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EL 1913 STAFFORD

ANNUAL AND FINAL REPORT FOR THE PERIOD
30/12/93 TO 29/12/94

Submitted by

BHP Minerals Ltd
1995

MINES AND ENERGY
SOUTH AUSTRALIA

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ENVELOPE 8875

TENEMENT: EL 1913 Stafford

TENEMENT HOLDER: BHP Minerals Ltd

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END OF CONTENTS

SEPARATELY HELD DATA

DRILLHOLE SAMPLES (held by MESA Core Library);

For up to date information on available drillhole samples, contact the Supervisor, MESA Core Library and quote the Exploration Licence and drillhole number/s you wish to query.

SS94001 (RC 200m).

CR 8066

EXPLORATION LICENCE 1913
"STAFFORD"
SOUTH AUSTRALIA

FIRST AND FINAL REPORT

BHP Minerals Exploration Department:

Distribution:

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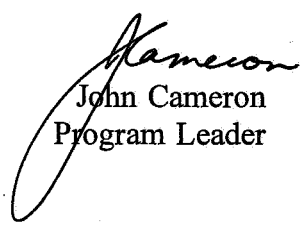

John Cameron
Program Leader

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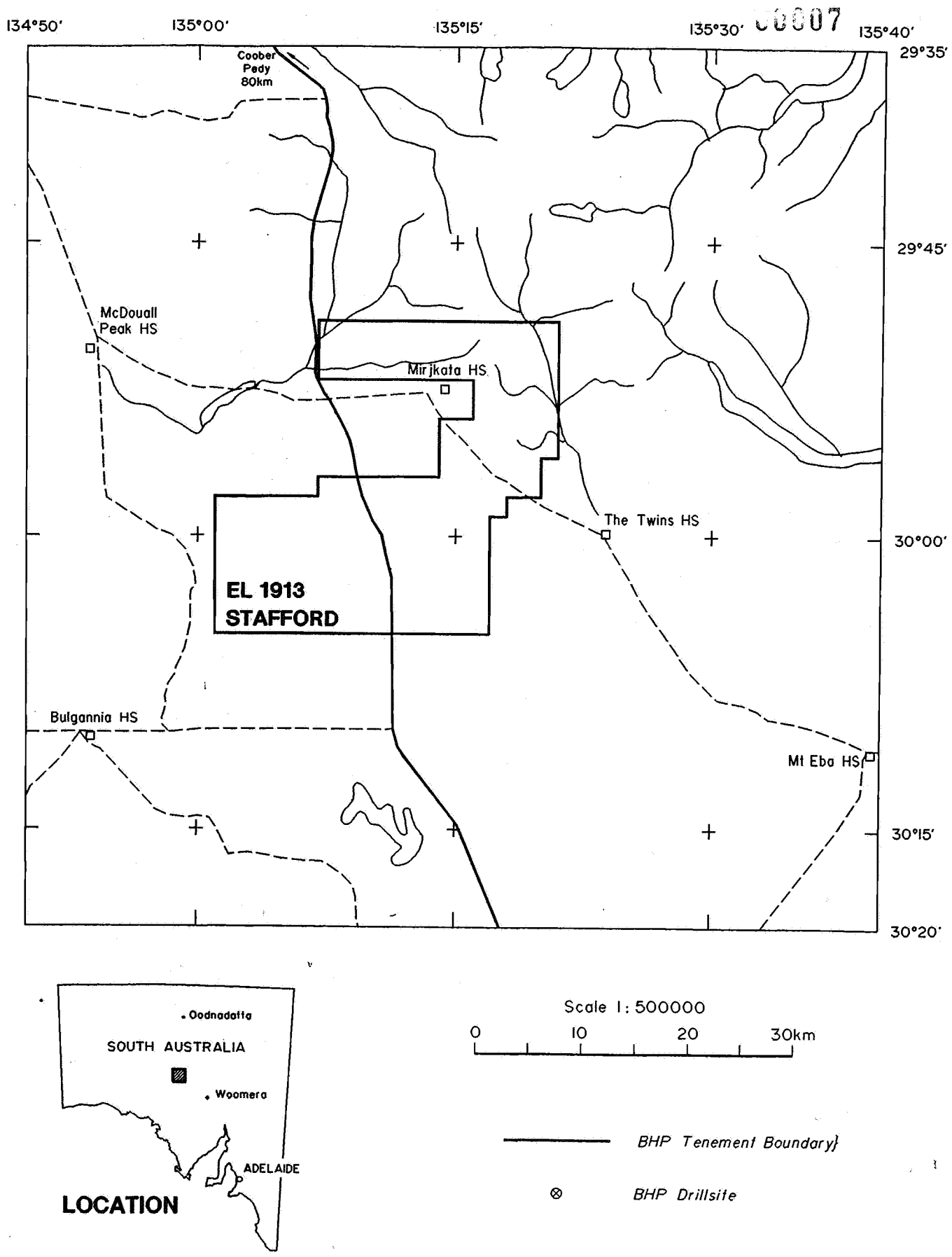
SUMMARY

BHP Minerals Ltd. applied for EL1913 for the purpose of exploring for base metal and Cu-Au mineralisation within suboutcropping Lower Proterozoic-Archean? metasediments and BIF units. A review of the regional geology, aeromagnetics and previous company exploration indicated that the area had potential to host Archean VMS style mineralisation.

Assessment and reinterpretation of previous exploration data indicated that a number of identified moving loop EM anomalies warranted further resolution using fixed loop EM. This work identified a basement conductor which was subsequently tested with an RC drillhole, SS94001.

SS94001 intercepted basement, comprising of pyrite/pyrrhotite microveined metasediments, at 30m and was completed at a total depth of 200m. No significant mineralisation was intercepted and the presence of the sulphide veining adequately explained the EM anomaly.

No further exploration was undertaken.



Prepared : M. Raetz	BHP Minerals Pty. Ltd. A.C.N. 008 694 782	Centre : Melbourne
Drawn : F. Barlow	**EL 1913, STAFFORD, S.A.**	Drg. No. : A4-3237
Date : 29/4/93	**LOCATION MAP**	**FIGURE 1**
Revised : April 94		

1.0 INTRODUCTION

BHP Minerals (BHP) is actively exploring for base and precious metal mineralisation within the Gawler Craton of South Australia. As part of this exploration effort BHP applied for EL1913 Stafford, located approximately 100km south-southeast of Coober Pedy, on the 30th April 1993. The licence was subsequently granted for a term of one year commencing the 30th December 1993.

The licence area extends over approximately 1052 square kilometres (Figure 1) covering parts of the northwestern corner of the Kingoonya 1:250,000 sheet and extending into the southwest corner of the Billa Kalina 1:250,000 sheet.

2.0 EXPLORATION RATIONALE

A review of MESA open file exploration drilling and geophysical data identified significant Pb, Zn, Ag anomalies within sub-outcropping mixed metasediment, BIF, calc-silicate and felsic volcanics intruded by Mid Proterozoic granite. The host sequence, although mapped as Lower Proterozoic, may be Archean in age with potential to host Archean VMS Pb-Zn ± Cu mineralisation. A number of targets generated by earlier exploration companies remained to be tested.

3.0 PREVIOUS EXPLORATION (Waters, 1993)

Initial work in the area was carried out in 1977/1978 by a joint venture between Newmont Pty Ltd and Dampier Mining Co Ltd on EL 305 "The Twins", exploring for Olympic Dam/Zambian Copper Belt style mineralisation (Wright 1977, 1978 a, b). This work involved ground magnetic and gravity surveys along two north-south lines, 2.5 km apart, over the 'Hawks Nest' gravity/magnetic anomaly. Based on this work three percussion drill holes, later extended by diamond drilling, were drilled across a high amplitude magnetic response. The holes SR-7, SR-9 and SR-15, were drilled to depths of 63.1, 90.5 and 111.5 metres respectively. Basement lithologies varied from fine grained chloritic schist (SR-7) to lithic arkosic wackes (SR-9, SR-15), and were interpreted to be of probable Carpentarian age (Cleve Metamorphics equivalents?). Slightly elevated Cu and Pb were present in SR-9 between 68.2 - 69.5 (100 ppm Cu) and 69.5 - 79.5 (100 ppm Pb).

In 1980 Esso Exploration and Production Inc took out EL 592 over the Hawks Nest area, with the aim of exploring for base metals and Olympic Dam style uranium mineralisation. Detailed ground magnetic and gravity surveys were conducted with 50 to 25 metres spaced stations on a variable line spacing of between 500 and 100 metres. A gravity high at the eastern end of the magnetic high was interpreted as a dense, non magnetic body overlying the basement magnetic units and a subsequent program of 10 shallow percussion holes was undertaken to test a 'shallow Olympic Dam type body'.

The majority of holes reached Lower Proterozoic basement at less than 40 metres. The main lithologies encountered include banded iron formation (BIF), metapelites, meta-arenites, chlorite schist and feldspar-amphibole gneiss. Assay results from 1-5 metre intervals showed elevated Zn (760 ppm) in the BIF and elevated Zn (430 ppm), Cu (480 ppm) and Pb (160 ppb) in other basement lithologies of probable Carpentarian age.

The gravity anomaly tested by the percussion holes was attributed to non-magnetic haematitic BIF and metasediments.

CRA commenced work on the Hawks Nest area in 1983. At the time the Hawks Nest area was covered by the Darbies Bore (EL 1184) and adjoining Goode (EL 1089) leases. Initial work conducted on the area consisted of ground magnetics along north-south lines followed up by a 162 hole RAB program in 1984. Assay results from the drilling showed anomalous basemetal values of up to 4580 ppm Zn, 740 ppm Cu and 1100 ppm Pb from bottom hole chips.

During 1984, 34 line kilometres of ground magnetics was carried out to the north of the Hawks Nest grid on the Dresleys Bore and Mirrikata grids to locate the two anomalies shown on the regional data set. Modelling of this data suggested a depth to magnetic source of 450m.

In 1985 CRA took out the Hawks Nest EL 1277, with the view of exploring for strataform/stratabound sulphides, Roxby Downs Cu-Au-U, iron ore and BIF hosted gold deposits. Following the results of earlier RAB drilling, airborne INPUT

EM/Magnetics/Radiometrics was flown over the Hawks Nest area to test for anomalies associated with shallow Pb/Zn massive sulphide mineralisation. This was followed up by detailed ground magnetics, sirotem and gravity.

Roxby Downs style Cu-Au-U mineralisation was considered possible in the area of the coincident magnetic and gravity high at the eastern end of the Hawks Nest grid. Detailed ground magnetics and gravity was carried out and in 1987 a diamond drill hole DD 87 HN1 (152m) was drilled to test the gravity high. Two percussion holes PD87HN2 (250m) and PD87HN3 (163.7m) were drilled to further test this anomaly. Basement in these holes was dominated by BIF and haematitic ironstones. Modelling of the gravity data suggested that the high was not due to BIF alone, citing the possibility of a deeper body, although increased density with depth within the BIF could account for the response. This anomaly was therefore only partially tested with the modelled "deeper body" failing to be reached. No anomalous Cu or U mineralisation was located although an intersection of 2m of 2 g/t Au was located in PD87HN3. The holes were only very weakly anomalous in base metals.

In 1987 and 1988 further detailed ground magnetics and gravity were carried out on 10 and 100 metre stations respectively to better define the distribution of the BIF. Diamond drill hole DD87 HNI was extended to 295.6 metres (DD87/88 HNI).The hole continued in silicified BIF and was unmineralised. Iron enrichment in the BIF with depth (ie. increase in density) was deemed sufficient to explain the gravity high . However, the total Fe content of the BIF at this locality and lack of any other suitable coincident magnetic and gravity anomalies suggested that a Middleback style iron ore deposit of economic size was unlikely.

In 1989 a sirotem/magnetic survey was conducted over the 'Coronation Bore' area of Hawks Nest using 100 and 10 metre stations respectively. Four percussion holes (PD89 HN4 - PD89 HN7) were drilled to follow up a Pb/Zn anomaly detected during the 1984 RAB drilling program. Drill holes PD89 HN4, 5 and 6 intersected schist/gneiss, BIF and BIF respectively and had no associated anomalous geochemistry. PD89 HN7 (66m) intersected the granite contact and returned anomalous Pb(2275 ppm) over 13 - 40 metres and Zn (1929 ppm) over 23-45 metres is an altered quartzose lithology. Reinterpretation of earlier work and this drilling led CRA to suggest that the anomalous values were a result of contact metamorphic

enrichment in quartzose and calc silicate metasediments. Interpretation of sirotem data over other parts of the Hawks Nest grid suggested that the major anomalies were not related to massive sulphides but instead reflected bedrock lithologies and /or overburden thickness variations.

4.0 GEOLOGY AND MINERALISATION

Within the tenement basement comprises of shallow to outcropping Middle-Lower? Proterozoic steeply dipping lithologies dominated by BIF, metasediment and felsic volcanics intruded by Middle Proterozoic granites.

These higher grade metasediments are interpreted as being equivalents of the Carpentarian basement of the upper Yorke Peninsula.

Minor ferruginous basic and calcareous units are also present. The calc-silicates contain magnetite and garnet-epidote-amphibole assemblages while the medium-coarse grained granitoids have a quartz-albite ± Kspar mineralogy and are most likely leuco-tonalites or pegmatites.

5.0 EXPLORATION DURING THE PERIOD 30-12-93 TO 30-12-94:

5.1 Petrology

In an attempt to characterise the lithologies and the style of mineralisation in the Pb anomalous metasediments intercepted by previous company exploration, four samples were submitted for in-house petrological study. The samples were selected from CRA drillholes DD87/88 HNI and PD89/HN7.

Rock types examined included:

- micaceous quartzite/ferruginised phlogopite-rich fine sandstone/phyllite/metasiltstone (PD89/HN7, 32-34m, 4000 - 5000ppm Pb)
- micaceous felspathic sandstone (PD89/HN7, 36-38, 4000 - 5000ppm Pb)
- microdiorite (PD89/HN7, 38-40m)
- hematised magnetite-bearing BIF (DD87/88, 106m)

No primary or secondary lead minerals were identified in the samples from PD89. Pyrite and pyrrhotite/pentlandite were present as was 2^0 goethite which may have scavenged the lead. A full copy of the report is included - Appendix 1.

5.2 Geophysics (Paish, 1993)

5.2.1 Sirotem

Introduction

A TEM survey was undertaken at Stafford from the 11th - 15th October, 1993 by contractor Mike Rose from Adelaide. The survey specifications were designed to define a moving loop conductor interpreted from CRA data, covering an area of Pb/Zn anomalism in a number of drillholes.

Previous EM

CRA carried out an extensive drilling program and moving loop surveys in the area. CRA moving loop SIROTEM data were read with 100m loop and 50m station spacings. Most anomalous drillholes were covered by a moving loop survey but no strong TEM conductors were associated with the base metal assays. CRA concluded that anomalous Pb/Zn assays seem to occur at the resistive-conductive granite-metasediment contact but that no discrete conductors occur at this boundary eg. line 509800E where a contact occurs at 6681150N and anomalous CRA drillhole 66 (76ppm Cu, 155ppm Pb, 770ppm Zn) is at 668120N.

BHP reviewed and reinterpreted the data (Plate 1). Contacts were defined where contrasts in conductivity were recorded and clay pans were interpreted where late channels are negative. Other conductive anomalies were ranked one to three with only one priority one anomaly identified. This target is on line 6678050N (line 2 on Plate 1) at 506250E.

Survey Description

A fixed loop TEM line (6678050N) 650m long was designed over the priority one target to see if the anomaly was real and represented a target warranting drilling. The line was read from two loops (Plate 2) and log-linear and linear-linear plots of the data are contained in Appendix 2.

Anomalous drillholes west of 508000E had not previously been covered by an EM survey so a 1.6km line of moving loop TEM was designed on line 6679100N over drillhole 118 which assayed 18ppm Cu, 58ppm Pb and 3040ppm Zn. A conductor and contact were interpreted from the data collected on this line so a second moving loop line was read along 6679400N from 505400E to 507000E over CRA anomalous drillhole 115 (21ppm Cu, 245ppm Pb, 1150ppm Zn) to determine the continuity of these features. Appendix 3 contains plots of the TEM data.

The surveys were read using a MarkII SIROTEM and a single component RVR. Initially early and standard times were recorded but early times were considered redundant so they were not collected for the rest of the survey.

Sirotem Line 6678050N

The fixed loop profile along line 6678050N, over the CRA priority one conductor at 506250E, was read from two 300x300m loops with readings every 25m. Only vertical (Z) component data were read from loop 1 and an interpretation of these data produced a contact at 506360E and a possible contact at 506530E. The anomaly at 506530E was interpreted as a near surface feature or a contact because the peak is sharp and the anomaly is unsymmetrical. A weak conductor (only observed to channel 8 - 4.2msec) was detected at 506250E on the conductive-resistive contact. Both horizontal (X) and vertical (Z) components were read along the line from loop 2. Possible contacts were defined at 506525E and 506350E (Z) and 506525E and 506375E (X). No conductor was detected at 506250E, where a weak anomaly was observed using loop 1.

Sirotem Line 6679100N

Fifty metre spaced moving loop data (200x200m loops) were collected, from 505400E to 507000E, on line 6679100N over CRA's anomalous drillhole number 118 (506450E). A conductor was defined at 505600E (A) and a contact at 506500E. Conductor A has a decay constant of between 0.6 and 0.9msec and seems to be more conductive on the eastern side where there is an anomaly at 505700E at late times which has a time constant of 4msec. The

contact at 506500E has a weak anomaly superimposed on it which causes the slope of the linear-linear graph, at the contact, to flatten (see plots of channel 12 onwards). This weak anomaly and contact correspond to the position of anomalous drillhole 118.

A single line of fixed loop TEM was acquired over the conductor, and over the contact. The fixed loop follow-up survey employed three 400x400m transmitter loops (Plate 2) with readings taken every 25m. Data were collected over the conductor from loops 3 and 4 and over the contact with the weak conductor from loops 4 and 5.

The data from loop 3 contain a conductor at 505680E (B) and 505780E (C). Conductor C has a sharp response indicating the source is shallow. Readings to the west of loop 4 defined a conductor at 505580E (D). It is interpreted that conductors B and D are opposite edges of the same conductive body making the conductor approximately 100m wide.

Readings to the east of loop 4 did not detect any significant conductive features. Loop 5 detected a contact at 506625E and a weak conductor on the resistive side of the resistive-conductive contact (506550E = E).

Sirotem Line 6679400N

To determine the continuity of the conductor and contact on line 6679100N another moving loop line was read along 6679400N from 505400E to 507000E over CRA anomalous drillhole 115 (21ppm Cu, 245ppm Pb, 1150ppm Zn). A conductor of similar form to conductor A on line 6679100N was detected at 505575E (F) (time constant = 0.6-0.7msec) and contacts were noted at 505700E and 506500E. These results confirm that the CRA anomalous drillholes lie on the resistive-conductive contact and the conductor at the western end of the lines has a strike length of at least 300m.

5.2.2 Discussion

The response of the CRA moving loop (Line 6678050N) when read with fixed loop EM was considered too weak to warrant drill testing. Anomalous CRA drillholes 115 and 118 are located close to an electrical resistive-conductive contact (the BIF interpreted as the resistive

unit) which does not correspond to the magnetic contact.

A conductor detected at the western end of lines 6679100N (A) and 6679400N (F) does not correspond to the magnetic unit either and was recommended as a valid target for drilling. The interpreted basement conductor lies on the western side of a north-south striking magnetic body dipping east. The interpreted conductor location and drillhole proposed is shown in Figure 2.

5.3 Drilling

5.3.1 Drillhole SS94001

An RC drillhole, SS94001, was designed to test the basement conductor detected at Stafford (Table 1, Figure 3). Drilling commenced on the 19-05-94 and was completed on 20-05-94 at a depth of 200m.

Table 1: Drillhole SS94001 Stafford, May 1994

Drillhole	AMG		Az/Decl	Modelled Target Depth	Depth to Basement	Total Depth
	N	E				
SS94001	6679100	505725	270^0/-60^0	75m	30m	200m

Basement intersected at 30m, comprised a sequence of metasediments including quartz-chlorite veined greywacke, siltstone and sandstone with minor crosscutting granite aphophysis at 172 - 178m. Trace -2% pyrite ± pyrrhotite microveining (<2mm) was ubiquitous from 36m to the EOH. Two main intervals of pyrrhotite rich microveining, 90-104m and 120-150m were intersected and together with the pyrite veining are the likely conductive source.

No visible base metal mineralisation was recorded. Drillhole sections are included in Appendix 4 and English logs in Appendix 5.

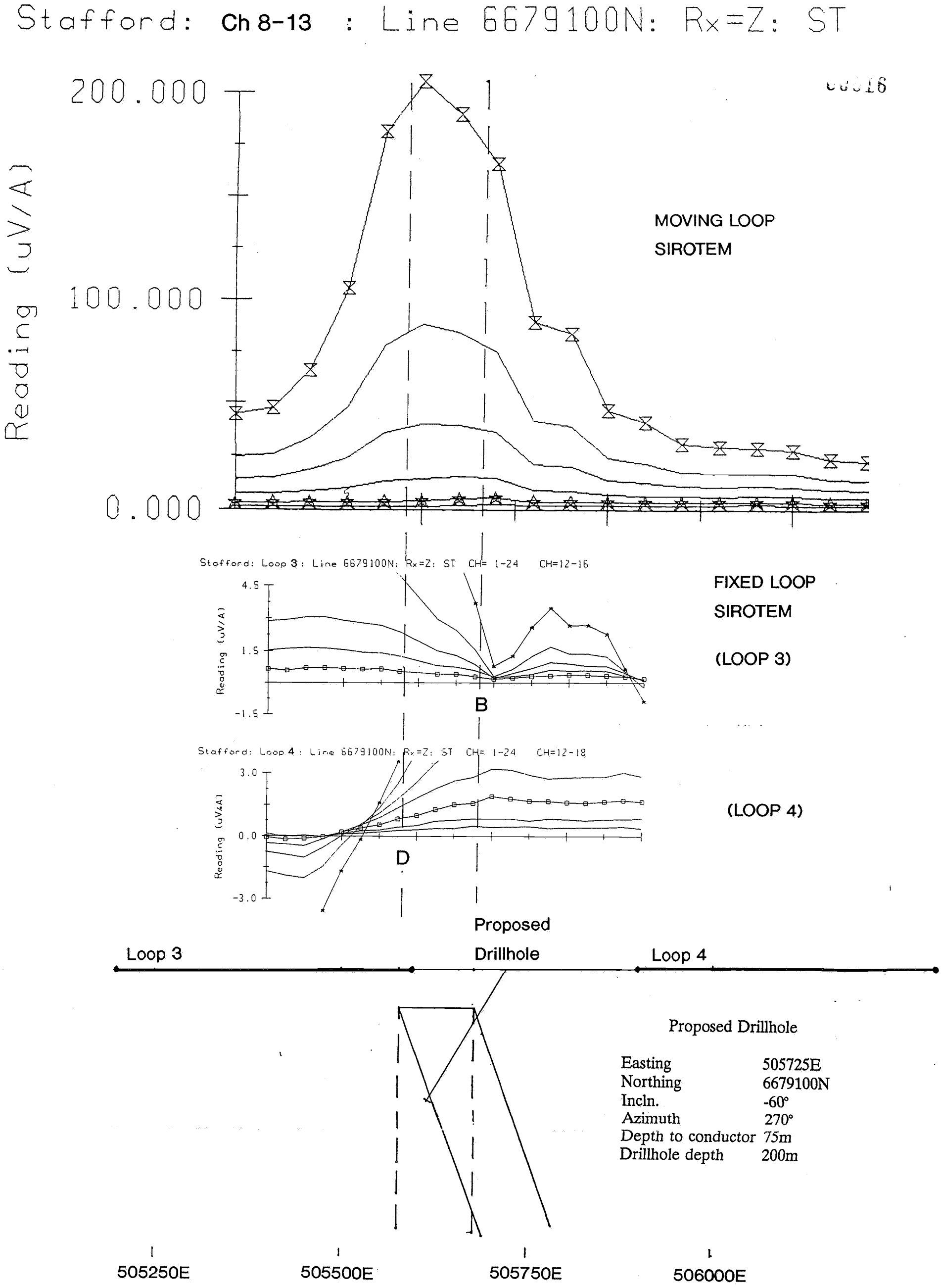


Figure 2 : Interpreted Conductor Location and Proposed Drillhole.

Line 6679100N

5.3.2 Geochemistry

Drill chip samples were collected at 2m intervals from 2m above the overburden/basement contact to the bottom of hole. Samples were assayed for Au, Cu, Pb, Zn, Ag, Co, Fe, Mn, Ni, P and As at Amdel Laboratories, Adelaide.

Assay results are included in Appendix 6 with selected elements shown on a graphic log in Appendix 5.

Geochemical values are low with only weakly Zn (1850ppm/2m) and Cu (380ppm/2m) anomalous intervals intersected. The latter corresponds to an interval of increased py/po microveining in metasiltstone at 146-148m.

Assay results included:

98 - 102m	4m @ 37ppm	Cu,	52ppm	Pb,	412ppm Zn, <0.5ppm Ag
132-136m	4m @ 26ppm	Cu,	95ppm	Pb,	1160ppm Zn, <0.5ppm Ag
146-148m	2m @ 380ppm	Cu,	50ppm	Pb,	310ppm Zn, <0.5 ppm Ag
196-200m	4m @ 80ppm	Cu,	47 ppm	Pb,	275ppm Zn, <0.5 ppm Ag

6.0 DISCUSSION

Exploration within the area of EL1913 focussed on using geophysical methods to prioritise the large area of anomalous drillhole Zn, Pb geochemistry identified by previous exploration. Moving-loop and Fixed-loop sirotem surveys were carried out over selected areas which included anomalous RAB drillholes 115 & 118 and Line 6678050N where BHP's interpretation of CRA ground EM data identified a potential basement conductor. Fixed-loop EM confirmed the presence of a basement conductor on Line 6678050N adjacent to the metasediment - BIF contact.

RC drillhole SS94001 tested the basement conductor; intersecting a sequence of pyrite ± pyrrhotite microveined metasediments cross-cut by granite apophysis. While no massive sulphide lenses were intersected the contained sulphide adequately explains the source of the

EM conductor. Two metre assays of the basement returned only weakly anomalous Cu and Zn. No indicators of massive sulphide mineralisation were recognised in the samples from SS94001.

7.0 ENVIRONMENT

Heavy vehicle access to the exploration area was via existing station tracks wherever possible and then by sneak tracks across country. Use of sneak tracks was kept to a minimum.

The drillsite at SS94001 has been rehabilitated. Excess drill chip material was returned to the drillhole, the hole capped, the site levelled and local soils spread over the area to encourage natural regeneration of vegetation. All vehicle wheelruts have been back filled and levelled.

8.0 CONCLUSION

Exploration within the Stafford licence area failed to identify a significant mineralisation or alteration system within a geological environment considered prospective for Archean VMS deposits. No further work is proposed and the tenement lapsed at the end of its one year tenure.

9.0 EXPENDITURE

Expenditure on EL1913, Stafford for the tenure period is attached.

EXPLORATION LICENCE 1913 STAFFORD
LIFE TO DATE EXPENDITURE

Wages and Salaries	1,775
Drilling	10,190
Equipment	315
Geochemistry	2,288
Geophysics	7,435
Tenement Costs	1,924
Office Running Costs	81
Consultants/Contractors	924
Specialist Services Group	6,415
Administration and Office Overheads	3,135
LIFE TO DATE	$34,482

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APPENDIX 1

Petrology of Samples from Drill Holes DD89 and DD87/88, Hawkes Nest Prospect, S.A.

16 July 1993 FILE NO: E10ER/23/1-HP 4

MEMORANDUM TO: M RAETZ

cc: J Cameron
L Ellingford, TIS, Hawthorn
then circulate to: G Murphy
L Bettenay
D Moore

FROM: D GILBERT

OUR REF: CM 6432; DJG:JOH; EPM 93/165 (BKY)

SUBJECT: PETROLOGY OF SAMPLES FROM DRILL HOLES PD 89 AND DD 87/88, HAWKS NEST PROSPECT, SOUTH AUSTRALIA

Summary and conclusions
(see Appendix 1; MRL 24503-24506)

1. Rock types include:

   - micaceous (chloritized) quartzite/ferruginized phlogopite-rich fine sandstone/phyllite/metasiltstone (PD 89/HN7, 32-34 metres).

   - meta-fine micaceous (phlogopite > sericite) feldspathic sandstone (PD 89/HN7, 36-38 metres).

   - weathered biotite quartz microdiorite (PD 89/HN7, 38-40 metres).

   - hematized magnetite-bearing banded iron formation or original banded magnetite-carbonate-clinoamphibole-talc rock. (DD 87/88, 106 metres).

2. The anomalous lead could not be explained mineralogically in the samples from PD 89, though traces of pyrite and pyrrhotite/pentlandite were recorded. The secondary goethite may have scavenged lead.

3. The banded iron formation sample from DD 87/88, resembles previously described Lower Proterozoic BIF from the Middleback Ranges. The Hawks Nest BIF contains bands of fine grained interlocking quartz, where the latter appears to have replaced earlier carbonate, clinoamphibole and talc. This quartz is therefore not a primary component of chemical deposition.

D J GILBERT
Senior Project Petrologist

DJG:JOH\G\7\11.M

APPENDIX I
(to accompany CM 6432)
Petrography of samples from drill holes PD 89 and DD 87/88,
Hawks Nest Prospect, South Australia
(MRL 24503-24506)

Sample mark: **PD 89/HN7, 32-34 metres (MRL 24503)**

Field description: Meta-quartzite (4000-5000 ppm Pb)

Diagnosis and comments:

Micaceous (chloritized) quartzite/ferruginized phlogopite-rich fine sandstone/phyllite/ meta-siltstone. Rare minute pyrite specks occur in some quartz grains, where the anomalous lead cannot be explained mineralogically.

The mineralogical composition is outlined below (approximate decreasing order of abundance):

Quartz
Phlogopitic mica (some iron stained)
Sericitic mica
Potash feldspar (stain test)
Chlorite (after phlogopite)
Opaques: (≤1 vol %)
- goethite (secondary patches and veinlets)
- pyrite (rare minute specks in quartz grains)

Rutile/leucoxene (disseminated grains)
Tourmaline (rare bluish-green variety)
Zircon (rare subhedral to subrounded detrital grains)

These percussion chips comprise the following metasedimentary rock types:

i. chloritized micaceous quartzite (some quartz veined)
ii. ferruginized micaceous (phlogopite > sericite) fine sandstone (quartz mainly 125 microns)
iii. ferruginized phlogopite-rich rock (phlogopitized fine sandstone)
iv. ferruginized phyllite/meta-siltstone

Minute sulphide inclusions (mainly pyrite) occur in some of the quartz grains within these metasedimentary rocks, where the anomalous lead cannot be explained mineralogically. The phlogopite-rich chip comprises randomly orientated phlogopitic micas which appear to represent potash-metasomatism, conceivably in the vicinity of a nearby intrusive body.

Sample mark: **PD 89/HN7, 36-38 metres (MRL 24504)**

Field description: Meta-quartzite (4000-5000 ppm Pb)

Diagnosis and comments:

Meta-fine micaceous (phlogopite > sericite) feldspathic sandstone.

The mineralogical composition is outlined below (approximate decreasing order of abundance):

Quartz
Phlogopitic mica
Sericitic mica
Potash feldspar (stain test)
Opaques: (< 1 vol %)
- goethite (secondary)
- pyrite (rare subhedral specks in quartz)
- pyrrhotite/pentlandite (rare subhedral grains in quartz)

Rutile/leucoxene (scattered grains)
Tourmaline (rare subhedral grains)
Zircon (rare subrounded detrital grains)

This metasedimentary rock displays a relict clastic texture with abundant subangular to subrounded detrital quartz grains, cloudy incipiently sericitized feldspars (mainly potash feldspar) and crudely aligned micas (iron stained phlogopite > sericite). Much of the quartz forms a subpolygonal aggregate, where the grain size averages 150 microns (fine sand grade).

Rare subhedral tourmaline is sometimes present together with rare minute specks of sulphide (pyrite > pyrrhotite/pentlandite), where the latter are generally enclosed in quartz. Rare subrounded zoned detrital zircons are also evident.

Sample mark: **PD 89/HN7, 38-40 metres (MRL 24505)**

Field description: Weathered medium grained intrusive.

Diagnosis and comments:

Weathered biotite quartz microdiorite. Some percussion chips comprise ferruginized sericitic mica-clay-biotite-quartz rock (?altered microdiorite).

The mineralogical composition is outlined below (approximate decreasing order of abundance):

Plagioclase (An_{12} to An_{33}; oligoclase-andesine; some zoned)
Biotite

Sericitic mica (alteration of plagioclase)
Chlorite (after biotite)
Quartz
Opaques:
- goethite/hematite (secondary; some forming subhedral pseudomorphs after sulphide?)
- pyrite (minute specks in silicates)

Rutile/leucoxene

A relict fine to medium grained igneous texture is evident in some of these percussion chips, with randomly orientated plagioclase laths (some zoned), scattered biotites and minor anhedral quartz. Scattered coarser grained plagioclase phenocrysts impart a microporphyritic texture in places.

Other percussion chips comprise mainly sericitic mica/clay together with scattered biotites (some bleached), quartz and rutile/leucoxene, where these probably represent completely altered/weathered microdioritic intrusive rock types.

This sample therefore represents a variously altered/weathered upper level intermediate intrusive body. The freshest percussion chip is best described as a biotite quartz microdiorite.

Sample mark: **DD 87/88, 106 metres (MRL 24506)**

Field description: Magnetic BIF.

Diagnosis and comments:

Hematized magnetite-bearing banded iron formation. The original rock type would have been a banded magnetite-carbonate-clinoamphibole-talc rock subsequently hematized and replaced by silica.

The mineralogical composition is outlined below (approximate decreasing order of abundance):

Quartz
Opaques:
- hematite (subhedral pseudomorphs after magnetite; also specular variety)
- magnetite (residuals in hematite)
- pyrite (rare <3 to 15 micron inclusions in hematized magnetite)

Greenish micaceous mineral (?talc)
Carbonate (rare minute <3 to 6 micron specks in quartz)
Clinoamphibole (rare minute greenish prismatic inclusions in quartz; possible tremolite/actinolite)
Apatite (rare subhedra)

This sample displays a distinctly banded texture with alternating bands of hematized magnetite and quartz. The quartz forms a fine grained strained sutured interlocking aggregate, where it appears to have replaced earlier carbonate, clinoamphibole and ?greenish talc.

The opaque bands were originally magnetite-rich, where subhedral to euhedral magnetites have been converted to hematite (recrystallized martite). Secondary specular hematite is also evident and minute traces of pyrite have also been recorded.

Microfaulting has also sometimes displaced the banding in this sample, which resembles some of the Lower Proterozoic banded iron formation rocks occurring in the Middleback Ranges.

