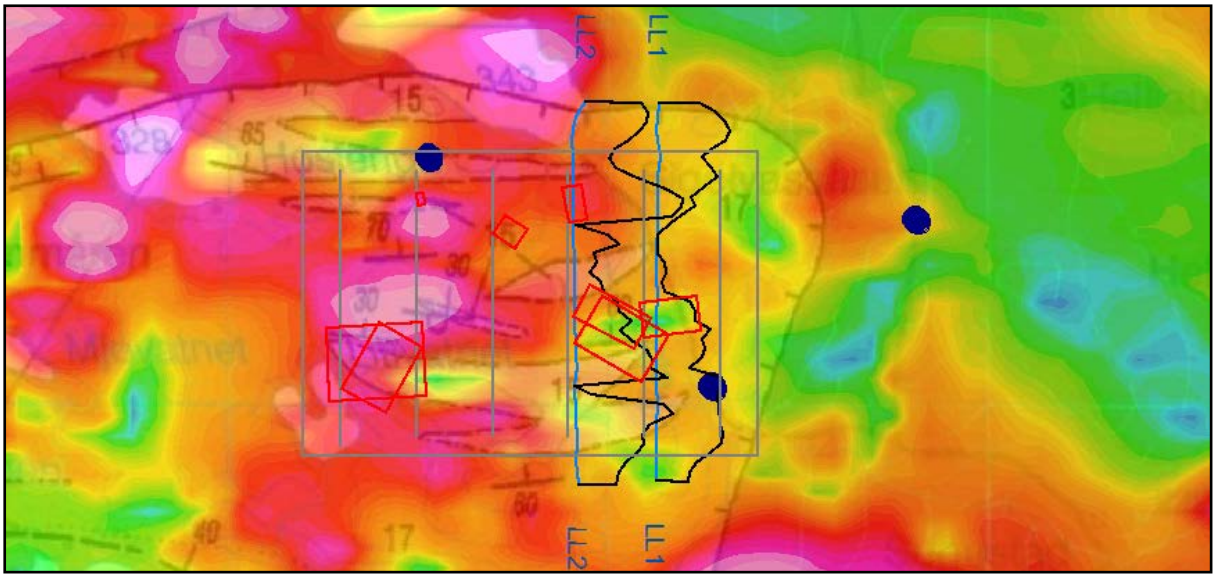


Figure 17: LK17. Raster image of TMI Analytical Signal overlaid by FLEM status (grey lines), modelled plates (red) and gravity profiles. 1981,2 drill-holes are shown as blue dots; numbers 1 to 3 from east to west.

Parameters below describe the modelled Fixed-Loop conductors, Figure 18. Plates modelled for the entire conductor are provided in the 3D *.dxf file in Appendix 3.

Plate	West	East	
East (centre top)	529320	530000	mE
North (centre top)	7001020	7001170	mN
Depth	50	60	m
Dip	20	3	degrees
Dip Direction	63	25	degrees
Strike Length	140	180	m
Depth Extent	200	100	m
Conductance	200	440	S

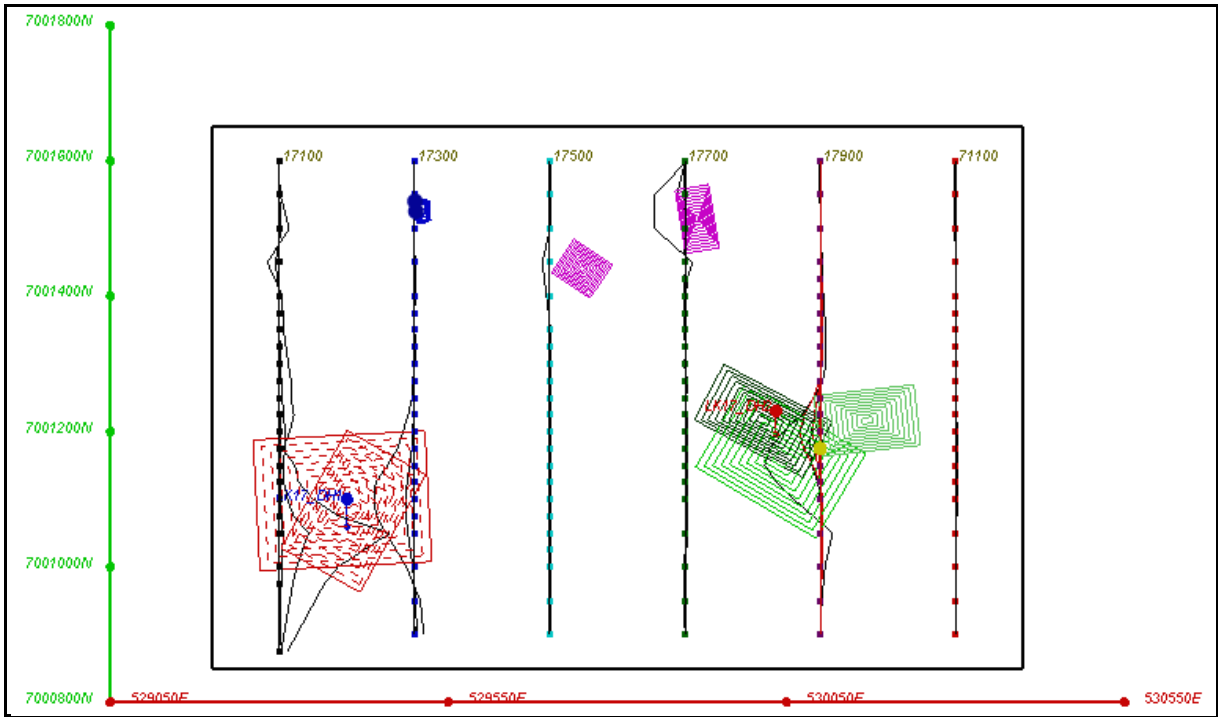


Figure 18: LK17 FLEM modelling of all lines. Two primary targets present themselves in red and green. Both are proposed for drilling by holes LK17_DH1, 2 respectively.

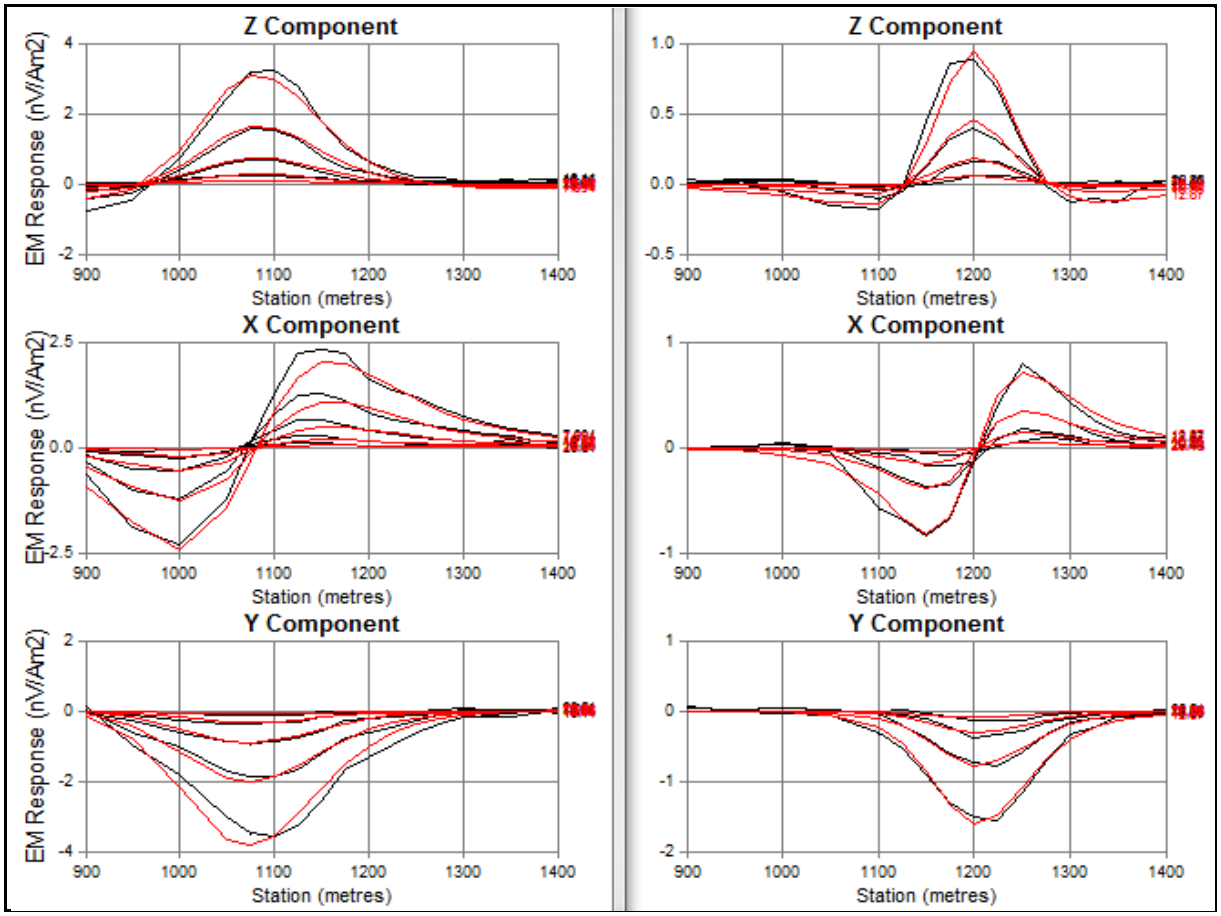


Figure 19: LK17 lines 300, 900 modelling (left and right panels) channels 11 – 15 (8-21 ms) and 13 – 16 (13-26 ms) respectively. These correspond to the small red and dark green plates; Figure 18. Black and red profiles represent field and modelled response respectively.

6.4 LK115 – Jordhus North

The Jordhus prospect approximately 1.4 km north of the Løkken orebody has been the focus of concerted exploration efforts including a drive from the underground workings. The VTEM survey suggested the main response was north of the existing drilling which prompted the acquisition of two lines of gravity to test the hypothesis that a second source may be present and host base-metal mineralisation; Figure 20. Complicating the issue is the presence of two mapped thrusts which may terminate the vk or target conductor.

Profiles of the gravity response clearly show the presence of a linear anomaly north of the historic drilling and approximately consistent with mapped vk. This is an important result since the vk horizons are not known to produce a gravitational response. FLEM was subsequently undertaken to constrain the relationship between the mapped vk, conductor location and gravity anomaly. Results for the FLEM show two clear conductive horizons approximately in parallel according to their negative-positive cross-over's in the dBz response. Coincident positive-negative anomalies in dBx suggest moderate to steeply dipping sources especially in the stronger southern source. Log profiles are presented in Appendix 2.

Four lines of FLEM were surveyed over a 600x1000 m loop which was designed to couple with both the vk horizon and the target conductor to the north. Modelling produced a well constrained fit to the southern horizon which is shallower and consequently higher in amplitude, especially on the three westernmost lines; blue plate, Figure 22. On lines 115600, 800 the northern horizon begins to dominate the response implying a plunge to the west, Figure 23. These lines provide good constraints to this conductor; however, two possible source geometries were achieved for this response. Either the source is shallower with a strong plunge or steeper in dip and flat-lying. The former, being markedly different to the interpreted vk horizon south, may indicate the preferred target geometry – a rodiform plunging body.

Decay curve analysis suggests the time-constants of the two sources are similar; approximately 10 ms with a good fit to an exponential.

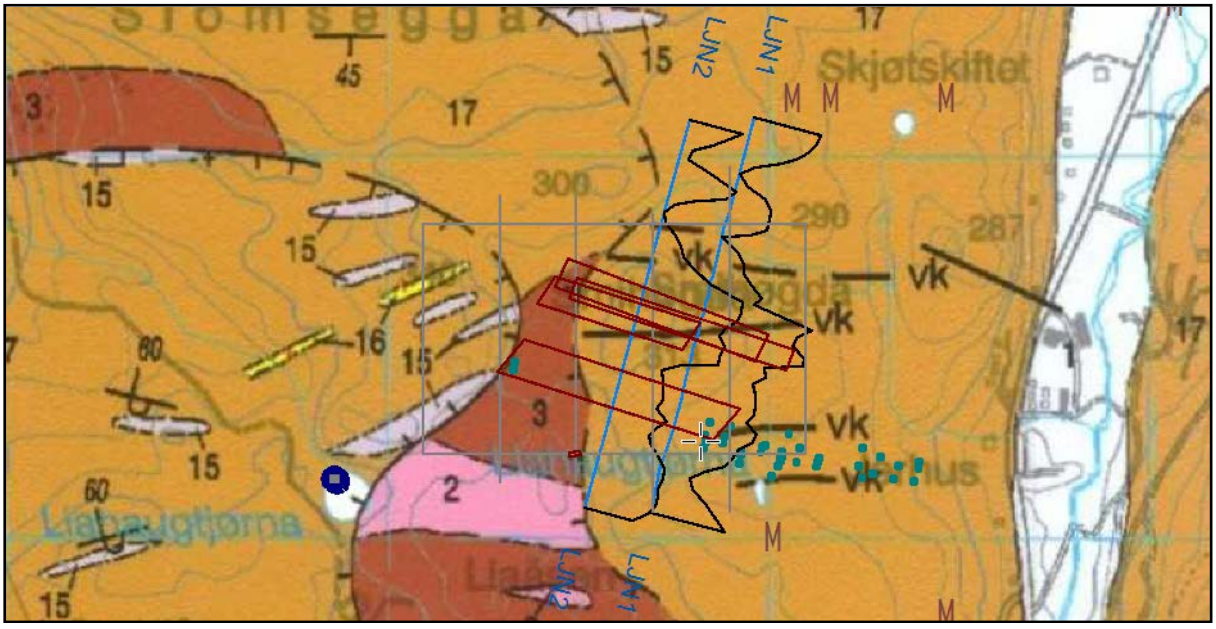


Figure 20: LK115. Løkken geology is overlaid by FLEM status (grey lines), modelled plates (red) and gravity profiles. Drilling from the 1950's is shown as blue dots.

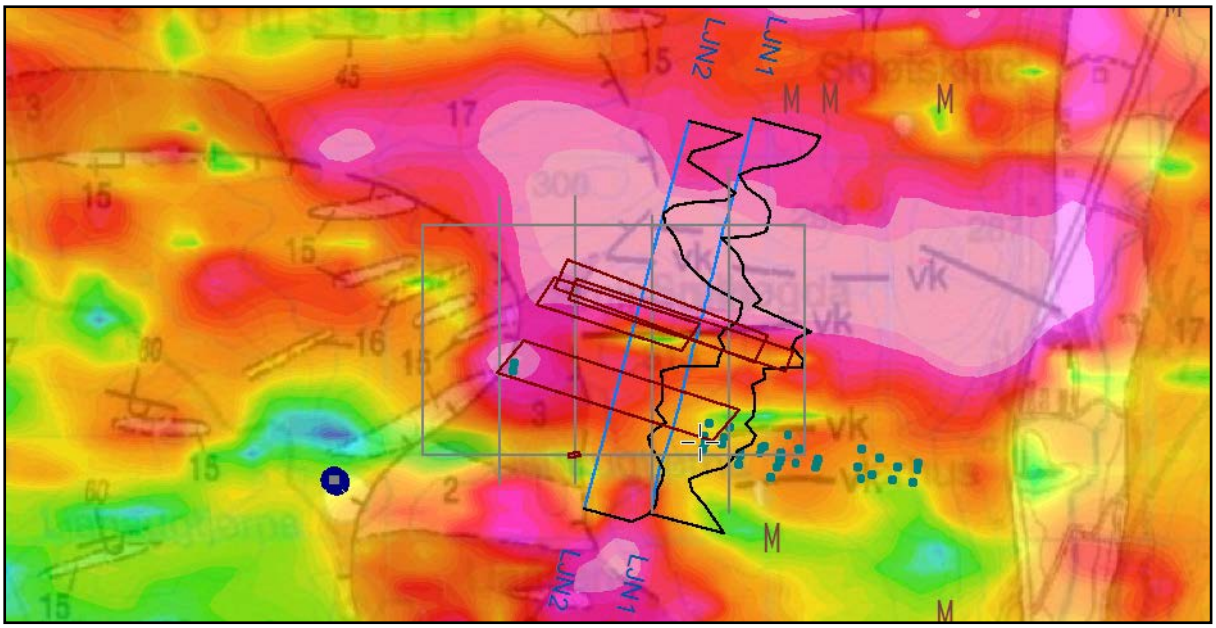


Figure 21: LK115. Raster image of TMI Analytical Signal overlaid by FLEM status (grey lines), modelled plates (red) and gravity profiles. Drilling from the 1950's is shown as blue dots.

