PASMINCO EXPLORATION

INTERPRETATION OF DOWNHOLE ELECTROMAGNETIC DATA ON MS12 AT THE BEATRICE PROSPECT OCTOBER 2000

EL 6/98

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FIGURES

1 SUMMARY

During February 2000 down-hole electromagnetic data (DHEM) using the CRONE PEM system were acquired on diamond drill-hole MS12 at the Beatrice Prospect. The Beatrice Prospect is situated in Western Tasmania within EL 6/98 approximately 7 kilometres north of the town of Queenstown. Outer-Rim Exploration Services were commissioned to complete the DHEM survey for Pasminco Exploration who are currently exploring the ground for Rosebery style Zn-Pb-Ag-Au mineralisation. Data were acquired using the CRONE DHEM time domain electromagnetic system.

The aim of the DHEM survey was to delineate anomalous EM response that could be attributed to massive sulphide mineralisation for the purpose of defining further drill targets in the vicinity of drill-hole MS12. It is estimated that the DHEM technique would effectively explore within a 200 metre radius of the current drill-hole position. When interpreting DHEM data and reviewing this SUMMARY it must be kept in mind that economic sulphide mineralisation may not necessarily provide a recognisable response (eg Hercules, Western Tasmania) and that some geological conditions provide anomalous EM response that is not associated with economic sulphide mineralisation (eg graphitic/pyritic black shales).

DHEM data were acquired in the time-domain using an impulse response (square-wave signal) CRONE PEM system. Data were acquired on 18 separate channels (including the “Primary Field” or PP measurement) on a 10 msec timebase. Three-component data were collected at 10 m intervals for the entire length of the 287m drill-hole. One transmitter loop was used for logging MS11.

DHEM results from MS12 are not anomalous and have not delineated any responses considered worthy of follow-up.

2. INTRODUCTION

The Beatrice Prospect is situated within EL6/98 approximately 7 km's north of the town of Queenstown in Western Tasmania (Figure 1). The ground is currently being explored by Pasminco Exploration for its potential to host Rosebery style Zn-Pb-Ag-Au mineralisation within Palaeozoic volcanics and volcaniclastic sediments of the Central Mt Read Volcanics. The region also has potential for Mt Lyell style Cu-Au mineralisation.

This report presents results of a down-hole electromagnetic (DHEM) survey on diamond drill-hole MS12 conducted by Outer Rim Exploration Services for Pasminco Exploration during February 2000. The aim of the DHEM survey was to delineate anomalous conductivity response that would be directly associated with massive sulphide mineralisation, and thus provide a target for further exploratory drilling. Previous DHEM logging conducted on nearby drillholes (MS07, MS08, MS09, and MS10 Dauth 1999) during 1999 indicate that the host lithologies at Beatrice do produce anomalous DHEM response. This needs to be taken into account when interpreting the data to avoid targeting of host rock EM responses.

2 LOCAL GEOLOGY AND PREVIOUS WORK

This summary of the geology and previous work is taken from the previous report on DHEM results on MS08 (Dauth 1999).

The Beatrice Prospect comprises a prospective horizon of the Cambrian Mt Read Volcanics at the top of the Central Volcanic Complex (CVC). The CVC comprises predominantly felsic volcanics and volcaniclastics and is typically overlain by a sequence of shales, siltstones, and sandstones (interpreted to be Lower Tyndall Group). It is conceptual that this contact provides a focus for mineralisation either by acting as a fluid trap and favourable geochemical position via the overlying shales, or as the sea-floor position for Koroko style VHMS mineralisation deposited during a period of quiescence. A quartz-feldspar porphyry has intruded, possibly as a sill, along this contact and is a prominent feature of the local geology (the Mt Sedgewick Porphyry). The Ordovician Owen Conglomerate forms topographic ridges and scree slopes that abut onto the prospective ground. Remnants of eroded Permian sediments as horizontal layered clay/silt/sand beds are also evident in the region.