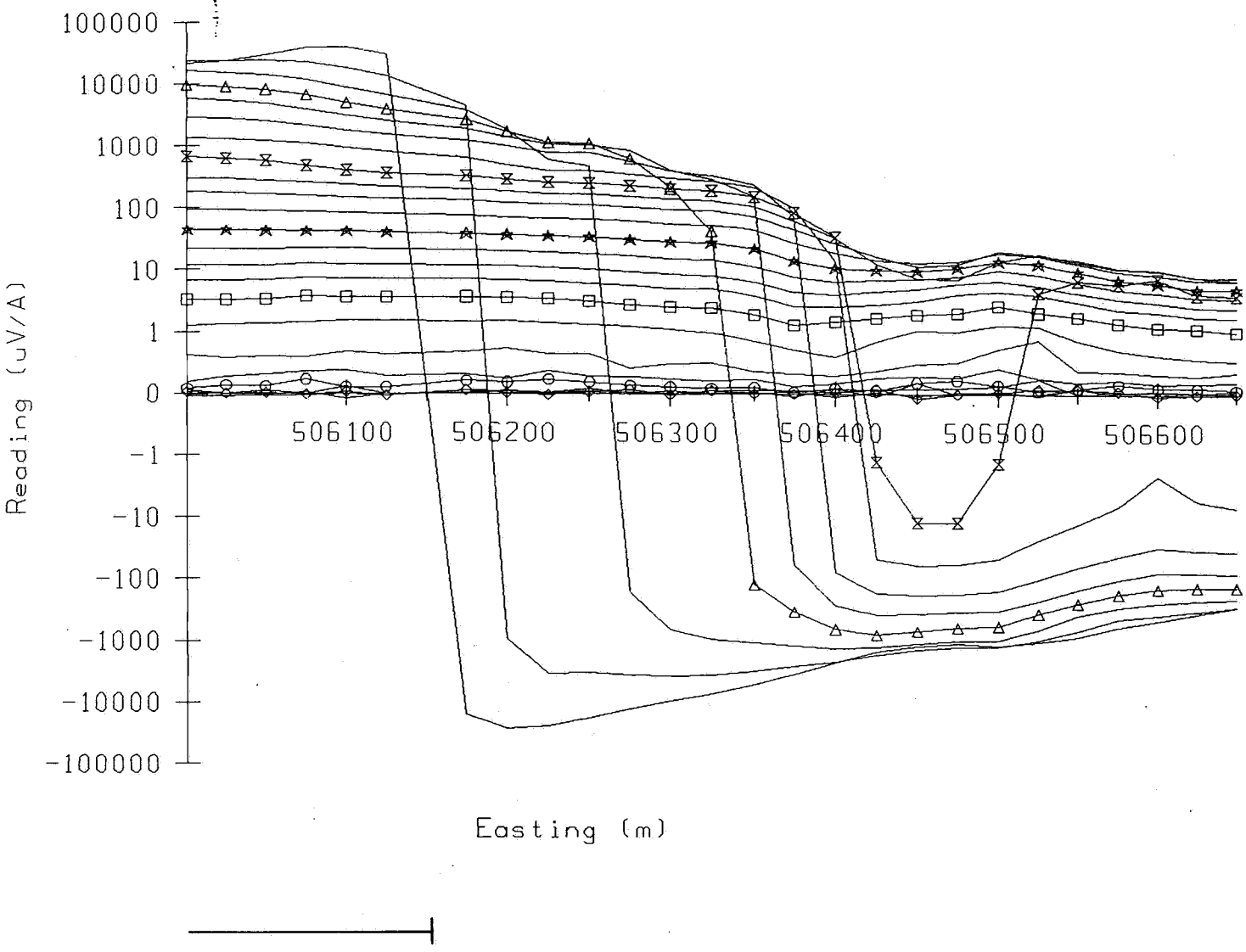
The original rock type would have been a magnetite-carbonate-clinoamphibole-?talc BIF which has undergone subsequent hematization and replacement by silica. The quartz does not appear to represent a primary component of chemical deposition.

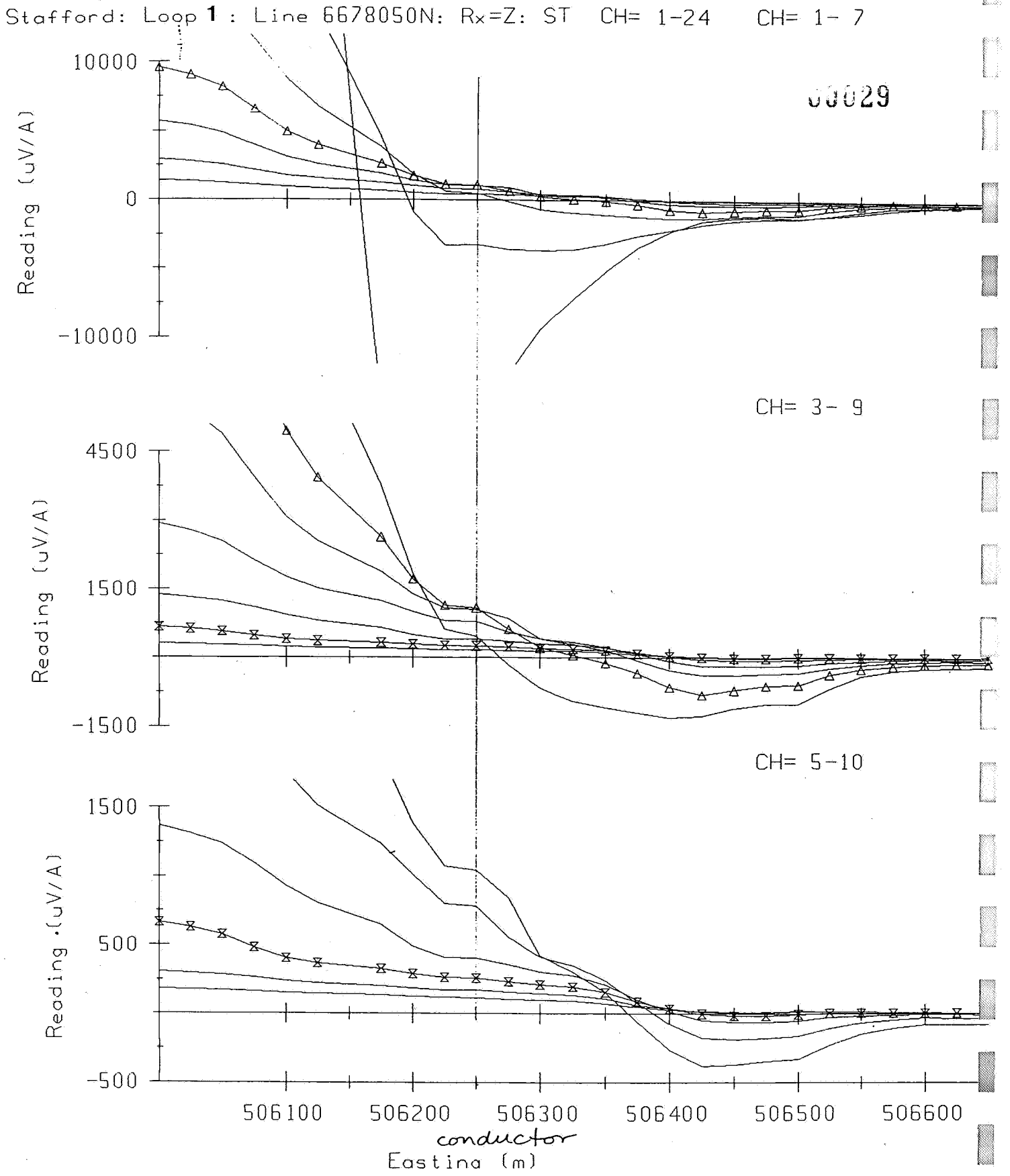
DJG:JOH\G\7\12.APX

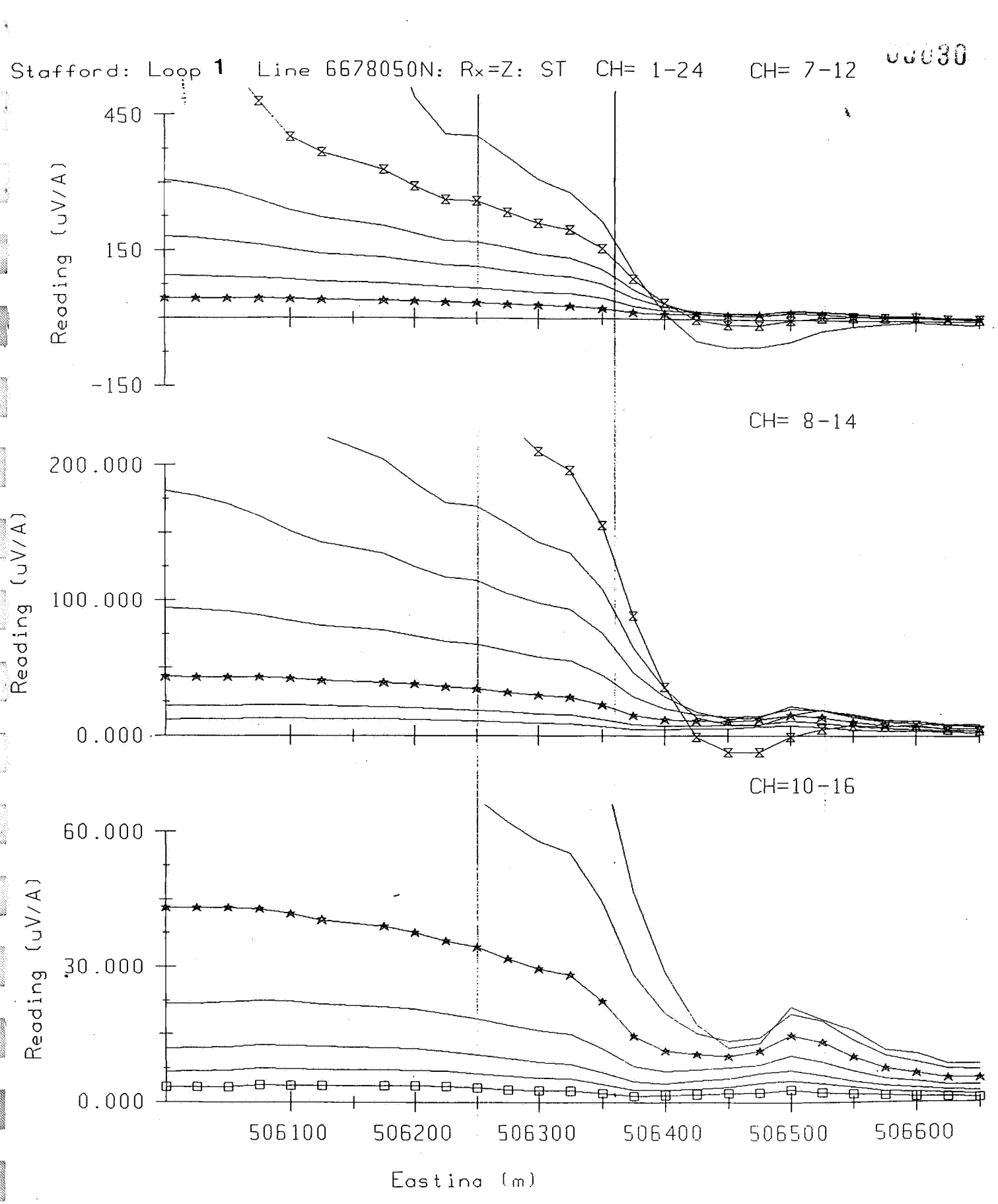
APPENDIX 2

Log-linear and Linear-linear plots of Fixed loop TEM from Line 6678050N

Stafford: Loop 1 : Line 6678050N: Rx=Z: ST CH= 1-24



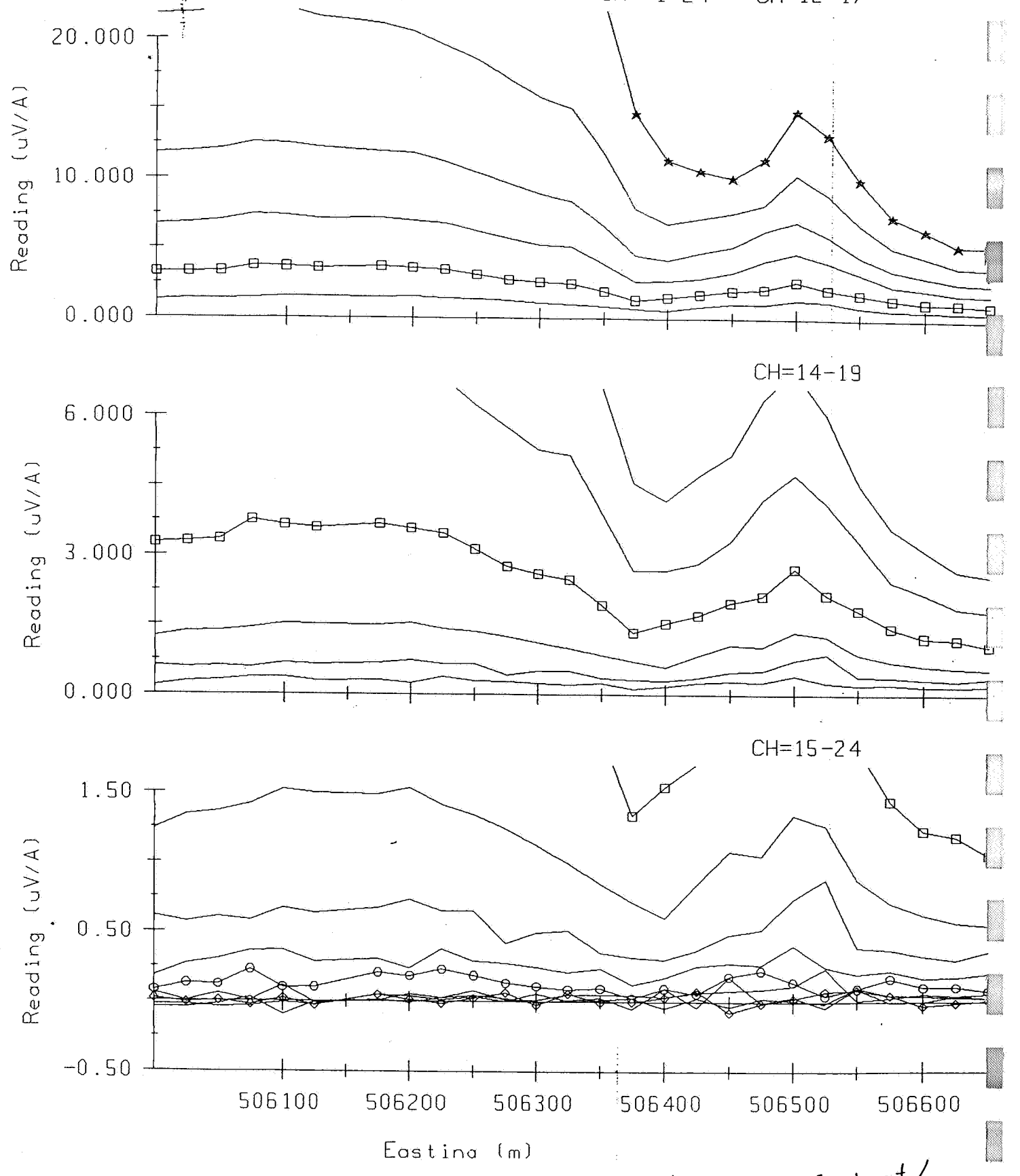

Stafford: Loop 1 : Line 6678050N: Rx=Z: ST CH= 1-24 CH= 1- 7
10000
0
-10000
Reading (uV/A)
CH= 3- 9
4500
1500
-1500
Reading (uV/A)
CH= 5-10
1500
500
-500
Reading (uV/A)
506100
506200
506300
506400
506500
506600
conductor
Eastina (m)



conductor

Contact

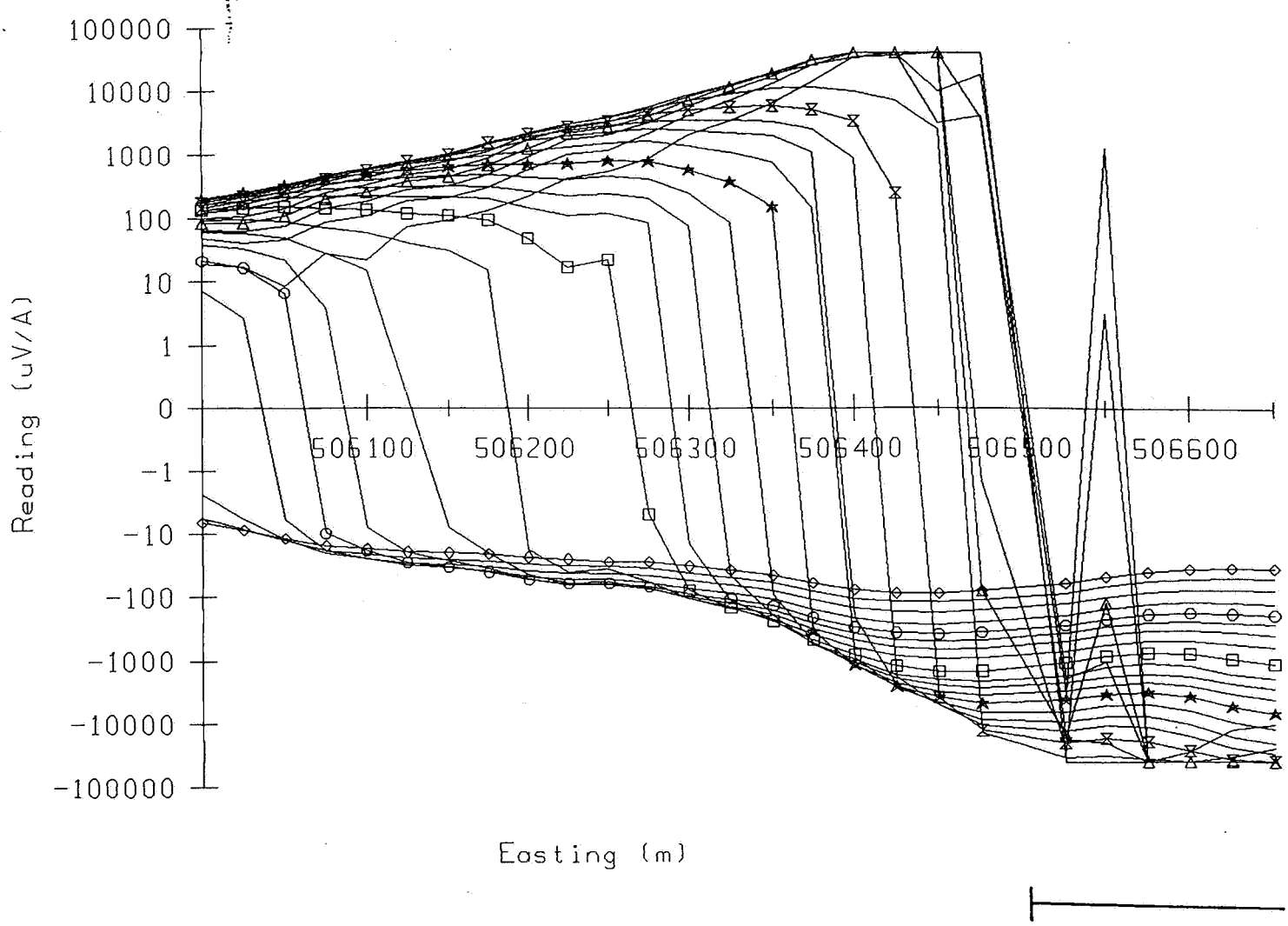
Contact / near surface feature



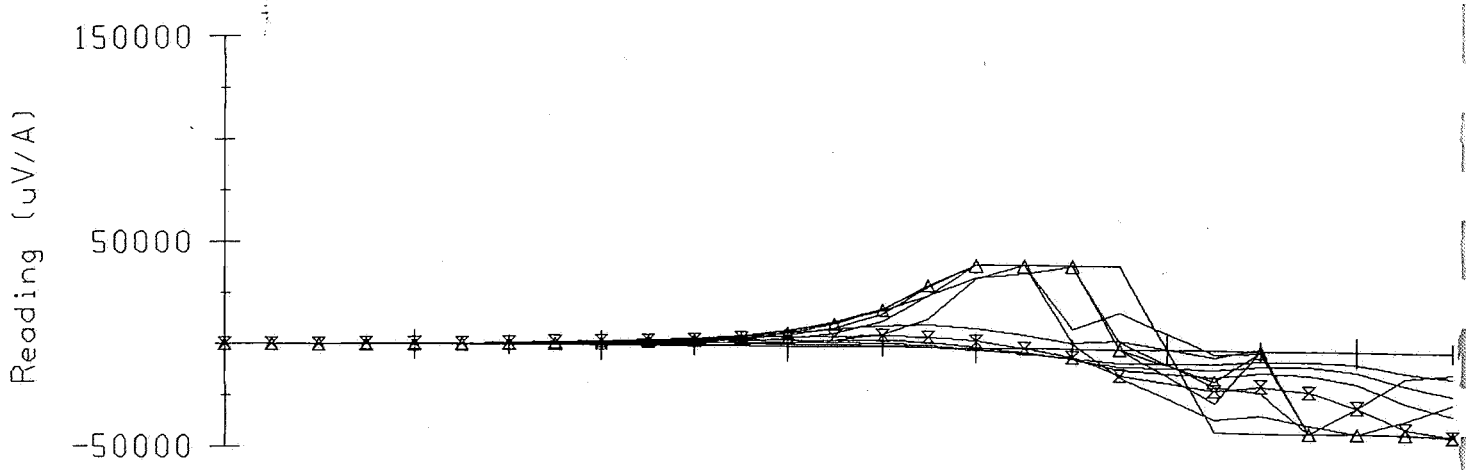
contact

Contact/
Near Surface
Feature

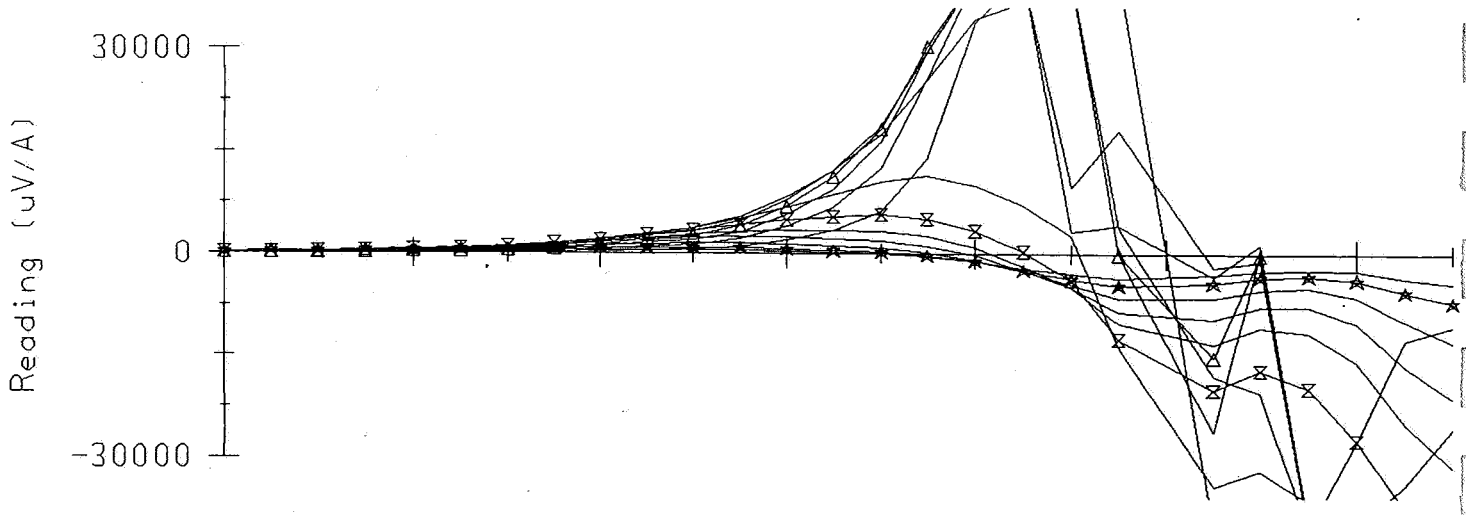
Stafford: Loop 2: Line 6678050N: Rx=Z: ET CH= 1-24



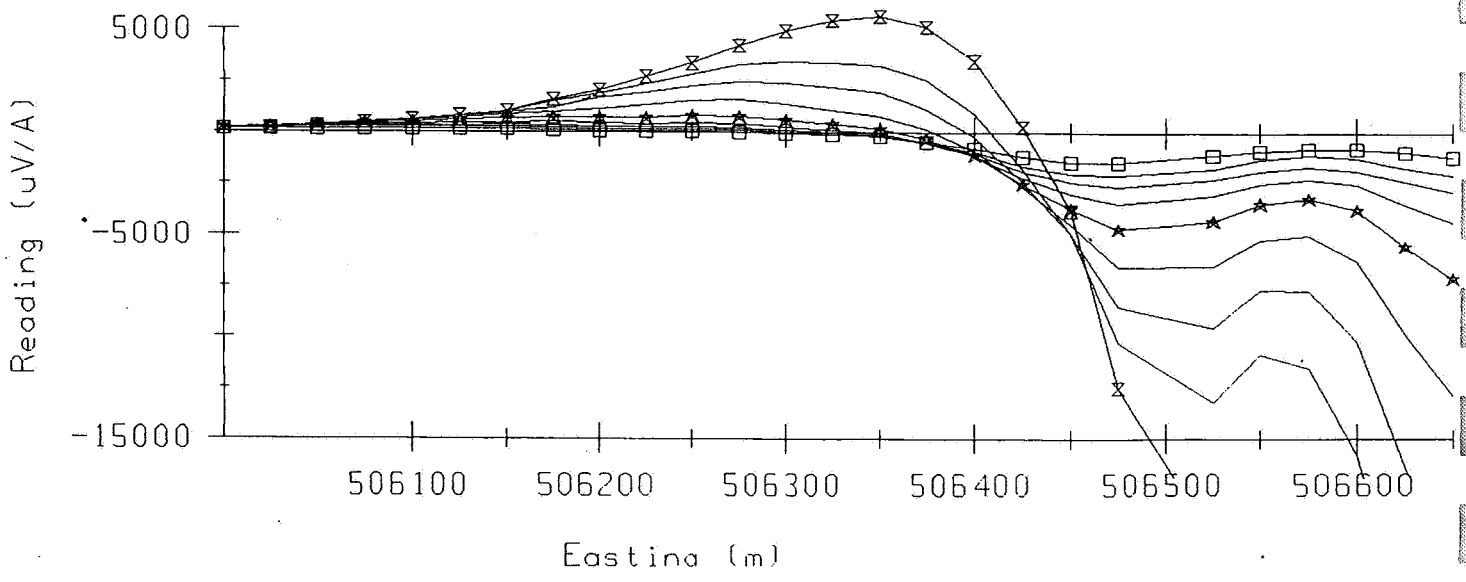
Stafford: Loop 2 : Line 6678050N: Rx=Z: ET CH= 1-24 CH= 1-11



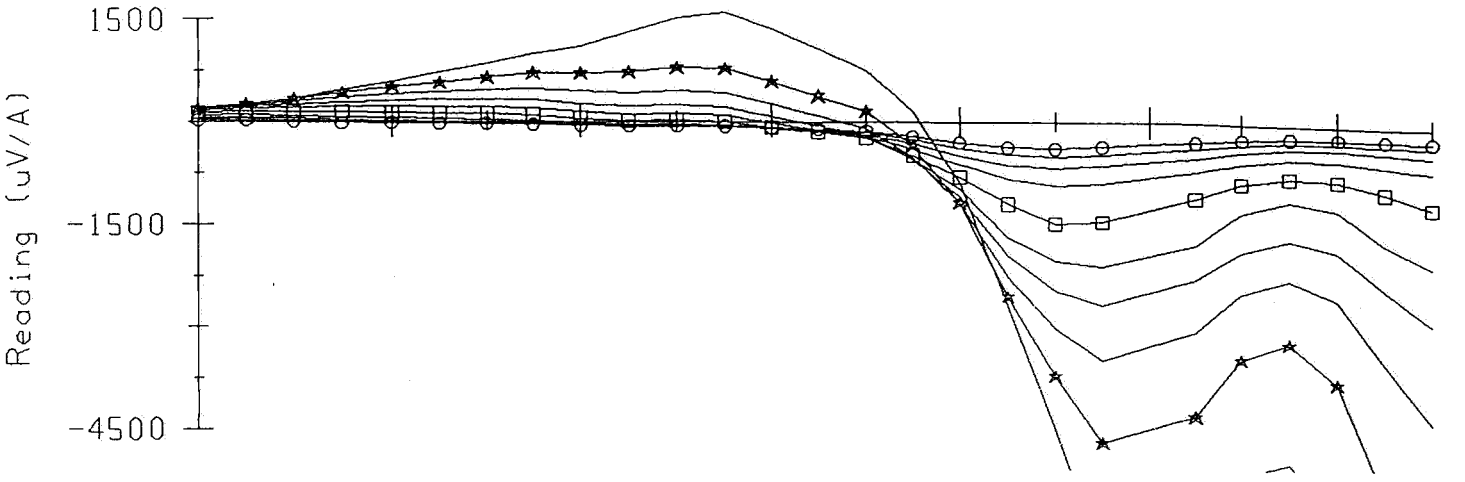
CH= 1-13



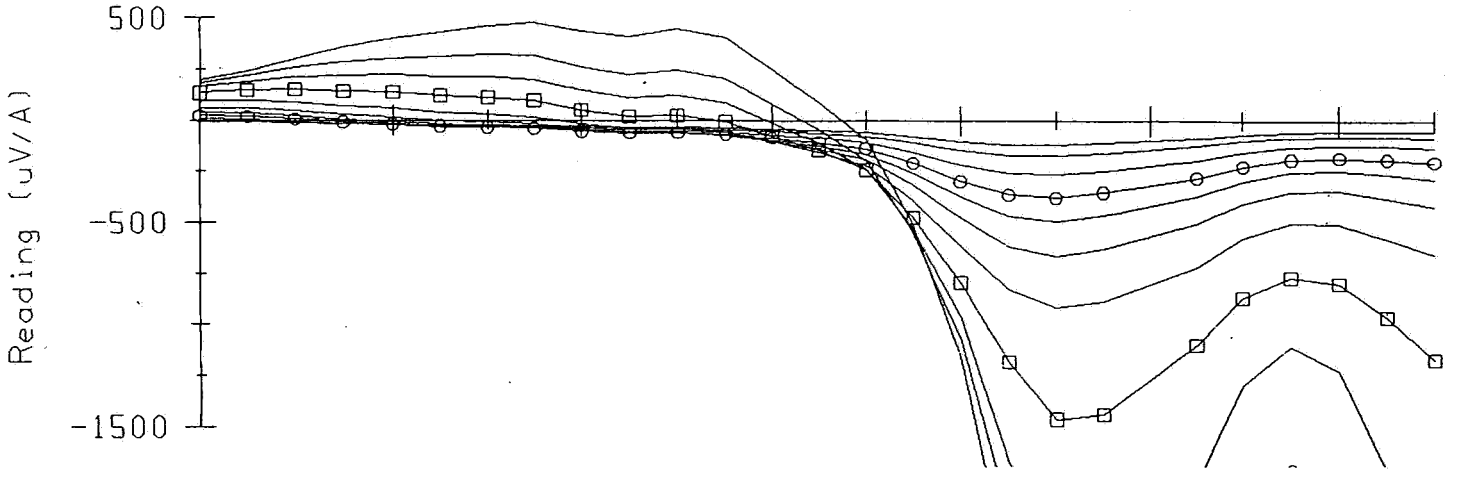
CH= 8-16



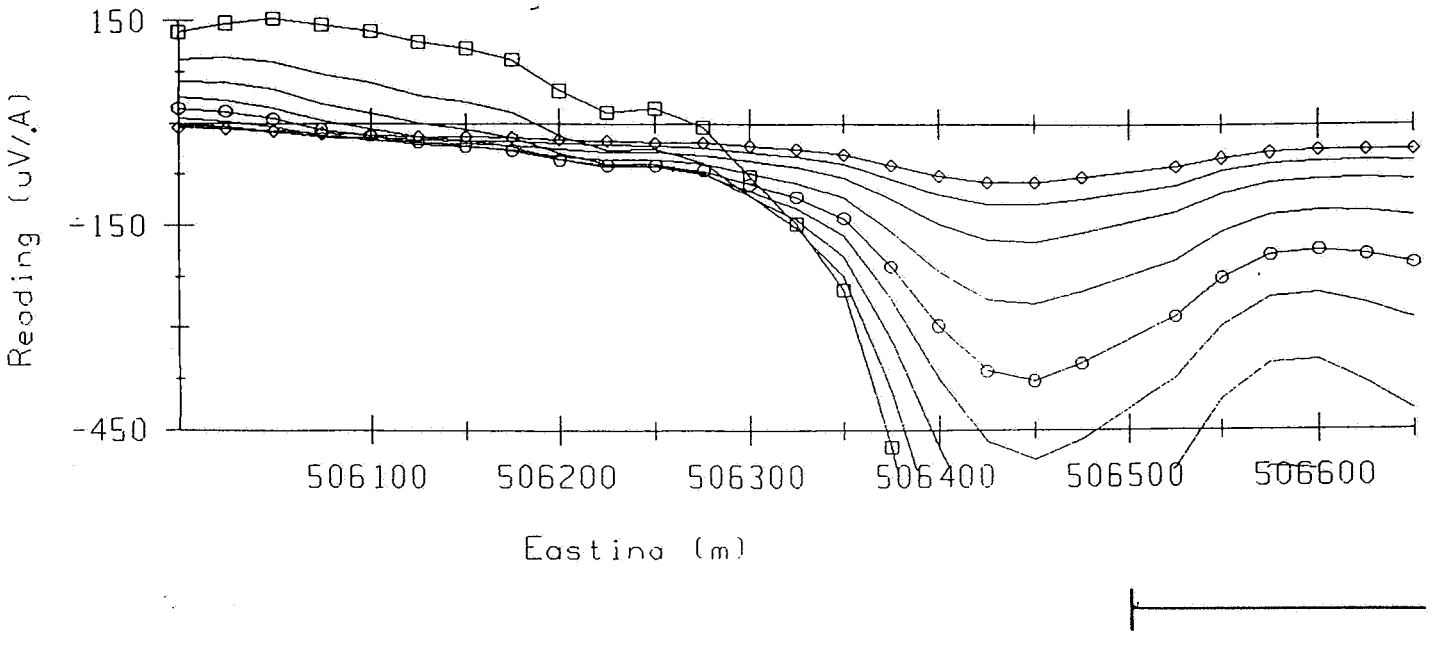
tafford: Loop 2: Line 6678050N: Rx=Z: ET CH= 1-24 CH=11-20