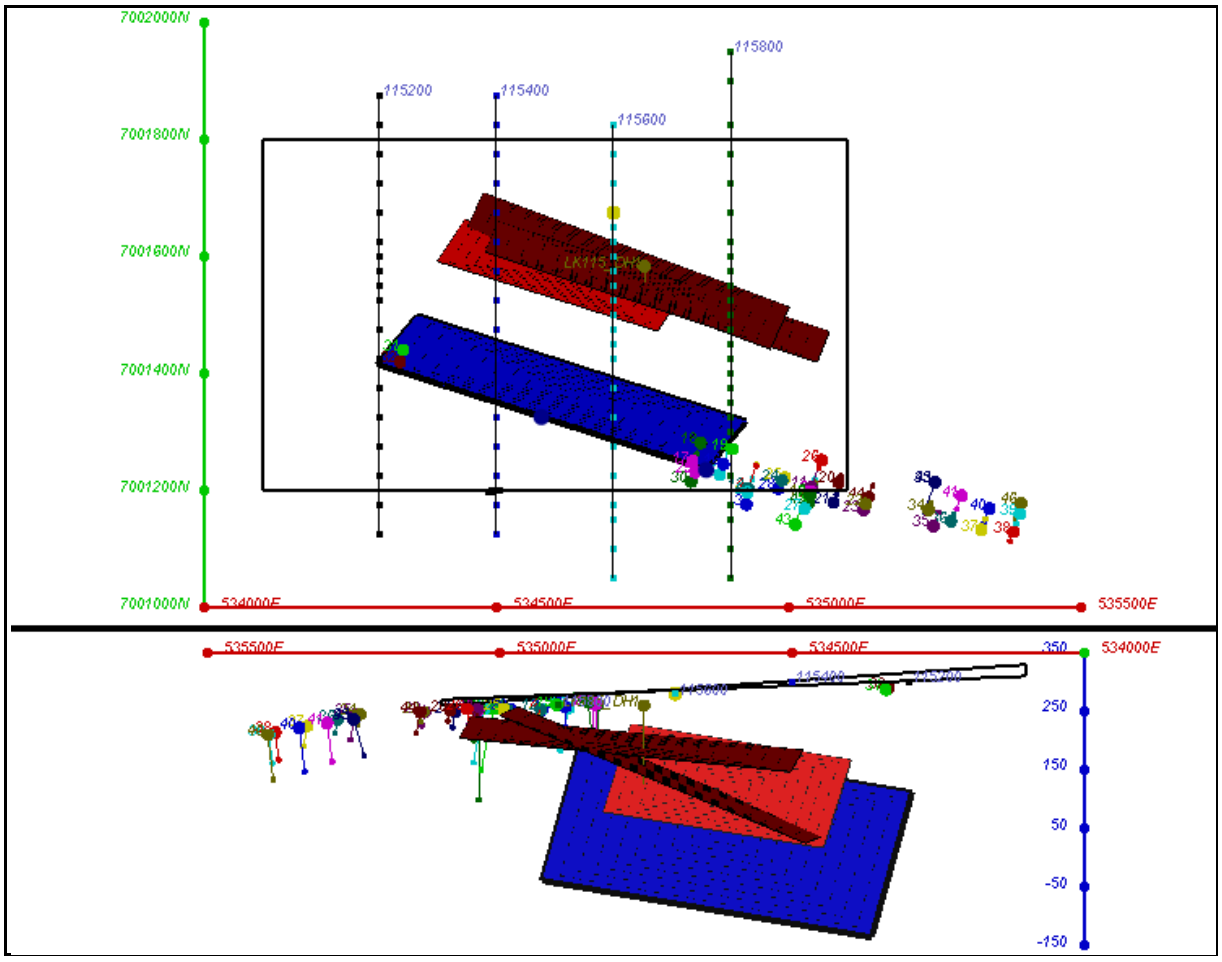


Figure 22: LK115 FLEM modelling of all lines. Two conductive horizons are modelled and interpreted. The light red plated is modelled simultaneously from lines 115200, 400. The northern conductor is proposed for drilling by hole LK115_DH1.

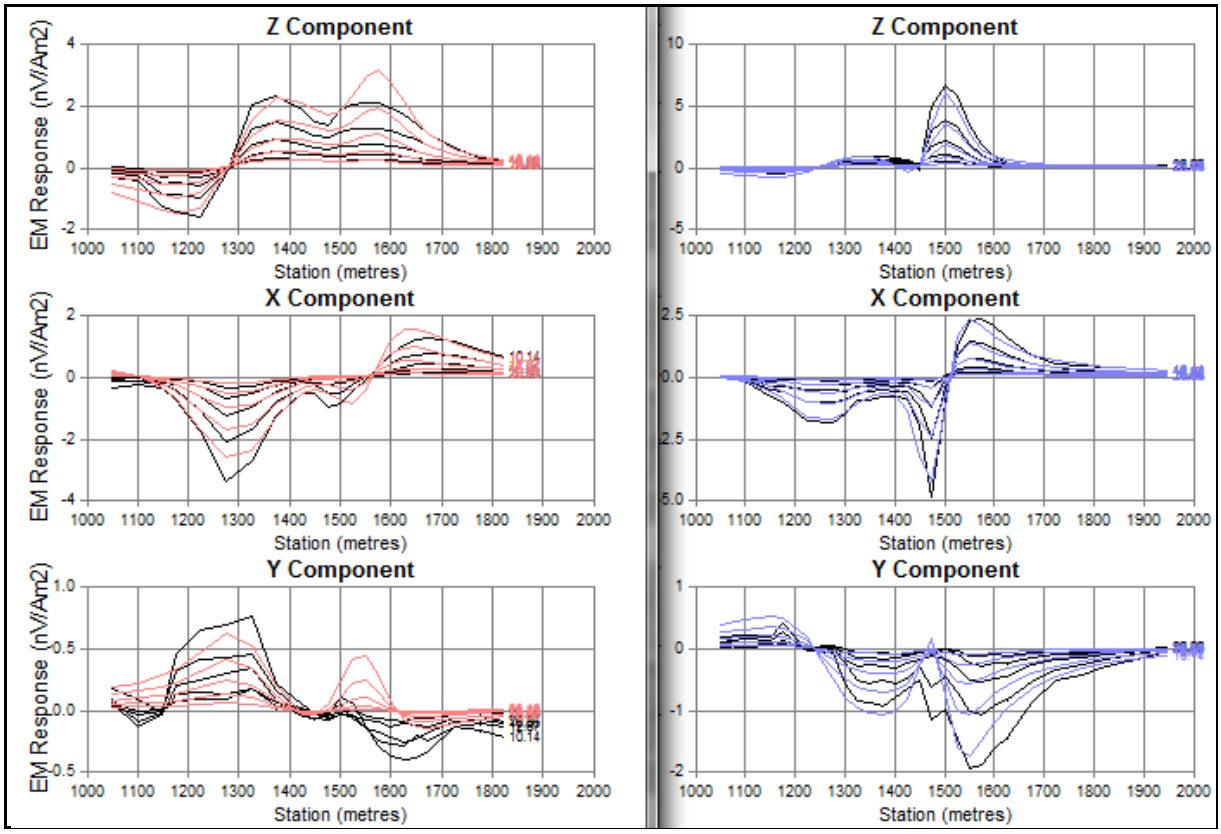


Figure 23: LK115 lines 115600, 115800 modelling (left and right panels) channels 12 – 16 (10-26 ms). These correspond to the blue plate and either of the dark red plates (which provide a similar fit). Black and coloured profiles represent field and modelled response respectively.

The northern source has been proposed for drilling since it appears to display a favourable geometry and is anomalously dense. The coincident vk horizon is not of immediate concern since it does not appear to be up-dip of the modelled plate. Drill-hole LK115_DH1 has been proposed to test this source and all its geometrical variations simultaneously.

Parameters below describe the modelled Fixed-Loop conductor, Figure 22. Plates modelled for the entire conductor are provided in the 3D *.dxf file in Appendix 3.

Plate	115600_2 (blue)	115800_1 (dark red*)	
East (centre top)	534576	534764	mE
North (centre top)	7001325	7001513	mN
Depth (centre top)	141	68	m
Dip	68	33	degrees
Dip Direction	14	10	degrees
Rotation	-10	-10	degrees
Strike Length	600	600	m
Depth Extent	270	70	m
Conductance	280	550	S

* the shallower, flat-lying dark red plate is described

6.5 LK161 – Høydal North

Analysis of the test lines flown over Høydal resulted in the identification of a possible deep anomalous response which is barely visible above the background response. Four lines at various flying heights and flight directions cover the anomaly: all exhibit some weak indication of the interpreted source including adjacent lines, Figure 25. Interestingly, this anomaly is along strike, east of the historic Løkken orebody and coincides with a moderate amplitude isolated magnetic response; Figure 24.

A single 500x500 m Fixed-Loop survey was subsequently acquired over the interpreted anomaly to identify if this could be a down-thrown east extension of the Løkken mineralisation. Three lines were surveyed which did not identify a long-wavelength anomalous response consistent with the interpreted response from the VTEM data. An increase in the noise envelope central to the loop was identified however, which could be a cultural source that has been filtered and smoothed in the VTEM data giving the apparent signature of a deep source. The central line 161400 is presented in Figure 26; adjacent lines can be viewed in Appendix 2.

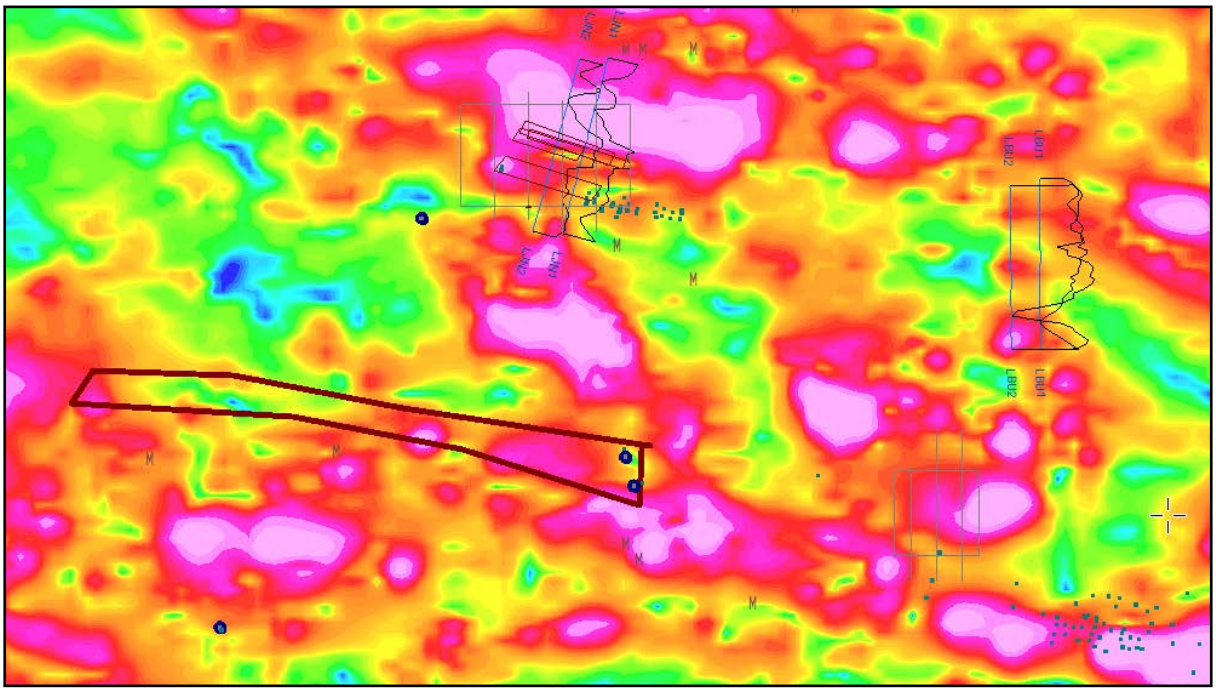


Figure 24: LK161. Raster image of TMI Analytical Signal overlaid by FLEM status (grey lines), modelled plates (red) and gravity profiles. LK161 FLEM survey is visible in the southeast. Løkken orebody outline and Jordhus prospect also shown.

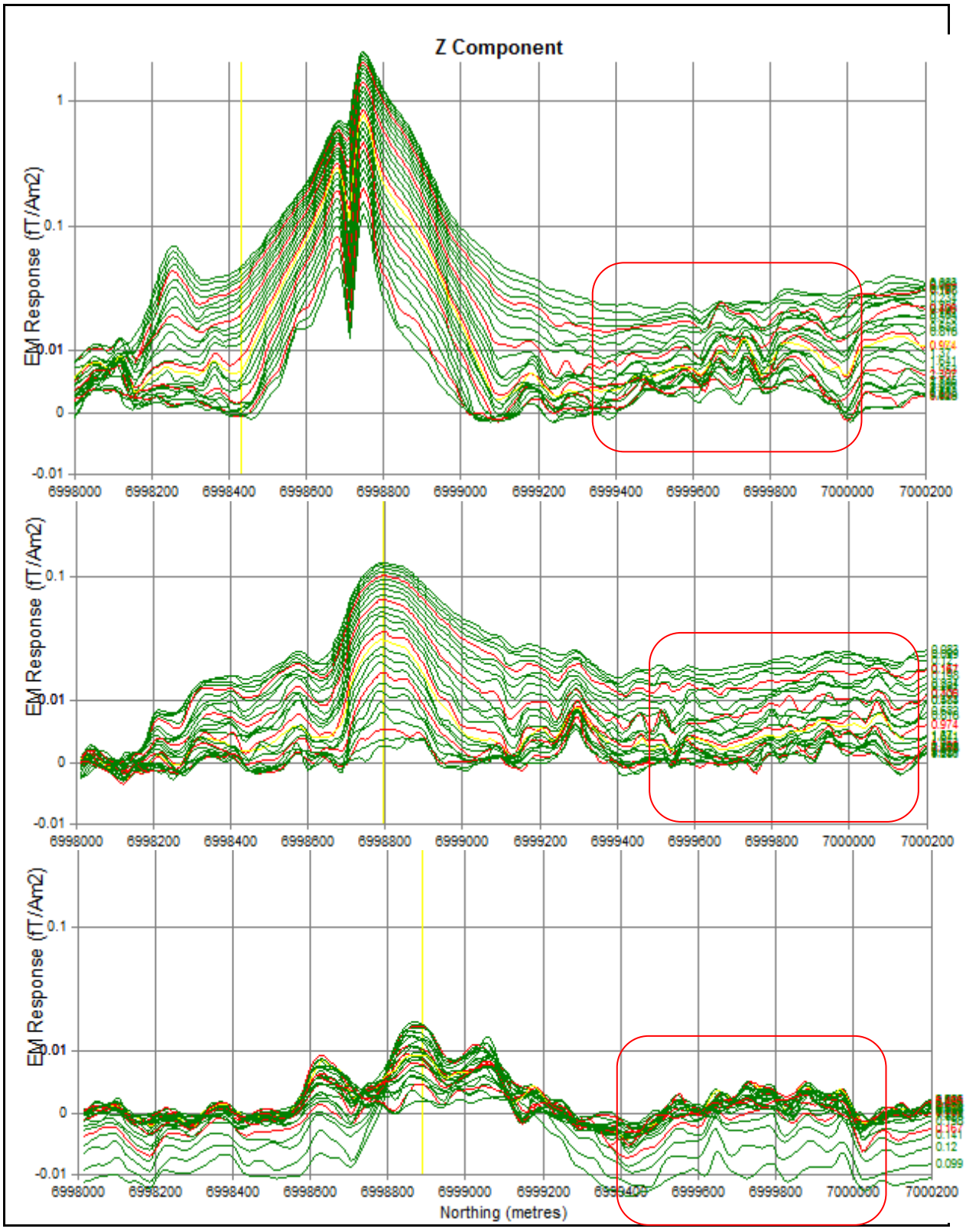


Figure 25: LK 161. Høydal test lines, Bz logarithmic profiles: increasing flight height from top to bottom panel. The red highlights demonstrate the interpreted anomalous response.

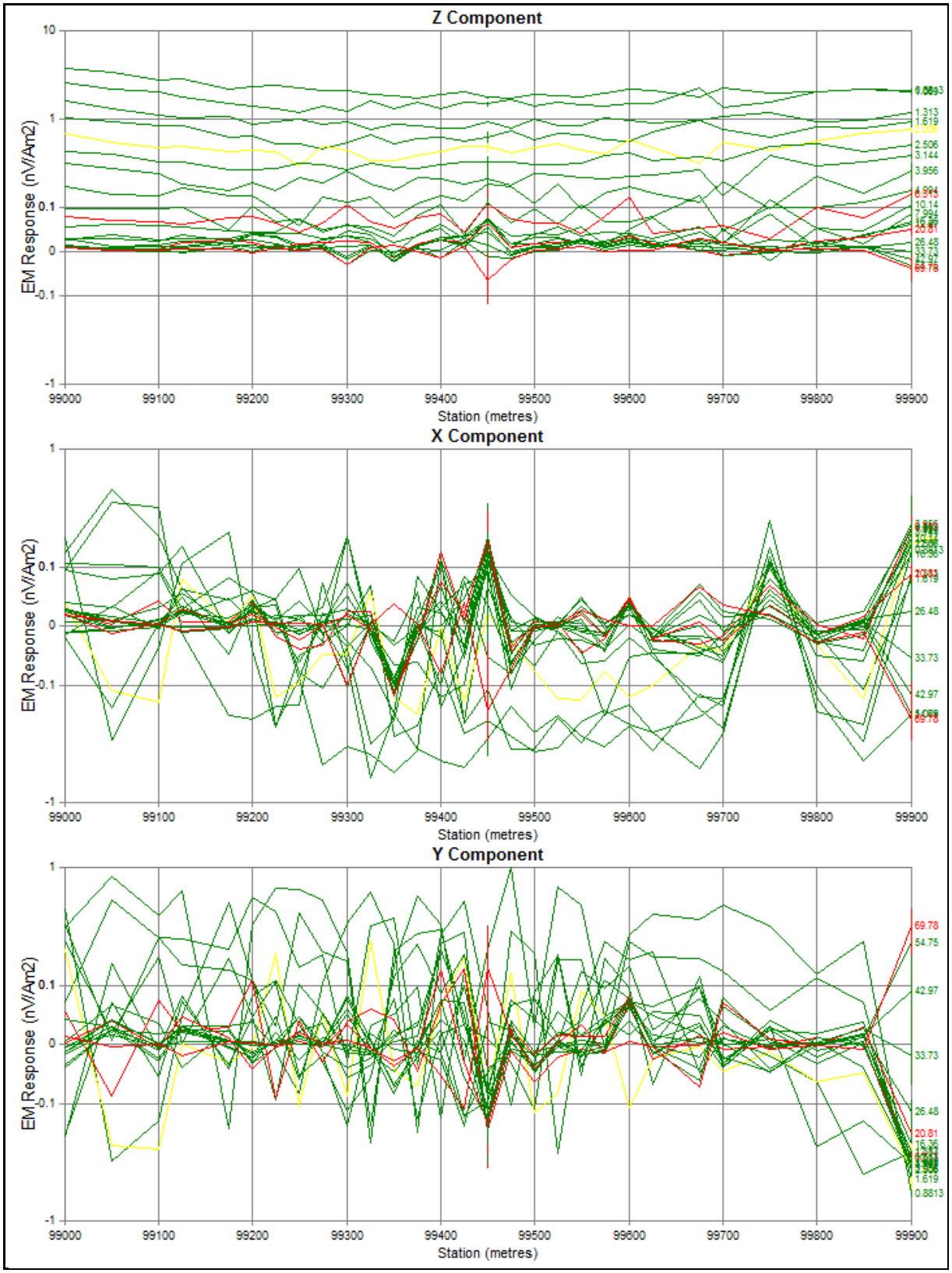


Figure 26: LK161 logarithmic profiles (dBz,x) of the central line 161400.

7. CONCLUSION AND RECOMMENDATIONS

The VTEM and follow-up FLEM at Løkken have proven to be very effective at identifying and constraining conductive sources; however, the presence of significant Jasper and Vasskis, both significant sources of electromagnetic anomalism, makes effective drill-targeting difficult. The following four target conductors could well be sourced by Vasskis and gravity profiles, where applied, were not able to discount these anomalies. Consequently, a reliance has been placed on mapped geology and calculations of the geometry, in particular where conductors to not fit the general trend. Categorisation is undertaken accordingly. Five drill-holes have been proposed to test the anomalies discussed below.