The simplified local geology comprises a gently folded to steeply dipping north-south striking black shale horizon situated at the contact between overlying porphyry and underlying volcaniclastic and felsic volcanic units. Locally the black shale is intercalated with both the overlying porphyry and the underlying ashy volcanics. The black shale outcrops along a fault expressed as a present day drainage (Itat Creek) and is interpreted to dip steeply to the west and then gently fold to form an anticline in the

west underlying the Mt Sedgewick Porphyry. Minor Pb-Zn mineralisation is observed in outcrop and in drill intersections within the black shale and underlying siliclastics. The two areas with potential for further mineralisation are considered to be the steeply dipping shale in the Itat Creek and the extensions of this shale (and ashes-shales-ignimbrites) that underlie the Mt Sedgewick Porphyry to the West and East of Itat Creek.

Exploration to date has focused upon the black shale units that are situated strike parallel with the Itat Creek Fault.

Previous work has been summarised by Denwer (1998) in an unpublished report for Pasminco Exploration. This work is further summarised into point form as follows:

- Stream sediment sampling and geological mapping - 1975
- Establishment of over 40 km's of gridding - 1976-present
- 38 line km's of gradient array IP surveying - 1976
- Additional soil sampling - 1977-78
- Drilling MS1, MS2, and MS3 - 1978
- EIP, DHIP, dipole-dipole, and pole-dipole IP geophysical surveys (SCINTREX) - 1978
- Drilling MS4, and MS5 - 1979
- Ground magnetics, gradient array IP, pole-dipole IP, dipole-dipole IP - 1979
- Fixed loop UTEM - 1989
- Drilling MS06 - 1996
- Drilling and DHEM logging; MS07, MS08, MS09, and MS10 - 1998-99

In 1999-2000 drillhole MS12 was drilled to test a surface geochemical anomaly. The hole is collared at 384326mE, 5347609mN, 690mRL and was drilled to a depth of 287m. DHEM surveying reported herein was conducted to locate conductive off-hole sulphide bodies. The location of the drill collar with respect to local geology is presented in Figure 2.

3 SURVEY SPECIFICATIONS

The survey conducted by Outer Rim Exploration Services using the CRONE PEM system.

The survey specifications are tabulated below:

Date of Survey:	February 13th 2000
Contractor:	Outer Rim Exploration Services
Survey Type:	DHEM
System:	CRONE PEM
No. of Drillholes:	1 MS12
Components:	Axial (A) and cross-components (U and V)
Station Spacing:	10m (A, U, and V)
Time Base:	10 msec
Channels:	18 including the PP field
Ramp Time:	500 µsec
Synchronisation:	Cable
Transmitter Size:	200m x 200m
Current:	14A Amps

One transmitter loop position was utilised for MS12. For reference within the text of this report the loops have been labelled BEM7. The location of transmitter loops is presented in Figure 2. Transmitter loop corner coordinates for BEM7 (local and AMG) are provided below:

Loop	Corner	Local East	Local North	AMG East	AMG North	RL
BEM7	NW	1750	1000	384299	5347736	740
BEM7	NE	1550	1000	384460	5347648	675
BEM7	SW	1750	800	384211	5347602	700
BEM7	SE	1550	800	384365	5347495	650

Time gates utilised by the CRONE PEM system are tabulated below (msec after ramp cessation):

CHANNEL	DELAY	WIDTH
1 (PP)	-0.198	0.1
2	0.05625	0.01349
3	0.07425	0.02251
4	0.09900	0.02700
5	0.13280	0.04060
6	0.17790	0.04960
7	0.23635	0.06730
8	0.31500	0.09000
9	0.42075	0.12150
10	0.56020	0.15740
11	0.74470	0.21160
12	0.98975	0.27850
13	1.31350	0.36900
14	1.74550	0.49500
15	2.31950	0.65300
16	3.08000	0.86800
17	4.09000	1.15200
18	5.42900	1.52600

The hole survey details are provided below.

depth	mag	AMG	Dip
0	288	300	-48
30	285	297	-48
83.2	284	296	-47.5
120	284	296	-47.0
170	281	293	-47

4 MODELLING PARAMETERS

Data were not anomalous hence no modelling was conducted.