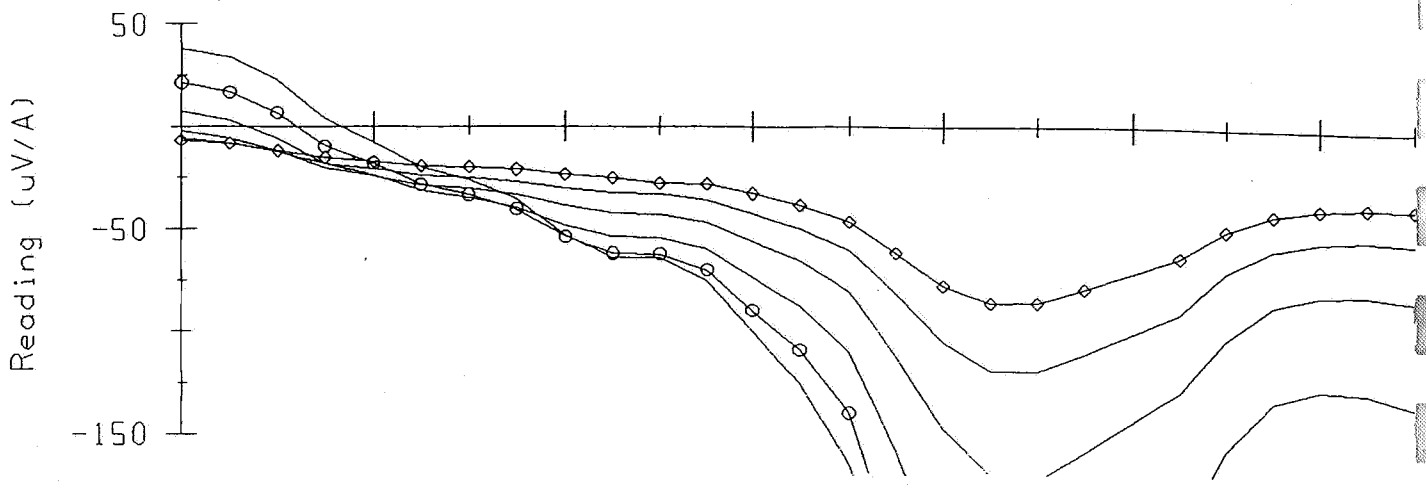
CH=13-23



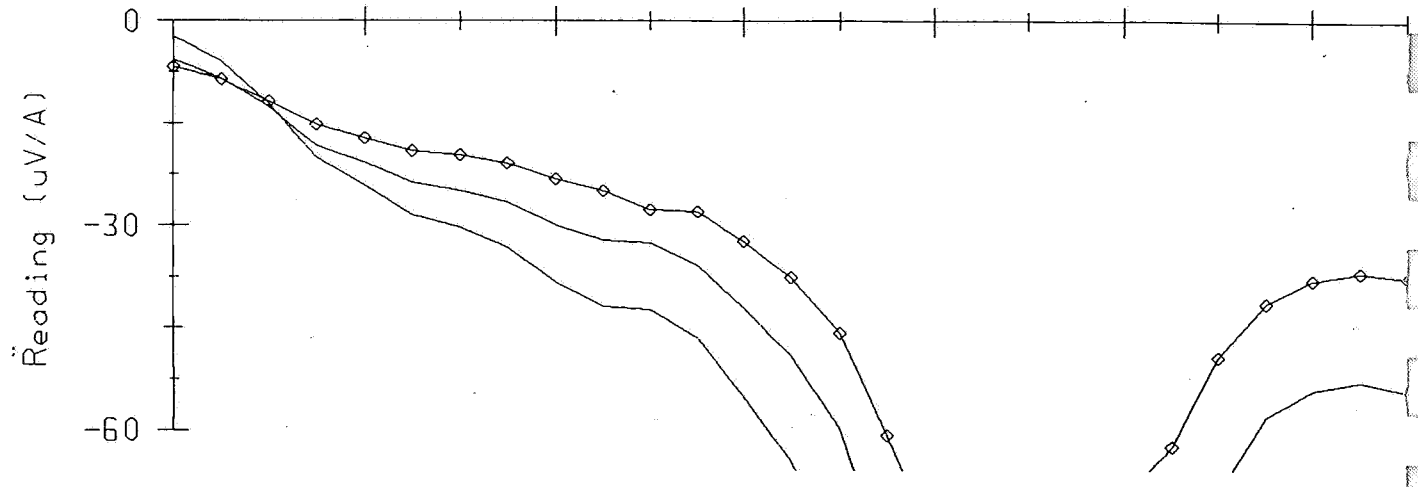
CH=16-24



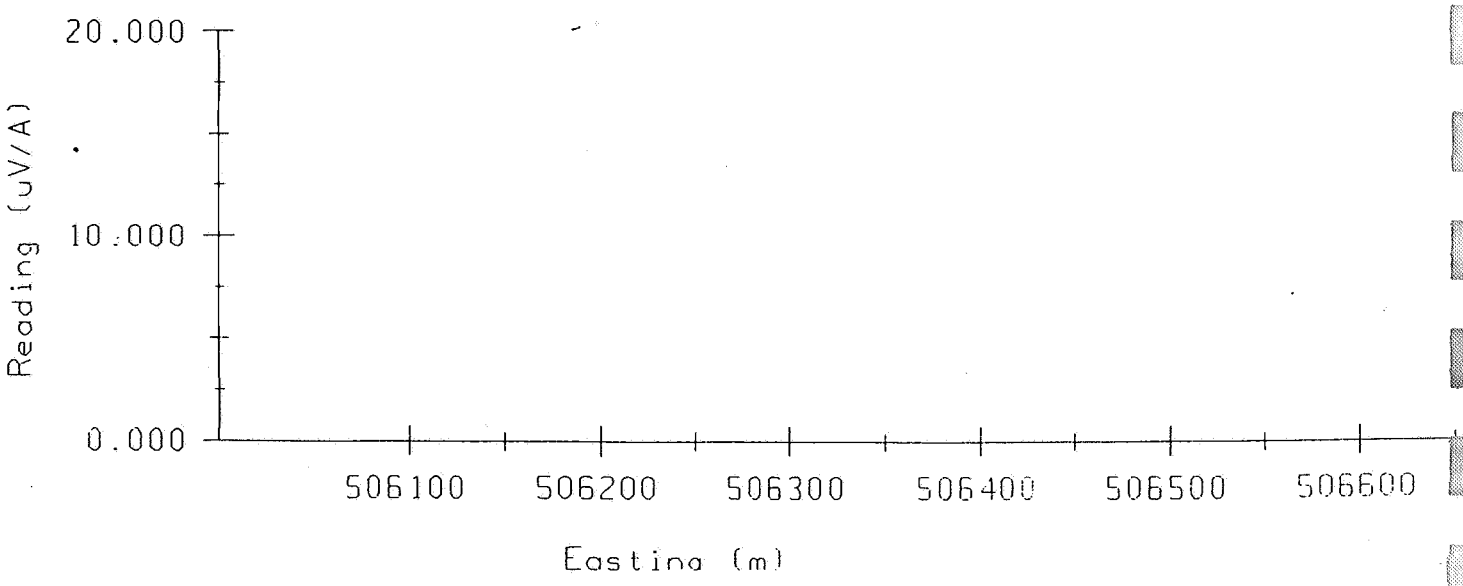
Stafford: Loop 2 : Line 6678050N: Rx=Z: ET CH= 1-24 CH=19-24



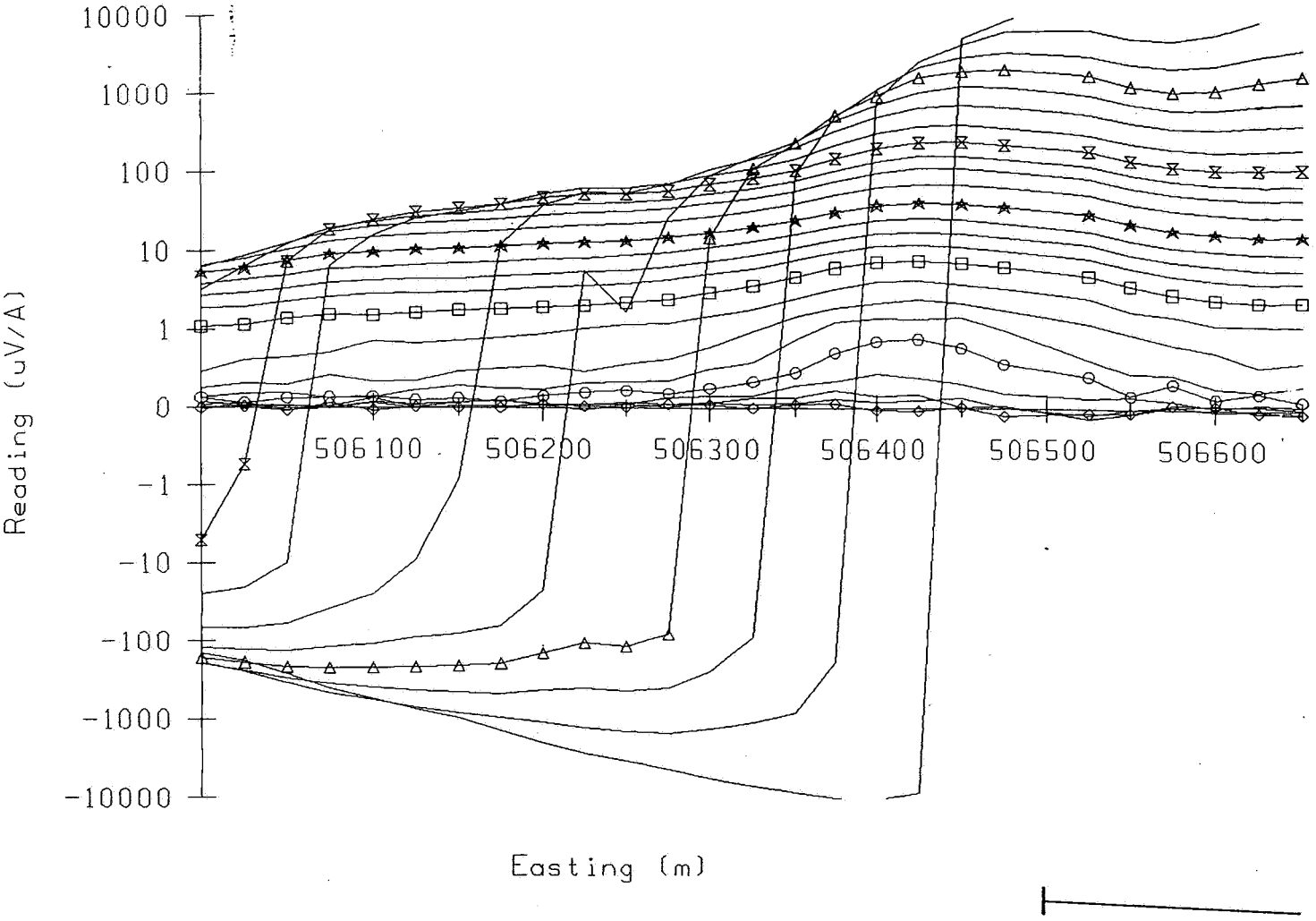
CH=22-24

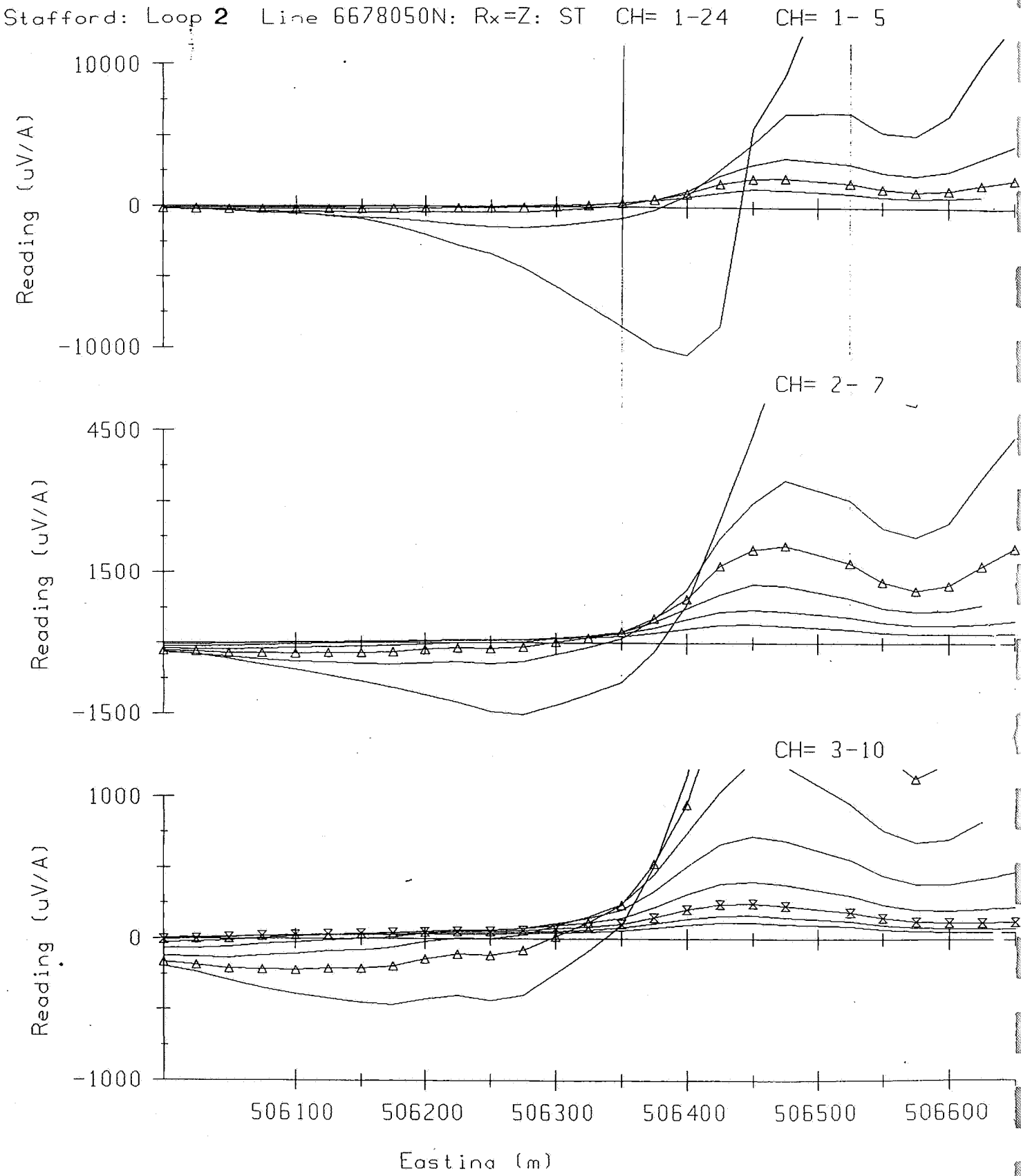


CH= 0



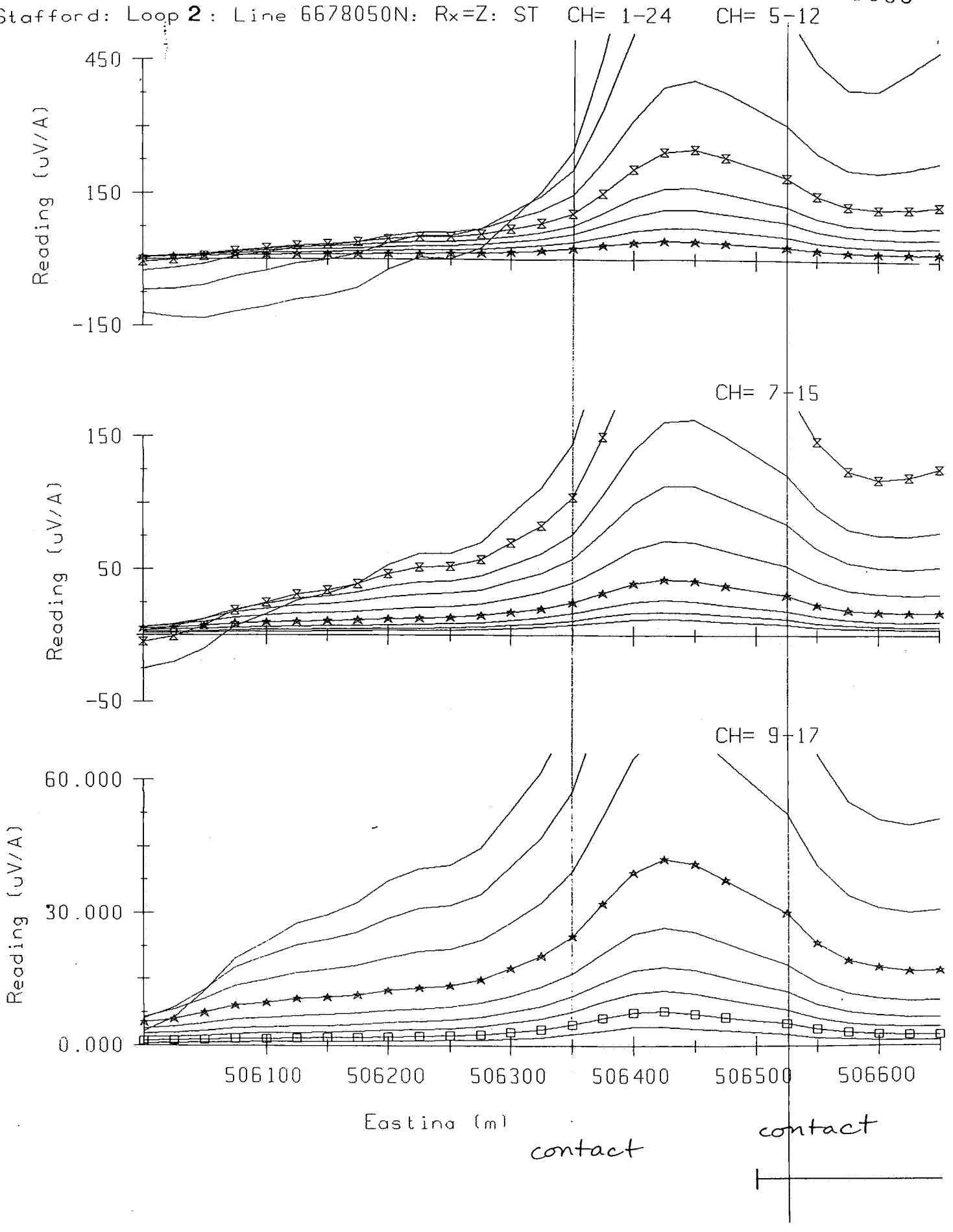
Stafford: Loop 2 : Line 6678050N: Rx=Z: ST CH= 1-24

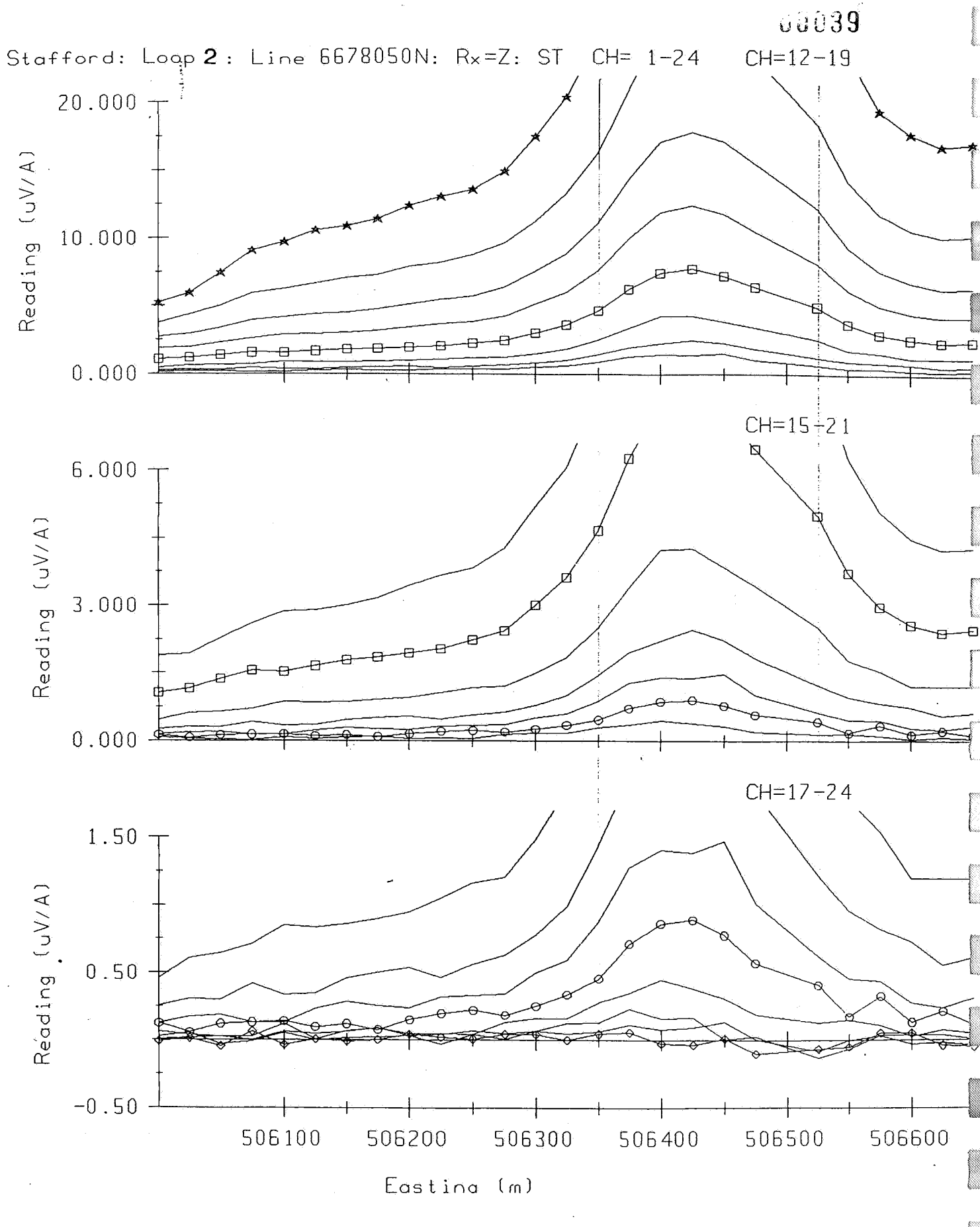




contact

contact

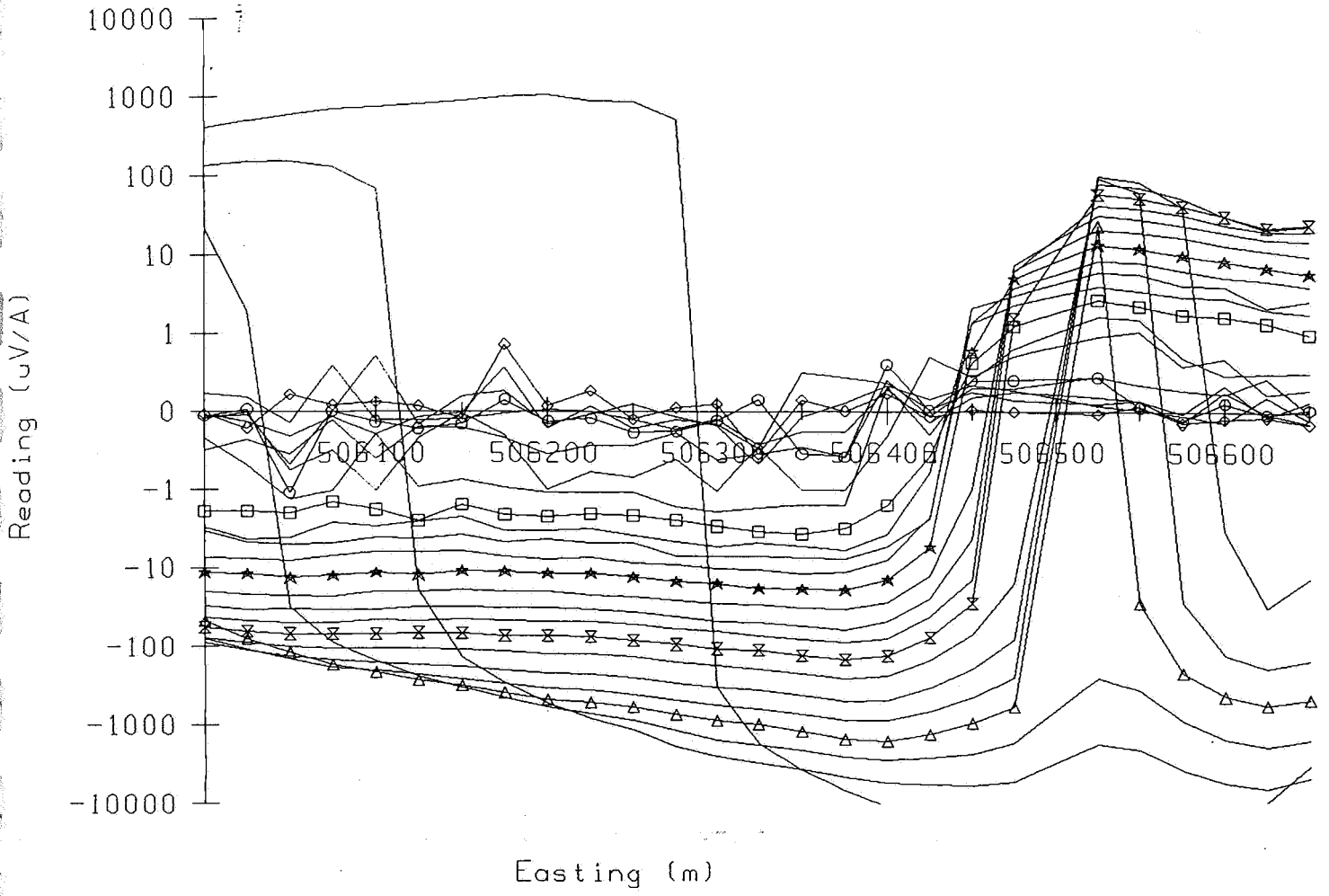

Stafford: Loop 2 : Line 6678050N: Rx=Z: ST CH= 1-24 CH= 5-12
450
150
-150
Reading (uV/A)
CH= 7-15
150
50
-50
Reading (uV/A)
CH= 9-17
60.000
30.000
0.000
Reading (uV/A)
506100
506200
506300
506400
506500
506600
Easting (m)
contact
contact



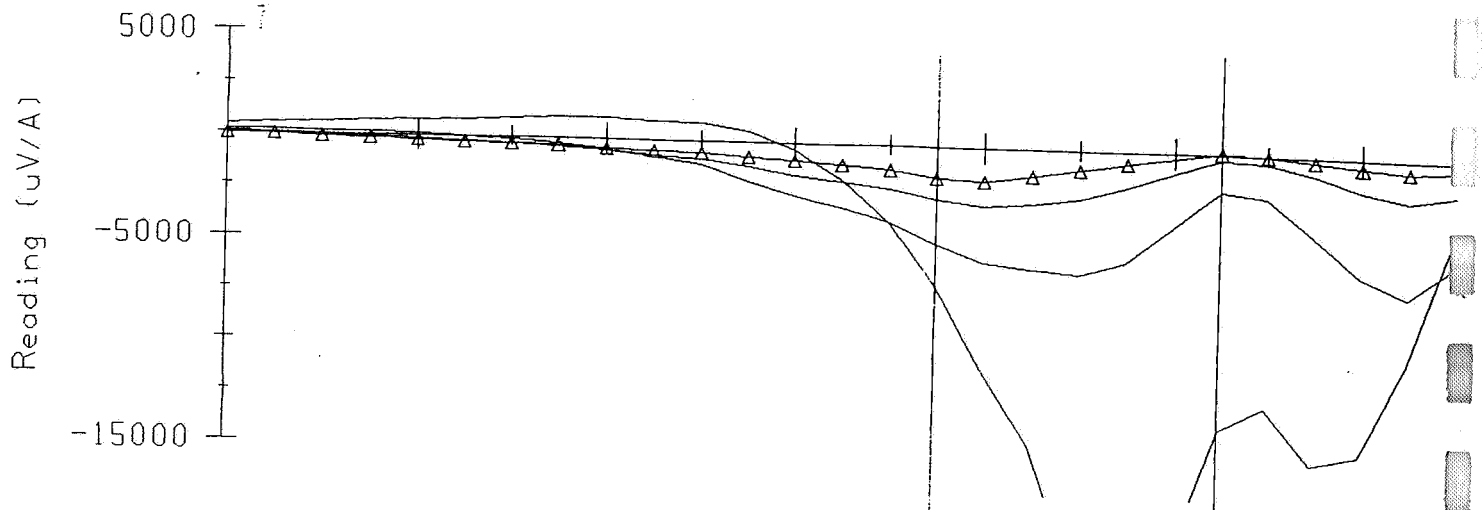
contact

contact

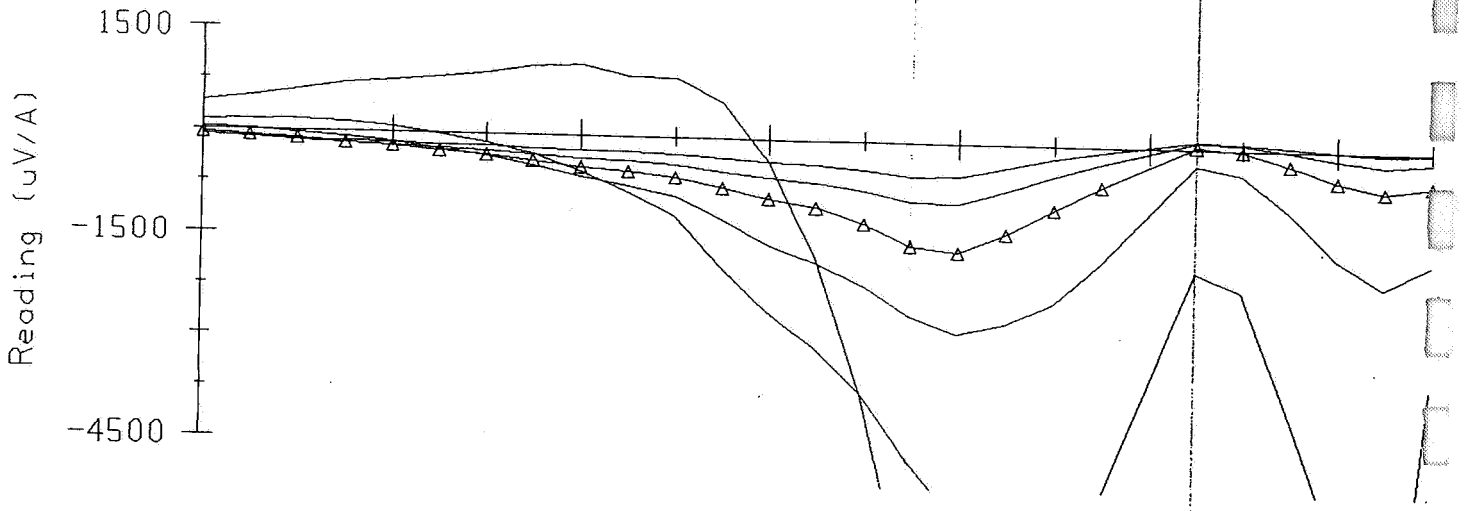
Stafford: Loop 2: Line 6678050N: Rx=X: ST CH= 1-24



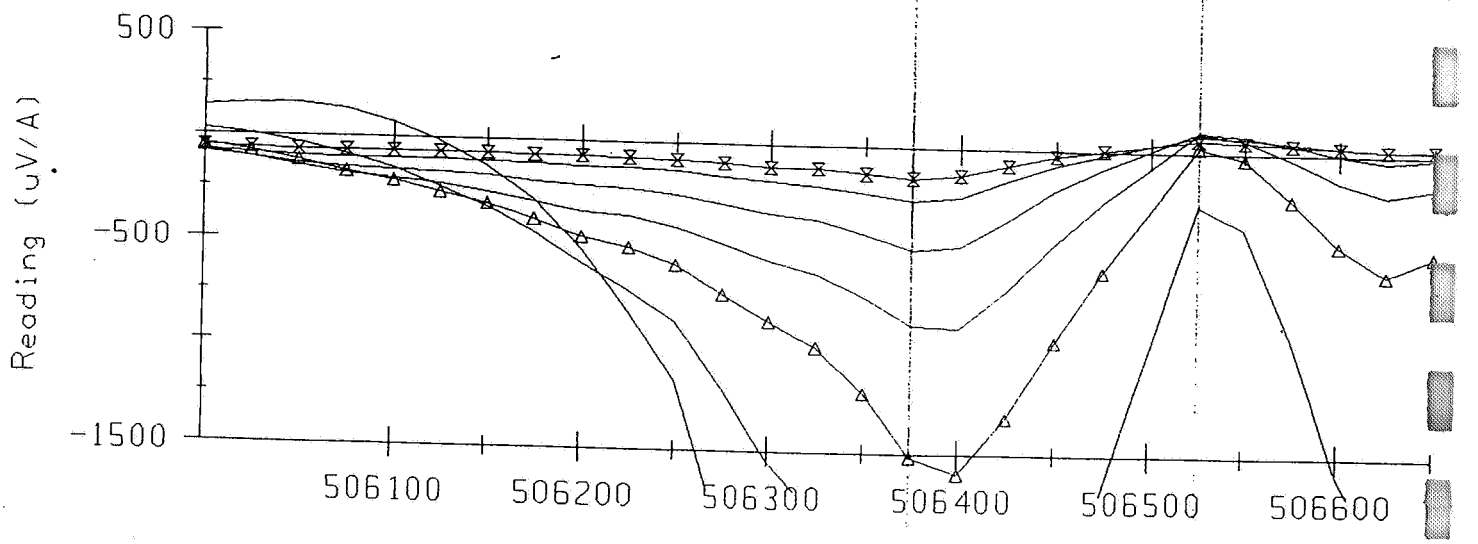
Stafford: Loop 2: Line 6678050N: Rx=X: ST CH= 1-24 CH= 1- 4