Table 2 – Løkken Suggested Drillhole Locations

Number	Easting*	Northing*	Dip	Azimuth	Length	Intersection
LK11_DH1	528940	6998580	70	210	350	340
LK24_DH1	531370	6998500	75	210	170	150
LK17_DH1	529400	7001100	70	180	120	100
LK17_DH2	530035	7001230	70	180	100	75
LK115_DH1	534750	7001580	70	180	170	~90-150

*** WGS84 – UTM Zone 32N**

7.1 LK11 – Halsetåsen

A Category 2 steeply dipping 3.3 ms tau conductor, is down-dip but offset from a jasper mapped at surface. The jasper exhibits a similar time-constant. The source is recommended for drilling subject to geological review.

7.2 LK24 – Damlia Northwest

A Category 1 conductor has been defined at depth. The model plate does not display the same dip as the neighbouring Vasskis horizon and is also short in depth-extent. Geometry and tau suggest the target source is very different from the Vasskis and is recommended for immediate drilling.

7.3 LK17 – Litlevatnet

Two Category 1.5 targets have been defined at Litlevatnet; the eastern source was covered by two gravity profiles demonstrating a coincident density anomaly. These are shallow sources not requiring deep holes although the size of the targets remains an issue. Test holes have been defined for both targets.

7.4 LK115 – Jordhus North

A strong Category 1 conductor has been constrained sufficiently for drill-targeting. The modelled conductor is immediately north of the Jordhus Vasskis which has been the subject of significant historical drilling, including a drive from the mine to assess the prospectivity.

7.5 LK161 – Høydal North

A weak interpreted late-time VTEM anomaly located in a geologically prospective location has failed to return a valid anomaly in the FLEM data. No further work is recommended here.

APPENDIX 1

EMBEDDED DATA FILES IN AMIRA FORMAT

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

Løkken FLEM Data

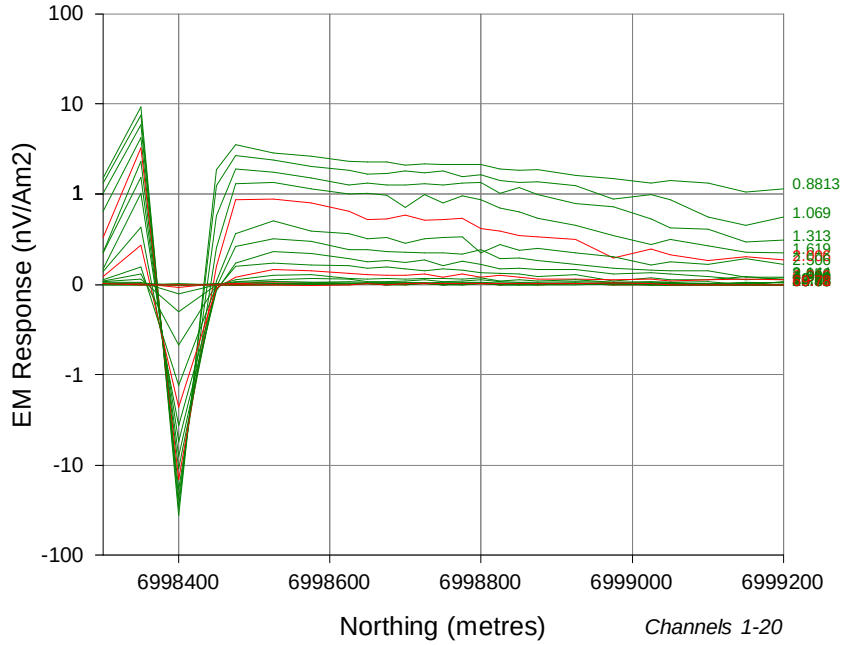
(PLEASE NOTE: Click icon above to access attached files or, alternatively, go to "View", "Navigation Panels", "Attachments")

APPENDIX 2

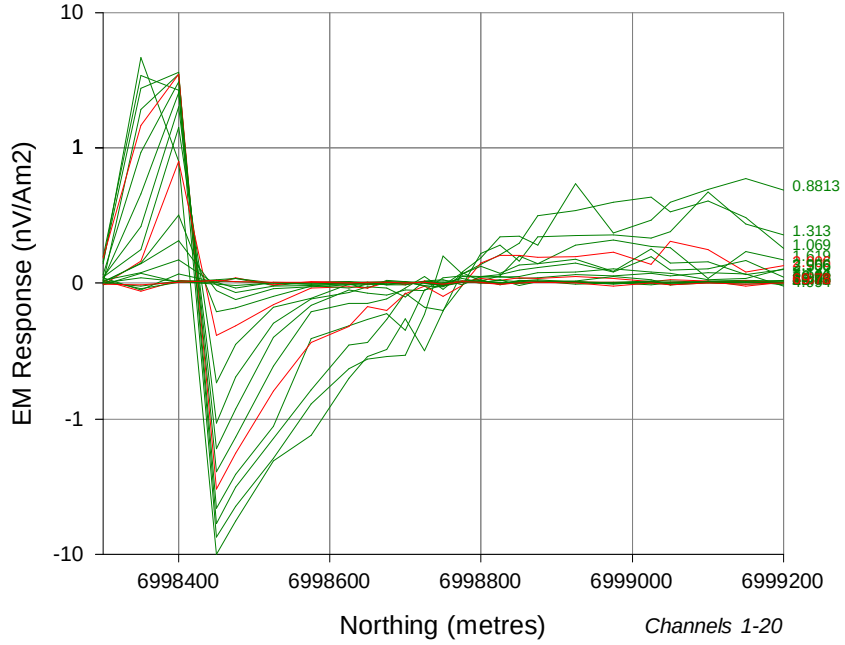
LOGARITHMIC AND LINEAR PROFILE PLOTS

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

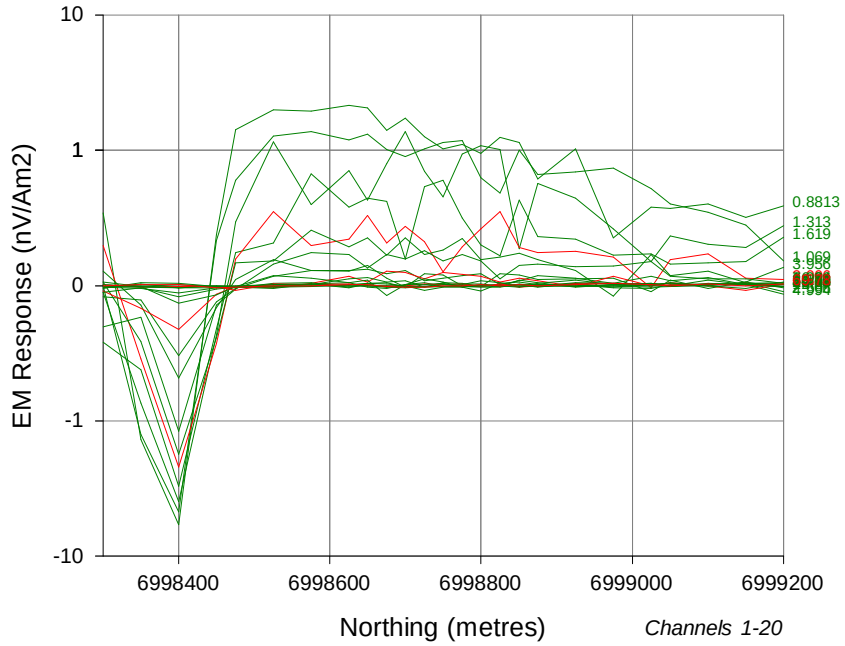
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 24-4-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK11
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 528750mE, 6998500mN
LV2	: 528750mE, 6999000mN
LV3	: 529250mE, 6999000mN
LV4	: 529250mE, 6998500mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

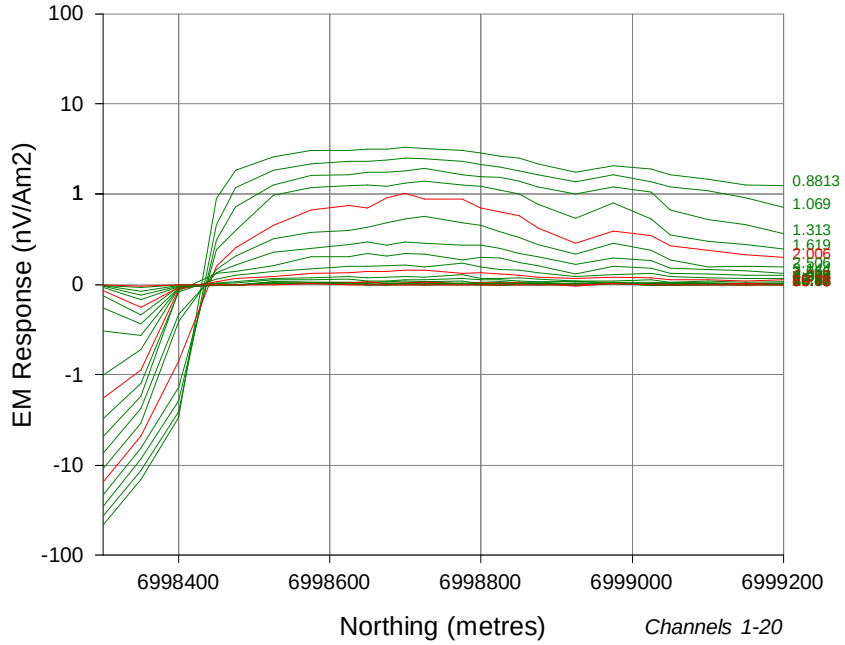
Scale 1:10000

NEWEXCO

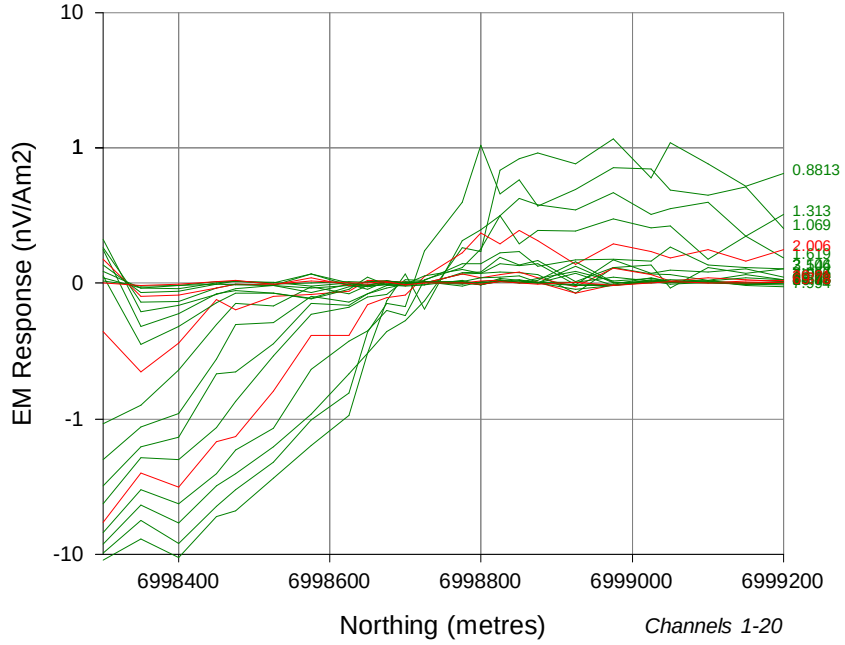
Lokken
Halsetasen
11100

Author : B. Liss

dBz Component



dBx Component



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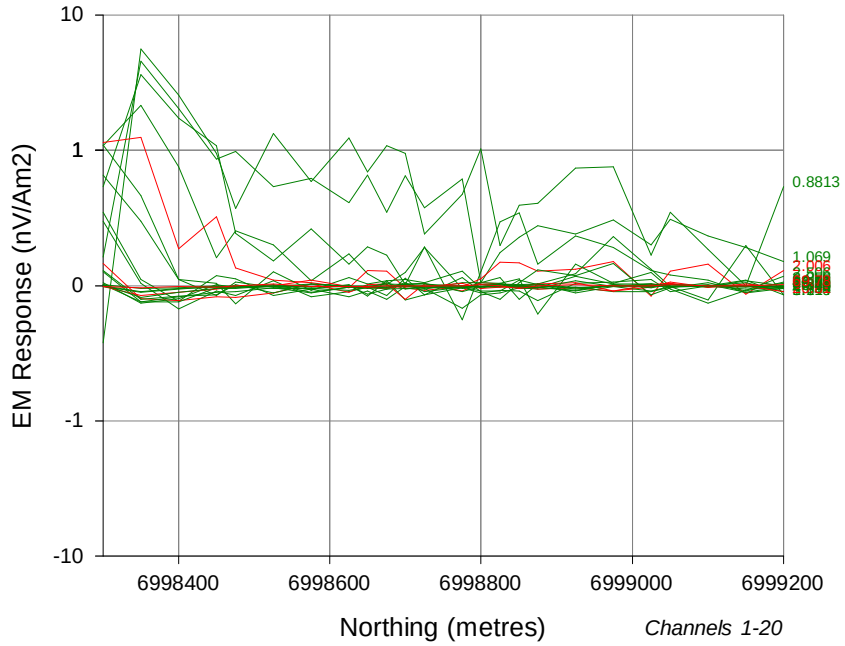

SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 24-4-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK11
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 528750mE, 6998500mN
LV2	: 528750mE, 6999000mN
LV3	: 529250mE, 6999000mN
LV4	: 529250mE, 6998500mN

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From the start of the Ramp

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2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

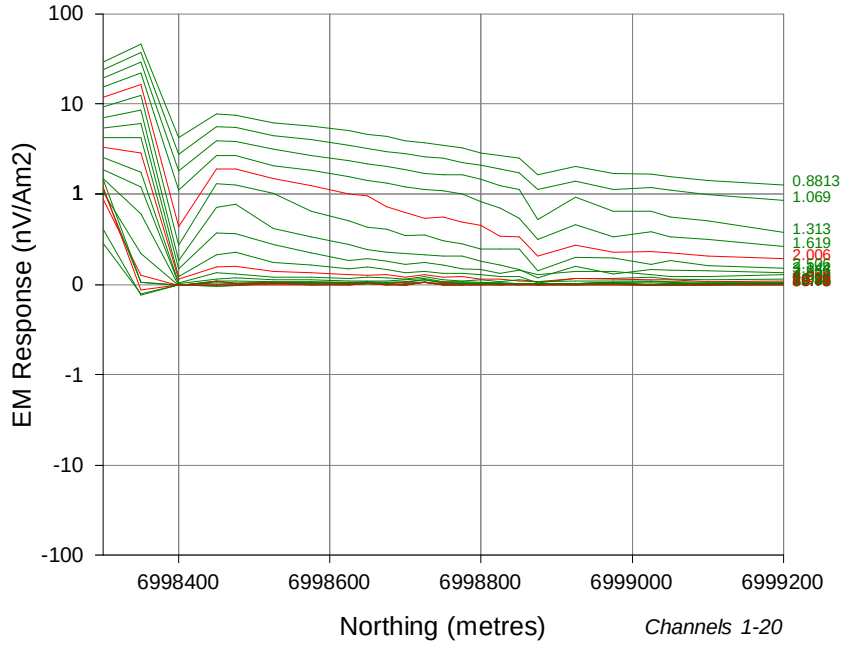
Scale 1:10000

NEWEXCO

Lokken
Halsetasen
11250

Author : B. Liss

dBz Component



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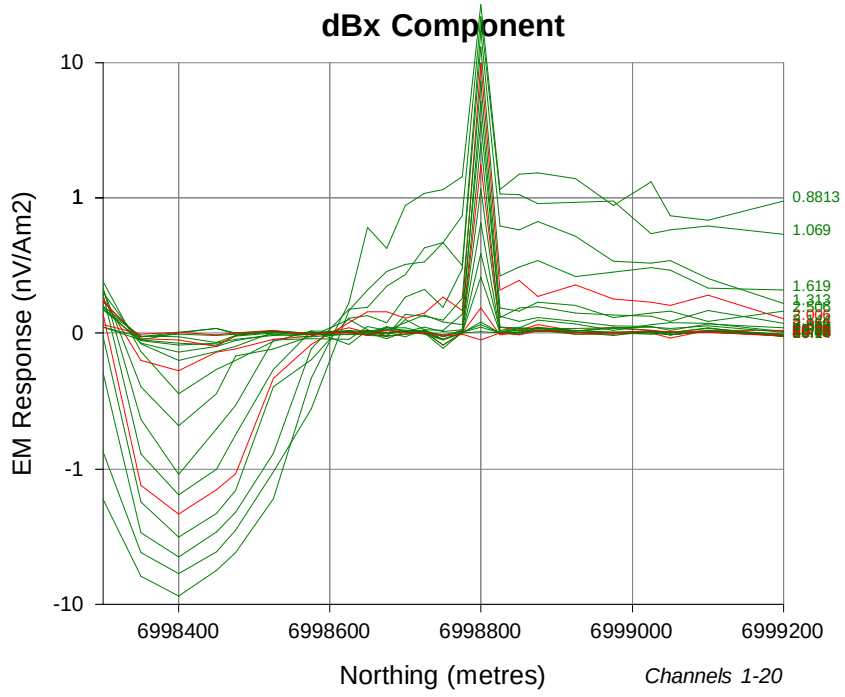

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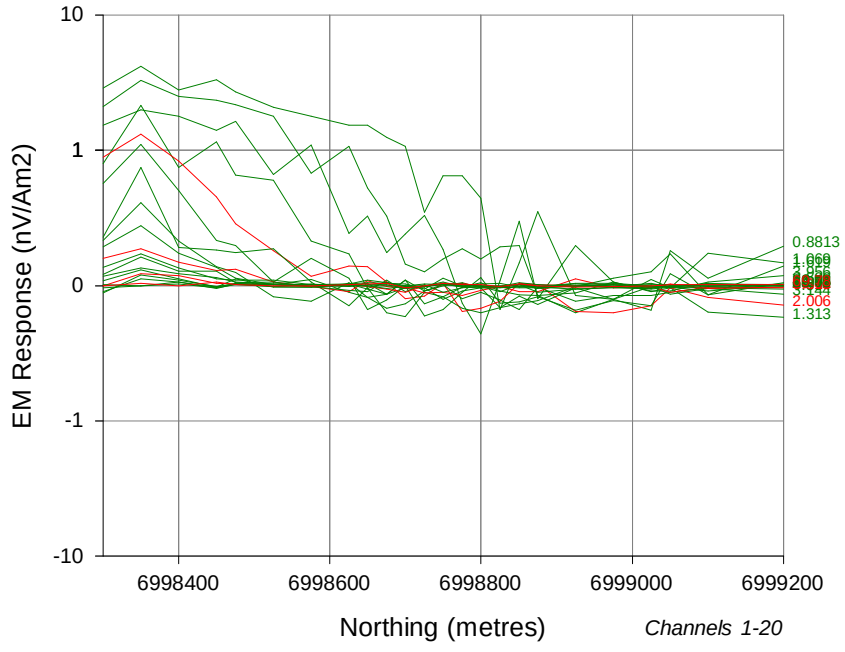


SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 24-4-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK11
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 528750mE, 6998500mN
LV2	: 528750mE, 6999000mN
LV3	: 529250mE, 6999000mN
LV4	: 529250mE, 6998500mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

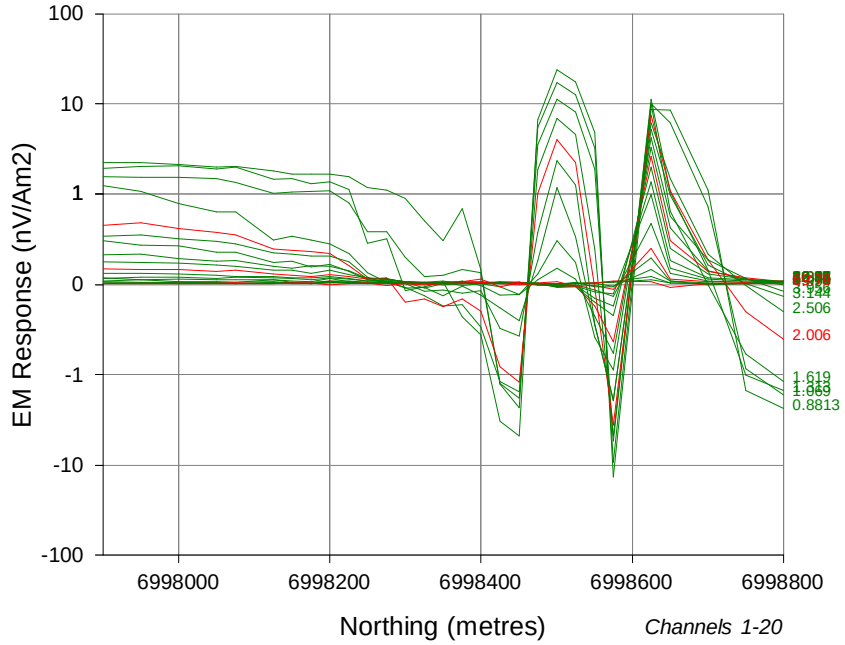
Scale 1:10000

NEWEXCO

Lokken
Halsetasen
11400

Author : B. Liss

dBz Component



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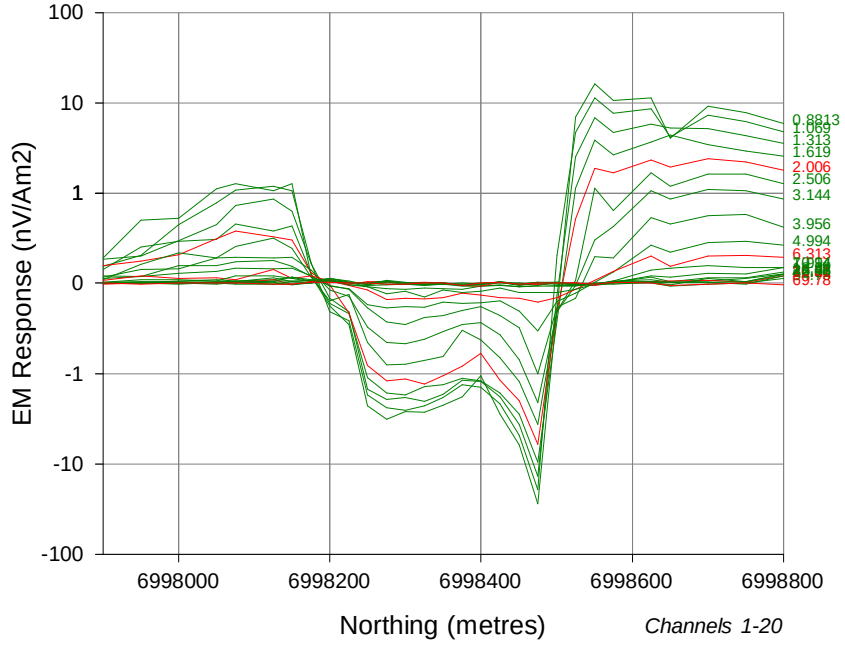

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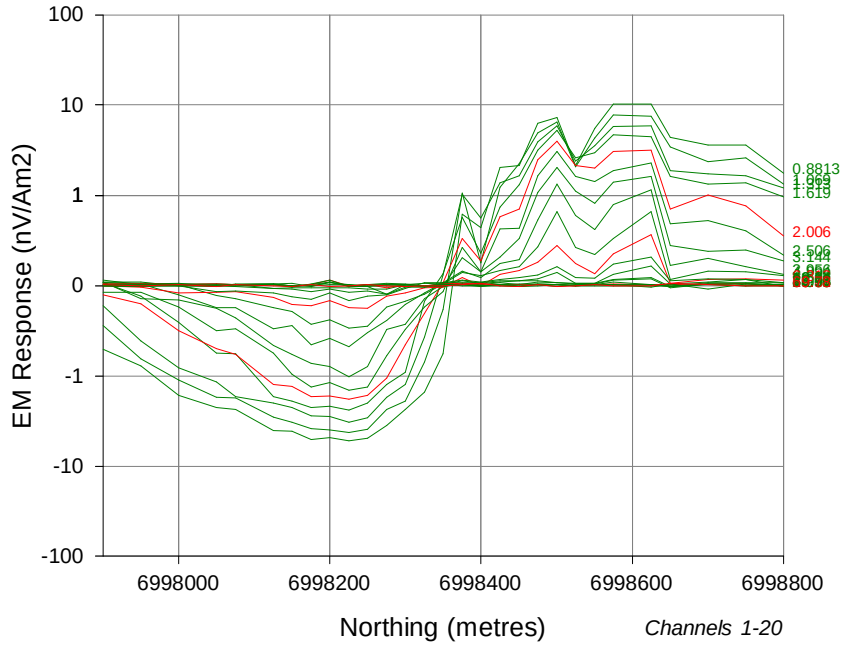


SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 23-4-12
Client	: DRK

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK24
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 531100mE, 6998600mN
LV2	: 531525mE, 6998600mN
LV3	: 531525mE, 6998100mN
LV4	: 531011mE, 6998102mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

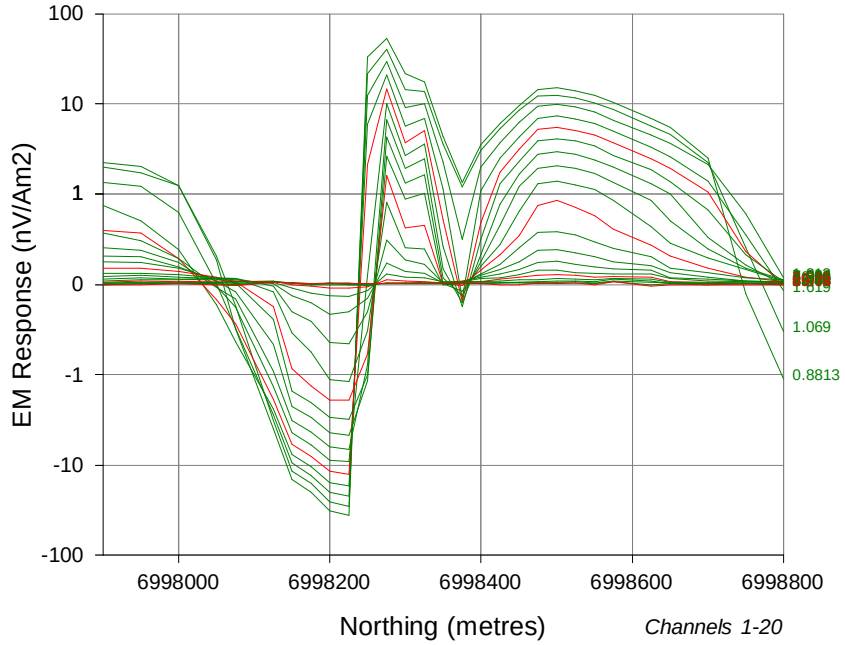
Scale 1:10000

NEWEXCO

Lokken
DamliaNW
24100

Author : B. Liss

dBz Component



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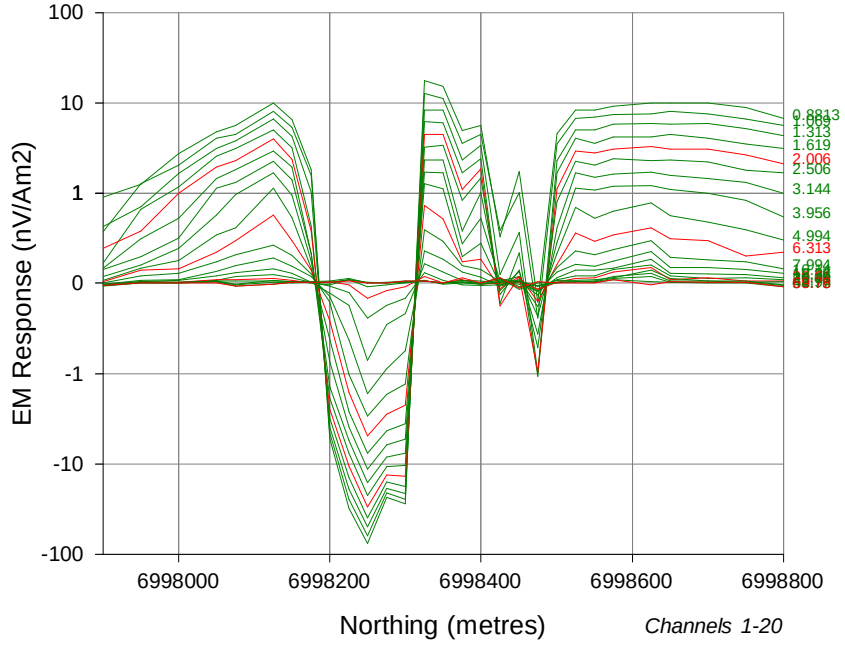

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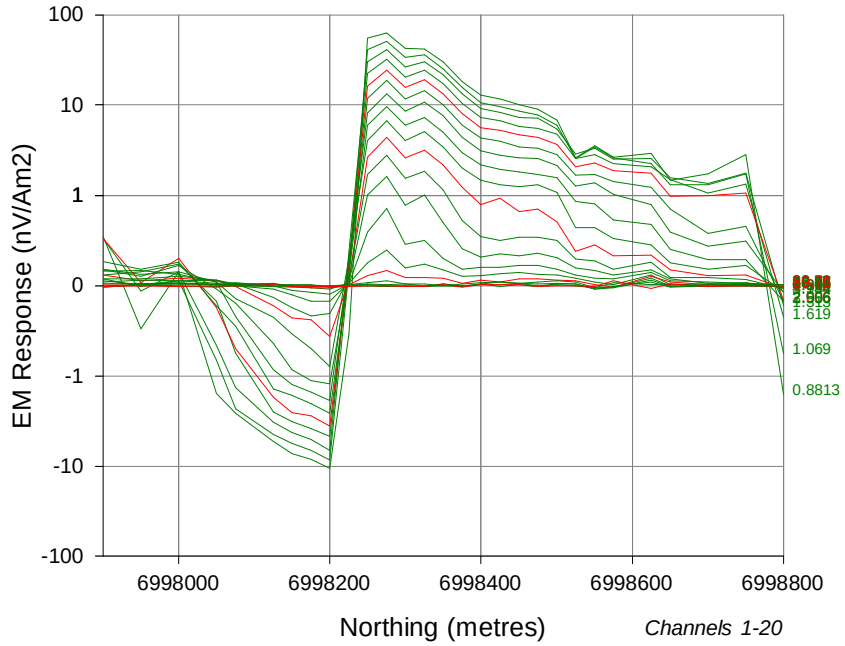


SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 23-4-12
Client	: DRK

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK24
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 531100mE, 6998600mN
LV2	: 531525mE, 6998600mN
LV3	: 531525mE, 6998100mN
LV4	: 531011mE, 6998102mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

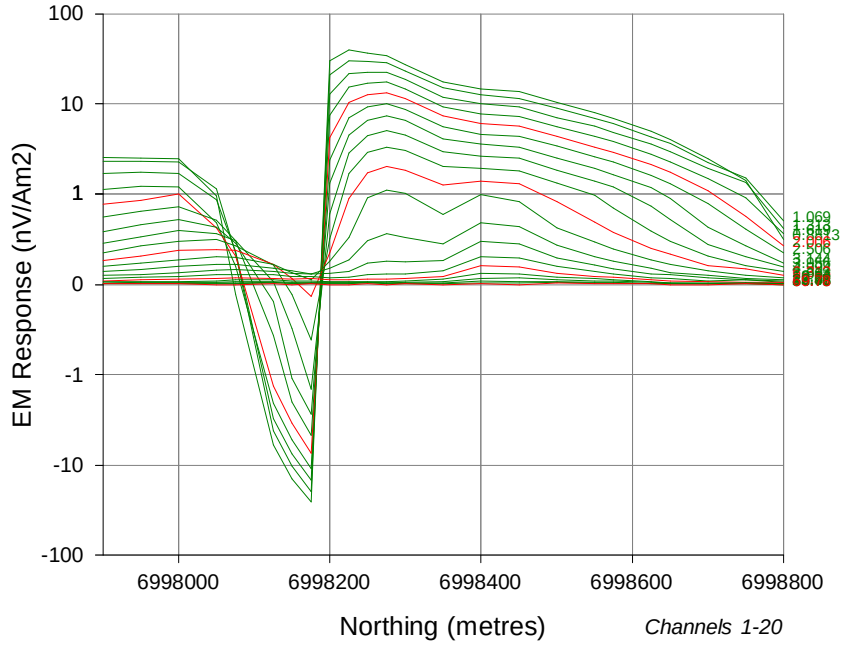
Scale 1:10000

NEWEXCO

Lokken
DamliaNW
24250

Author : B. Liss

dBz Component



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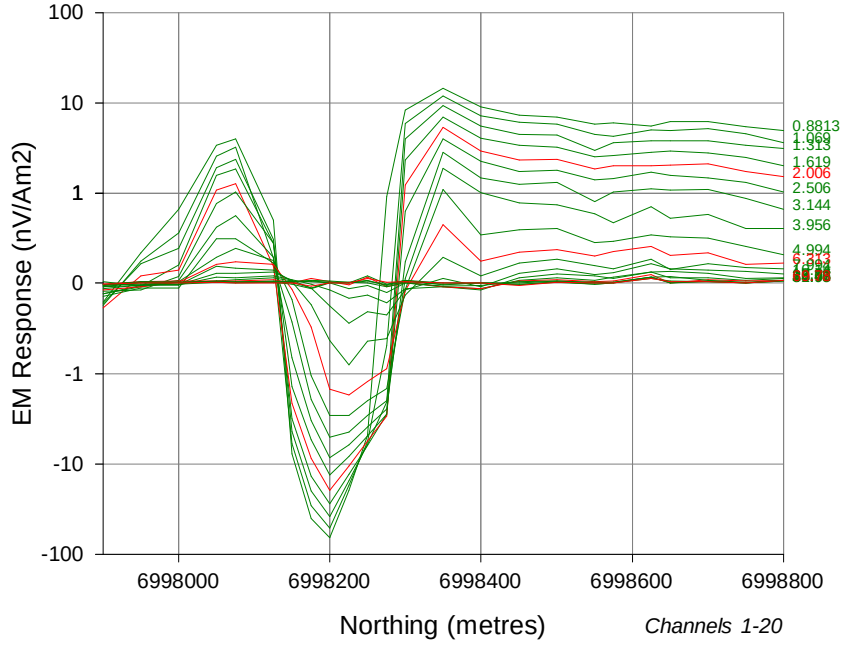

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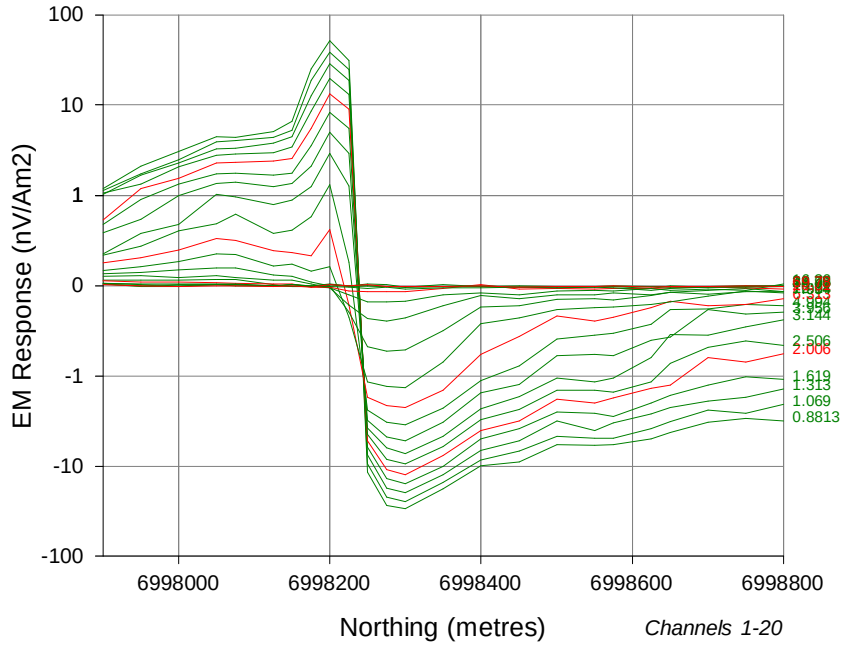


SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 23-4-12
Client	: DRK

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK24
Tx Current	: 20 A
Turn Off	: 0.325 ms

LOOP POINTS

LV1	: 531100mE, 6998600mN
LV2	: 531525mE, 6998600mN
LV3	: 531525mE, 6998100mN
LV4	: 531011mE, 6998102mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