5 DISCUSSION AND RESULTS

Stacked profiles of the down-hole response are presented in Figure 3 – 5. These data do not indicate the presence of a sizeable conductive sulphide body in the vicinity of the drill-hole.

6 RECOMMENDATIONS

No follow-up is recommended.

7 KEYWORDS AND LOCALITY

Keywords

CONDUCTIVITY, DOWN-HOLE, ELECTROMAGNETICS, SHALE, SULPHIDES

Locality

1:100K Sophia 8014

1:250K SK\55-SW Sheet

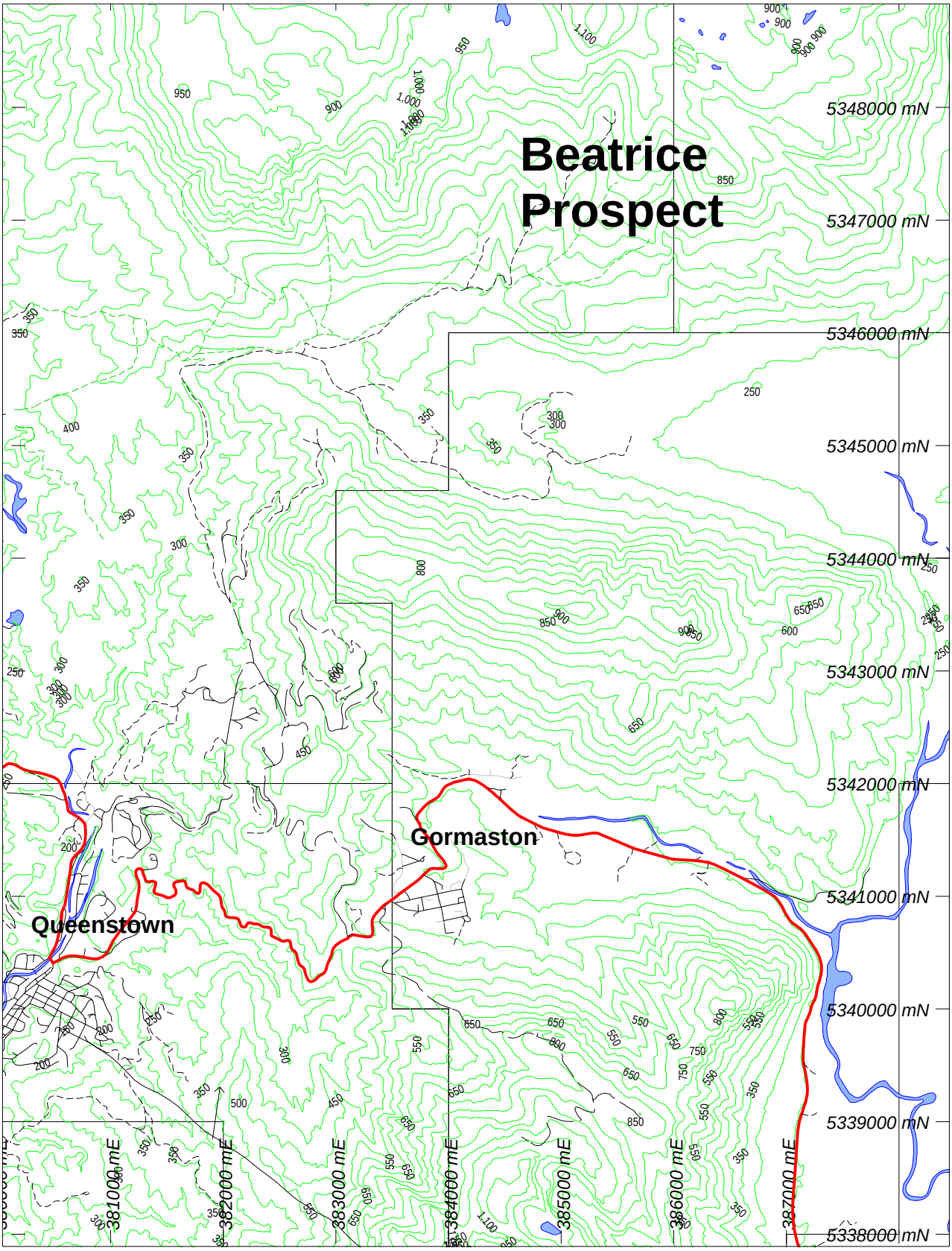
8 REFERENCES

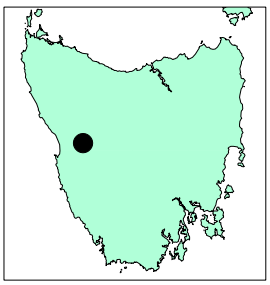
Dauth, C., 1999, Modelling and interpretation of downhole electromagnetic data on MS08 at the Beatrice Prospect May 1999 EL6/98; Pasminco Exploration Internal Report No. VC246

Dauth, C., 1999, Modelling and interpretation of induced polarisation data from the Beatrice Prospect February - March 1999 EL 6/98; Pasminco Exploration Internal Report No. VC247

Dauth, C., 1999, Modelling and interpretation of downhole electromagnetic data on MS07 and MS09 at the Beatrice Prospect September 1999 EL6/98; Pasminco Exploration Internal Report No. VC

Denwer, K. D., 1998, Beatrice Prospect Literature Review, In-house Technical Note for Pasminco Exploration, *not published*