CH= 2- 6

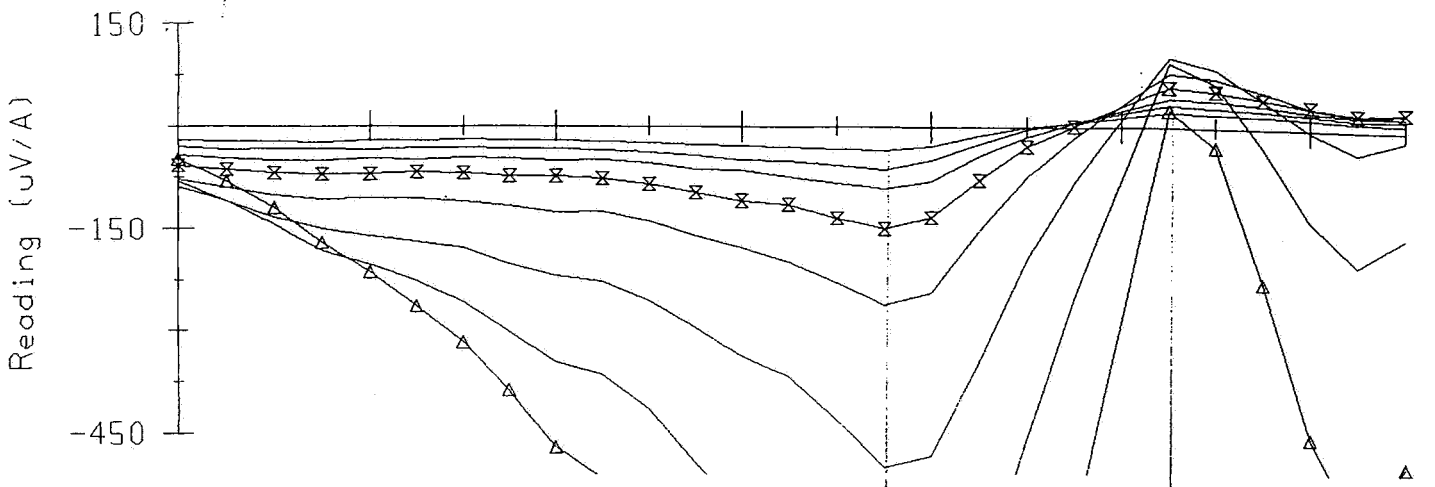


CH= 2- 8

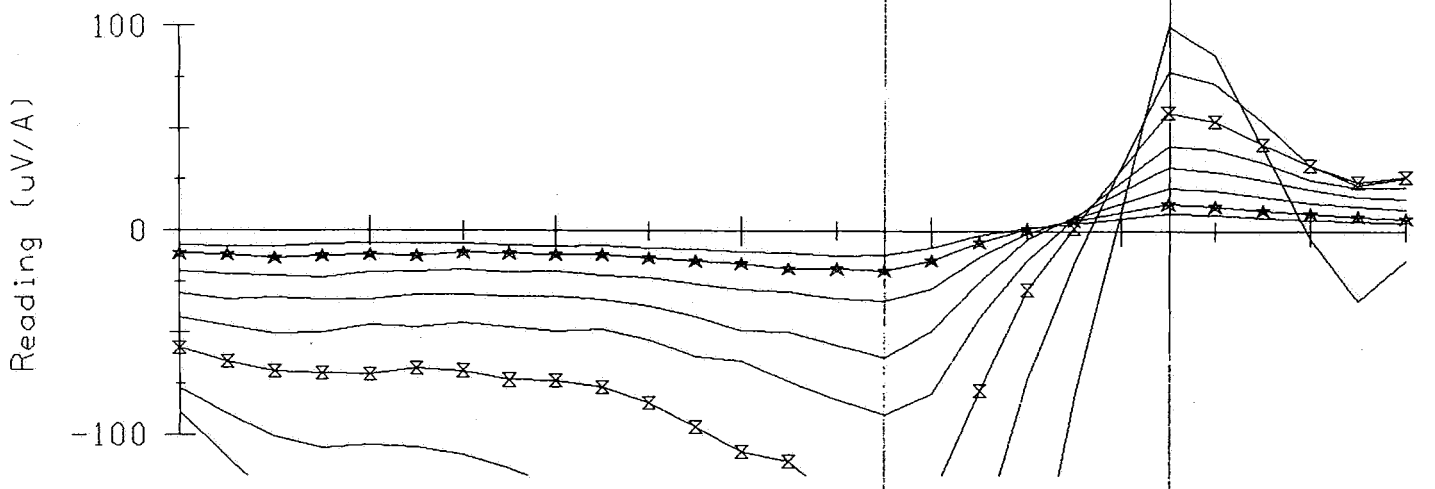


contact contact

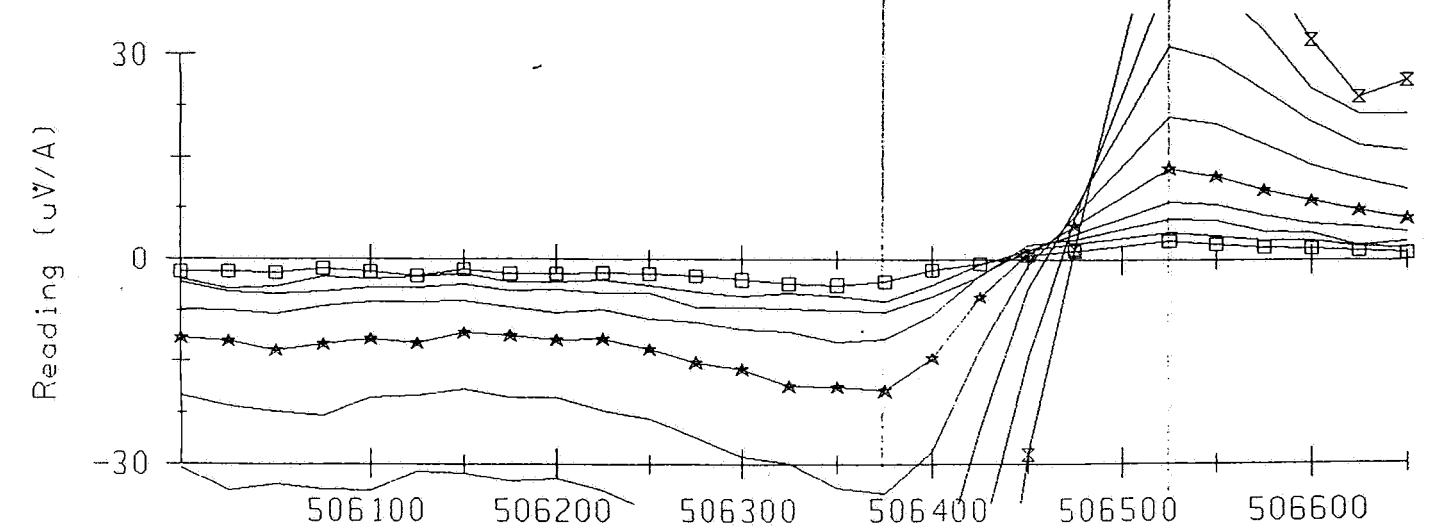
Stafford: Loop 2 : Line 6678050N: Rx=X: ST CH= 1-24 CH= 4-11



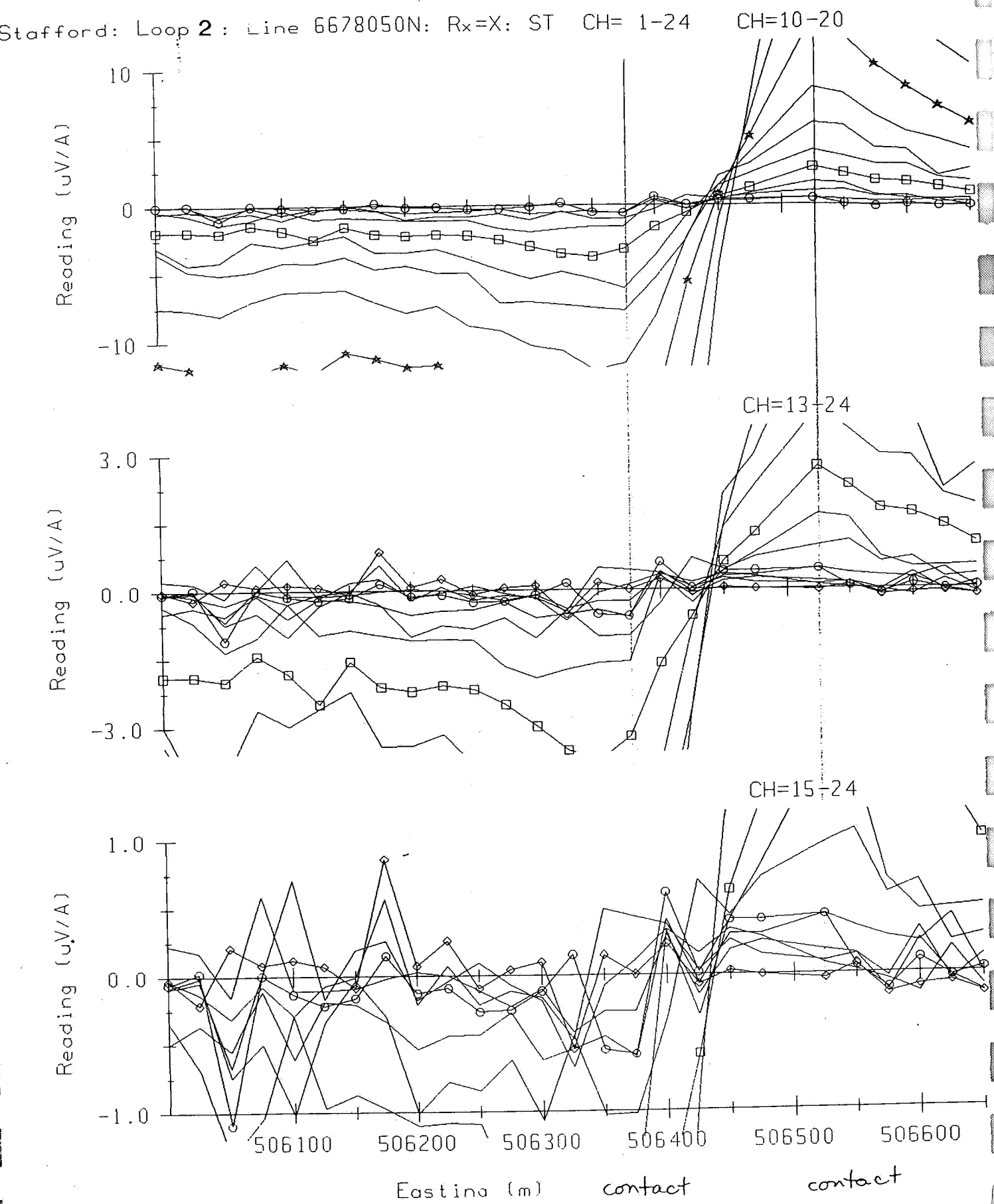
CH= 6-13



CH= 8-16

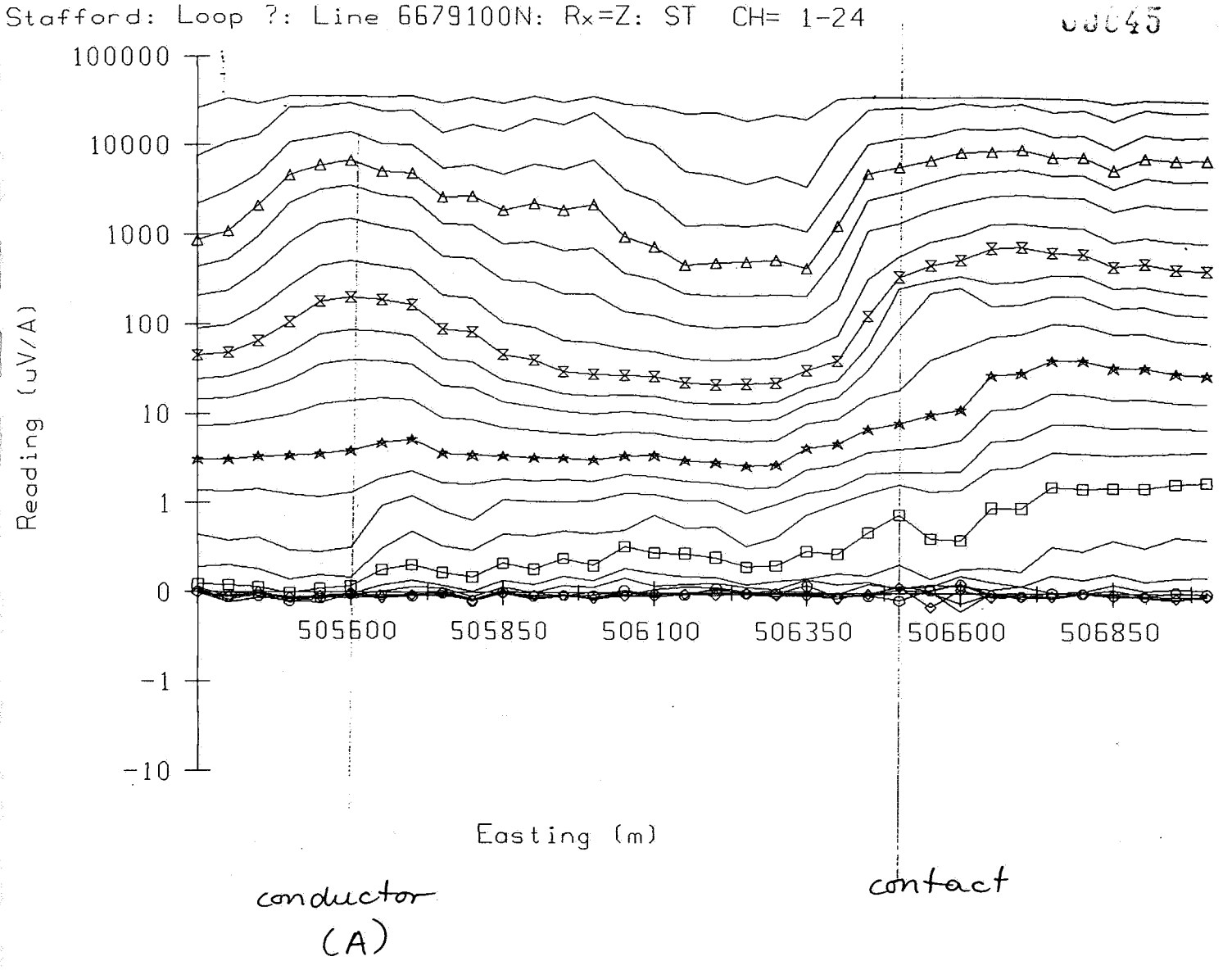


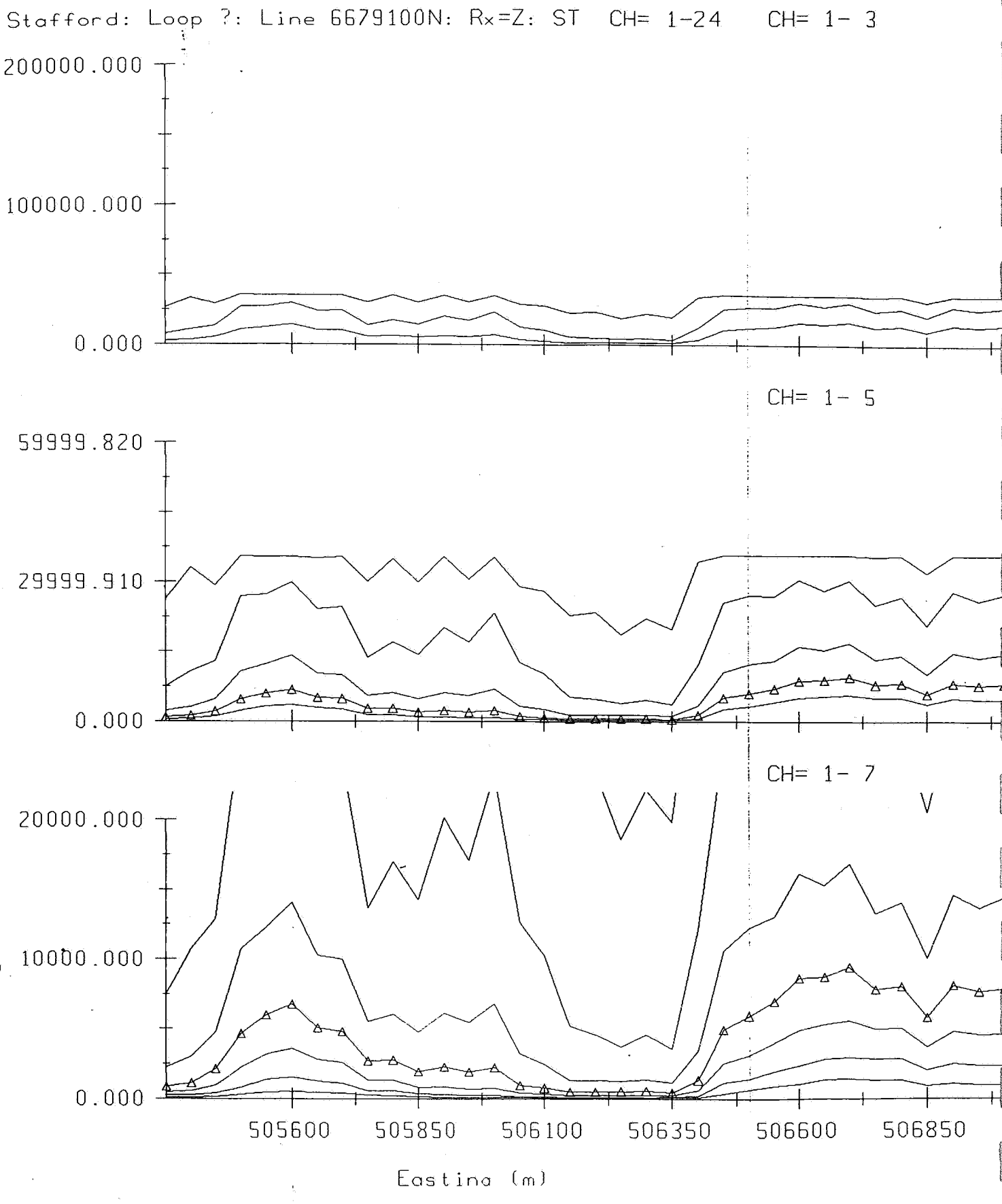
contact contact


Stafford: Loop 2 : Line 6678050N: Rx=X: ST CH= 1-24
CH=10-20
CH=13-24
CH=15-24
Reading (uV/A)
10
0
-10
3.0
0.0
-3.0
1.0
0.0
-1.0
506100
506200
506300
506400
506500
506600
Eastina (m)
contact
contact

APPENDIX 3

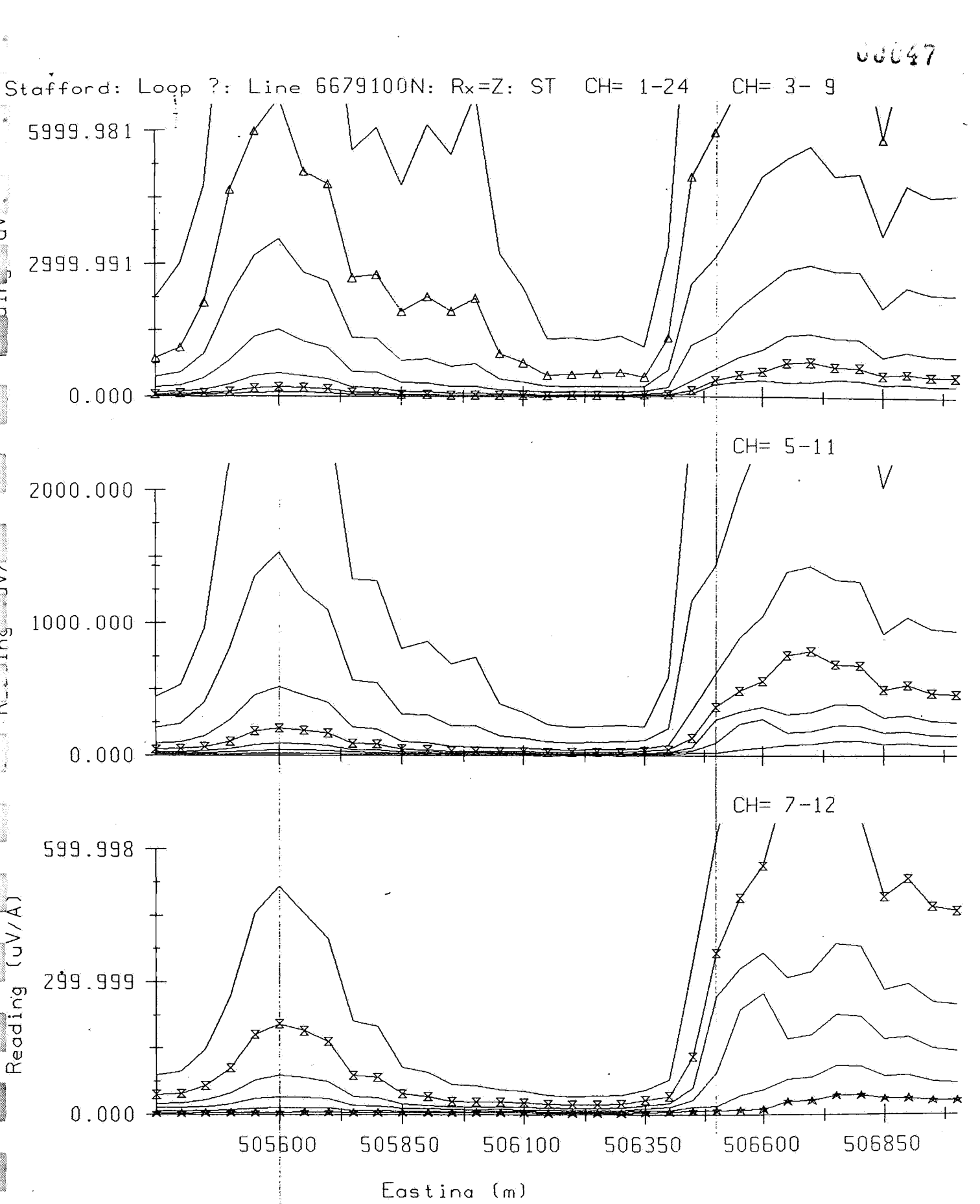
Log-linear, Linear-linear and Decay Curve Plots of Moving and Fixed Loop TEM from Lines 6679100N and 6679400N


Stafford: Loop ?: Line 6679100N: Rx=Z: ST CH= 1-24
100000
10000
1000
100
10
1
0
-1
-10
Reading (uV/A)
505600
505850
506100
506350
506600
506850
Easting (m)
conductor
(A)
contact



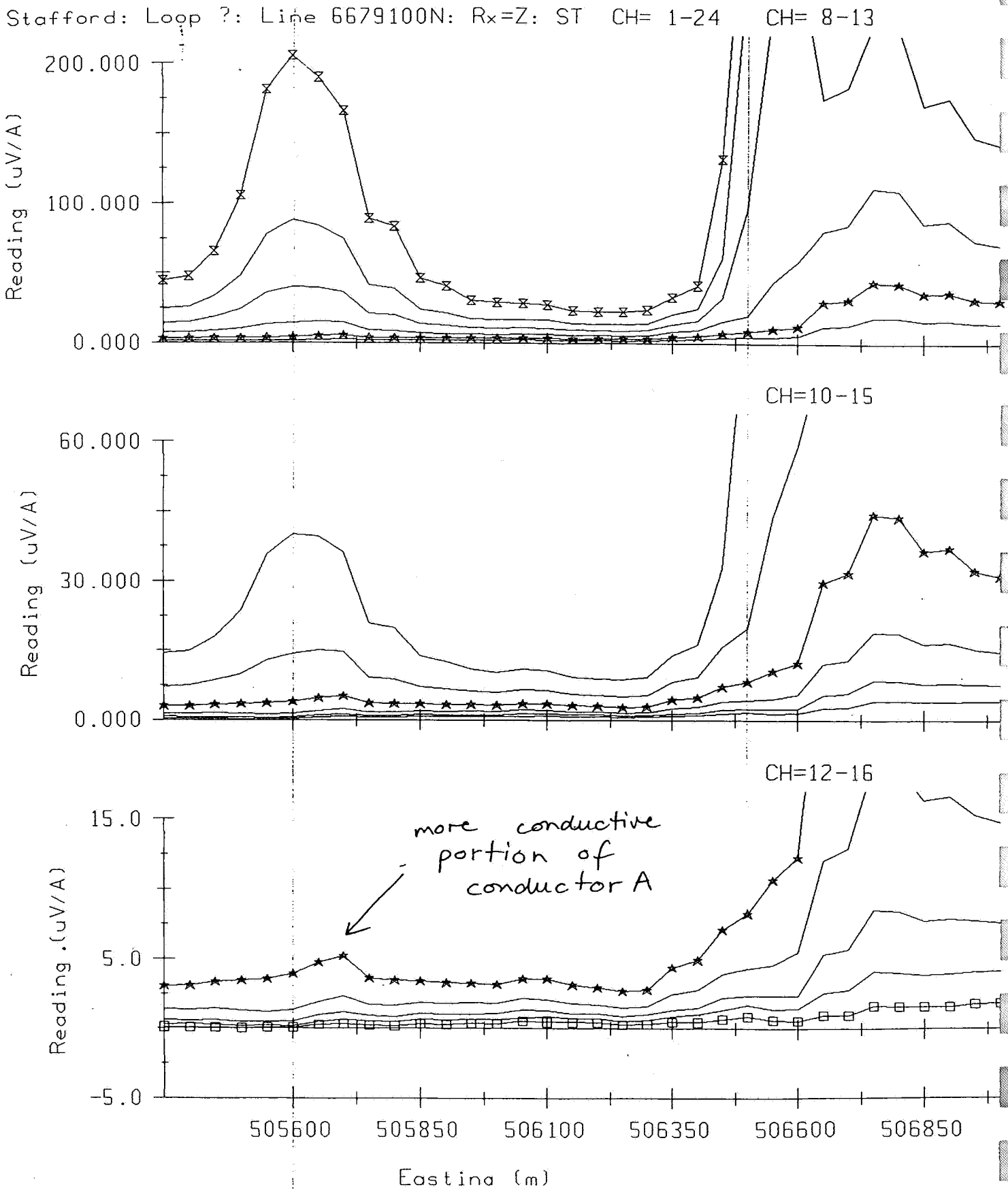
conductor
(A)

contact



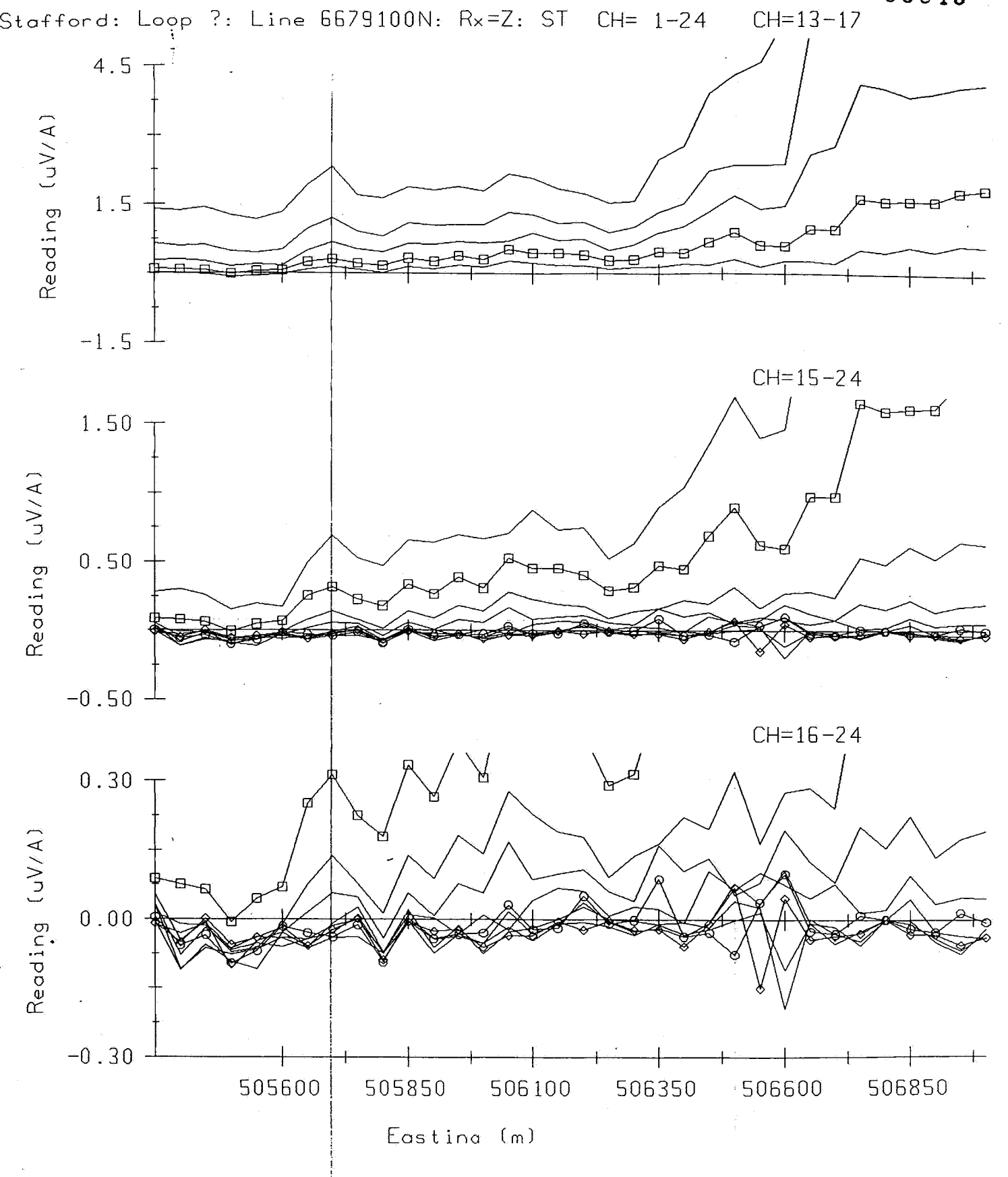
conductor (A)

contact



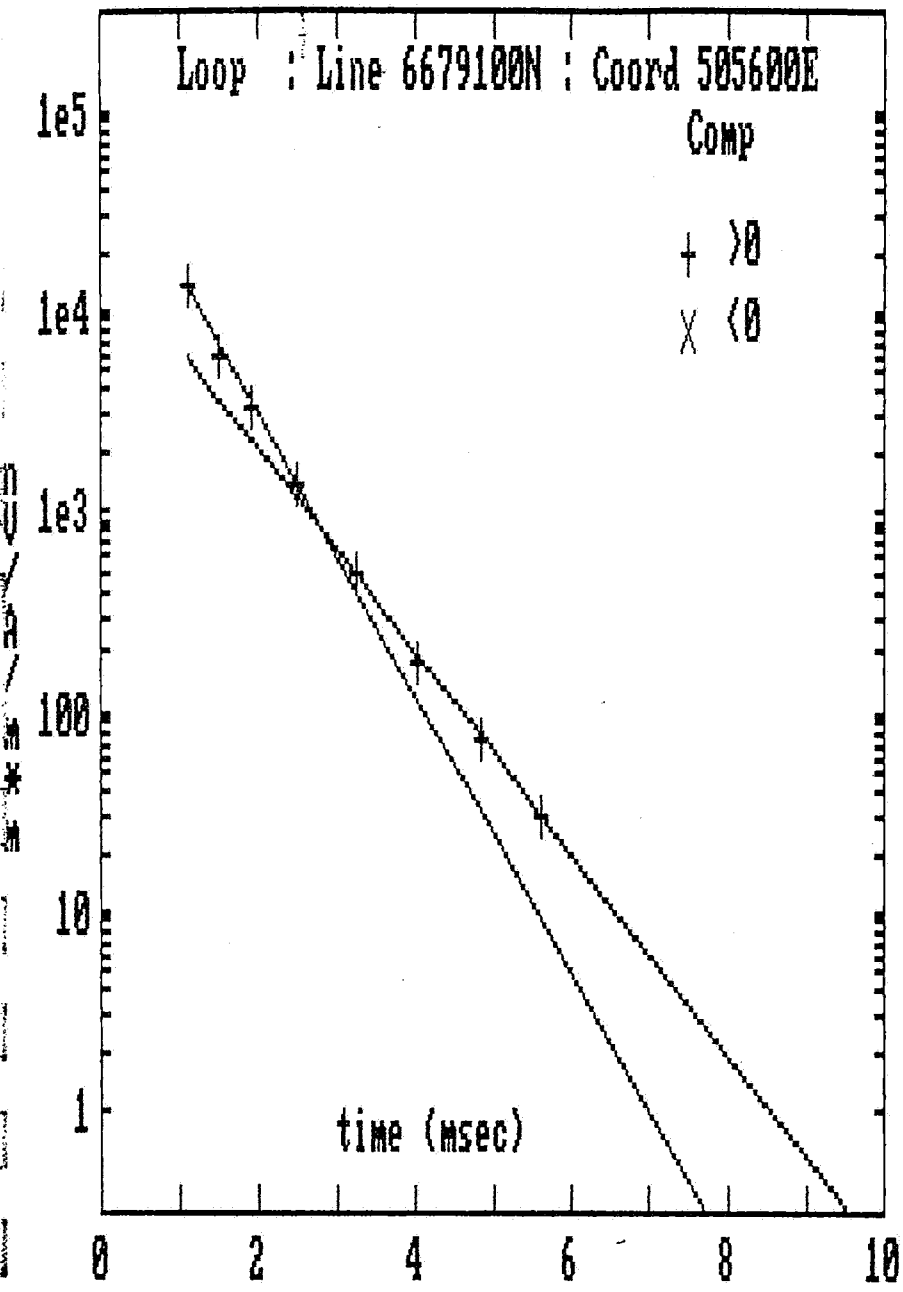
conductor (A)

contact + weak conductor



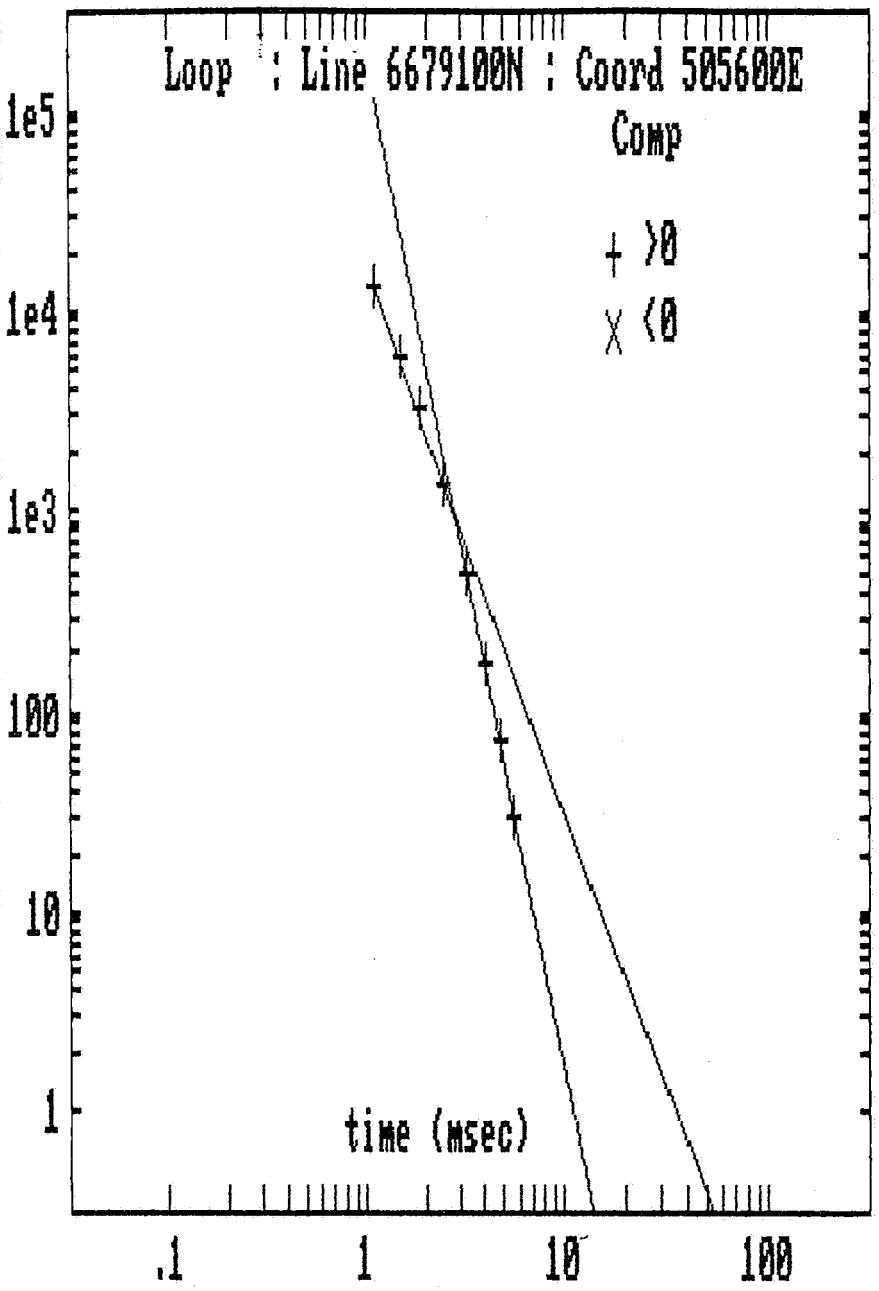
more conductive portion of conductor (A)

contact + weak conductor



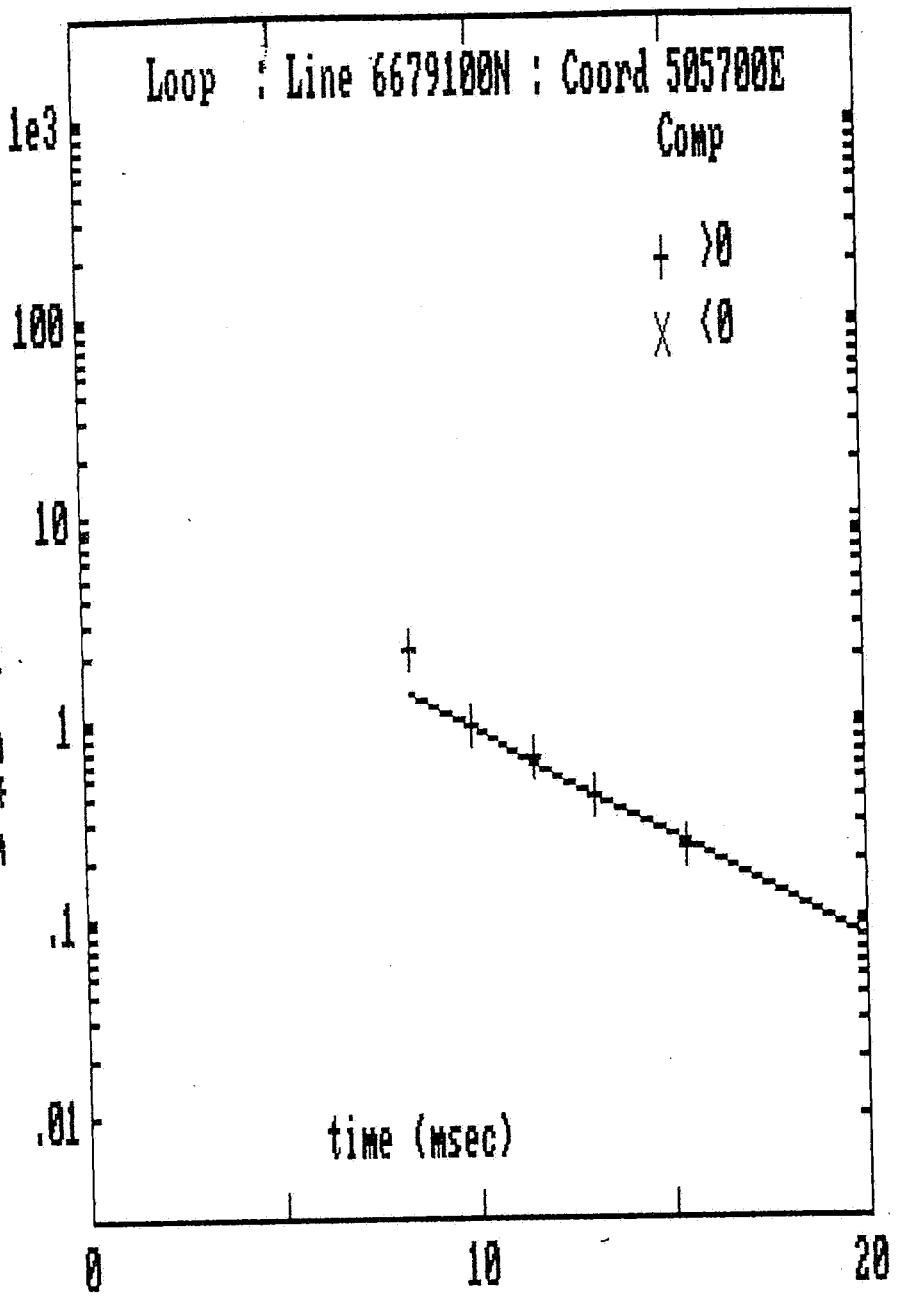
Channels:
3 6
TC= .6 msec
Sigma-t= 20.0 S