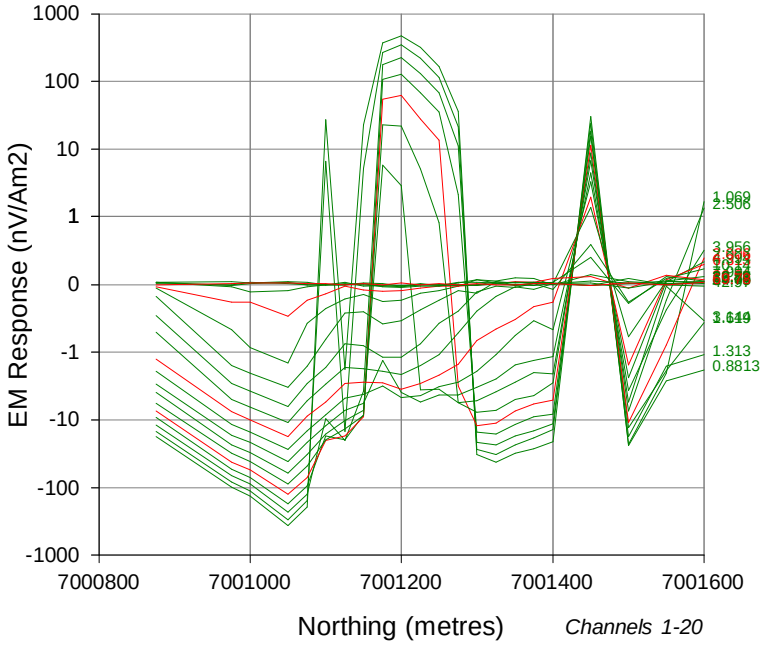
Scale 1:10000

NEWEXCO

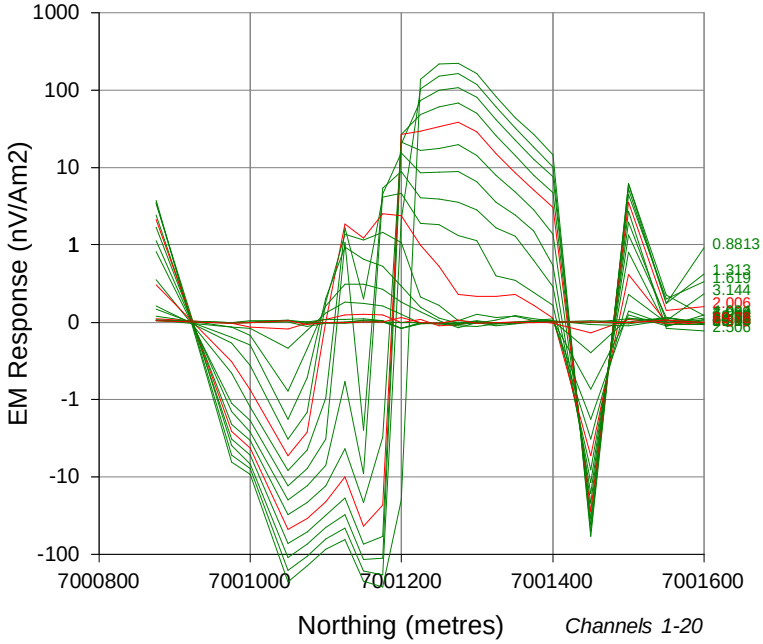
Lokken
DamliaNW
24400

Author : B. Liss

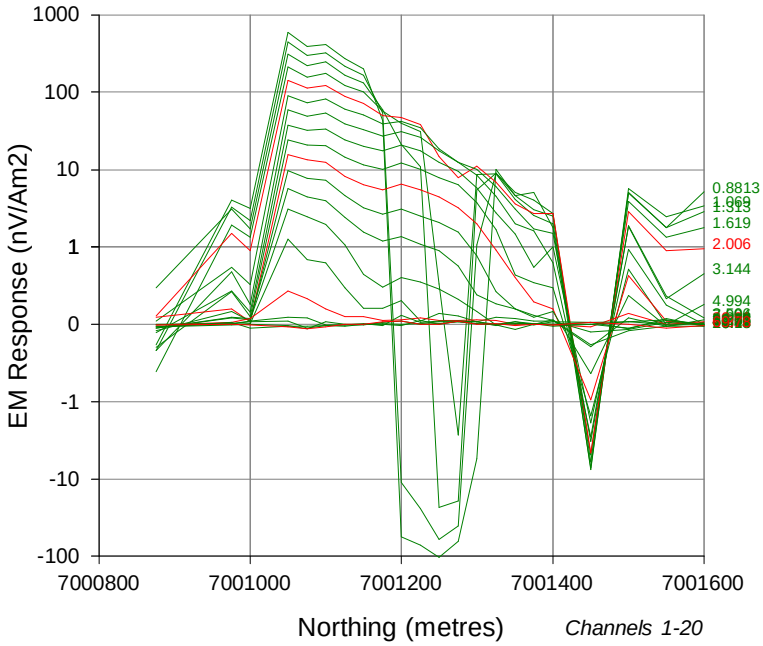
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

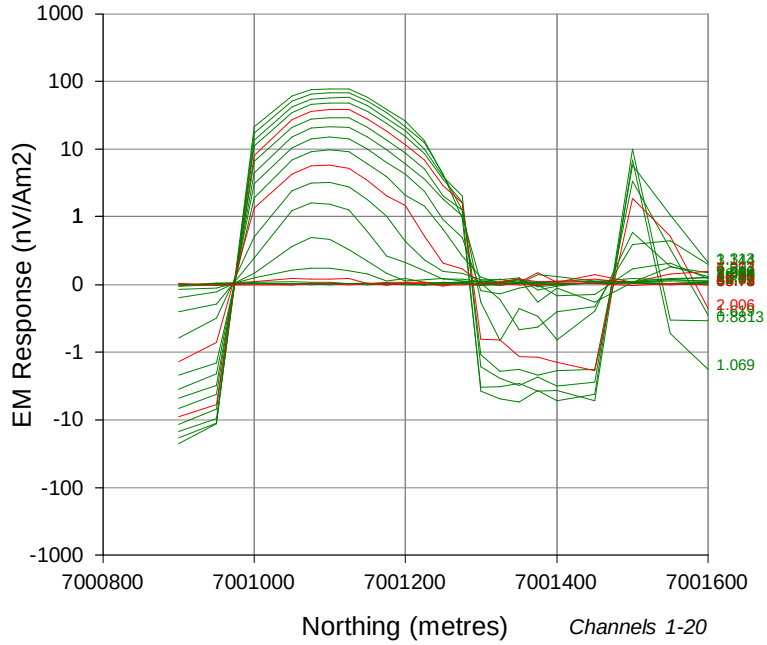
Scale 1:10000

NEWEXCO

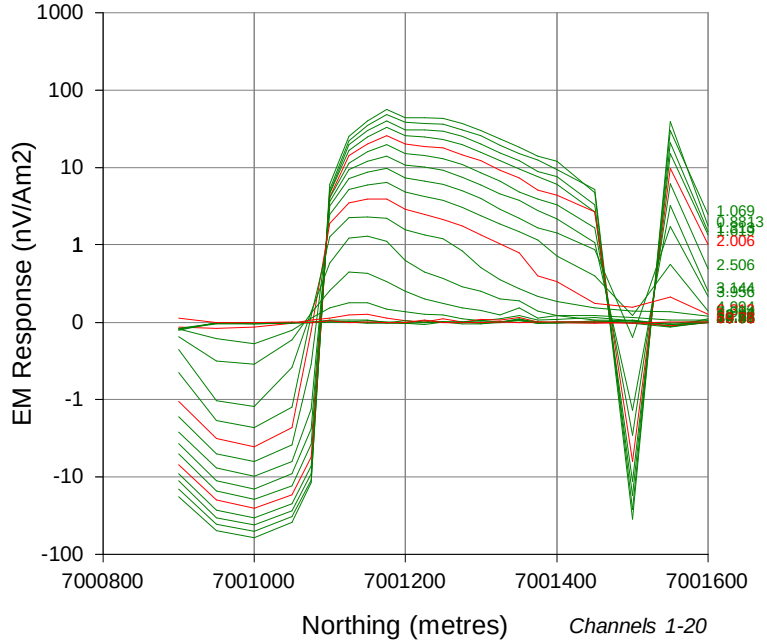
Lokken
Litlevatnet
17100

Author : B. Liss

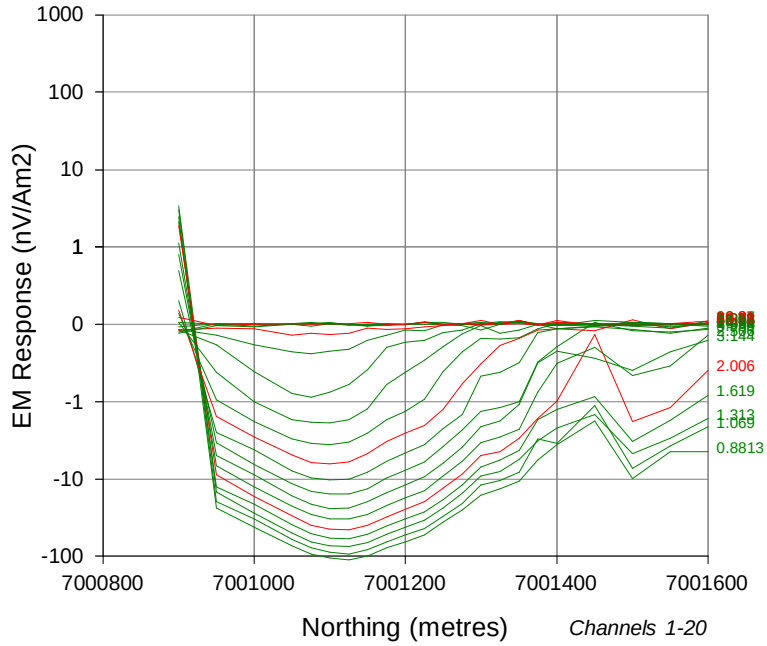
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

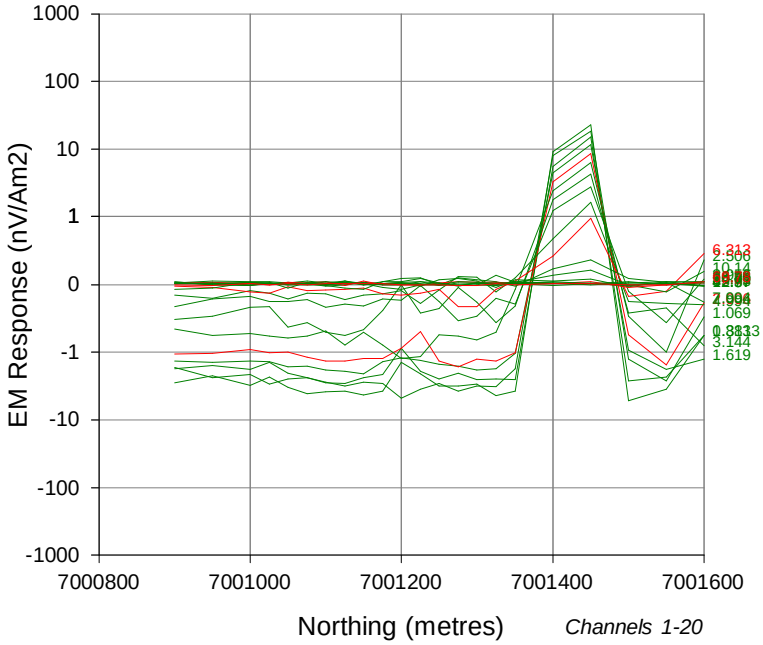
Scale 1:10000

NEWEXCO

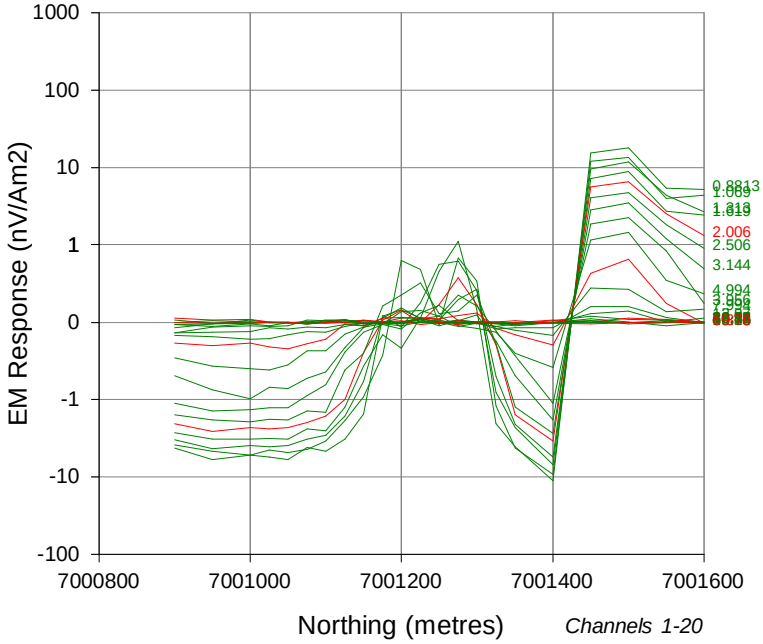
Lokken
Litlevatnet
17300

Author : B. Liss

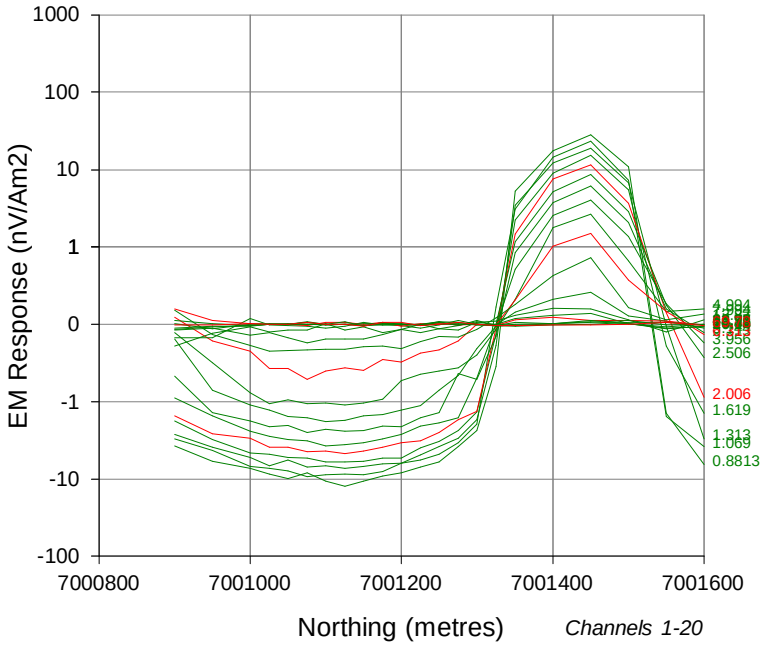
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

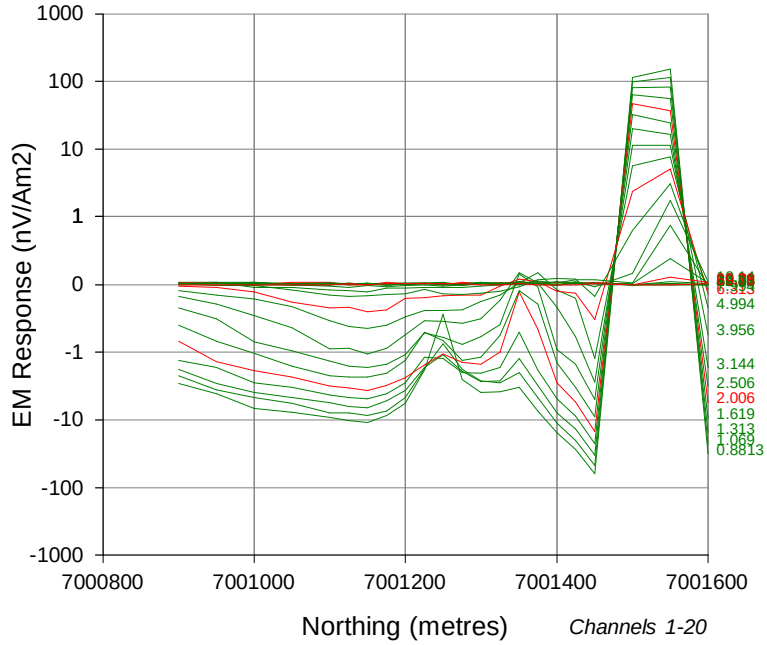
Scale 1:10000

NEWEXCO

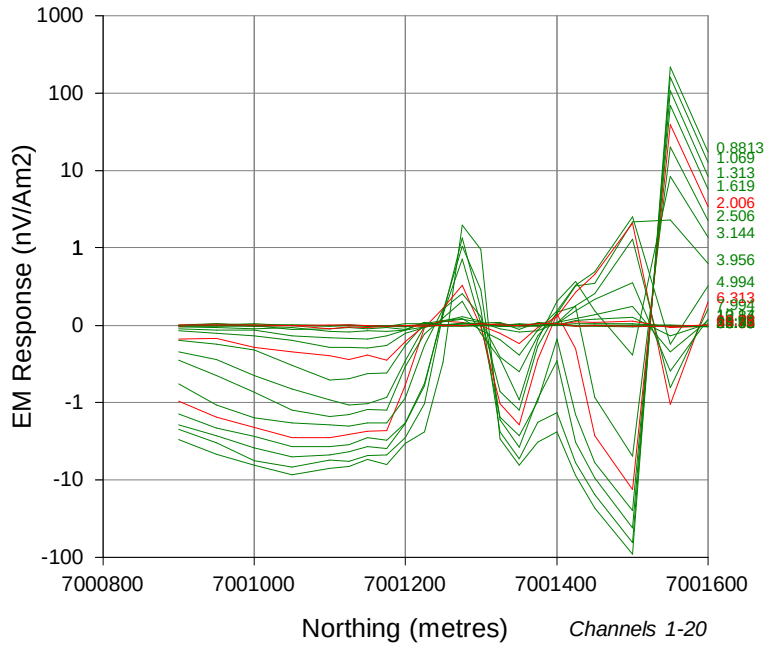
Lokken
Litlevatnet
17500

Author : B. Liss

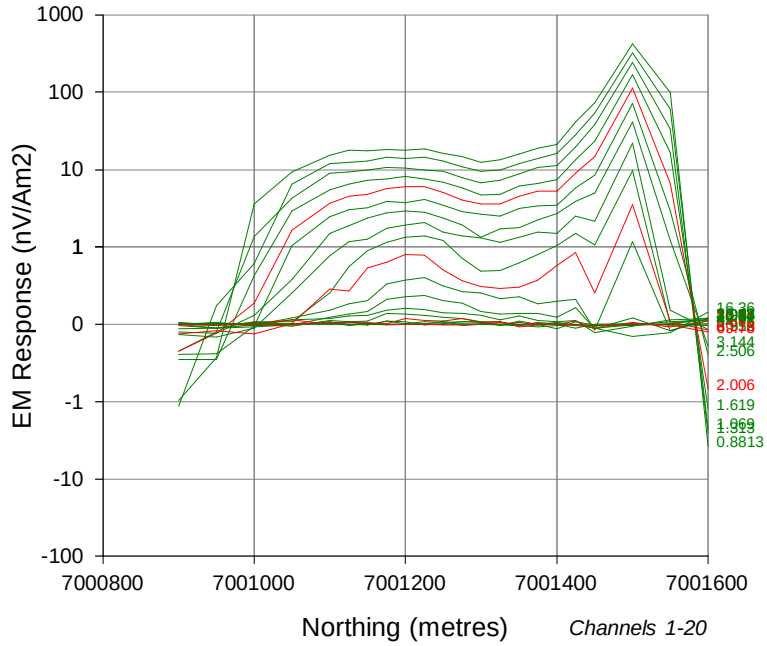
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