SCALE 1:50,000

0 500 1000 1500 2000 2500 m

Distances in Metres

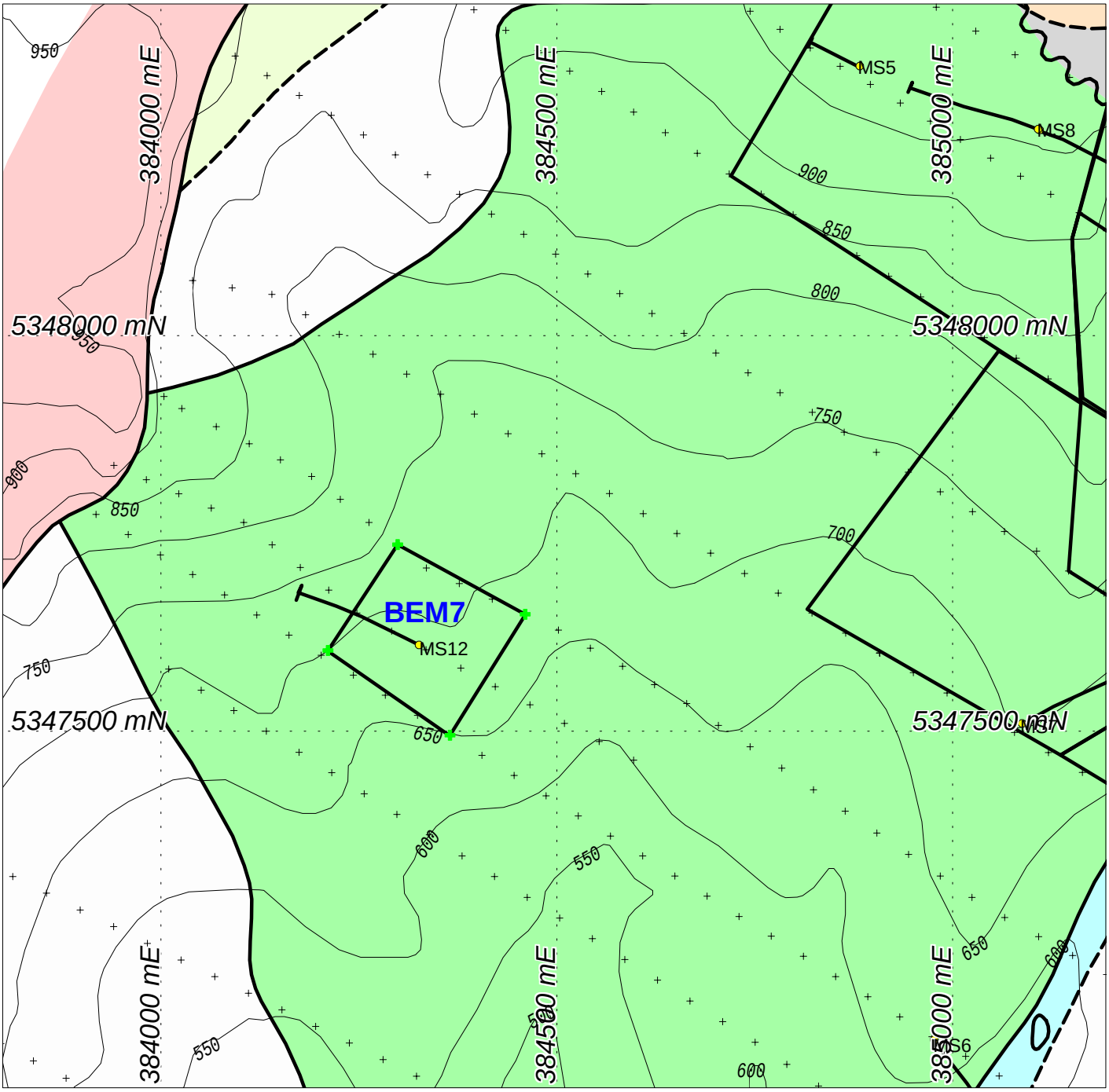
Projection: UTM
Datum: AGD84
Zone: 55

PASMINCO EXPLORATION

ETS Melbourne

TASMANIA

Date: Aug 2000	BEATRICE PROSPECT Location Plan
Author: C Dauth	
Office: ETS	
Ref:	
Scale: 1:50 000	Projection: SUTM55 AGD84 — Figure:



Legend

Permian / Jurassic / Ordovician / Cambrian

- Glacial Sediments
- Dolerite
- Owen Conglomerate
- Zig-Zag Hill Volcaniclastics
- Quartz-Feldspar Porphyry
- Black Shale
- Ashy Volcanics Volcaniclastics

- Unconformity/ Disconformity
- Geological Contact
- Inferred Contact
- Interpreted Fault
- Elevation Contour (mRL) — 900
- DHEM Tx Loop
- Drill Collar and Downhole trace — MS1

Scale 1:10,000

0 100 200 500 1000m

Distances in metres

Projection UTM
Zone: 55
Datum: AGD84

PASMINCO EXPLORATION

ETS Melbourne

TASMANIA

Date: Jan 2000

Author: C Dauth

Office: ETS

Ref:

QUEENSTOWN EL 6/98
BEATRICE PROSPECT
DRILLHOLE MS12
DHEM Transmitter Loop Positions