Channels:
7 10
TC= .9 msec
Sigma-t= 27.8 S

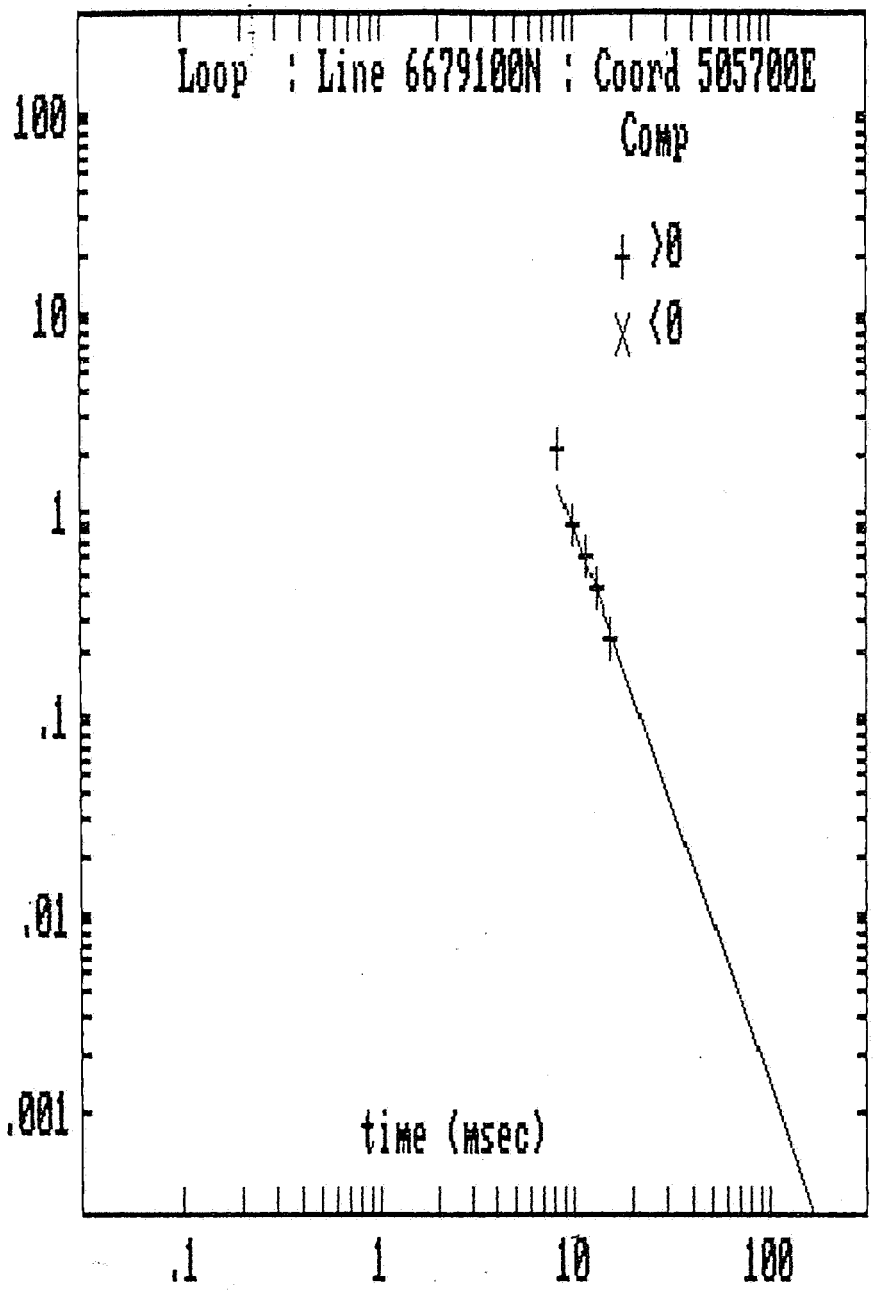


Channels:
3 6
Power= -2.7

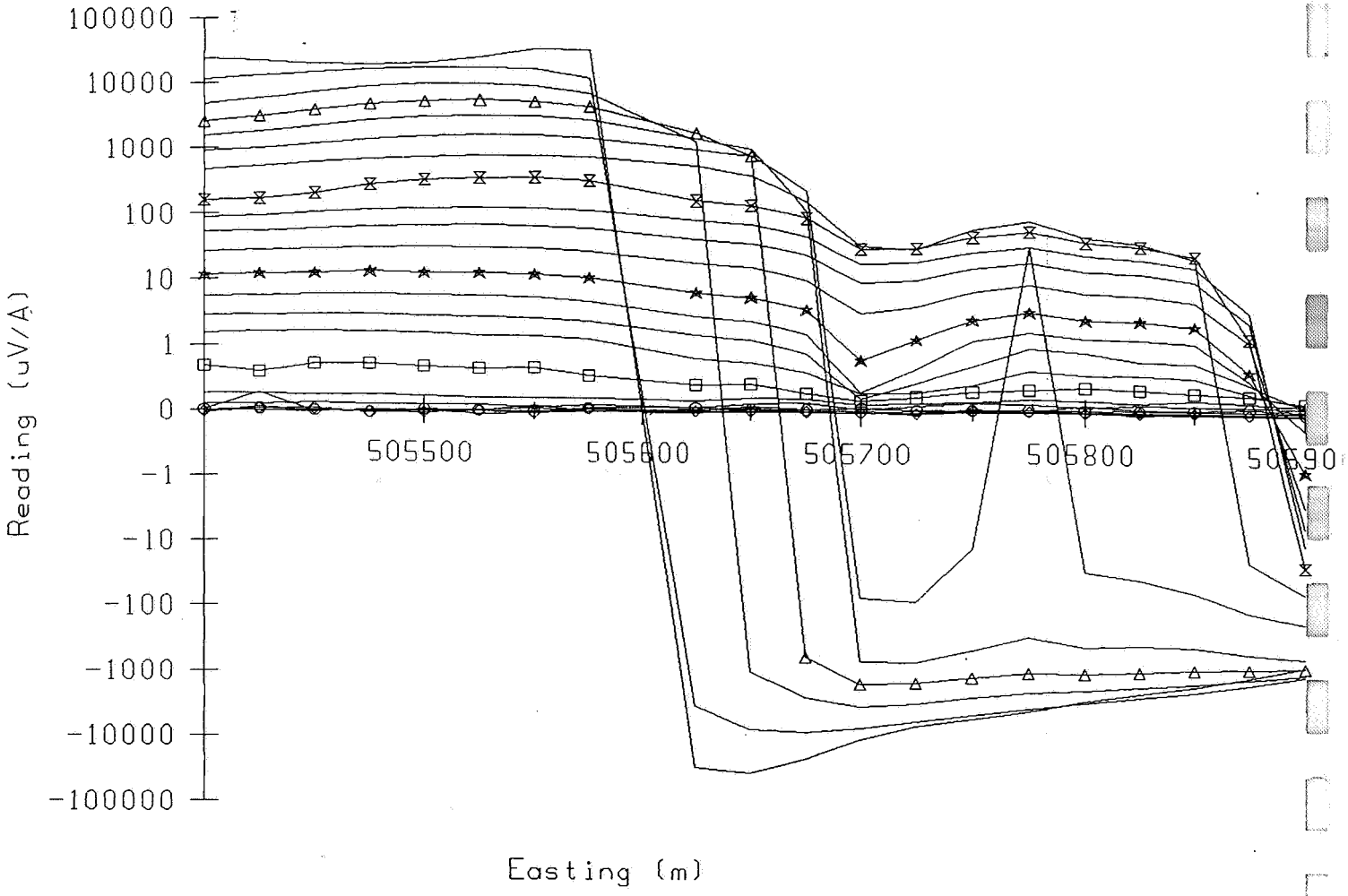
Channels:
7 10
Power= -5.0



Channels:
13 15
TC= 4.1 msec
Sigma-t= 133.1 S

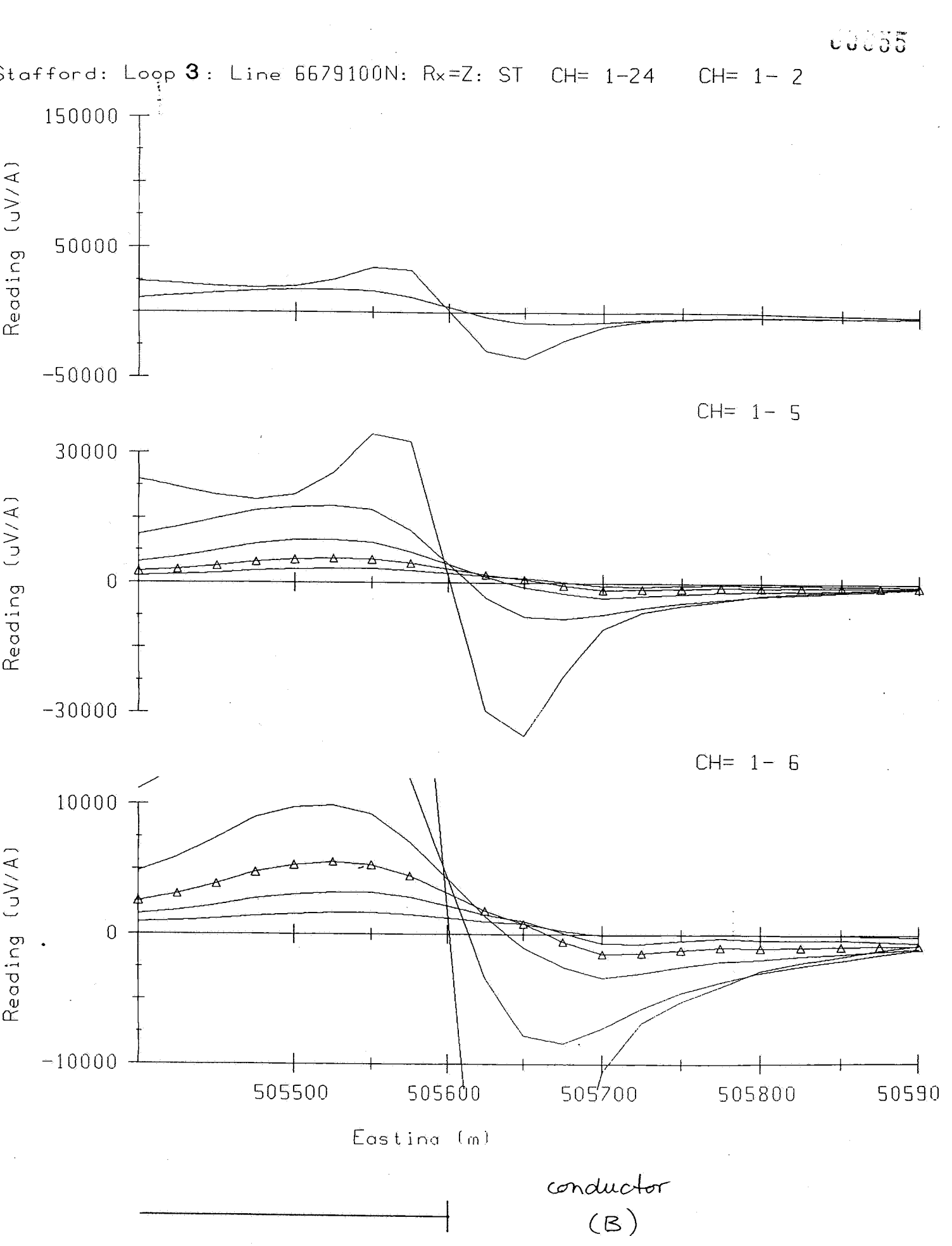


Channels:
13 15
Power= -2.8

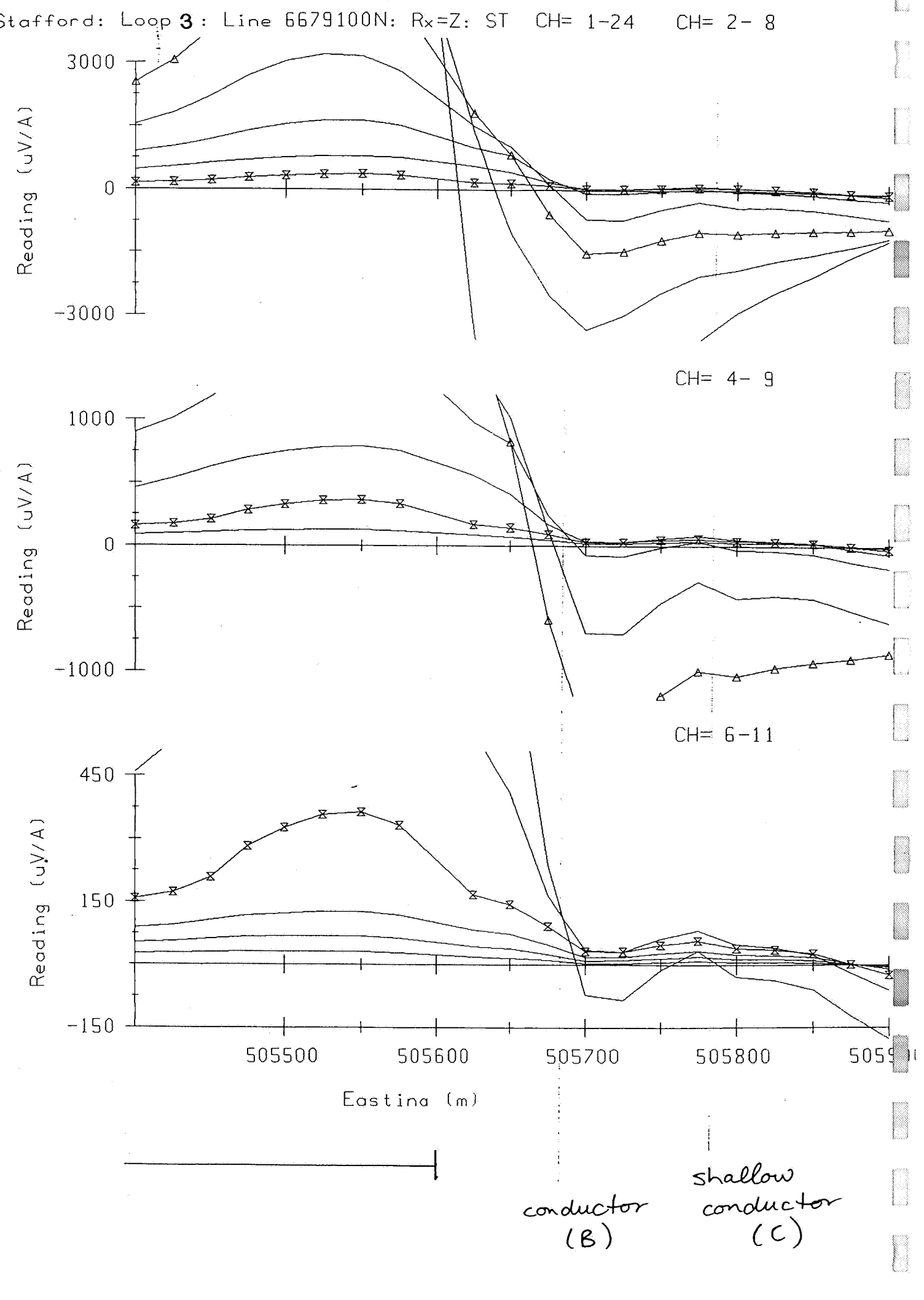


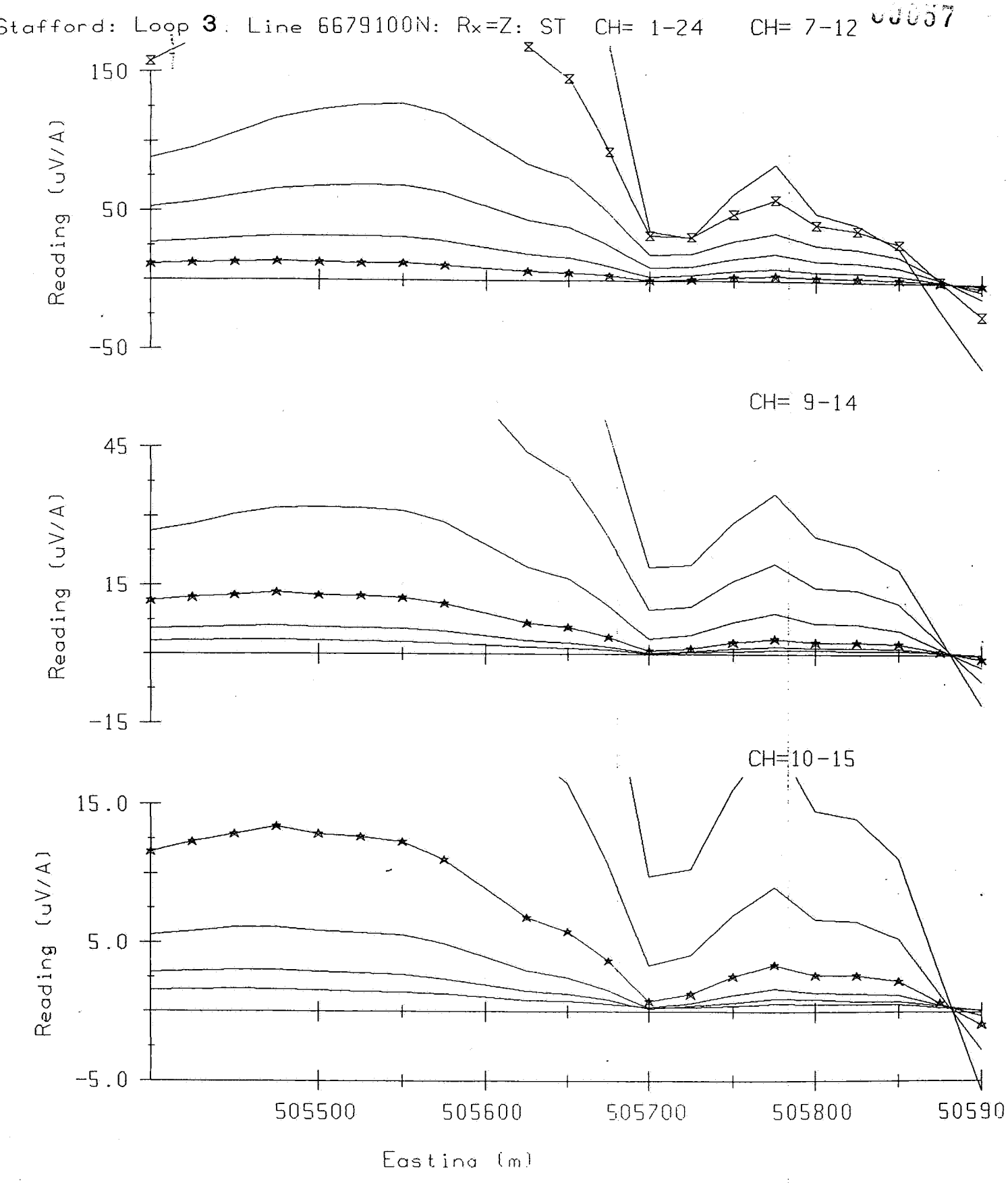
conductor (B)

shallow conductor (C)


Stafford: Loop 3 : Line 6679100N: Rx=Z: ST CH= 1-24 CH= 1- 2
150000
50000
-50000
Reading (uV/A)
CH= 1- 5
30000
0
-30000
Reading (uV/A)
CH= 1- 6
10000
0
-10000
Reading (uV/A)
505500
505600
505700
505800
50590
Easting (m)

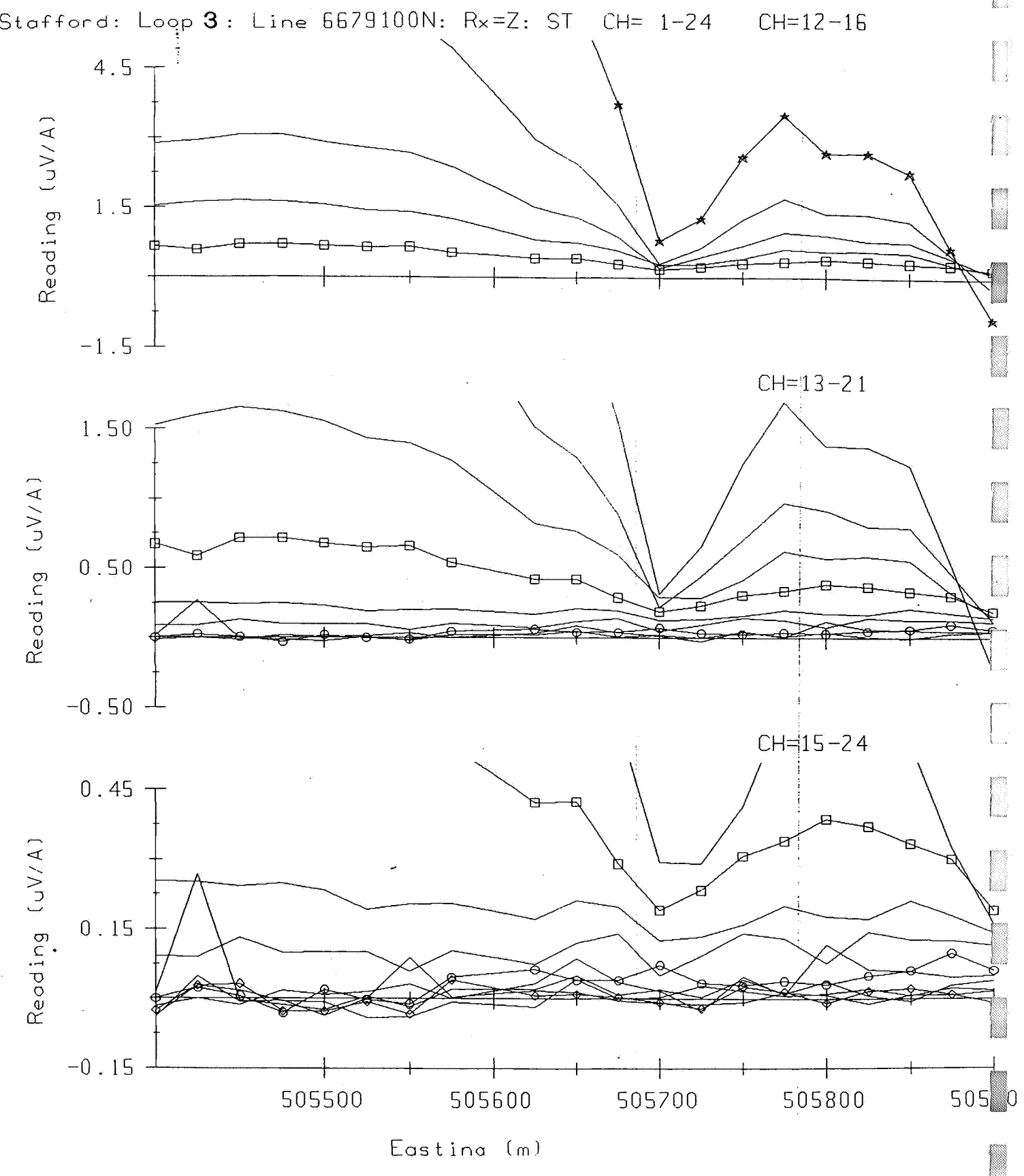
conductor
(B)


Stafford: Loop 3 : Line 6679100N: Rx=Z: ST CH= 1-24 CH= 2- 8
3000
0
-3000
Reading (uV/A)
CH= 4- 9
1000
0
-1000
Reading (uV/A)
CH= 6-11
450
150
-150
Reading (uV/A)
505500
505600
505700
505800
Easting (m)
conductor (B)
shallow conductor (C)



conductor (B)

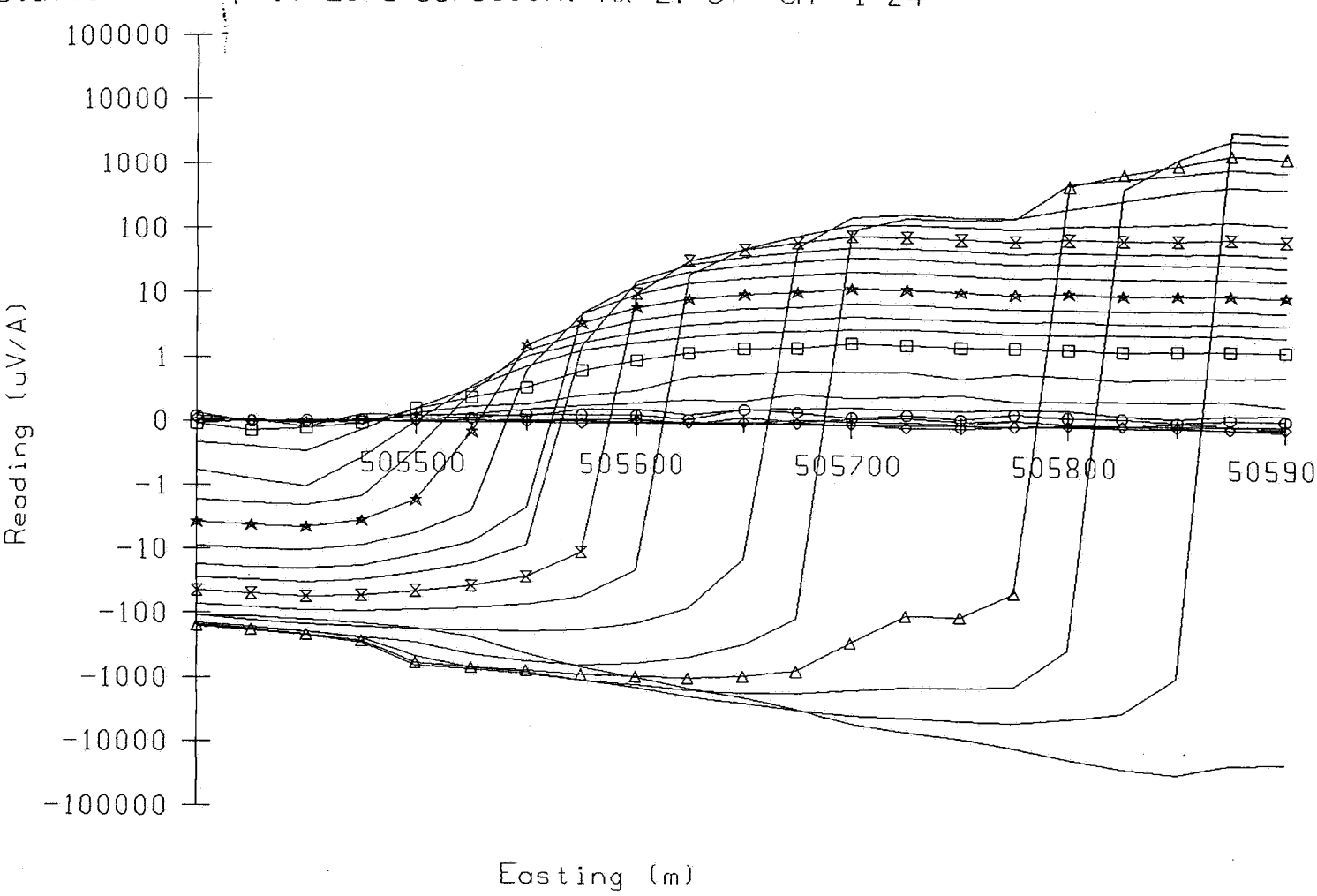
shallow conductor (C)



conductor (B)

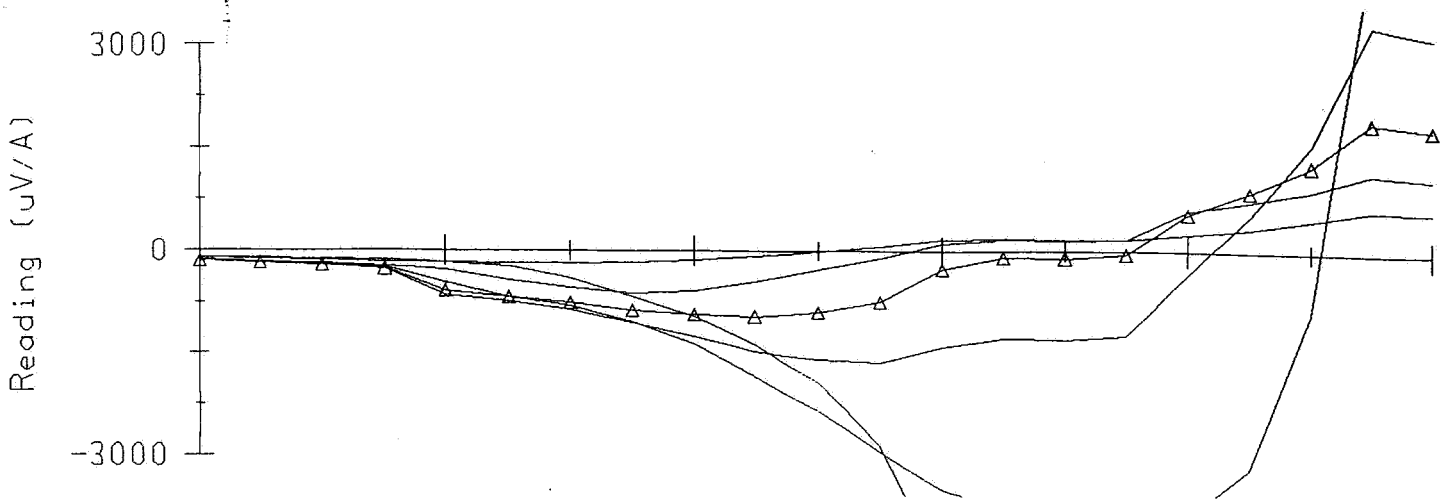
shallow conductor (C)