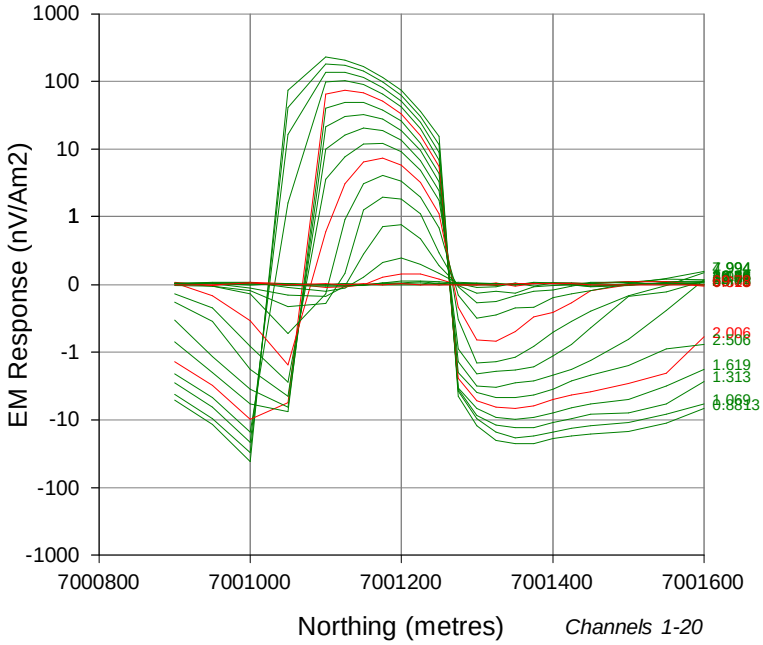
Scale 1:10000

NEWEXCO

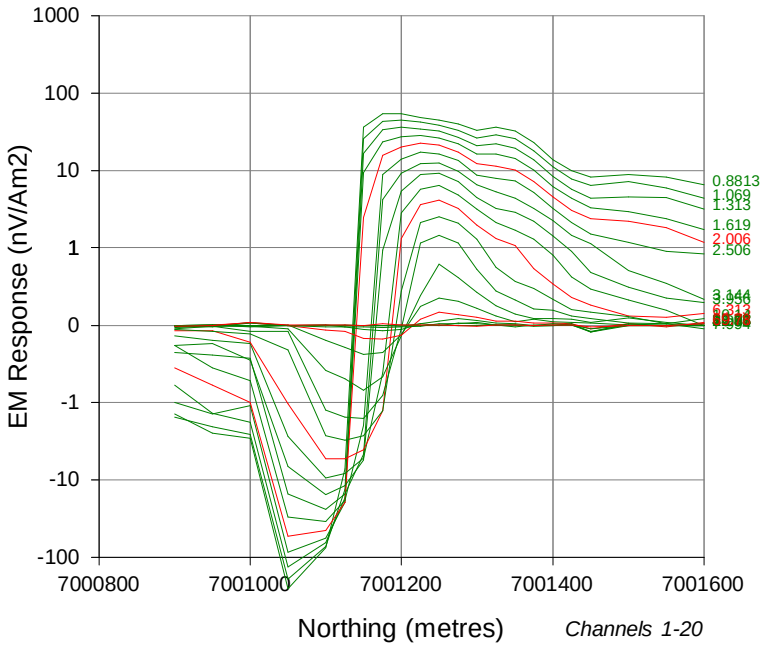
Lokken
Litlevatnet
17700

Author : B. Liss

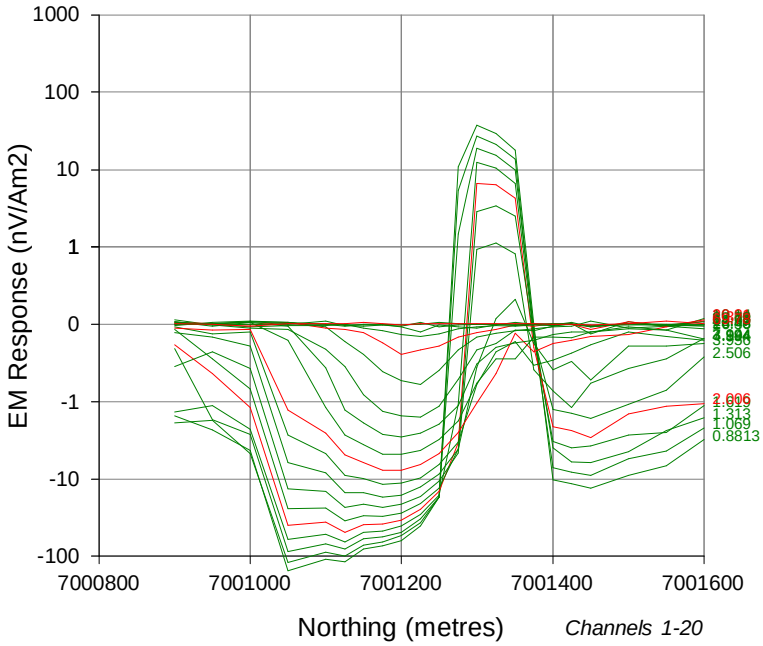
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

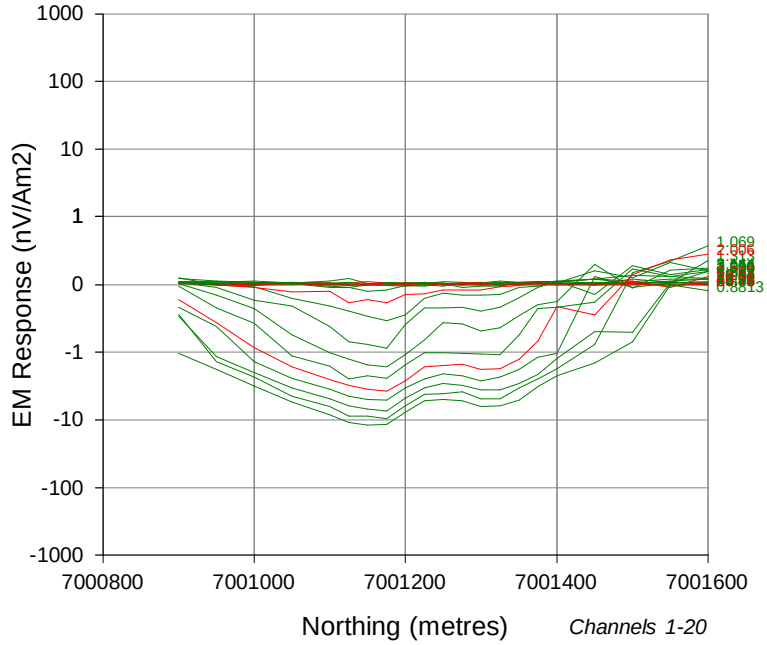
Scale 1:10000

NEWEXCO

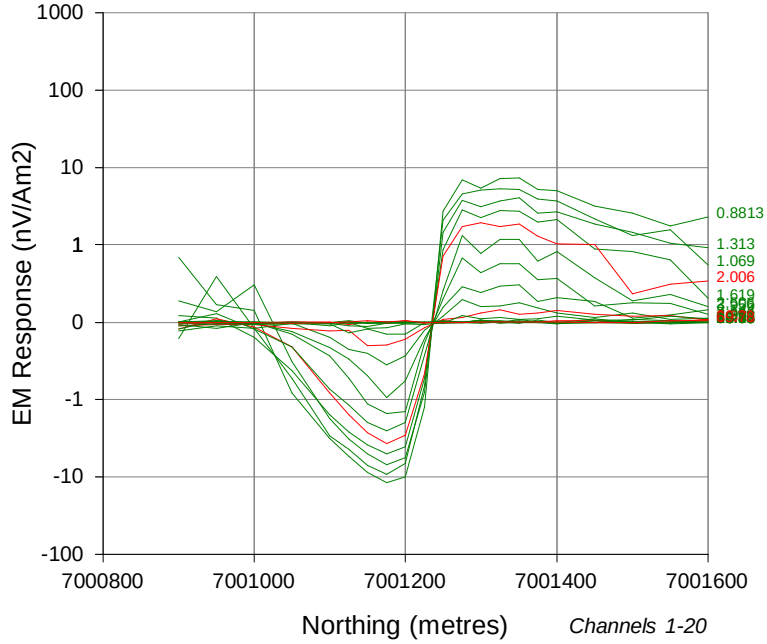
Lokken
Litlevatnet
17900

Author : B. Liss

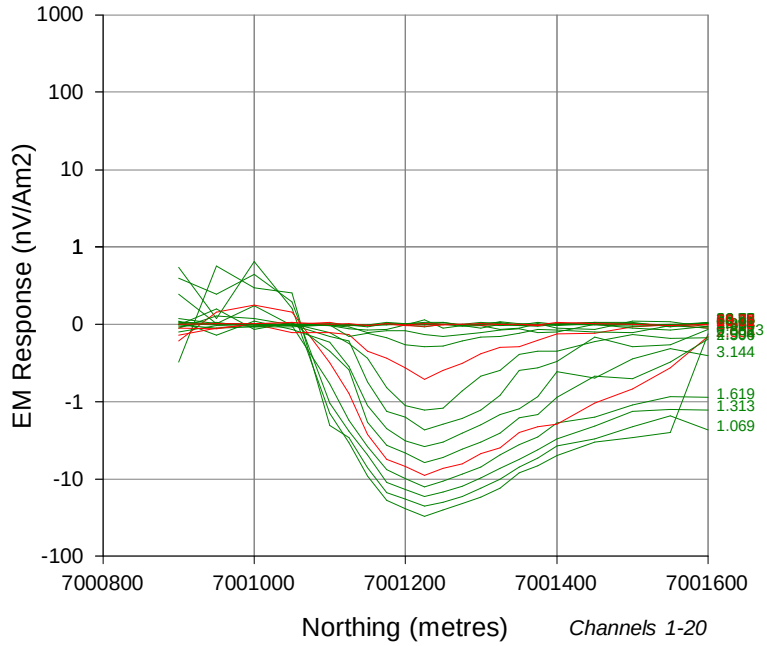
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 19-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK17
Tx Current	: 11 A
Turn Off	: 0.357 ms

LOOP POINTS

LV1	: 529200mE, 7000850mN
LV2	: 529200mE, 7001650mN
LV3	: 530400mE, 7001650mN
LV4	: 530400mE, 7000850mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

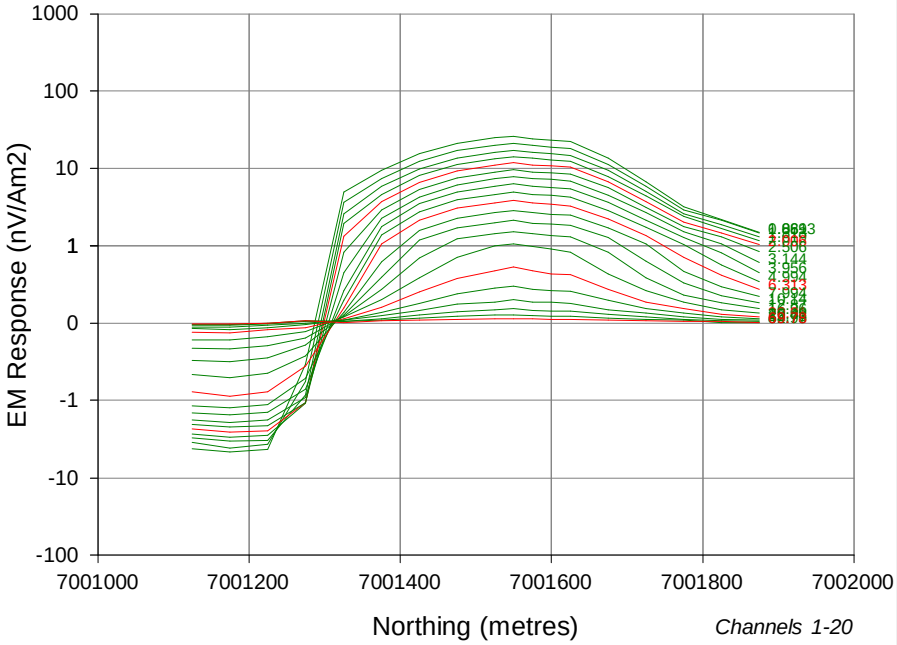
Scale 1:10000

NEWEXCO

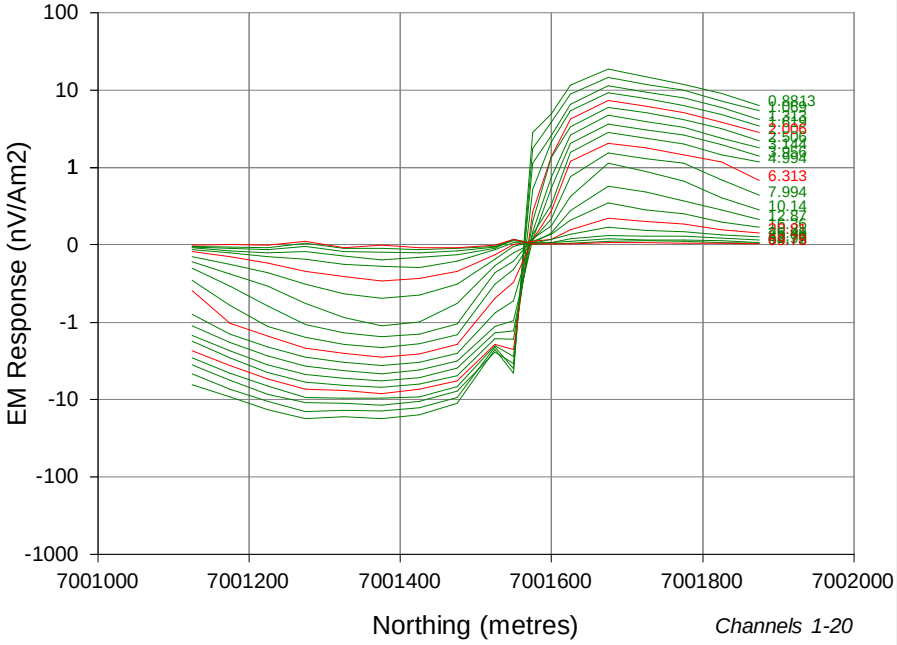
Lokken
Litlevatnet
71100

Author : B. Liss

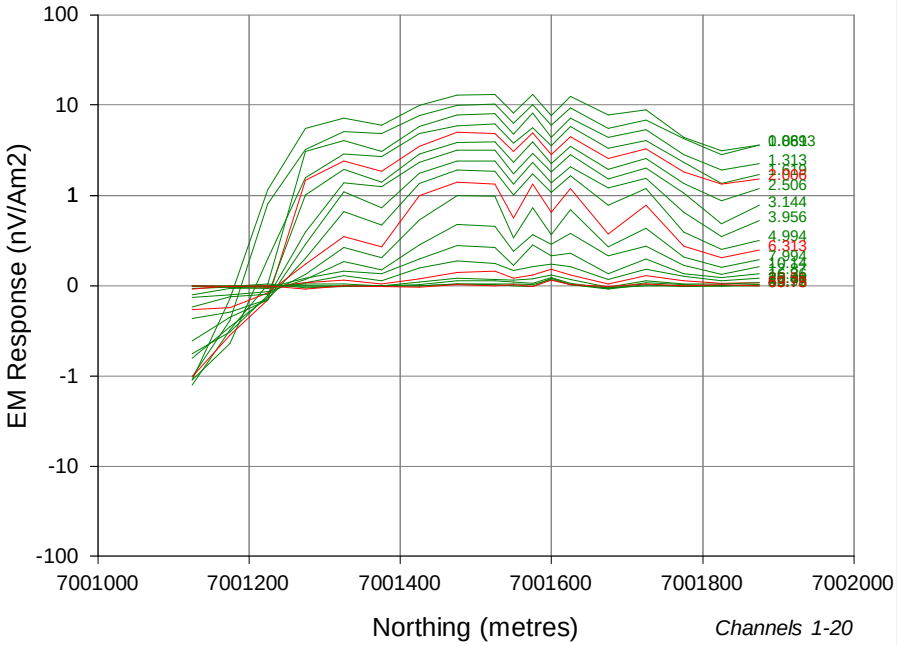
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 18-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK115
Tx Current	: 13 A
Turn Off	: 0.323 ms

LOOP POINTS

LV1	: 534100mE, 7001200mN
LV2	: 534100mE, 7001800mN
LV3	: 535100mE, 7001800mN
LV4	: 535100mE, 7001200mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