Scale: 1:10 000

Projection: SUTM55 AGD84

Figure No: 2

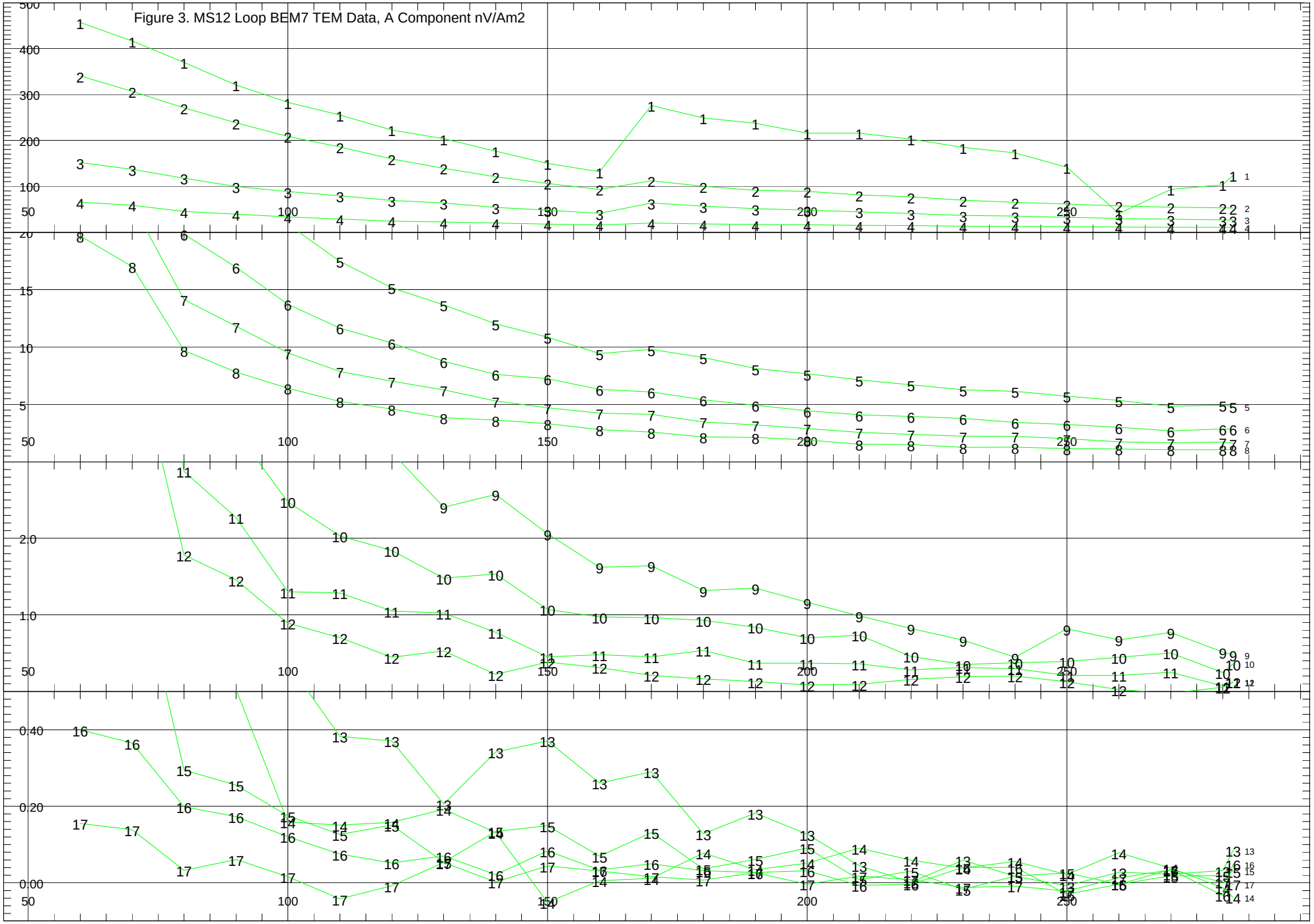


Figure 3. MS12 Loop BEM7 TEM Data, A Component nV/Am2