Stafford: Loop **4**: Line 6679100N: Rx=Z: ST CH= 1-24

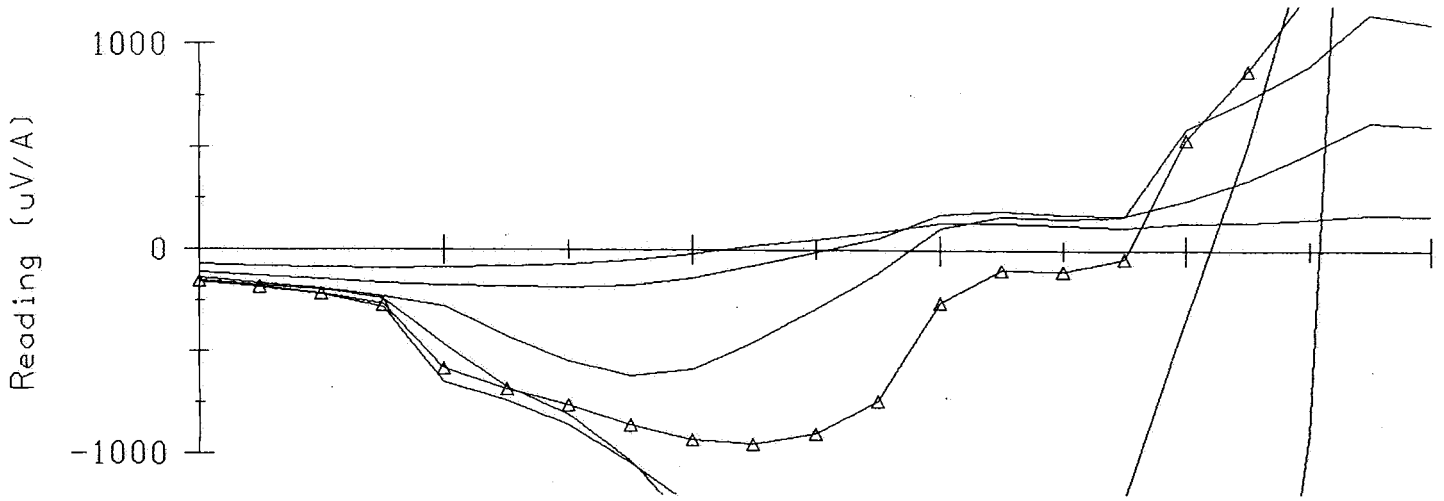


Stafford: Loop 4: Line 6679100N: Rx=Z: ST CH= 1-24 CH= 1
0
-100000
-200000
Reading (uV/A)
CH= 1- 3
15000
-15000
-45000
Reading (uV/A)
CH= 1- 5
5000
-5000
-15000
Reading (uV/A)
505500
505600
505700
505800
Eastina (m)

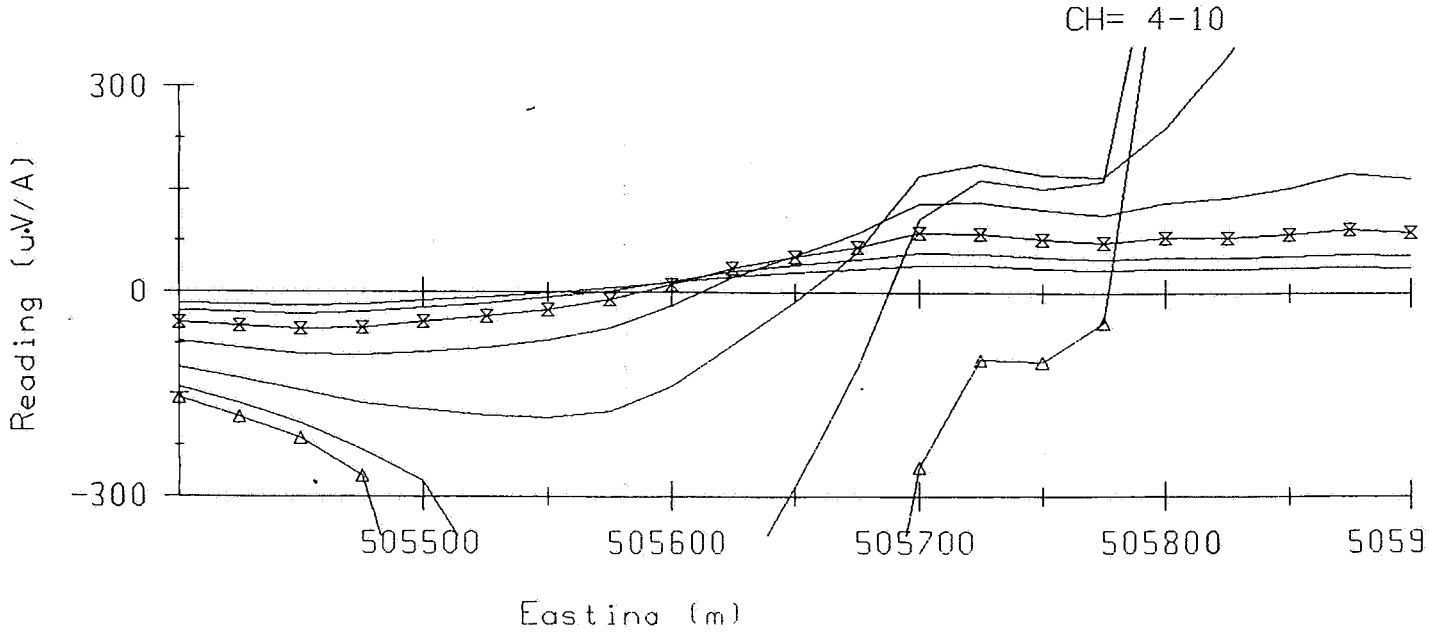
Stafford: Loop 4 : Line 6679100N: Rx=Z: ST CH= 1-24 CH= 2- 6

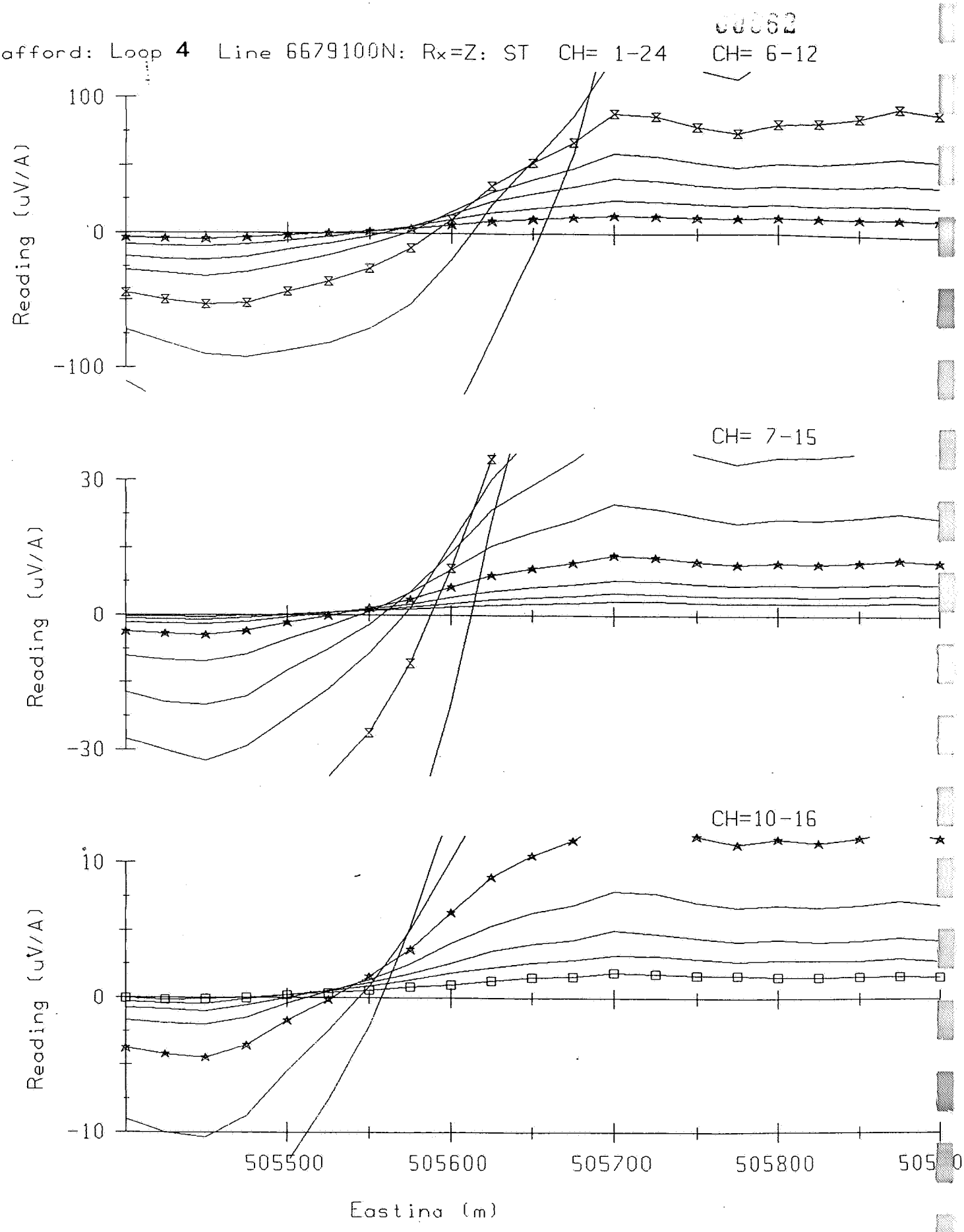


CH= 2- 7



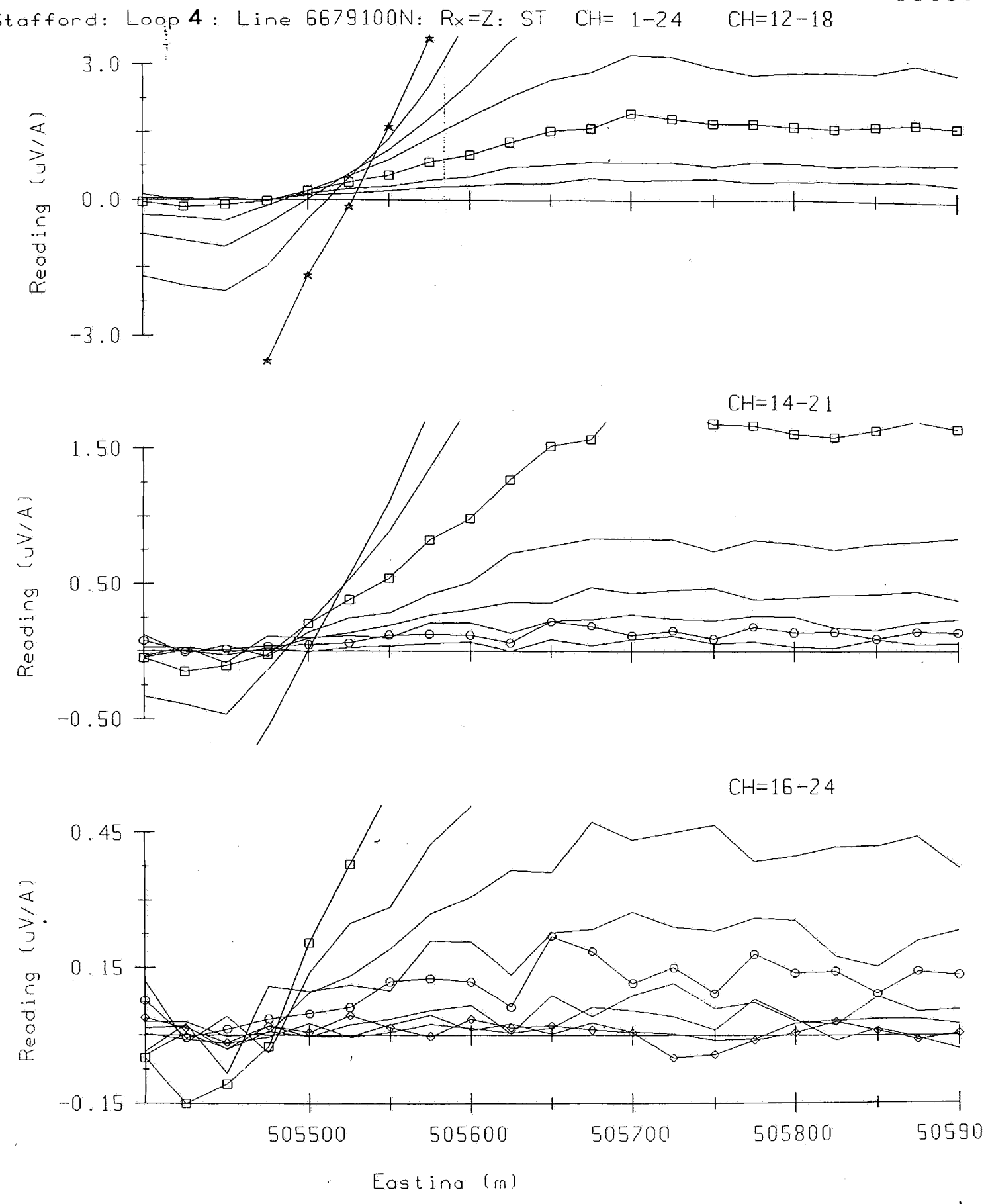
CH= 4-10




Stafford: Loop 4 Line 6679100N: Rx=Z: ST CH= 1-24 CH= 6-12
100
0
-100
Reading (uV/A)
CH= 7-15
30
0
-30
Reading (uV/A)
CH=10-16
10
0
-10
Reading (uV/A)
505500
505600
505700
505800
Eastina (m)

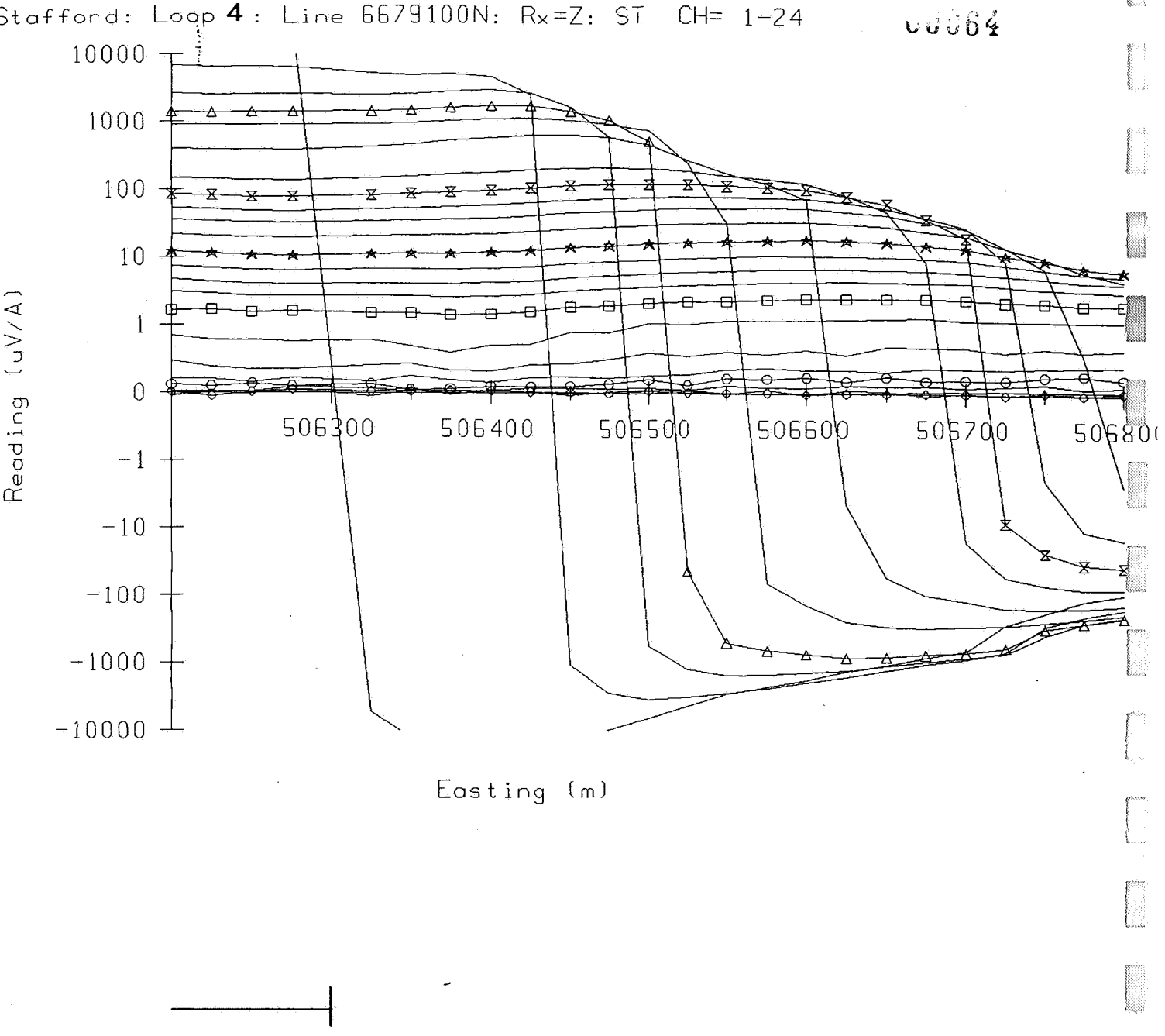
conductor

(D)

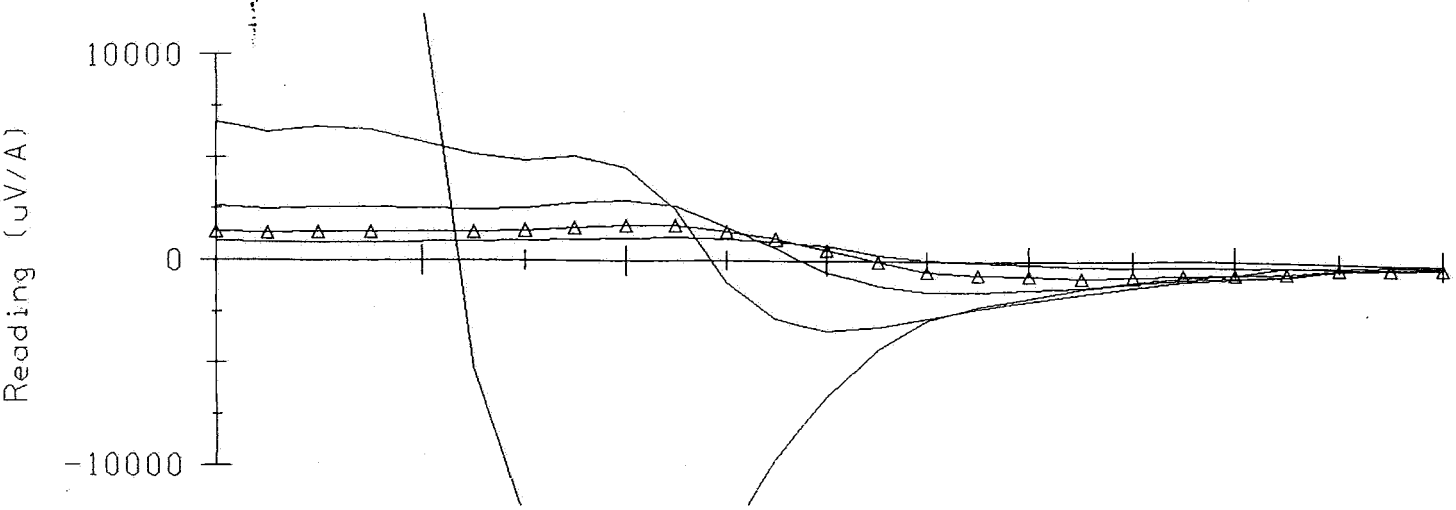

Stafford: Loop 4 : Line 6679100N: Rx=Z: ST CH= 1-24 CH=12-18
3.0
0.0
-3.0
Reading (uV/A)
CH=14-21
1.50
0.50
-0.50
Reading (uV/A)
CH=16-24
0.45
0.15
-0.15
Reading (uV/A)
505500
505600
505700
505800
50590
Eastina (m)

conductor

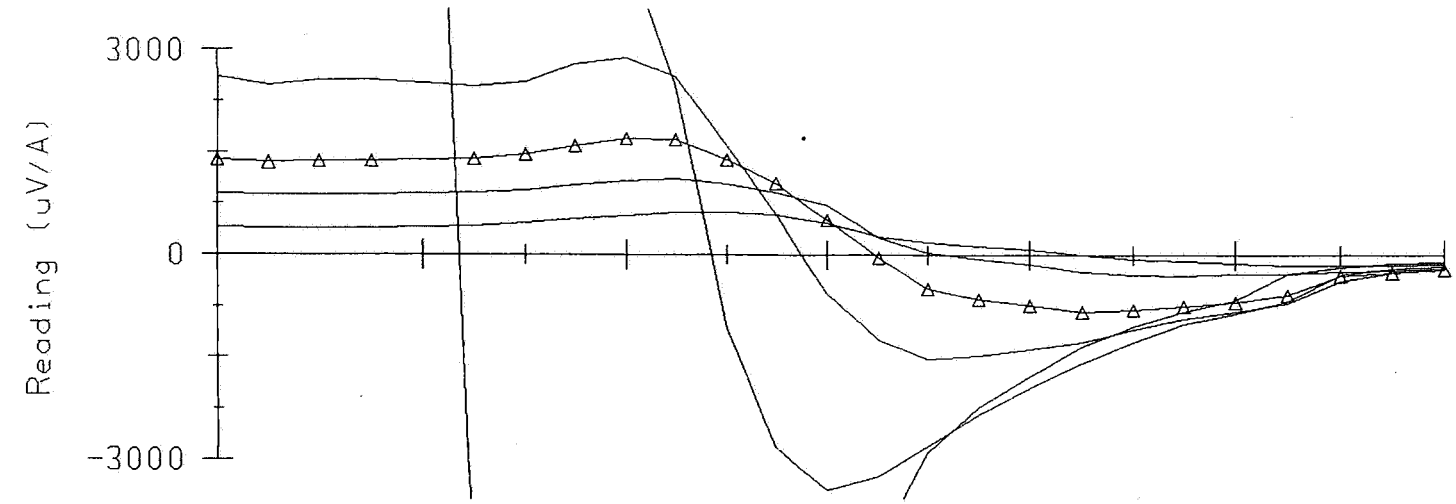
(D)


Stafford: Loop 4 : Line 6679100N: Rx=Z: ST CH= 1-24
10000
1000
100
10
1
0
-1
-10
-100
-1000
-10000
Reading (uV/A)
506300
506400
506500
506600
506700
Easting (m)

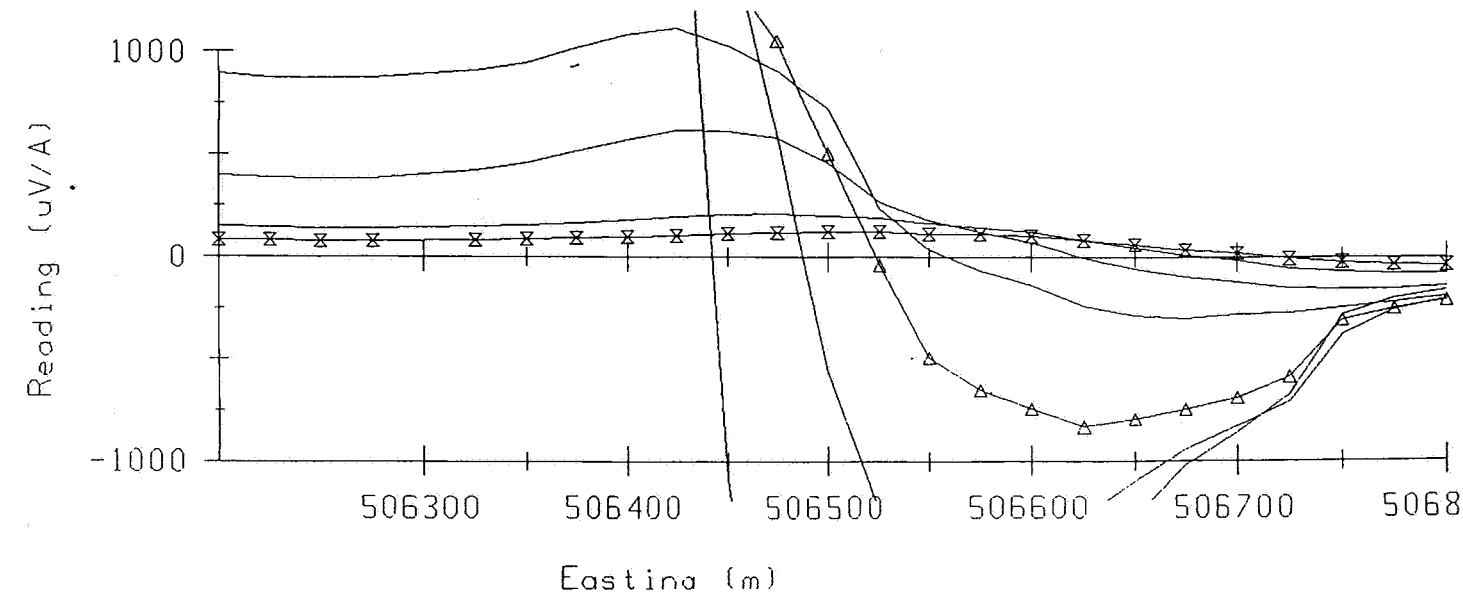
Stafford: Loop 4 : Line 6679100N: Rx=Z: ST CH= 1-24 CH= 1- 5

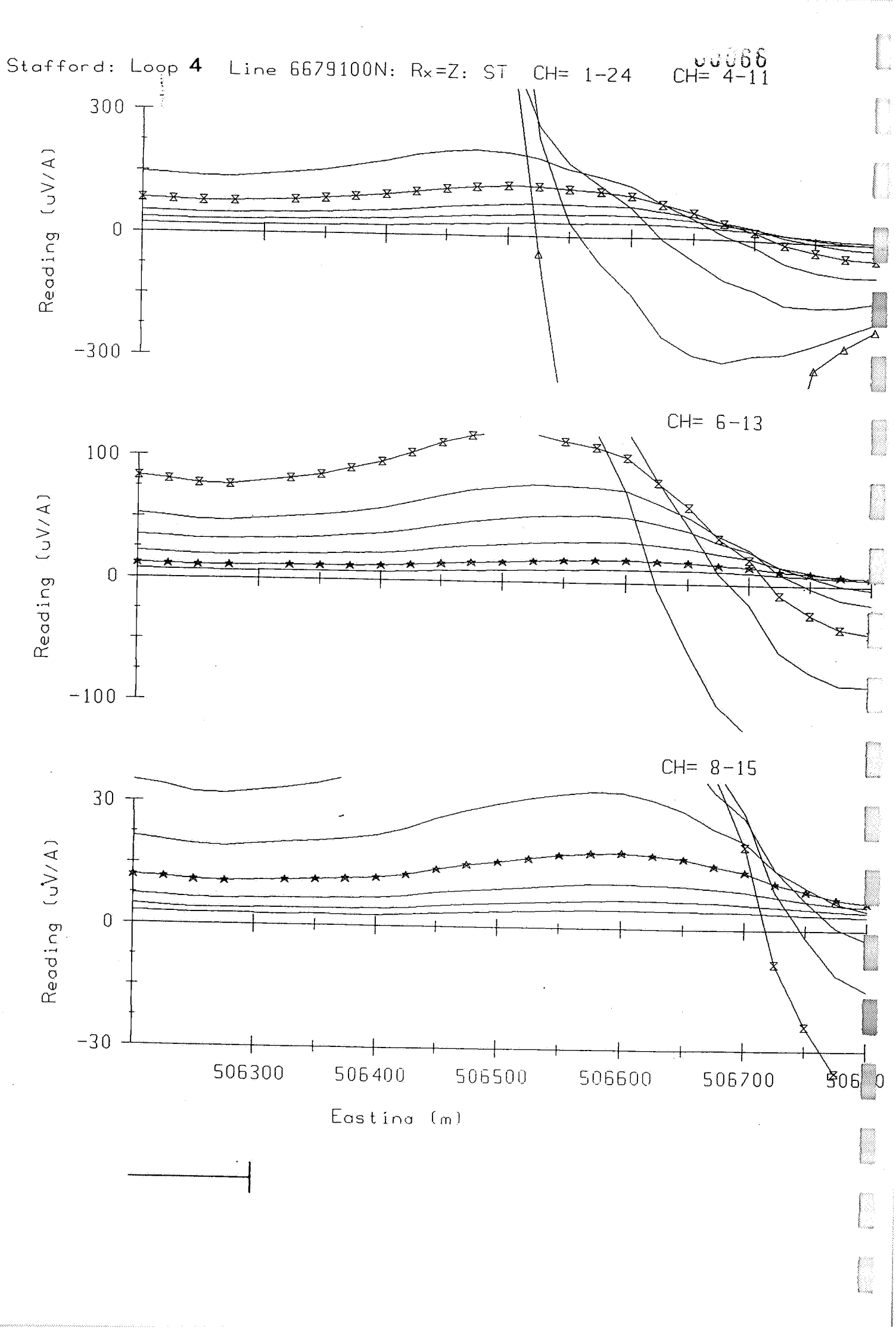


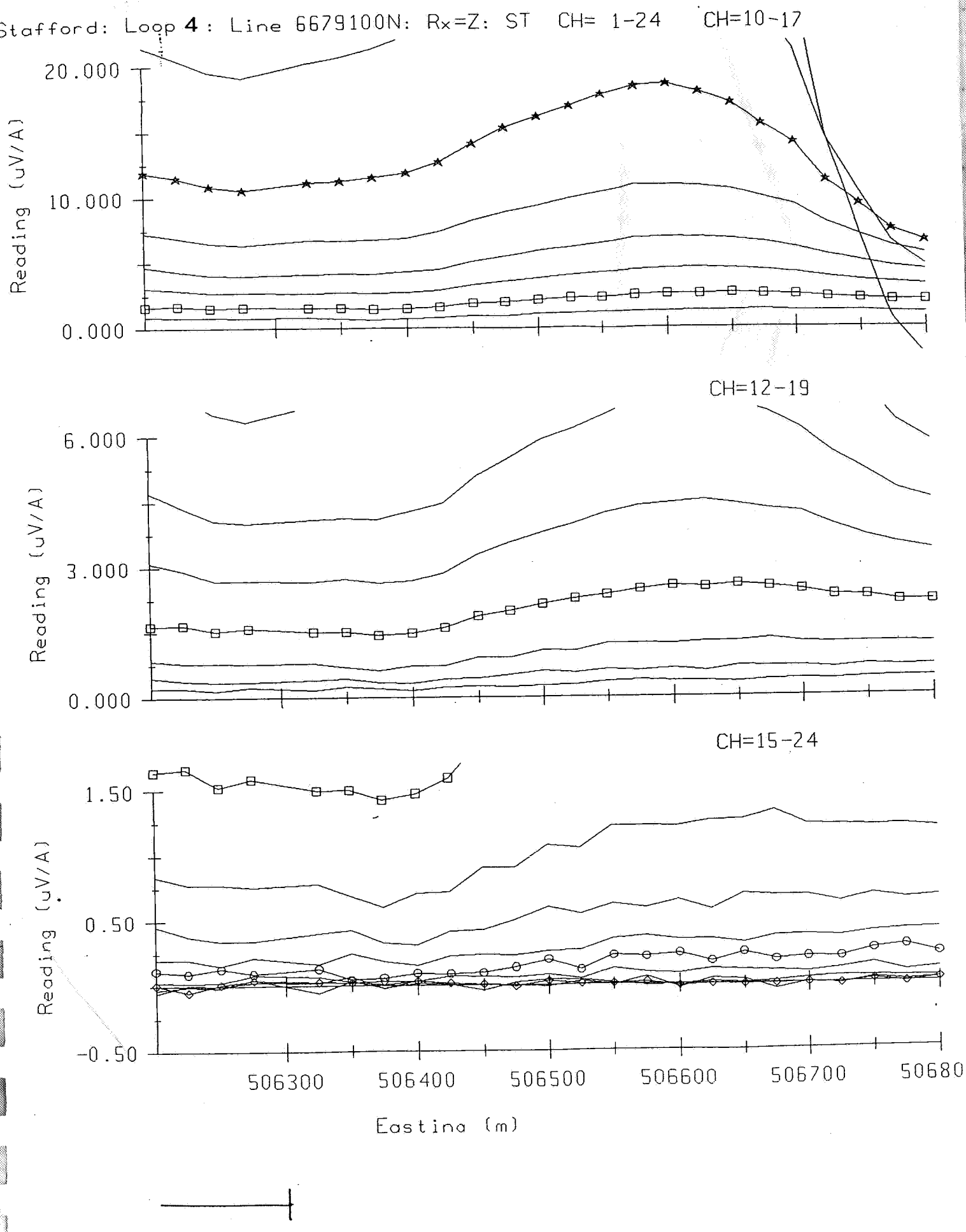
CH= 2- 6



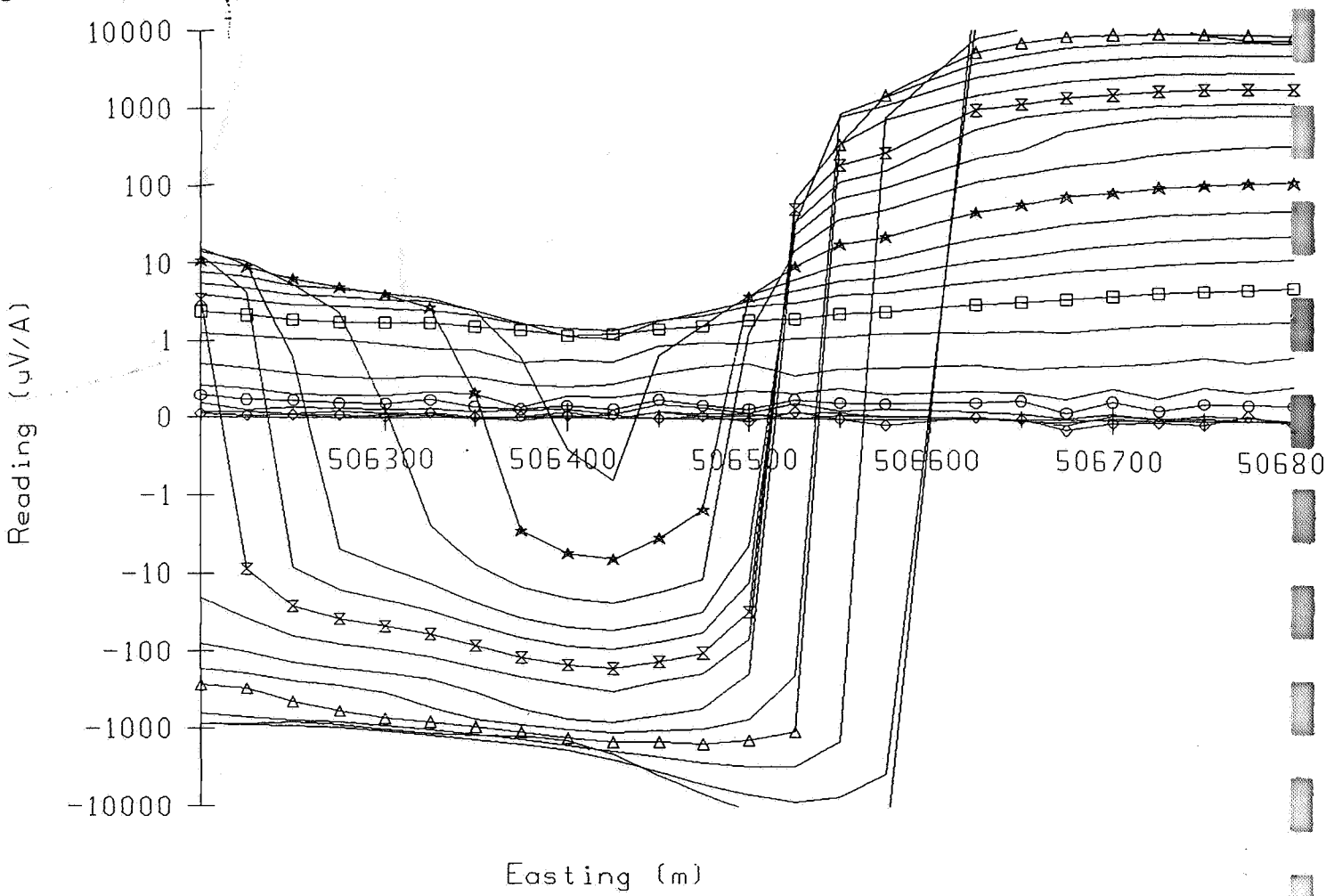
CH= 2- 8

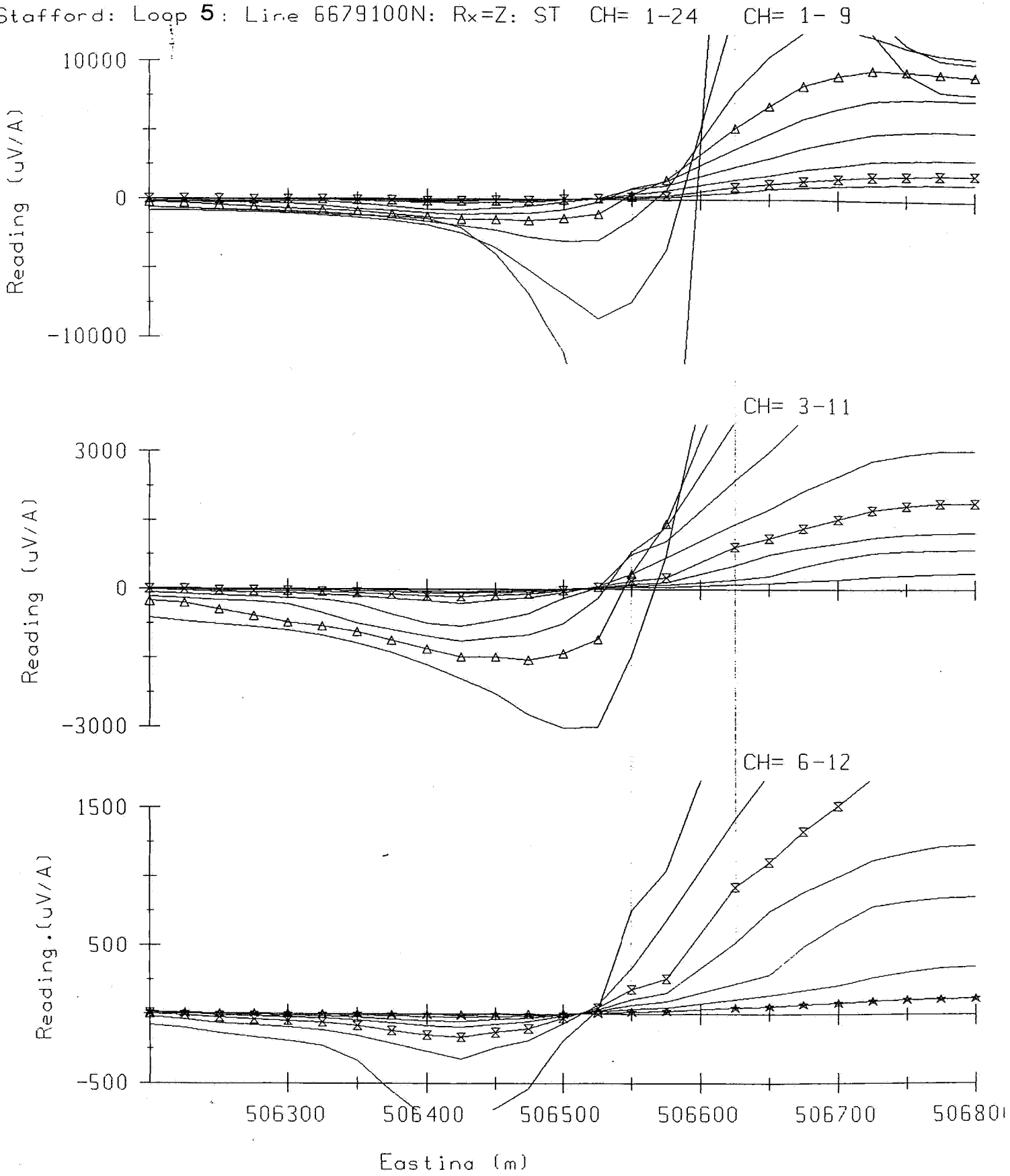



Stafford: Loop 4 Line 6679100N: Rx=Z: ST CH= 1-24
CH= 4-11
300
0
-300
Reading (uV/A)
CH= 6-13
100
0
-100
Reading (uV/A)
CH= 8-15
30
0
-30
Reading (uV/A)
506300
506400
506500
506600
506700
Easting (m)