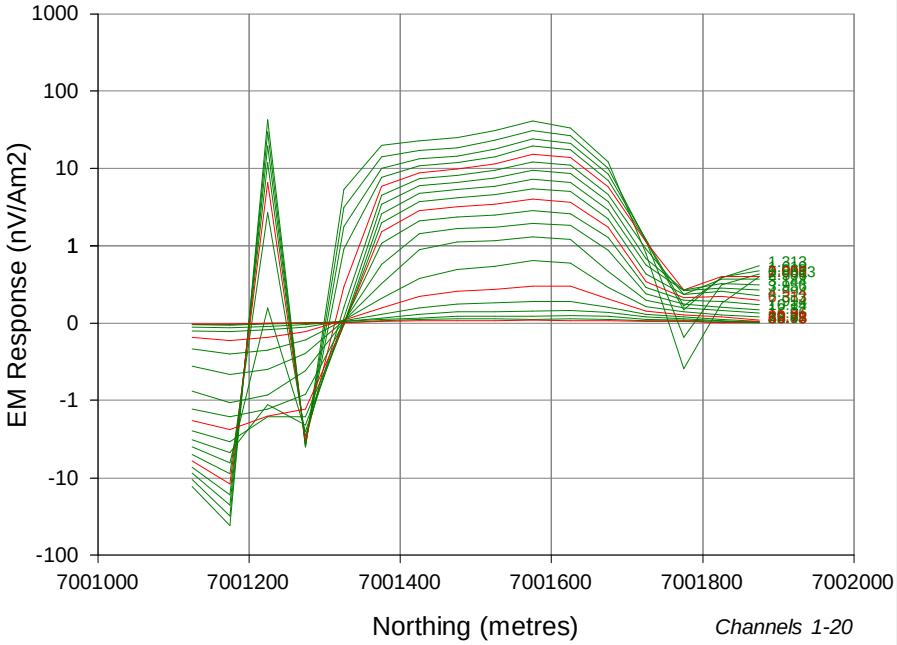
Scale 1:10000

NEWEXCO

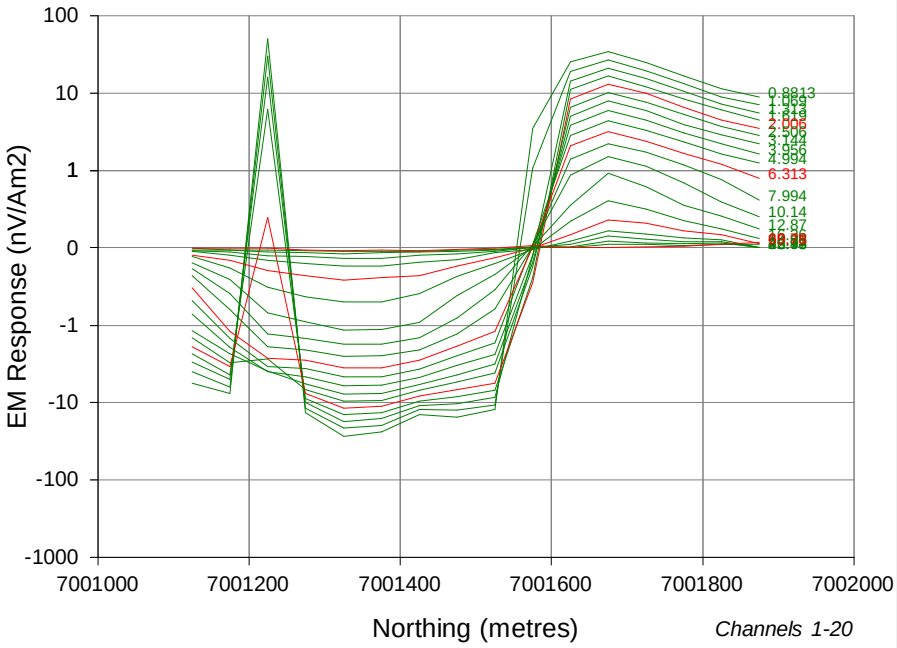
Lokken
Jordhus
115200

Author : B. Liss

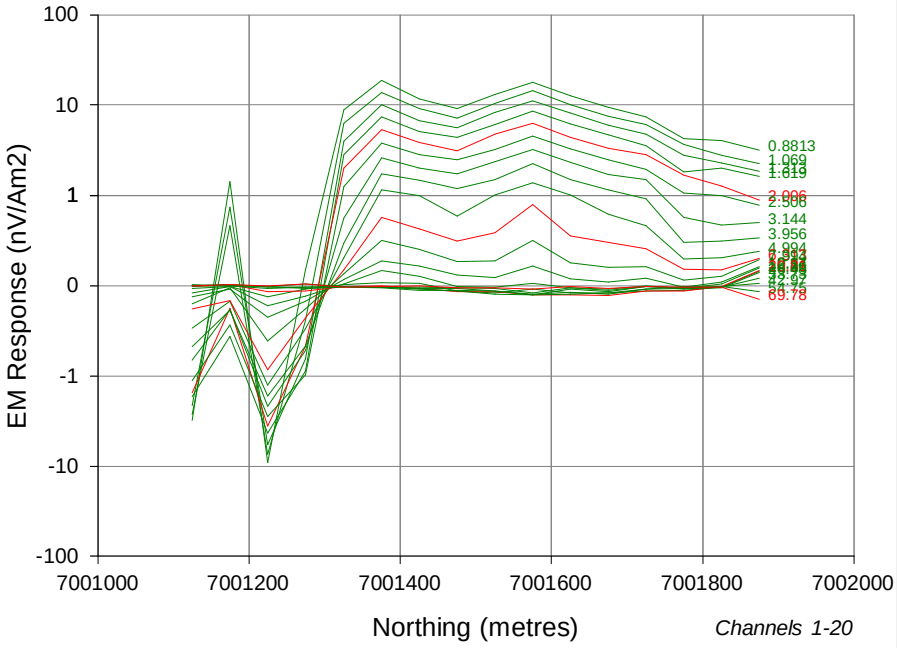
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 18-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK115
Tx Current	: 13 A
Turn Off	: 0.323 ms

LOOP POINTS

LV1	: 534100mE, 7001200mN
LV2	: 534100mE, 7001800mN
LV3	: 535100mE, 7001800mN
LV4	: 535100mE, 7001200mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

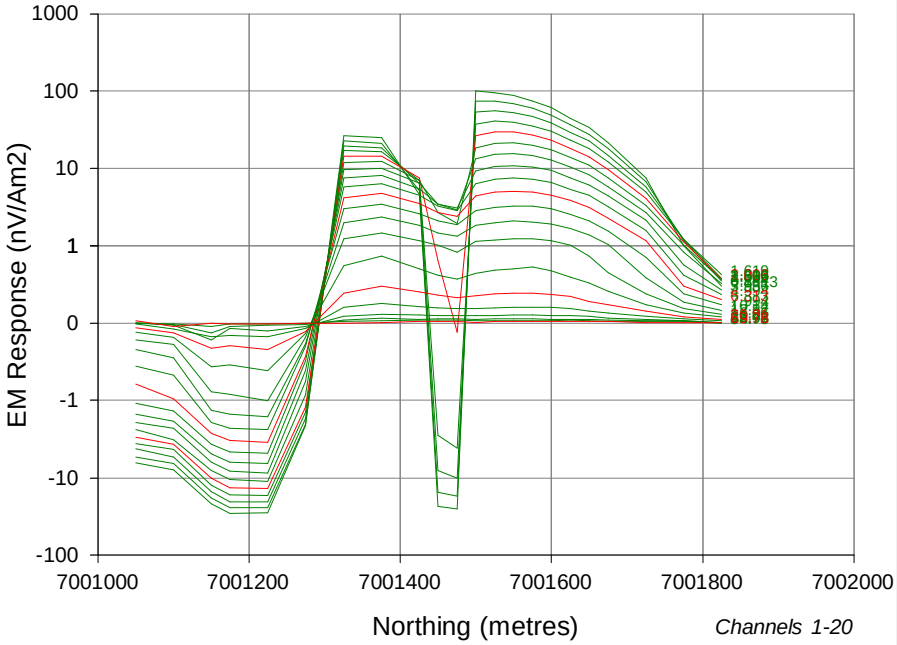
Scale 1:10000

NEWEXCO

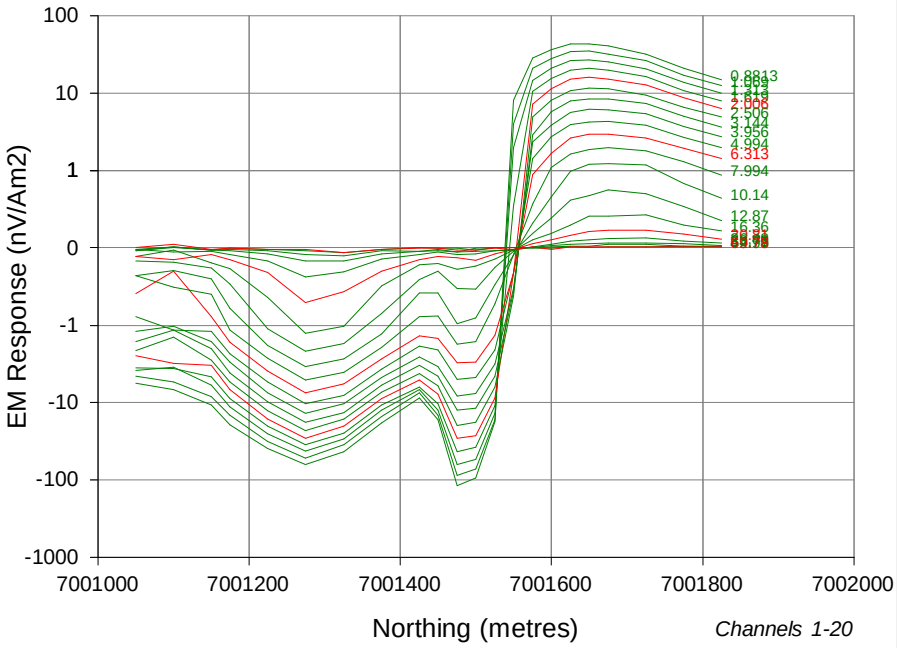
Lokken
Jordhus
115400

Author : B. Liss

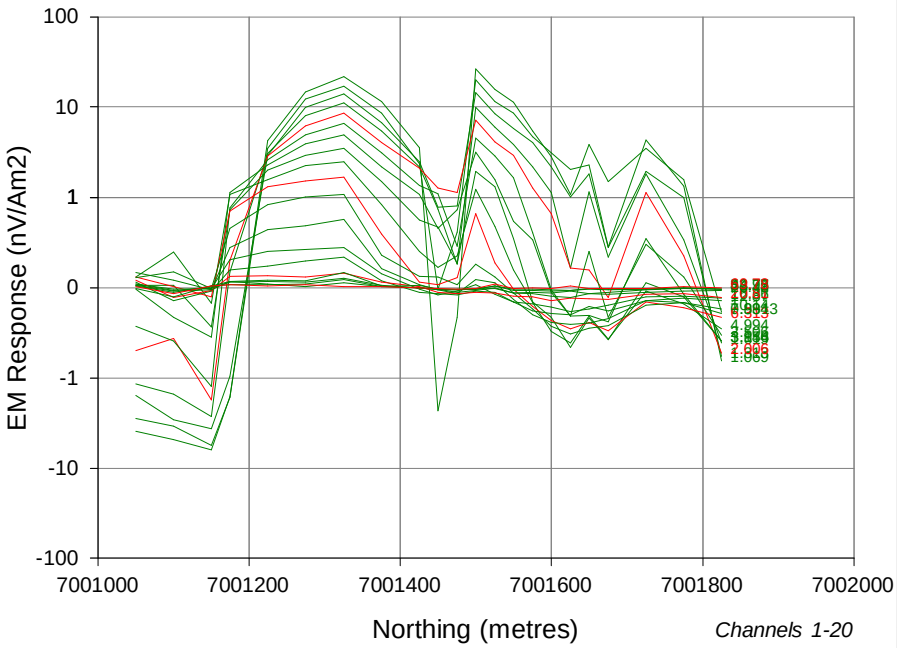
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 18-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK115
Tx Current	: 13 A
Turn Off	: 0.323 ms

LOOP POINTS

LV1	: 534100mE, 7001200mN
LV2	: 534100mE, 7001800mN
LV3	: 535100mE, 7001800mN
LV4	: 535100mE, 7001200mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

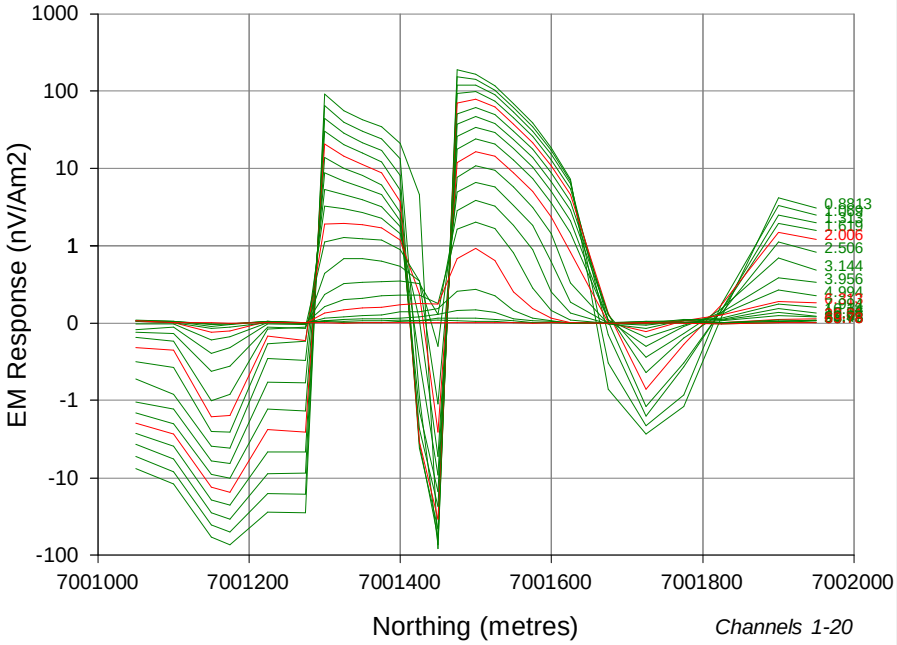
Scale 1:10000

NEWEXCO

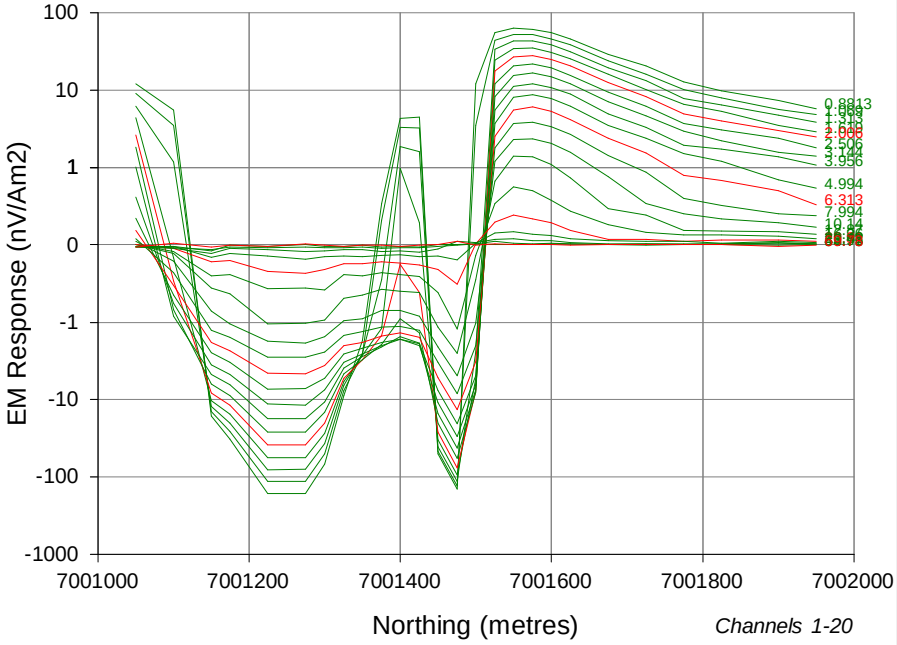
Lokken
Jordhus
115600

Author : B. Liss

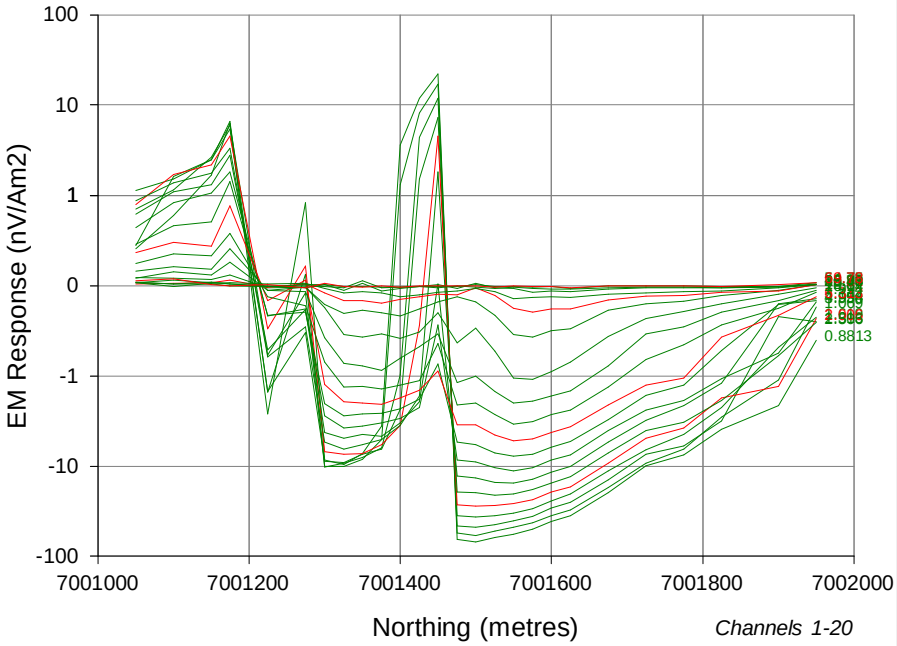
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 18-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK115
Tx Current	: 13 A
Turn Off	: 0.323 ms

LOOP POINTS

LV1	: 534100mE, 7001200mN
LV2	: 534100mE, 7001800mN
LV3	: 535100mE, 7001800mN
LV4	: 535100mE, 7001200mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