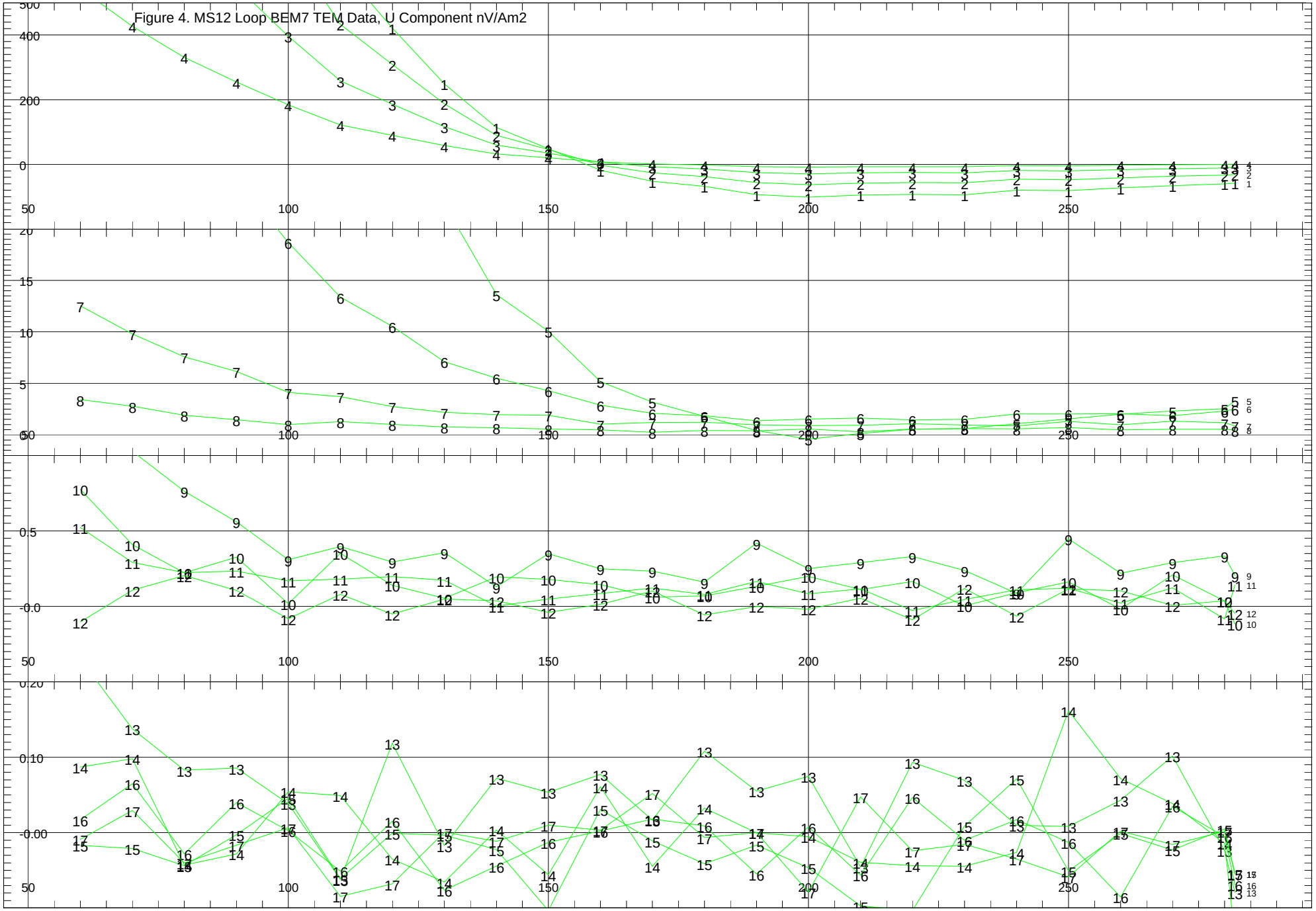


Figure 4. MS12 Loop BEM7 TEM Data, U Component nV/Am2
500
400
200
0
50
100
150
200
250
20
15
10
5
0.5
-0.0
0.20
0.10
-0.00