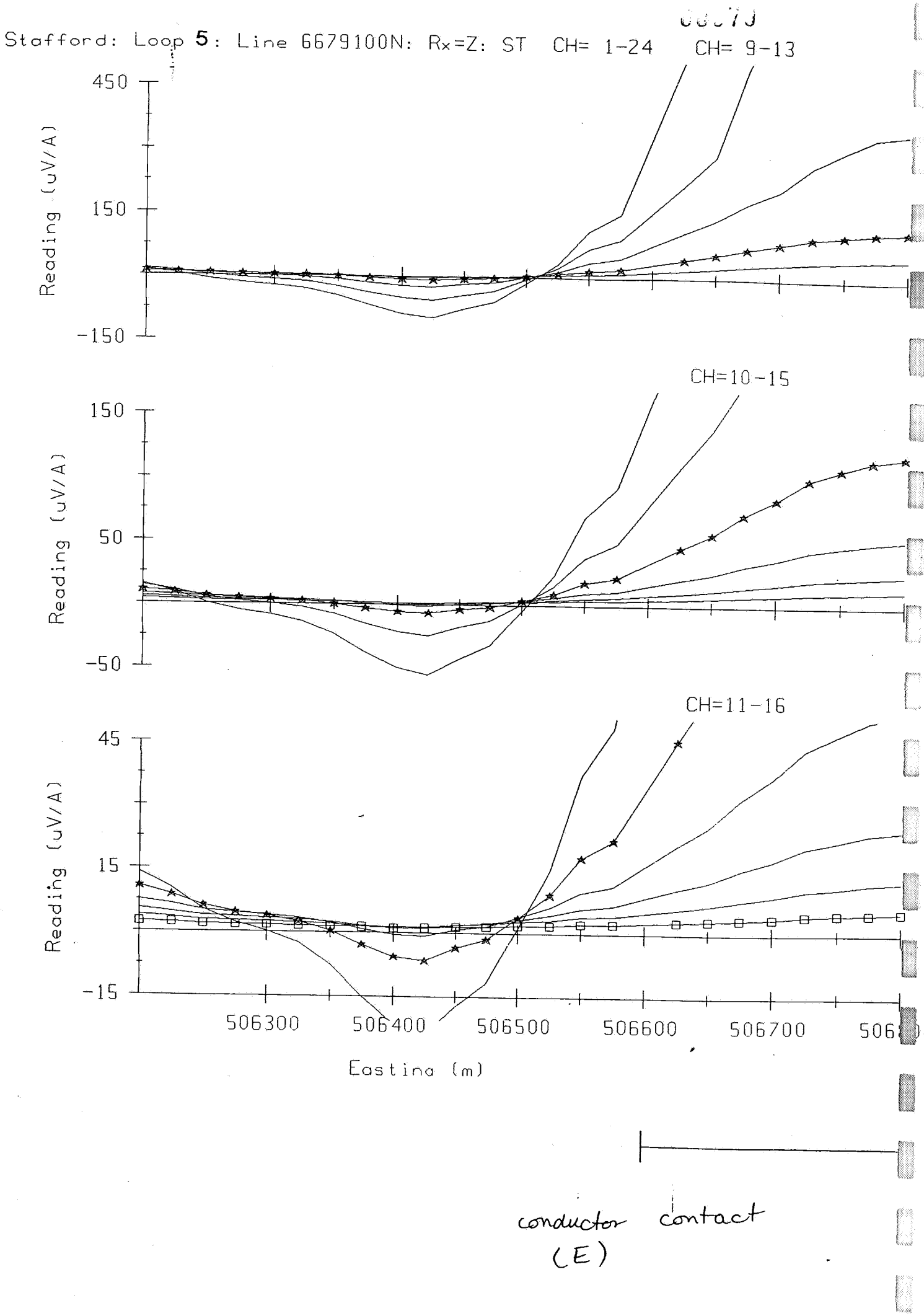

Stafford: Loop 4 : Line 6679100N: Rx=Z: ST CH= 1-24
CH=10-17
20.000
10.000
0.000
Reading (uV/A)
CH=12-19
6.000
3.000
0.000
Reading (uV/A)
CH=15-24
1.50
0.50
-0.50
Reading (uV/A)
506300
506400
506500
506600
506700
50680
Easting (m)

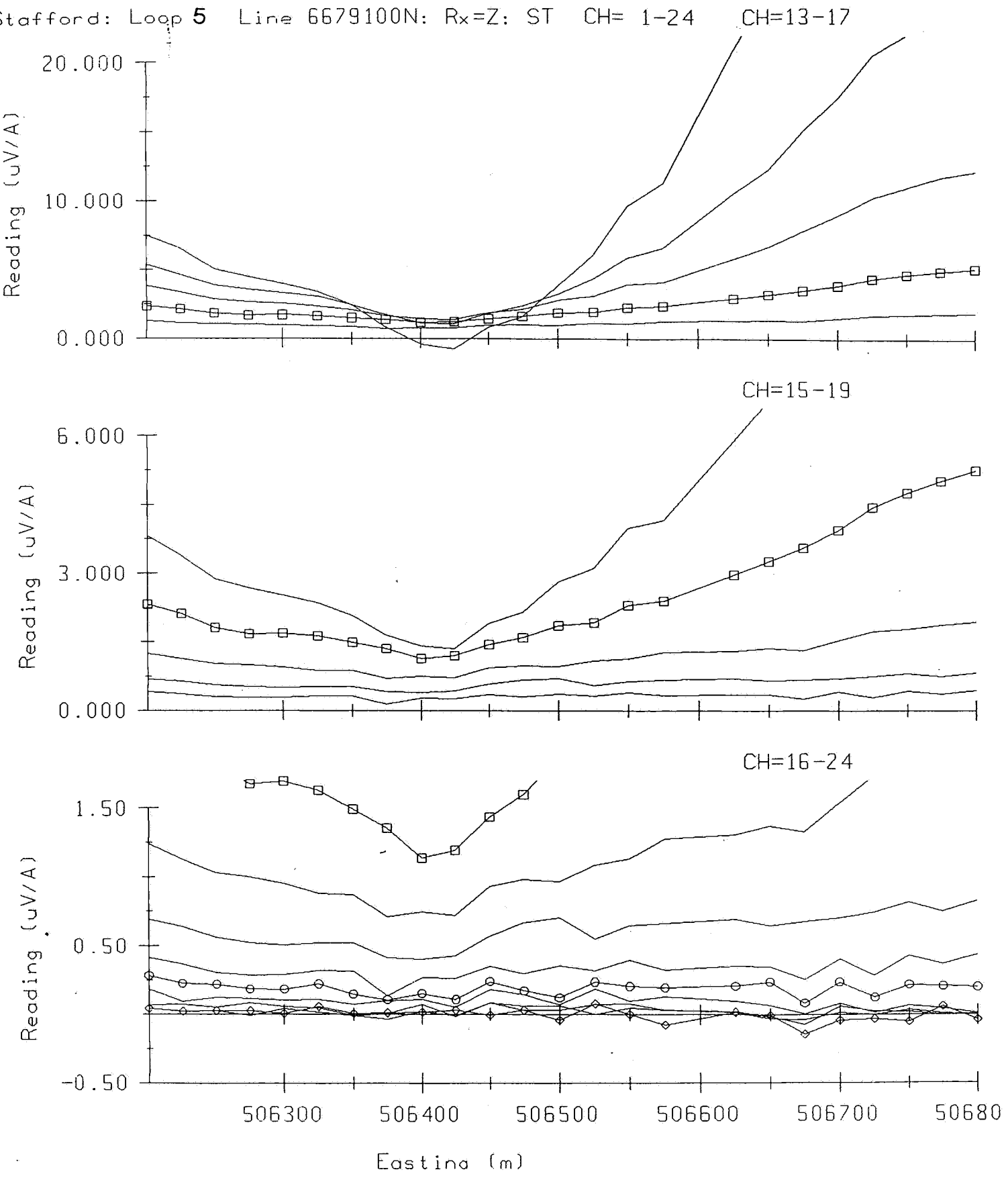
Stafford: Loop 5: Line 6679100N: Rx=Z: ST CH= 1-24





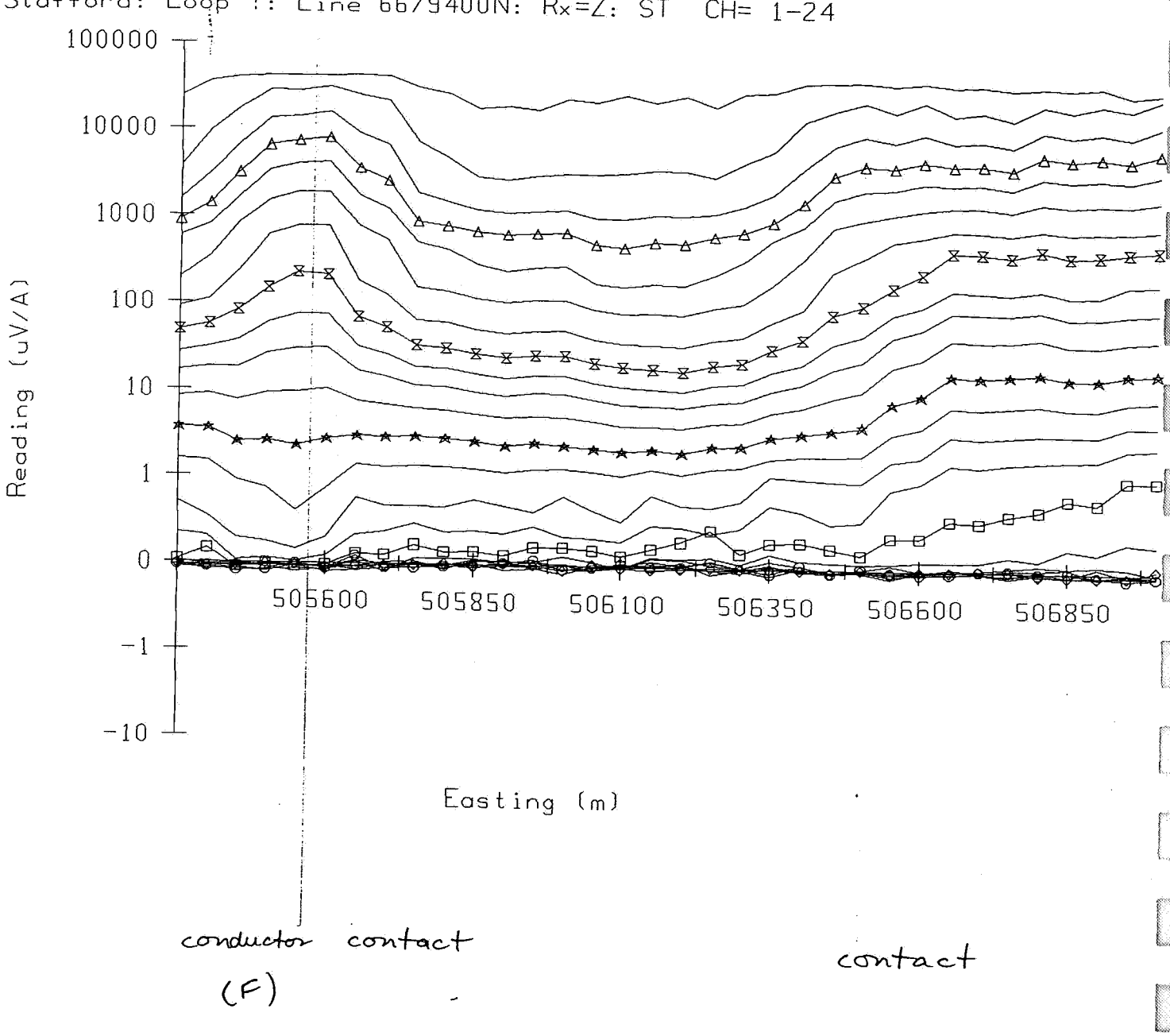
weak conductor contact (E)

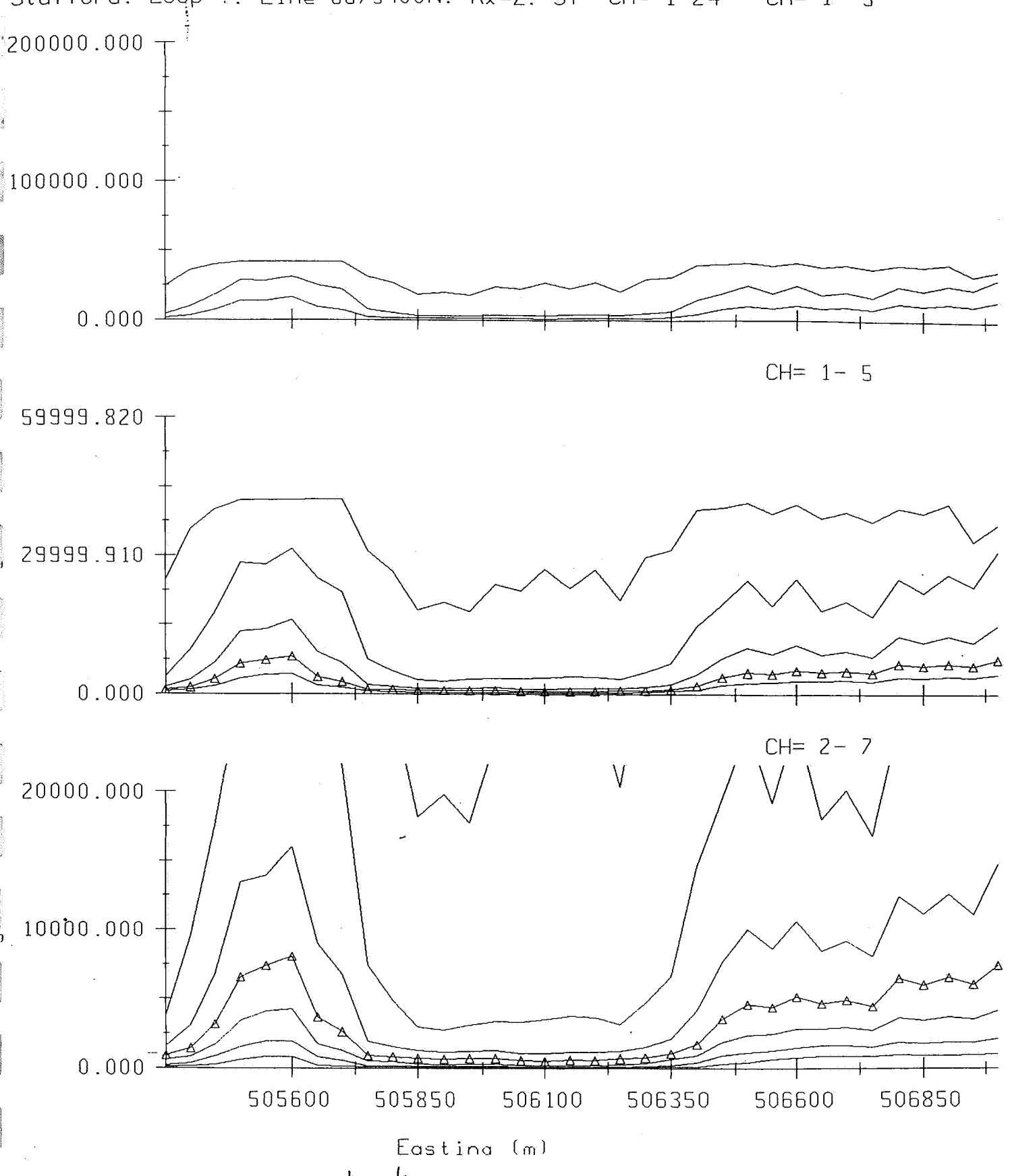

Stafford: Loop 5: Line 6679100N: Rx=Z: ST CH= 1-24 CH= 9-13
450
150
-150
Reading (uV/A)
CH=10-15
150
50
-50
Reading (uV/A)
CH=11-16
45
15
-15
Reading (uV/A)
506300
506400
506500
506600
506700
Easting (m)
conductor contact
(E)


Stafford: Loop 5 Line 6679100N: Rx=Z: ST CH= 1-24 CH=13-17
20.000
10.000
0.000
Reading (uV/A)
CH=15-19
6.000
3.000
0.000
Reading (uV/A)
CH=16-24
1.50
0.50
-0.50
Reading (uV/A)
506300
506400
506500
506600
506700
50680
Easting (m)

(E)

contact


Stafford: Loop ?: Line 6679400N: Rx=Z: ST CH= 1-24
100000
10000
1000
100
10
1
0
-1
-10
Reading (uV/A)
505600
505850
506100
506350
506600
506850
Easting (m)
conductor
contact
(F)
contact

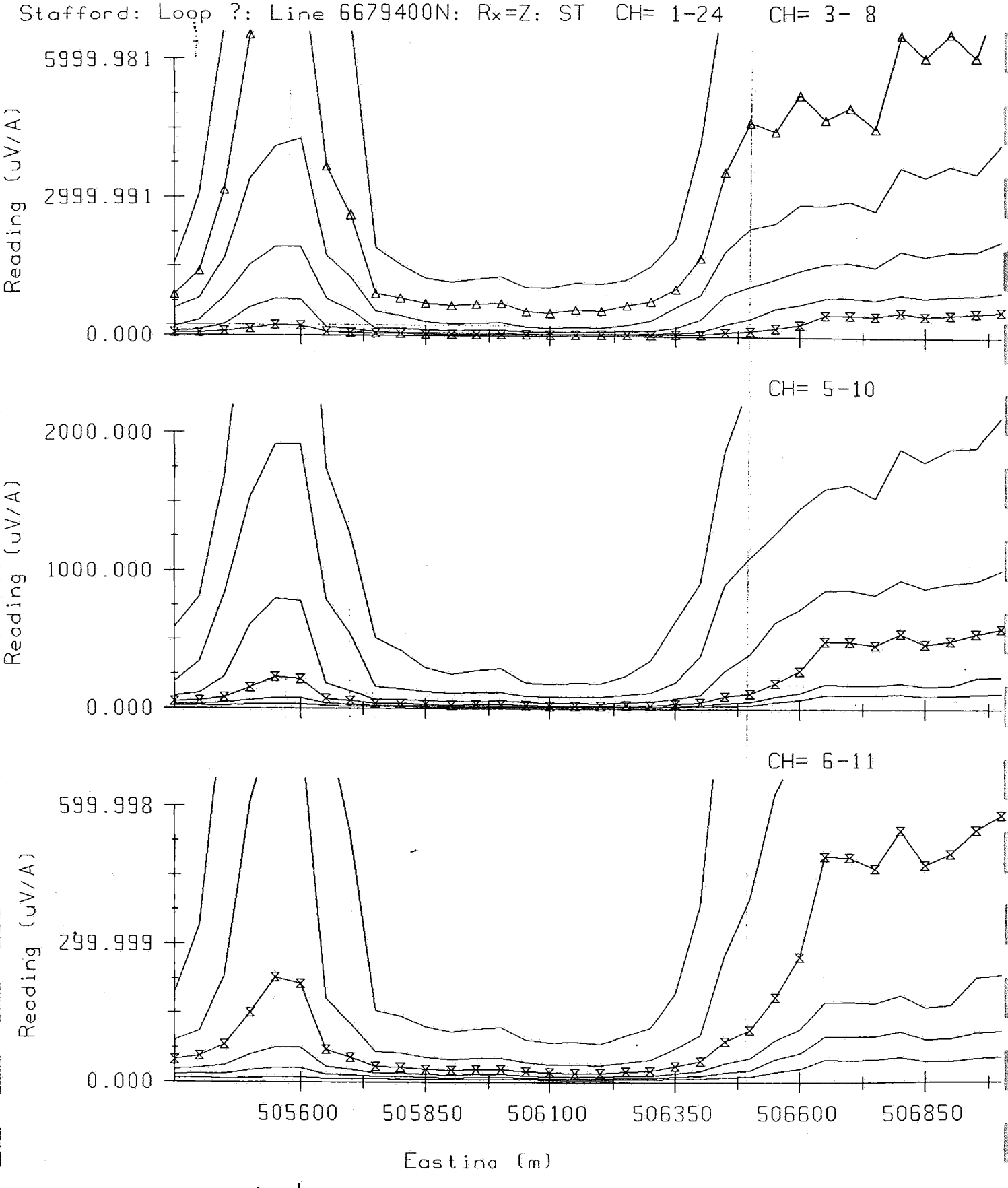


contact

conductor

(F)

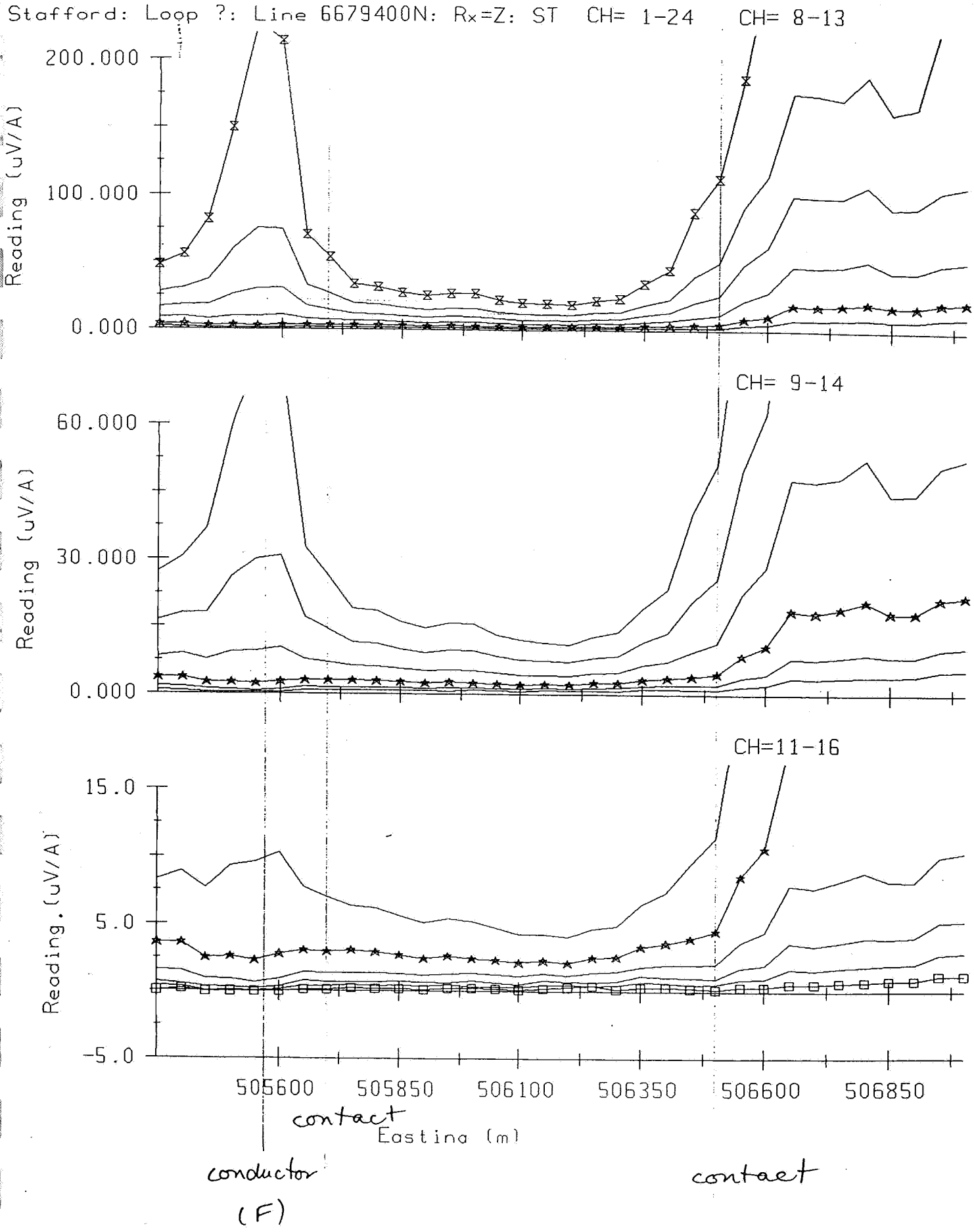
contact

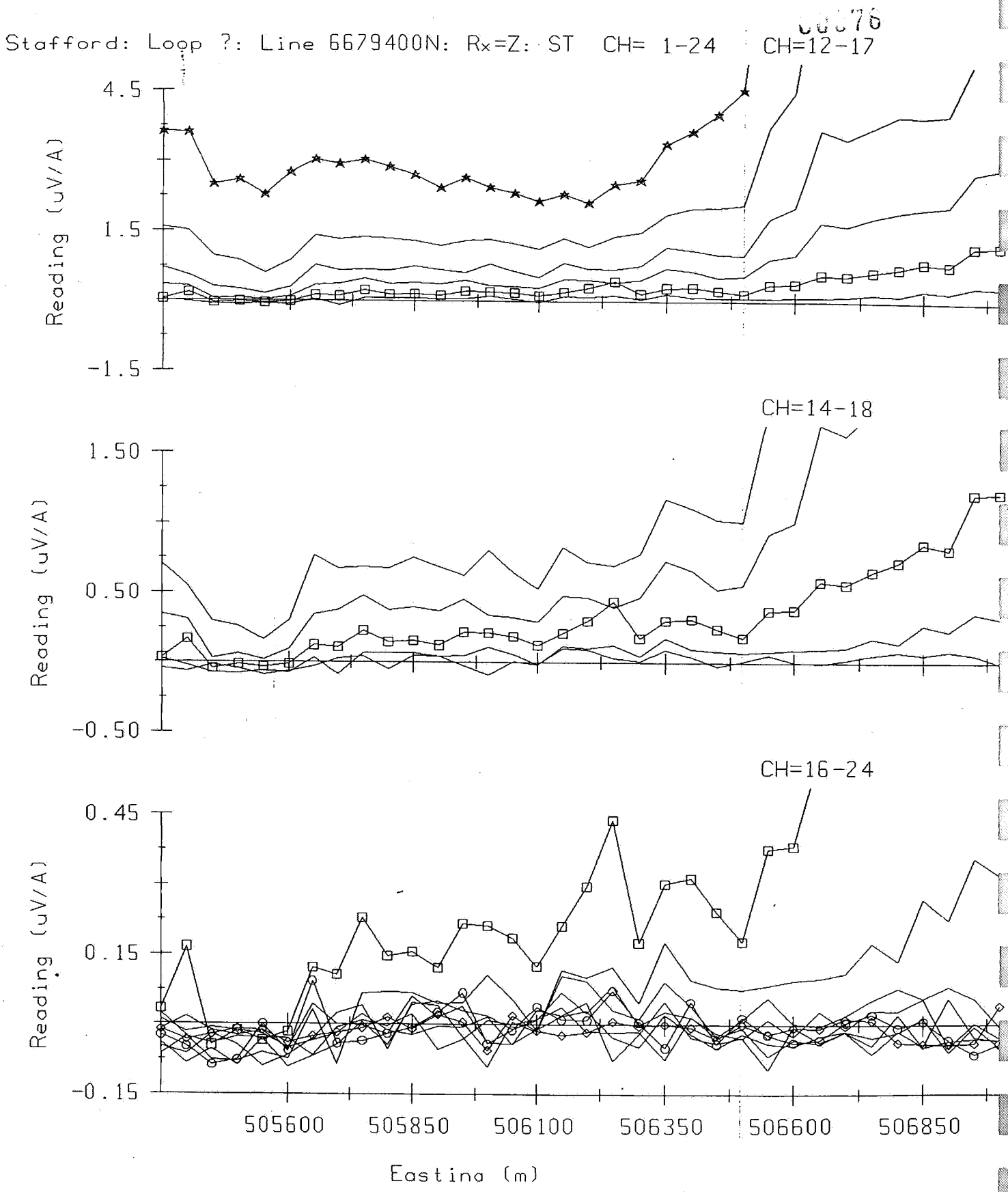


conductor

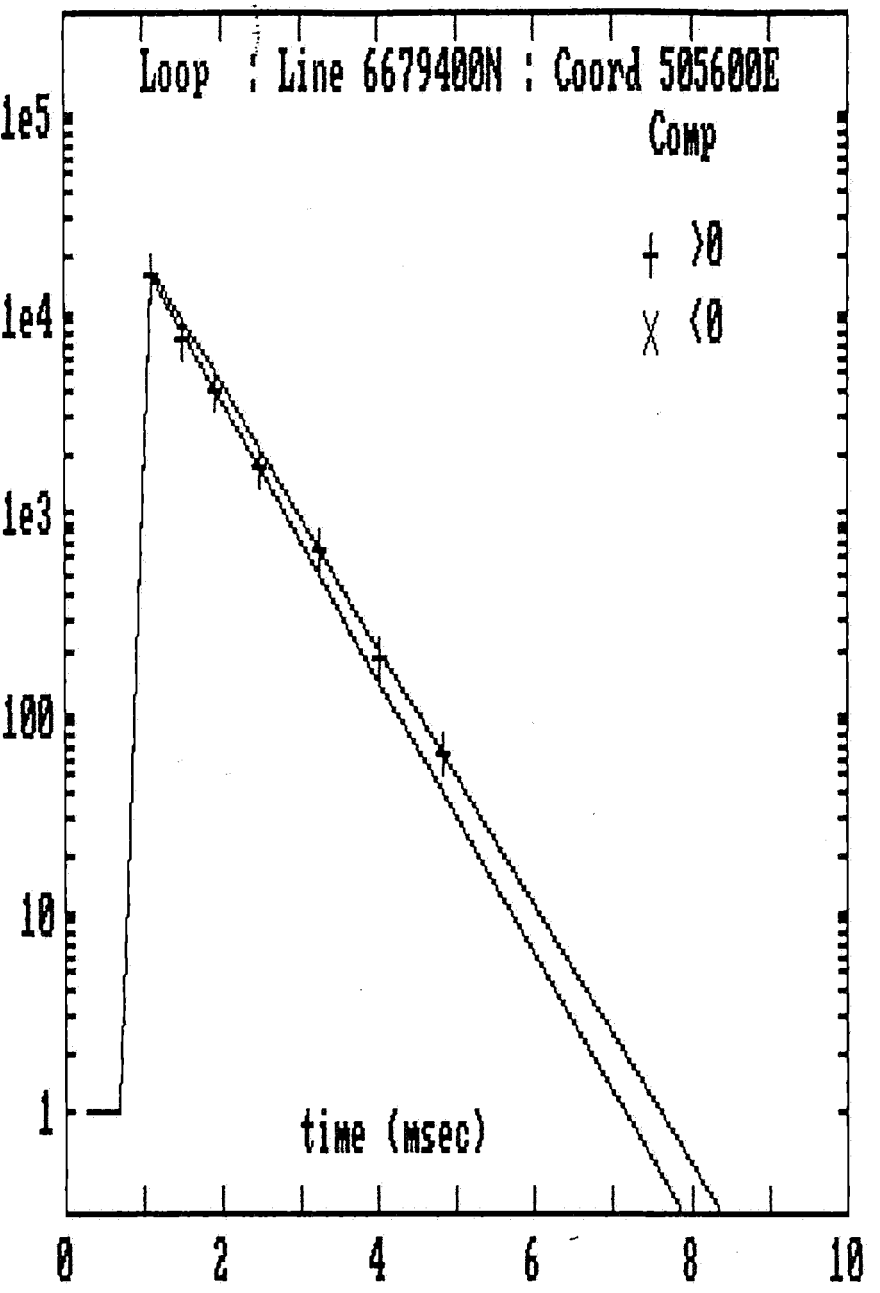
(F) contact

contact


Stafford: Loop ?: Line 6679400N: Rx=Z: ST CH= 1-24
CH= 8-13
200.000
100.000
0.000
Reading (uV/A)
CH= 9-14
60.000
30.000
0.000
Reading (uV/A)
CH=11-16
15.0
5.0
-5.0
Reading (uV/A)
505600
505850
506100
506350
506600
506850
Easting (m)
conductor
(F)
contact
contact