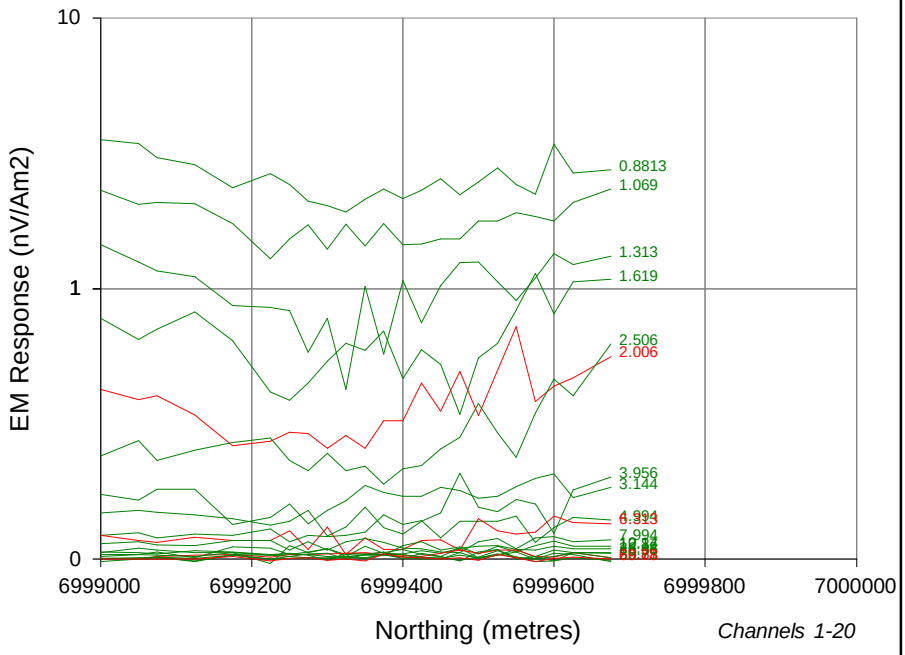
Scale 1:10000

NEWEXCO

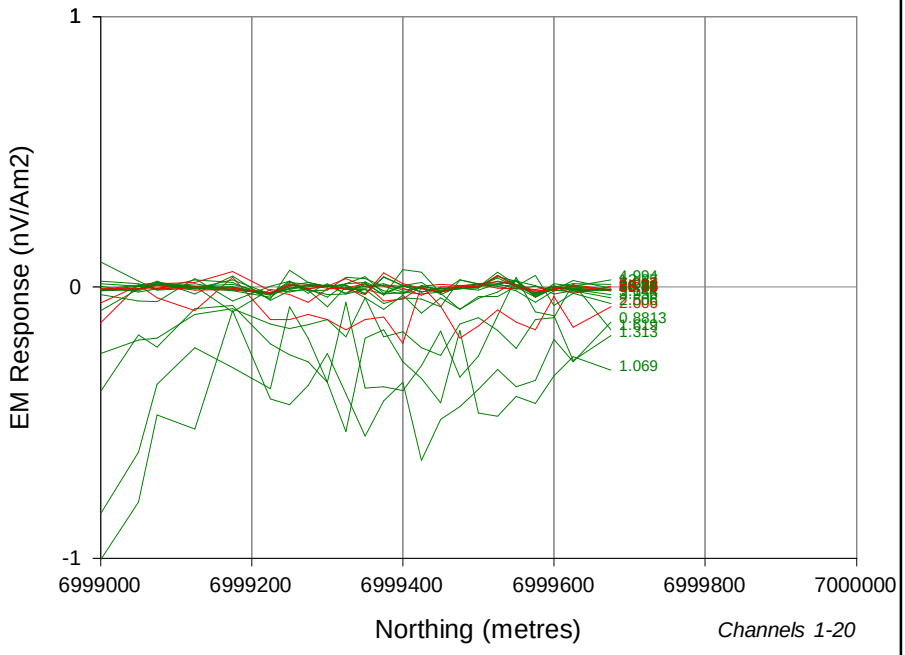
Lokken Jordhus 115800

Author : B. Liss

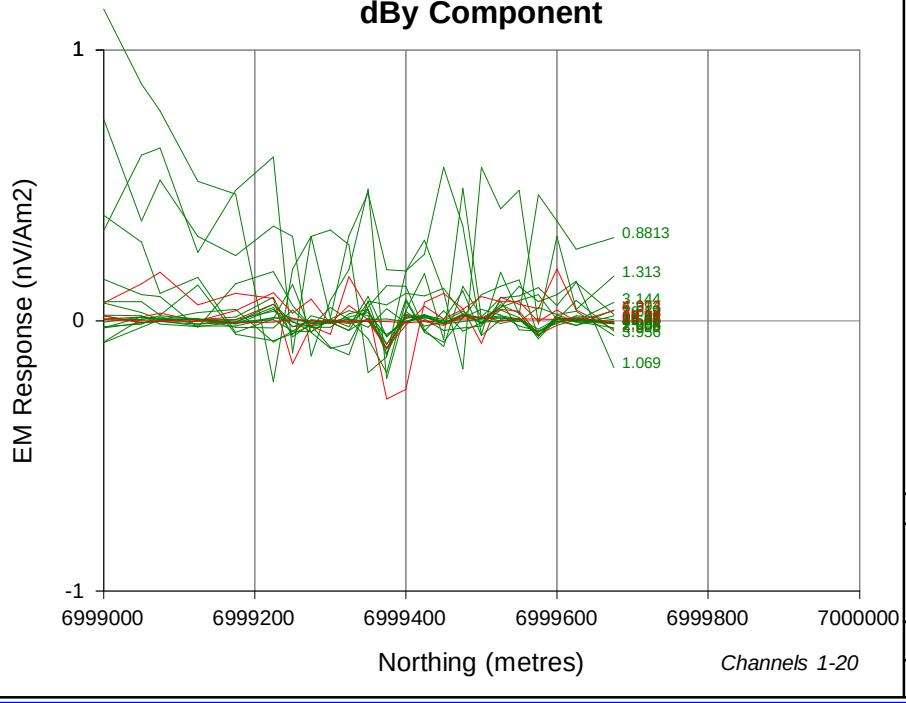
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 16-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK161
Tx Current	: 20 A
Turn Off	: 0.324 ms

LOOP POINTS

LV1	: 536650mE, 6999150mN
LV2	: 536650mE, 6999650mN
LV3	: 537150mE, 6999650mN
LV4	: 537150mE, 6999150mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

0 200 400

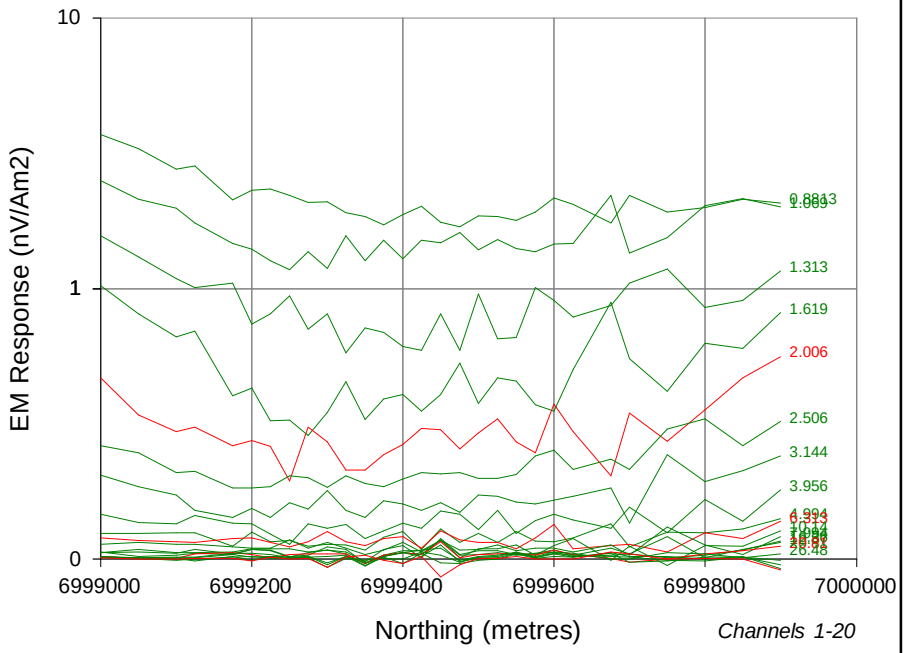
Scale 1:10000

NEWEXCO

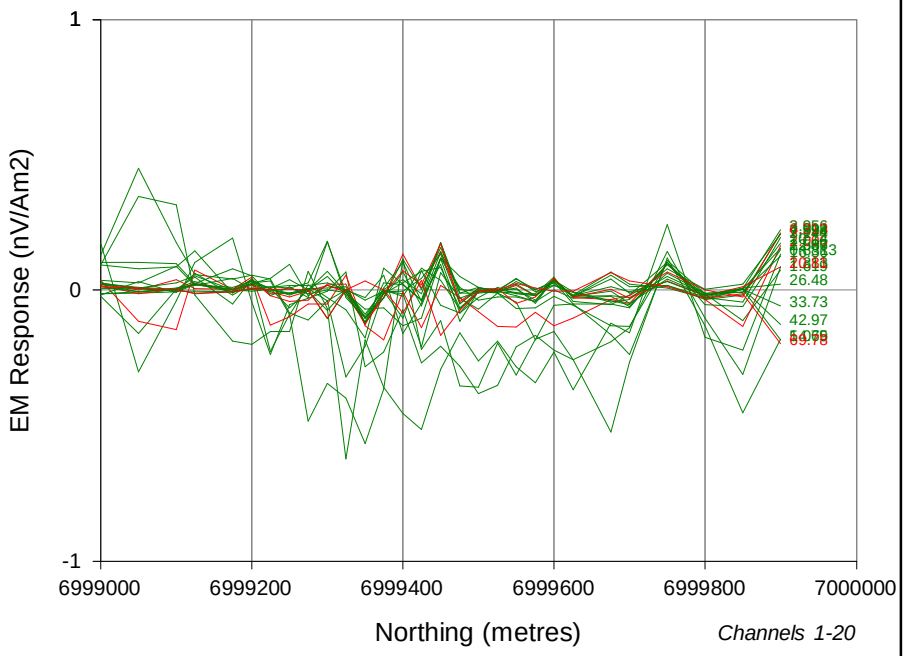
Lokken
Hoydal North
161100

Author : B. Liss

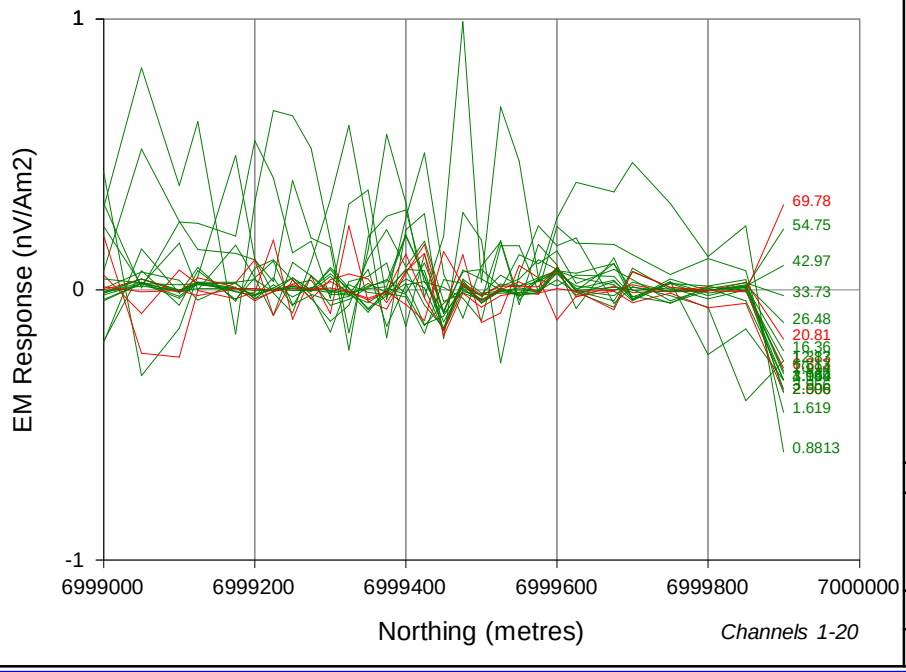
dBz Component



dBx Component



dBy Component



SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 16-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

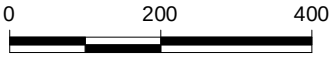
Loop	: LK161
Tx Current	: 20 A
Turn Off	: 0.324 ms

LOOP POINTS

LV1	: 536650mE, 6999150mN
LV2	: 536650mE, 6999650mN
LV3	: 537150mE, 6999650mN
LV4	: 537150mE, 6999150mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
3	: 1.313	13	: 12.87
4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

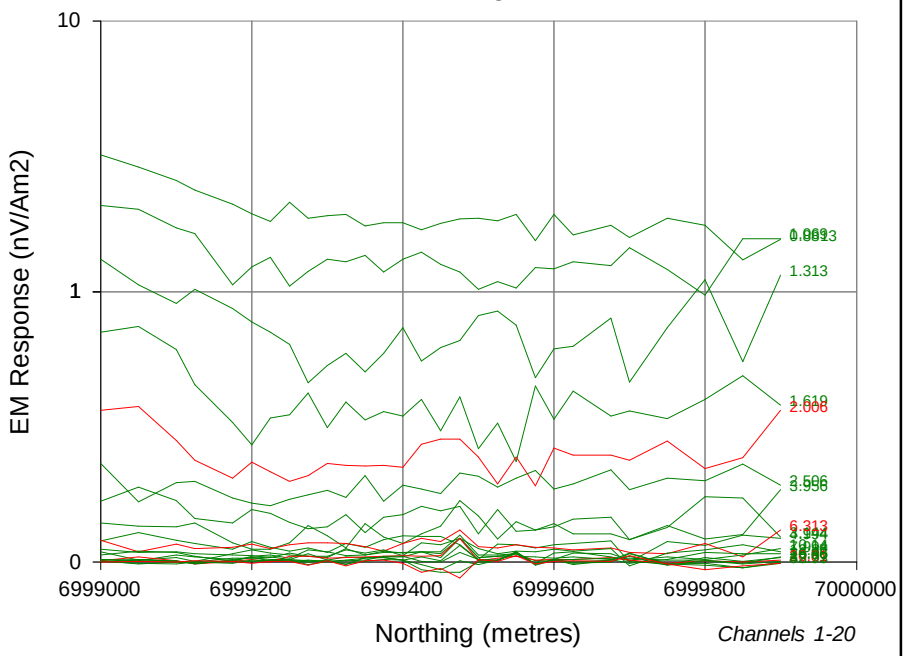


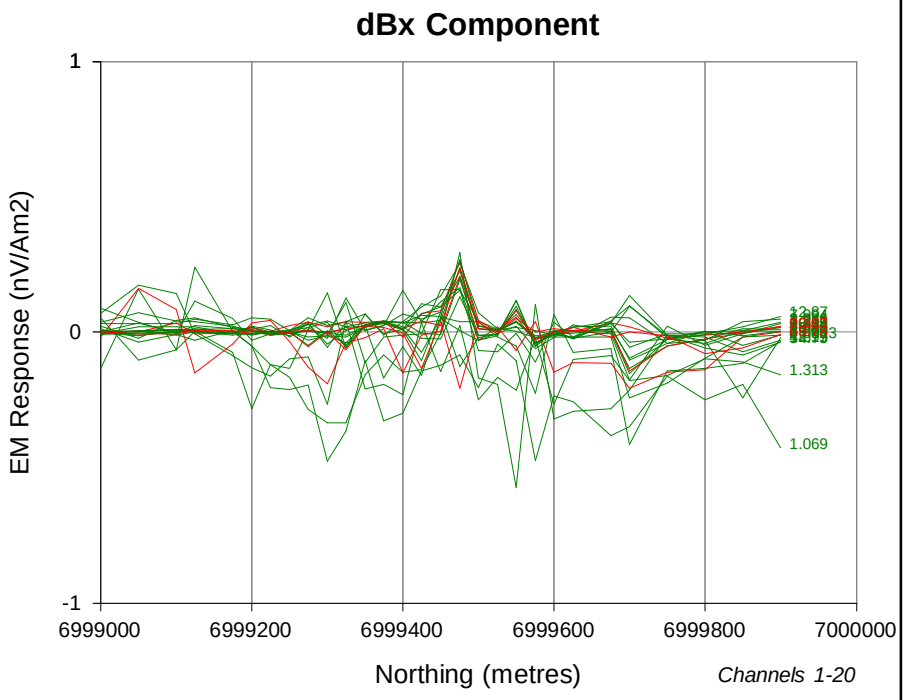
Scale 1:10000

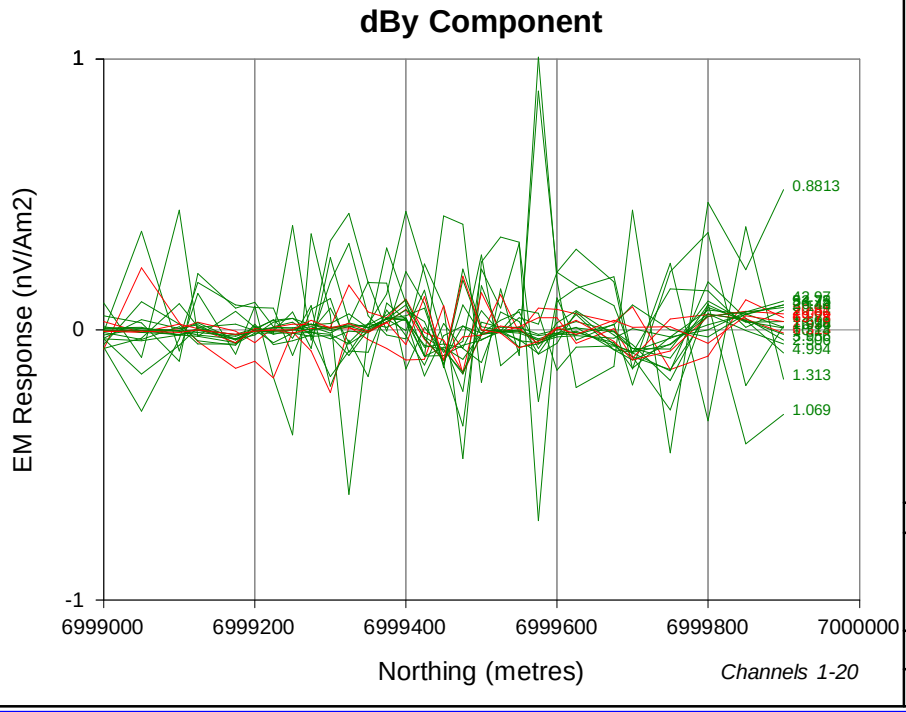
NEWEXCO

Lokken
Hoydal North
161250

Author : B. Liss







SURVEY PARAMETERS

Configuration	: Fixed Loop
Contractor	: SMOY
Date	: 16-5-12
Client	: Drake

RECEIVER

Receiver	: Geonics PROTEM
Frequency	: 2.5 Hz
Component	: dB(x,y,z)

TRANSMITTER

Loop	: LK161
Tx Current	: 20 A
Turn Off	: 0.324 ms

LOOP POINTS

LV1	: 536650mE, 6999150mN
LV2	: 536650mE, 6999650mN
LV3	: 537150mE, 6999650mN
LV4	: 537150mE, 6999150mN

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

1	: 0.8813	11	: 7.994
2	: 1.069	12	: 10.14
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4	: 1.619	14	: 16.36
5	: 2.006	15	: 20.81
6	: 2.506	16	: 26.48
7	: 3.144	17	: 33.73
8	: 3.956	18	: 42.97
9	: 4.994	19	: 54.75
10	: 6.313	20	: 69.78

Scale 1:10000

NEWEXCO

Lokken
Hoydal North
161400

Author : B. Liss

APPENDIX 3

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

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

Løkken Modelled Plates

Løkken FLEM Path

Løkken VTEM Targeting Spreadsheet

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