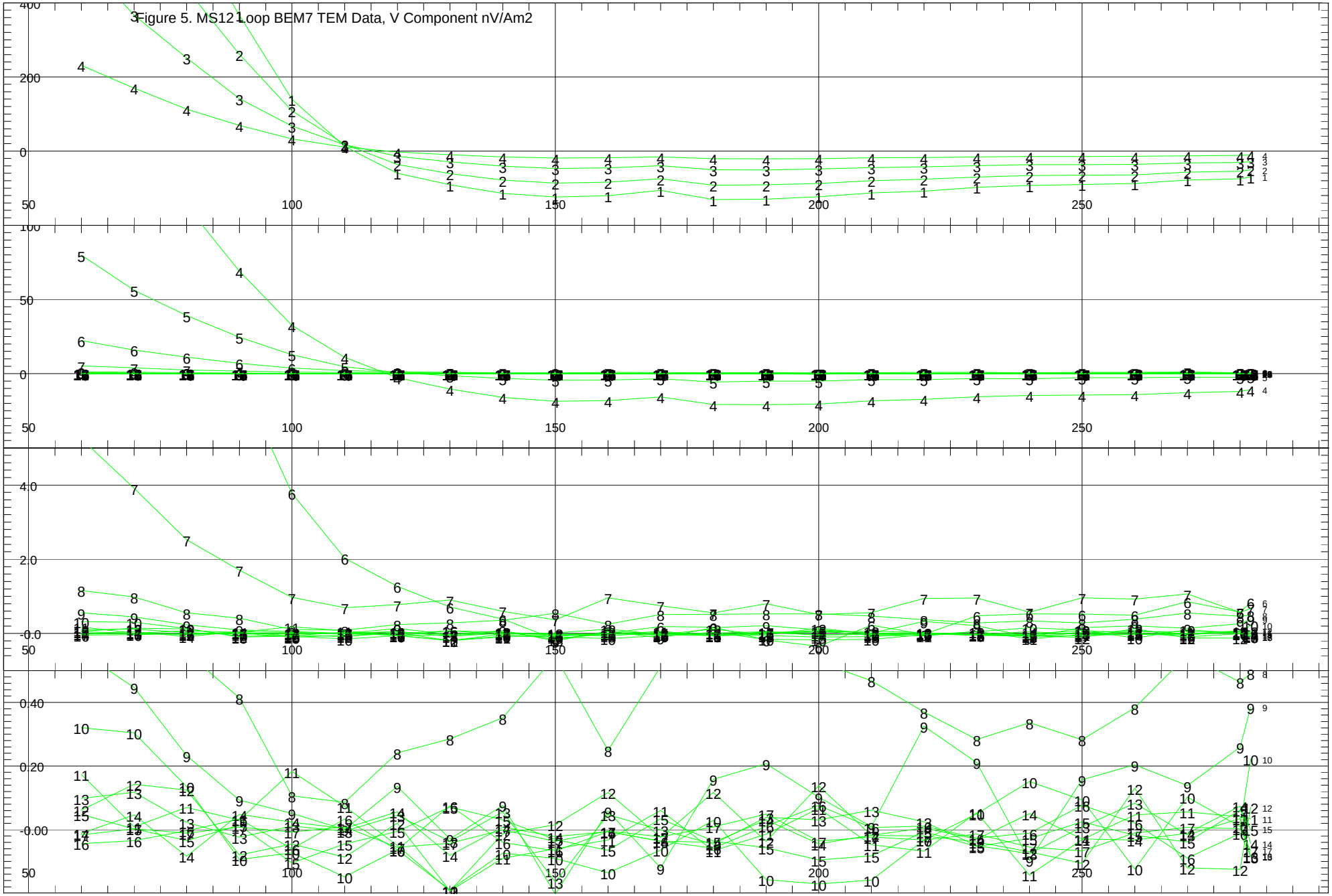


Figure 5. MS12 Loop BEM7 TEM Data, V Component nV/Am2
400
200
0
50
100
150
200
250
100
50
0
4.0
2.0
-0.0
0.40
0.20
-0.00