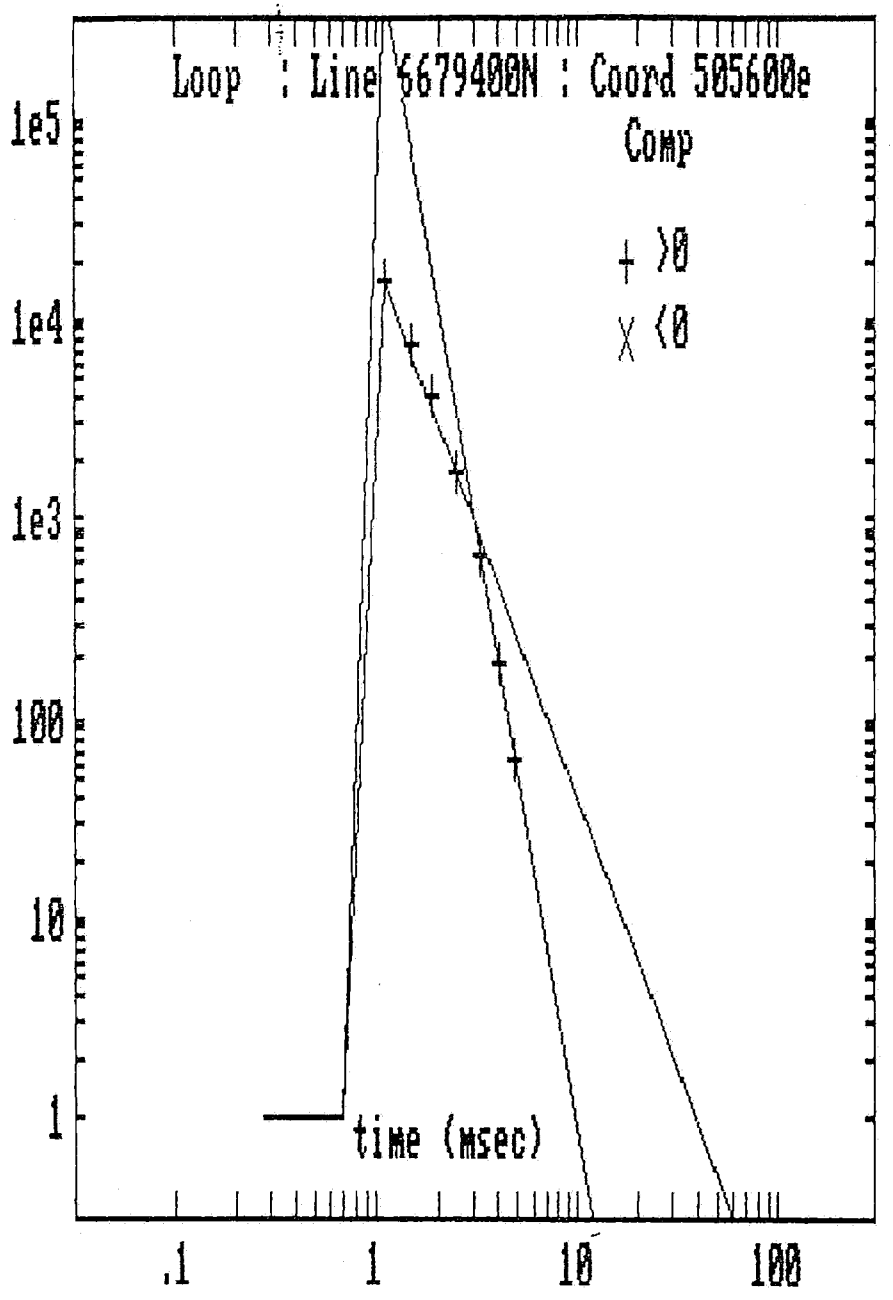

Stafford: Loop ?: Line 6679400N: Rx=Z: ST CH= 1-24
CH=12-17
4.5
1.5
-1.5
Reading (uV/A)
CH=14-18
1.50
0.50
-0.50
Reading (uV/A)
CH=16-24
0.45
0.15
-0.15
Reading (uV/A)
505600
505850
506100
506350
506600
506850
Eastina (m)

contact



Channels:
3 6
TC= .6 msec
Sigma-t= 20.4 S

Channels:
7 9
TC= .7 msec
Sigma-t= 21.6 S

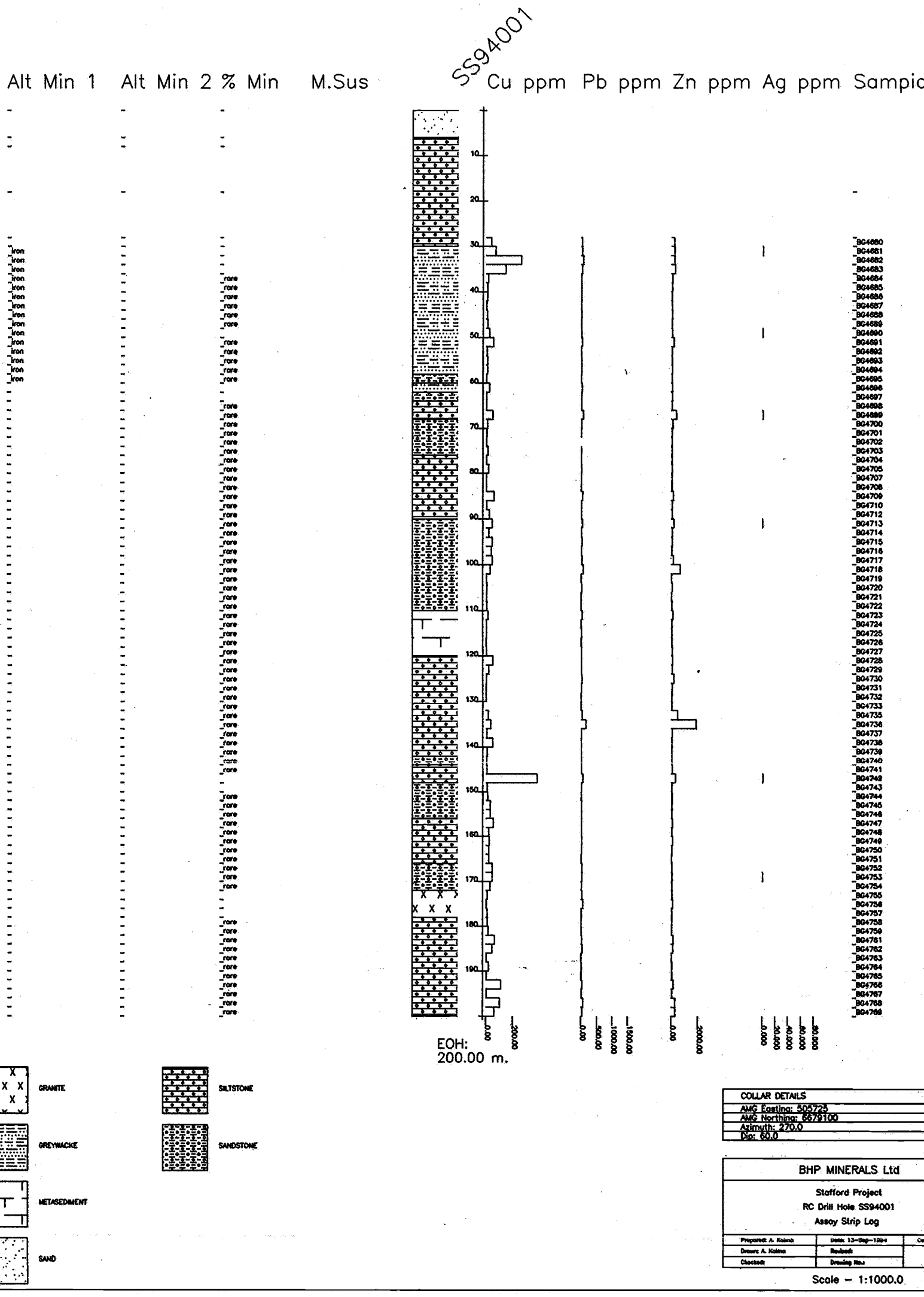


Channels:
3 6
Power= -2.7

Channels:
7 9
Power= -6.0

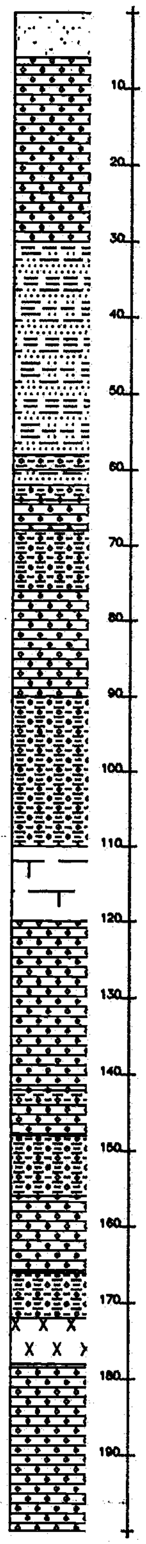
APPENDIX 4

Drillhole Sections, SS94001

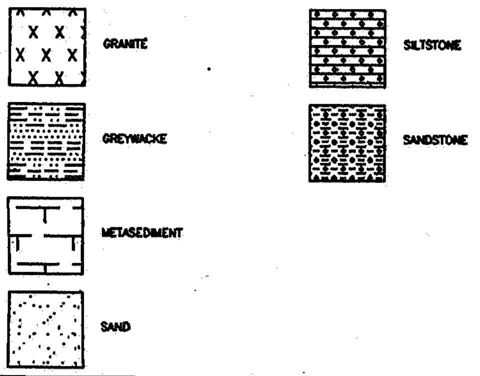

SS94001
Alt Min 1
Alt Min 2
% Min
M.Sus
Cu ppm
Pb ppm
Zn ppm
Ag ppm
Sampid
iron
rare
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
0.00
200.00
0.00
500.00
1000.00
1500.00
0.00
2000.00
0.000
20.000
40.000
60.000
80.000
EOH:
200.00 m.
GRANITE
GREYWACKE
METASEDIMENT
SAND
SILTSTONE
SANDSTONE
COLLAR DETAILS
AMG Easting: 505725
AMG Northing: 6679100
Azimuth: 270.0
Dip: 60.0
BHP MINERALS Ltd
Stafford Project
RC Drill Hole SS94001
Assay Strip Log
Prepared: A. Kolmo
Date: 13-Sep-1994
Centre: Newlands
Drawn: A. Kolmo
Revised:
Checked:
Drawing No:
Scale - 1:1000.0

SS94001

Min1	Min2	Min3	Lith	M.Sus 10↑-5 SI	%Py	%Po	%Cp	%PbS	%ZnS
-	-	-	-		-	-	-	-	-
			SAND						
-	-	-	-		-	-	-	-	-
-	-	-	SILTSTONE		-	-	-	-	-
			SILTSTONE						
-	-	-	-		-	-	-	-	-
			SILTSTONE						
-	-	-	-		-	-	-	-	-
-	-	-	SILTSTONE		-	-	-	-	-
quartz	hornblende	-	GREYWACKE		-	-	-	-	-
quartz	hornblende	-	GREYWACKE		-	-	-	-	-
quartz	hornblende	-	GREYWACKE		-	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		-	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	hornblende	-	GREYWACKE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
-	-	-	GREYWACKE		-	-	-	-	-
quartz	feldspar	-	SANDSTONE		-	-	-	-	-
quartz		-	SILTSTONE		1.00	-	-	-	-
quartz	-	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	-	METASEDIMENT		1.00		-	-	-
quartz	feldspar	-	METASEDIMENT		1.00		-	-	-
quartz	feldspar	-	METASEDIMENT		1.00		-	-	-
quartz	feldspar	-	METASEDIMENT		1.00		-	-	-
quartz	feldspar	-	METASEDIMENT		1.00		-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SILTSTONE		3.50	1.50	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	1.00	-	-	-
quartz	feldspar	-	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SANDSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SANDSTONE		1.00	-	-	-	-
K-feldspar	quartz	amphiboles	GRANITE		-	-	-	-	-
K-feldspar	quartz	amphiboles	GRANITE		-	-	-	-	-
K-feldspar	quartz	amphiboles	GRANITE		-	-	-	-	-
-	-	-	SILTSTONE		1.00	-	-	-	-
-	-	-	SILTSTONE		1.00	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-
quartz	feldspar	amphiboles	SILTSTONE		< 1	-	-	-	-



EOH:
200.00 m.



COLLAR DETAILS
AMG Easting: 505725
AMG Northing: 6679100
Azimuth: 270.0
Dip: 60.0

BHP MINERALS Ltd		
Stafford Project RC Drill Hole SS94001 Geology Strip Log		
Prepared: A. Kolmo	Date: 13-Sep-1994	Centre: Hawthorn
Drawn: A. Kolmo	Revised:	
Checked:	Drawing No.:	

Scale – 1:1000.0

00081

APPENDIX 5

English Logs, SS94001

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
0	6		siliceous SAND		light Tan					
6	8		siliceous SILTSTONE		Medium light Brown (Umber)					
8	18		SILTSTONE		Pale (very light) Tan					
18	28		SILTSTONE		Pale (very light) Tan					
28	30	BG4680	SILTSTONE		Pale (very light) Tan					
30	32	BG4681	meta- GREYWACKE	quartz hornblende	Pale (very light) Tan		rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
32	34	BG4682	meta- GREYWACKE	quartz hornblende	Medium light Grey		rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
34	36	BG4683	meta- GREYWACKE	quartz hornblende	Medium light Grey		rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
36	38	BG4684	meta- GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
38	40	BG4685	meta- GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
40	42	BG4686	meta- GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
42	44	BG4687	meta- GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD
Easting : 505725
Latitude :
Azimuth : 270

Hole Name : SS94001
Northing : 6679100
Longitude :
Inclination : 60

Hole Length :
Amg Zone : 53
Surface Rl : 190

Contractor : FRANK WALSH DRILLING

Coord Reliability : GRID

Locality : STAFFORD S Logged By : STEPHEN MCCAUGHEY

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
44	46	BG4688	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
46	48	BG4689	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
48	50	BG4690	meta-GREYWACKE	quartz hornblende	Medium light Grey		rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
50	52	BG4691	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
52	54	BG4692	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
54	56	BG4693	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
56	58	BG4694	meta-GREYWACKE	quartz hornblende	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
58	60	BG4695	meta-SANDSTONE	quartz feldspar	Medium light Grey	widespread trace (<	rare ace (<<1%)	quartz	disrupted isolated pa iron oxidmnant	
60	62	BG4696	meta-GREYWACKE		Medium dark Grey					
62	64	BG4697	meta-vein SANDSTONE	quartz feldspar	Medium light Grey					
64	66	BG4698	meta-SILTSTONE	quartz	Medium dark Grey	widespread trace (<	trace 1%)	quartz		
66	68	BG4699	meta-SILTSTONE	quartz	Medium dark Grey	widespread trace (<	trace 1%)	quartz		

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
68	70	BG4700	meta-vein SANDSTONE	quartz feldspar	Medium light Grey	widespread trace (< 1%)	trace	quartz		
70	72	BG4701	meta-vein SANDSTONE	quartz feldspar	Medium light Grey	widespread trace (< 1%)	trace	quartz		
72	74	BG4702	meta-vein SANDSTONE	quartz feldspar	Medium light Grey	widespread trace (< 1%)	trace	quartz		
74	76	BG4703	meta-vein SANDSTONE	quartz feldspar	Medium light Grey	widespread trace (< 1%)	trace	quartz		
76	78	BG4704	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
78	80	BG4705	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
80	82	BG4707	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
82	84	BG4708	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
84	86	BG4709	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
86	88	BG4710	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
88	90	BG4712	meta-vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< 1%)	trace	quartz		
90	92	BG4713	meta- SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)				

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
92	94	BG4714	meta- SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)				
94	96	BG4715	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
96	98	BG4716	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
98	100	BG4717	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
100	102	BG4718	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
102	104	BG4719	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
104	106	BG4720	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
106	108	BG4721	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
108	110	BG4722	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
110	112	BG4723	vein METASEDIMENT	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
112	114	BG4724	vein METASEDIMENT	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
114	116	BG4725	vein METASEDIMENT	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
116	118	BG4726	vein METASEDIMENT	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
118	120	BG4727	vein METASEDIMENT	quartz feldspar	Medium dark Grey	widespread trace (<	rare ace (<<1%)	epidote		
120	122	BG4728	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
122	124	BG4729	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
124	126	BG4730	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
126	128	BG4731	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
128	130	BG4732	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
130	132	BG4733	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	epidote		
132	134	BG4735	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
134	136	BG4736	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
136	138	BG4737	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
138	140	BG4738	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
140	142	BG4739	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
142	144	BG4740	siliceous vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
144	146	BG4741	meta- vein SILTSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
146	148	BG4742	meta- vein SILTSTONE	quartz feldspar pyroboles	Medium dark Grey	2-5% 1-2%	rare ace (<<1%)	quartz		
148	150	BG4743	meta- vein SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (< widespread trace (<1%)	rare ace <1%	quartz		
150	152	BG4744	siliceous meta- SANDSTONE	quartz feldspar	Medium dark Grey	widespread trace (<				
152	154	BG4745	siliceous meta- SANDSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
154	156	BG4746	siliceous meta- SANDSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
156	158	BG4747	SILTSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
158	160	BG4748	SILTSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
160	162	BG4749	SILTSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
162	164	BG4750	SILTSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
164	166	BG4751	SILTSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
166	168	BG4752	SANDSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
168	170	BG4753	siliceous SANDSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
170	172	BG4754	siliceous SANDSTONE	quartz feldspar amphiboles	Medium dark Grey	widespread trace (<				
172	174	BG4755	vein GRANITE	K-feldspar quartz amphiboles	Medium light Red					
174	176	BG4756	vein GRANITE	K-feldspar quartz amphiboles	Medium light Red					
176	178	BG4757	vein GRANITE	K-feldspar quartz amphiboles	Medium light Red					
178	180	BG4758	SILTSTONE		Medium Grey	widespread trace (<				
180	182	BG4759	SILTSTONE		Medium Grey	widespread trace (<				
182	184	BG4761	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
184	186	BG4762	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
186	188	BG4763	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				

BHP Minerals - Southern Proterozoic Logsheet

Project : STAFFORD | Hole Name : SS94001 | Hole Length : | Contractor : FRANK WALSH DRILLING | Locality : STAFFORD S | Logged By : STEPHEN MCCAUGHEY
Easting : 505725 | Northing : 6679100 | Amg Zone : 53
Latitude : | Longitude : | Surface Rl : 190 | Coord Reliability : GRID
Azimuth : 270 | Inclination : 60

Depth From	To (m)	Sample No.	Rocktype	Minerals	Colour	Pyrite/Pyrrhotite %	Vein %	Vein Type	Alteration	Magsus
188	190	BG4764	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
190	192	BG4765	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<		epidote		
192	194	BG4766	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
194	196	BG4767	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
196	198	BG4768	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				
198	200	BG4769	meta- SILTSTONE	quartz feldspar amphiboles	Medium Grey	rare trace (<				

Standard Samples Logged	Sample Number	From	To
SS94001	BG4711	86	88

Duplicate Samples logged	Sample Number	From	To
SS94001	BG4706	80	82
SS94001	BG4734	130	132
SS94001	BG4760	180	182

APPENDIX 6

Assay Results, SS94001

BHP Minerals - Southern Proterozoic Logsheet (Page No 1 of 2)

ple ID	Sample	From	To	AuAv	Cu	Pb	Zn	Ag	Co	Fe	Mn	Ni	P	Ars	U	Flag
SS94001	BG4680	28	30	-.02	40	25	220	-.5	25	5.45	500	55	340	13		OB
SS94001	BG4681	30	32	-.02	70	25	250	1	30	6.4	1000	80	580	14		OB
94001	BG4682	32	34	.02	260	70	230	-.5	16	7.65	820	60	360	15		OB
94001	BG4683	34	36	-.02	145	30	270	-.5	13	9.75	1300	55	530	14		OB
SS94001	BG4684	36	38	-.02	15	11	90	-.5	11	4.14	640	35	350	6		OB
94001	BG4685	38	40	-.02	10	10	60	-.5	14	5.15	580	50	580	8		OB
94001	BG4686	40	42	-.02	10	10	50	-.5	11	4.16	390	45	460	13		OB
SS94001	BG4687	42	44	-.02	4	6	45	-.5	10	4.16	370	40	380	10		OB
SS94001	BG4688	44	46	-.02	6	7	80	-.5	7	7.5	790	50	740	15		OB
94001	BG4689	46	48	-.02	11	5	45	-.5	11	5.5	440	55	770	14		OB
94001	BG4690	48	50	-.02	25	8	70	.5	8	7.55	710	55	1100	19		OB
SS94001	BG4691	50	52	-.02	55	35	185	-.5	8	9.9	1100	60	1460	13		OB
SS94001	BG4692	52	54	-.02	8	6	35	-.5	8	4.46	340	40	330	14		OB
94001	BG4693	54	56	-.02	10	10	40	-.5	6	6.5	510	50	1080	17		OB
94001	BG4694	56	58	-.02	10	13	75	-.5	6	7.55	690	55	1450	12		OB
SS94001	BG4695	58	60	-.02	3	5	50	-.5	3	3.46	490	30	200	6		OB
94001	BG4696	60	62	-.02	25	30	60	-.5	5	7.35	560	35	1760	60		OB
94001	BG4697	62	64	-.02	3	12	70	-.5	4	5.8	560	45	1960	14		OB
94001	BG4698	64	66	-.02	3	7	55	-.5	4	3.54	460	35	270	8		OB
SS94001	BG4699	66	68	-.02	50	70	370	1	17	5.2	790	45	670	40		OB
94001	BG4700	68	70	-.02	10	12	125	-.5	8	4.4	670	40	310	19		OB
94001	BG4701	70	72	-.02	5	4	45	-.5	5	4.08	340	45	260	4		OB
SS94001	BG4702	72	74	-.02	2	-3	40	-.5	6	3.72	370	50	290	6		OB
SS94001	BG4703	74	76	-.02	14	4	40	-.5	9	4.4	370	45	290	7		OB
94001	BG4704	76	78	-.02	4	5	55	-.5	10	4.86	430	55	490	8		OB
94001	BG4705	78	80	-.02	18	8	70	-.5	10	6.25	470	55	860	12		OB
SS94001	BG4707	80	82	-.02	2	5	50	-.5	12	4.8	420	60	430	13		OB
SS94001	BG4708	82	84	-.02	2	6	55	-.5	9	5.5	530	60	650	6		OB
94001	BG4709	84	86	-.02	60	50	165	-.5	12	7.25	510	50	1780	35		OB
94001	BG4710	86	88	-.02	5	7	65	-.5	9	6.9	590	55	690	10		OB
SS94001	BG4712	88	90	-.02	25	9	75	-.5	12	8	690	65	1500	9		OB
94001	BG4713	90	92	-.02	45	40	185	.5	18	4.8	690	45	300	70		OB
94001	BG4714	92	94	-.02	19	11	60	-.5	9	3.72	450	40	270	10		OB
94001	BG4715	94	96	-.02	45	25	70	-.5	13	4.52	400	55	330	20		OB
SS94001	BG4716	96	98	-.02	40	17	50	-.5	8	5.15	430	45	320	40		OB
94001	BG4717	98	100	-.02	45	35	145	-.5	9	4.02	400	40	260	20		OB
94001	BG4718	100	102	-.02	30	70	680	-.5	7	5	590	50	300	60		OB
SS94001	BG4719	102	104	-.02	4	6	30	-.5	13	3.92	250	55	360	9		OB
SS94001	BG4720	104	106	-.02	8	20	60	-.5	7	5	520	50	580	11		OB
94001	BG4721	106	108	-.02	5	6	30	-.5	5	3.68	340	40	280	5		OB
94001	BG4722	108	110	-.02	6	6	40	-.5	6	4.68	300	55	340	7		OB
SS94001	BG4723	110	112	-.02	15	40	135	-.5	8	3.52	320	50	300	13		OB
SS94001	BG4724	112	114	-.02	3	6	50	-.5	5	5.05	430	60	860	8		OB
94001	BG4725	114	116	-.02	2	7	45	-.5	4	5.45	480	55	420	5		OB
94001	BG4726	116	118	-.02	1	4	40	-.5	6	5.15	500	60	570	5		OB
SS94001	BG4727	118	120	-.02	3	8	75	-.5	6	6.1	600	60	1020	4		OB
94001	BG4728	120	122	-.02	50	17	90	-.5	7	8.5	780	60	1480	19		OB
94001	BG4729	122	124	-.02	20	16	70	-.5	4	5.65	550	25	3700	13		OB
SS94001	BG4730	124	126	-.02	4	25	210	-.5	5	8.45	1240	50	2400	19		OB
SS94001	BG4731	126	128	-.02	1	11	80	-.5	4	5.3	770	45	420	8		OB
94001	BG4732	128	130	-.02	1	6	55	-.5	5	5.1	640	40	480	9		OB
94001	BG4733	130	132	-.02	-1	6	40	-.5	4	4.14	420	35	560	7		OB
SS94001	BG4735	132	134	-.02	17	45	470	-.5	3	5.6	890	25	260	50		OB
SS94001	BG4736	134	136	-.02	35	145	1850	-.5	11	11.1	1580	40	1180	35		OB
94001	BG4737	136	138	-.02	7	8	60	-.5	6	5.35	790	35	670	35		OB
94001	BG4738	138	140	-.02	50	5	55	-.5	6	4.56	610	25	750	13		OB
SS94001	BG4739	140	142	-.02	10	5	50	-.5	4	3.82	500	25	770	4		OB
94001	BG4740	142	144	-.02	5	9	55	-.5	5	4.62	580	30	1340	4		OB
94001	BG4741	144	146	-.02	8	8	70	-.5	6	6.15	820	45	1000	9		OB
94001	BG4742	146	148	.02	380	50	310	.5	16	7	1060	45	3300	290		DS
SS94001	BG4743	148	150	-.02	9	9	50	-.5	8	3.86	300	40	370	70		OB
94001	BG4744	150	152	-.02	12	5	45	-.5	13	3.74	280	50	340	17		OB

SS94001	BG4745	152	154	-.02	30	16	55	-.5	15	3.7	290	50	370	35	OB
SS94001	BG4746	154	156	-.02	30	12	45	-.5	13	4.14	310	50	370	25	OB
SS94001	BG4747	156	158	-.02	55	16	85	-.5	12	5.85	880	50	480	25	OB
SS94001	BG4748	158	160	-.02	19	8	55	-.5	15	5.1	350	60	760	25	OB
SS94001	BG4749	160	162	-.02	25	19	105	-.5	9	6.15	870	50	620	14	OB
SS94001	BG4750	162	164	-.02	20	9	55	-.5	16	5.35	380	55	800	25	OB
SS94001	BG4751	164	166	-.02	20	6	30	-.5	11	3.9	250	45	380	17	OB
SS94001	BG4752	166	168	-.02	45	25	40	-.5	15	3.64	260	45	370	35	OB
SS94001	BG4753	168	170	.02	45	25	65	.5	16	4.66	340	55	590	25	OB
SS94001	BG4754	170	172	-.02	30	16	40	-.5	14	3.96	510	45	410	18	OB
SS94001	BG4755	172	174	-.02	10	35	65	-.5	-2	2.76	440	6	20	5	C2
SS94001	BG4756	174	176	-.02	3	60	100	-.5	-2	2.16	310	5	5	5	OB
SS94001	BG4757	176	178	-.02	9	14	45	-.5	5	2.16	220	18	210	14	OB
SS94001	BG4758	178	180	-.02	12	6	45	-.5	9	3.5	440	35	450	10	C3
SS94001	BG4759	180	182	-.02	17	7	50	-.5	15	4.98	390	55	1040	17	OB
SS94001	BG4761	182	184	-.02	65	20	145	-.5	17	9.6	800	60	2600	30	OB
SS94001	BG4762	184	186	-.02	45	45	135	-.5	9	9.55	920	55	2800	30	OB
SS94001	BG4763	186	188	-.02	3	5	25	-.5	17	4.92	430	60	490	30	OB
SS94001	BG4764	188	190	-.02	20	9	45	-.5	17	6.85	630	70	1220	35	OB

BHP Minerals - Southern Proterozoic Logsheet (Page No 2 of 2)

Hole ID	Sample	From	To	AuAv	Cu	Pb	Zn	Ag	Co	Fe	Mn	Ni	P	Ars	U	Flag
SS94001	BG4765	190	192	-.02	4	6	45	-.5	12	6.25	570	55	1060	9		OB
SS94001	BG4766	192	194	-.02	110	30	145	-.5	10	9.45	600	40	3850	30		OB
SS94001	BG4767	194	196	-.02	2	8	50	-.5	5	5.65	440	50	1020	4		OB
SS94001	BG4768	196	198	-.02	100	60	270	-.5	8	10.7	1400	60	980	11		OB
SS94001	BG4769	198	200	-.02	60	35	280	-.5	8	10.8	1640	70	870	20		OB

Scale 1:25000

0 1 2 km

60 80 135°05' 10000mE 12 14 16 135°10'

82 30°00' 6680000mN 78 76

505950E CLAY CLAY C CLAY 3 — 8

509950E C C — 7

509800E 510200E 510600E 510000E C CLAY CLAY CLAY CLAY CLAY CLAY CLAY 6680600N — 10

511950E THIN CLAY C CS — 6

512950E C 3 C 100m ? — 5

513950E 2 125m 2 2 2 3 S — 4

515950E 3 2 100m ? 2 — 3

6679250N C S 2 2 2 C 7.5m C — 1

505250E 2 C cond 1 C cond S 6678050N 78 2 CLAY — 2

2 CLAY — 9

EL 1913
STAFFORD

135°00' 30°00' Stuart Hwy

Oodnadatta SOUTH AUSTRALIA Map Area Ooldea Woomera ADELAIDE

1987-89 CRA SIROTEM (station interval 50m: Square single turn transmitter loop, 100m per side, in-loop RVR receiver)

1989 CRA Ground magnetics and SIROTEM (100m) loop

1 2 3 Priority of Conductor

C Contact

More conductive zone in direction of arrow

S Surface Effect

CLAY Clay Pan

10 Traverse Reference Number

7.5m Approximate Depth to Conductor

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8875-1

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BHP INTERPRETATION OF CRA MOVING LOOP SIROTEM DATA

Prepared : K. Paish	Date : Nov 1993	PLATE 1
Drawn : F. Barlow	Revised :17/2/95	
Centre : Melbourne	Drg No : A2 -1804	

Scale 1 : 10000

0 400 800 m

505000E 506000E 507000E

6680000N

505400E 507000E

F

115

21,245,1150 (Metased), 42

6679400N

No: 3 No: 4 No: 5

A B C D E

118

18,58,3040, (chert), 38

6679300N 6679100N 6678900N

6679000N

505200E 505600E 505900E 506300E 506600E 507000E

505850E 506150E 506500E 506800E

No: 1 No: 2

S

2

6678200N 6678050N 6677900N

6678000N

9

6677000N

SOUTH AUSTRALIA

Oodnadatta

Ooldea

Map Area

Woomera

ADELAIDE

LOCATION

135°00'

30°00'

EL 1913
STAFFORD

Stuart Hwy

Outline of Magnetic BIF Units

2 CRA SIROTEM 1987 with traverse reference no:

115 ⊗
21,245,1150
(Metased),
42

CRA anomalous RAB drillhole
Cu (ppm), Pb (ppm), Zn (ppm)
Basement Lithology
Depth to Basement

BHP moving loop SIROTEM traverse

Conductor defined from moving loop SIROTEM

Contact defined from moving loop SIROTEM with more conductivity stratigraphy to the east

Fixed loop traverse with loop position

S
A

Conductor from Eastern Loop and Western Loop
(s = surface feature)
(conductor reference)

Contact form Eastern Loop and Western Loop

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A.C.N. 008 694 782

ELA 178/93, STAFFORD, S.A.

INTERPRETATION OF TEM SURVEYS

Prepared : K. Paish	Date : Nov 1993	Plate 2
Drawn : F. Barlow	Revised:	
Centre : Melbourne	Drg. No.: A2 - 1805	

8875-2

505000E
506000E
507000E
505400E
507000E
6679400N
6679100N
6679000N
6678000N
6677000N
21,245,1150 (Metased), 42m
SS94001
18;58;3040, (chert), 38m
145,<5, 145, (BIF), 8m
100, 42, 180, (BIF), 18m

Interpreted outline of BIF units

21,245,1150 (Metased), 42m — CRA RAB drillhole; Cu (ppm), Pb (ppm), Zn (ppm); Basement Lithology; Depth to Basement

CRA Moving Loop SIROTEM Traverse (1987)

BHP moving loop SIROTEM

BHP Fixed Loop SIROTEM

Moving loop Conductor

Interpreted Resistive / Conductor Contact

Interpreted Basement Conductor

RC Drillhole (SS94001)

135°00'
30°00'
EL 1913
STAFFORD
Stuart Hwy

Oodnadatta
SOUTH AUSTRALIA
Map Area
Ooldea
Woomera
ADELAIDE
LOCATION

Scale 1:10000
0 400 800 m

8875-3

stafford\A3-2045

BHP Minerals Pty Ltd
A.C.N. 008 694 782

EL 1913, STAFFORD, S.A.

DRILLHOLE LOCATION

Prepared : J. Cameron	Date : Mar 1994	Plate 3
Drawn : F. Barlow	Revised: 20/2/94	
Centre : Melbourne	Drg. No.: A3 - 2045	