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Aberfoyle Resources Limited

96-3839

EXPLORATION DIVISION

ACN 004 664 108

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FILE No. 013873 -79

EXPLORATION LICENCE 106/87

LAKE MACKINTOSH

TASMANIA

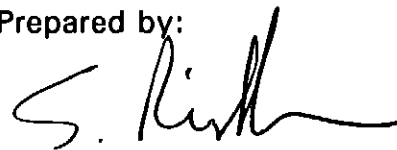
Progress Report for the Period

February 1995 to February 1996

VOLUME 1 OF 2

TEXT AND APPENDICES I - III

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Internal Report No. Mackintosh 61

OPEN FILE

EL 106/87		
- 7 MAR 1996		
See folio 35		

96-3839

LAKE MACKINTOSH EL 106/87 PROGRESS REPORT 1995/96 -
ABERFOYLE RESOURCES LTD - RICHARDSON S M
VOLUME 1 OF 2

ION

- Burnie (1/4)
- Melbourne (2/4)
- Townsville (3/4)
- sources Tas (4/4)

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MAC 153P/E	1:10,000	Gridding 1994/1995
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1.0 SUMMARY

Work on EL106/87 during the reporting period has continued on two fronts.

Owing to perceived increased prospectivity, 103 line kilometres of surface EM was read over parts of the Southwell Subgroup and Mt. Cripps Subgroup east and north of Hellyer mine. One anomaly worthy of follow up was detected. This anomaly was tested by drilling (MAC41) and found to be due to conductive porous sands at the base of the Tertiary basalt.

Drill testing continued of deep structural/stratigraphic targets, generated during 1994-95, with one hole (MAC40) completed for 1168.7 metres.

2.0 INTRODUCTION

The Lake Mackintosh Exploration Licence (EL 106/87) was granted to Aberfoyle Resources Limited on 5 February 1988, subject to the Hellyer Mine Agreement Ratification Act 1987. The licence comprised 135 sq. km. previously covered by EL's 2/70 (Mackintosh) and 15/73 (Hatfield) and encloses the 20.2 sq. km. of CML's 68M/84 and 103M/87 (encompassing the Que River and Hellyer mines and facilities).

Under the terms of this act the licence was issued for ten years with partial relinquishment required on the second and fifth anniversaries. The first partial relinquishment was effected in February 1990 when the licence was reduced from 135 to 95 sq. km. The second partial relinquishment from 95 to 54 sq. km. was effected on 5 February 1992. Current tenure is shown on Fig. 1.

This report summarises exploration completed on EL 106/87 for the period 1 February 1995 to 1 February 1996.

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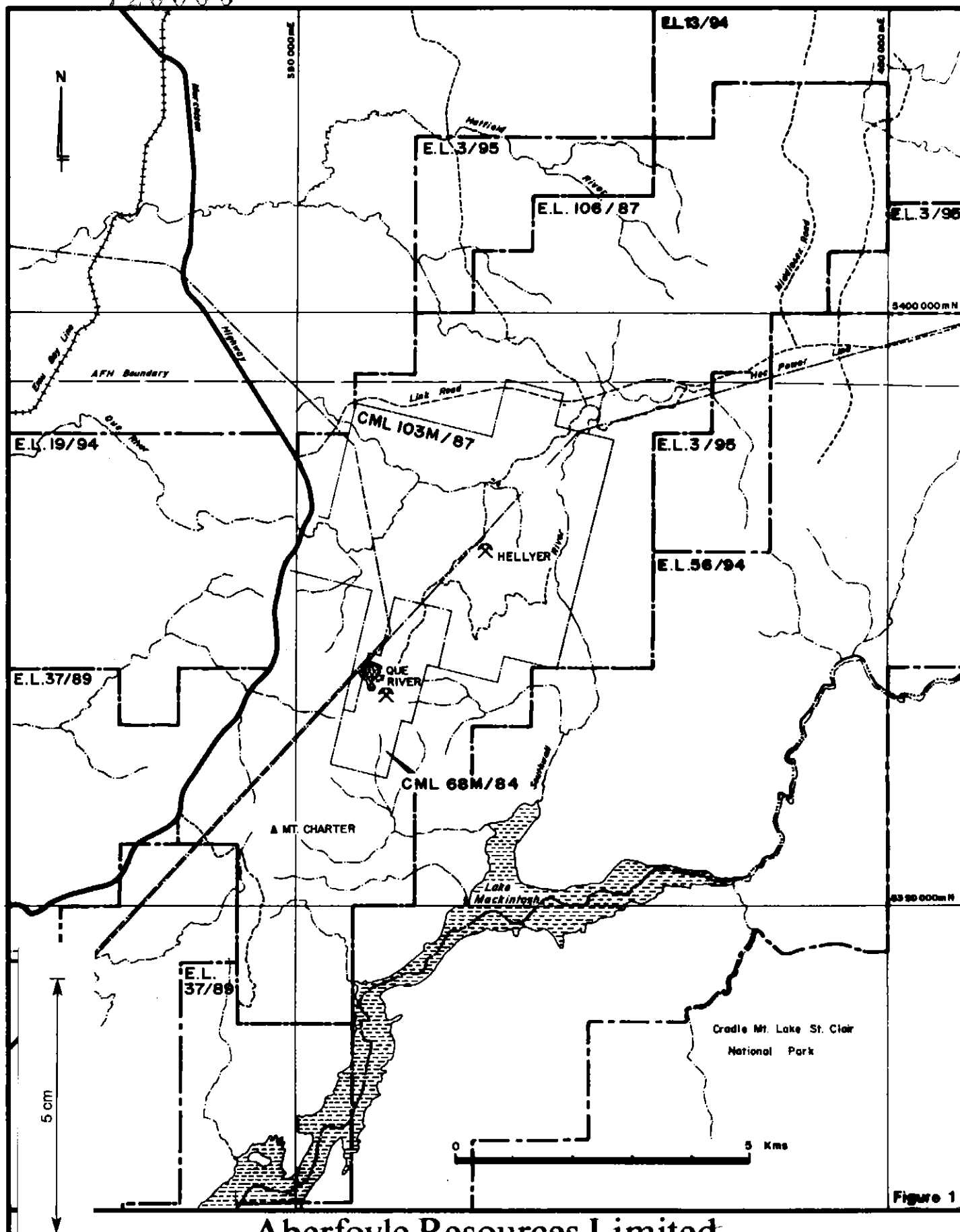


Figure 1

Aberfoyle Resources Limited

EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date
RJE	May 90		
JMS	Feb 93		
MAR	6/93		
Rob	1/94		
Robjr	2/96		

NORTH WEST TASMANIA

MACKINTOSH DISTRICT

TENURE SUMMARY

Compiled : AMcN

Drawn :

Traced :

Checked :

Plate No. : MAC 181

Location Code : K55/6/44

Scale : As shown

Date : May, 1990

3.0 SURFACE EM SURVEYS

3.1 Introduction

The Southwell Subgroup and Mt Cripps Subgroup comprise felsic volcanic sequences that overly the Que - Hellyer Volcanics. They outcrop or occur beneath Tertiary Basalt over about half the area of EL 106/87; principally in the north. Recent stratigraphic reinterpretation has increased the prospectivity of parts of these felsic sequences; the rationale for which is described in Richardson, 1995. Given the exploration status of felsic sequences at Mackintosh, surveying by surface EM was considered the best method for initial target generation. Only basal Southwell Subgroup (possible Rosebery horizon) and Lower Mt. Cripps Subgroup (possible Henty horizon) rocks were proposed for coverage.

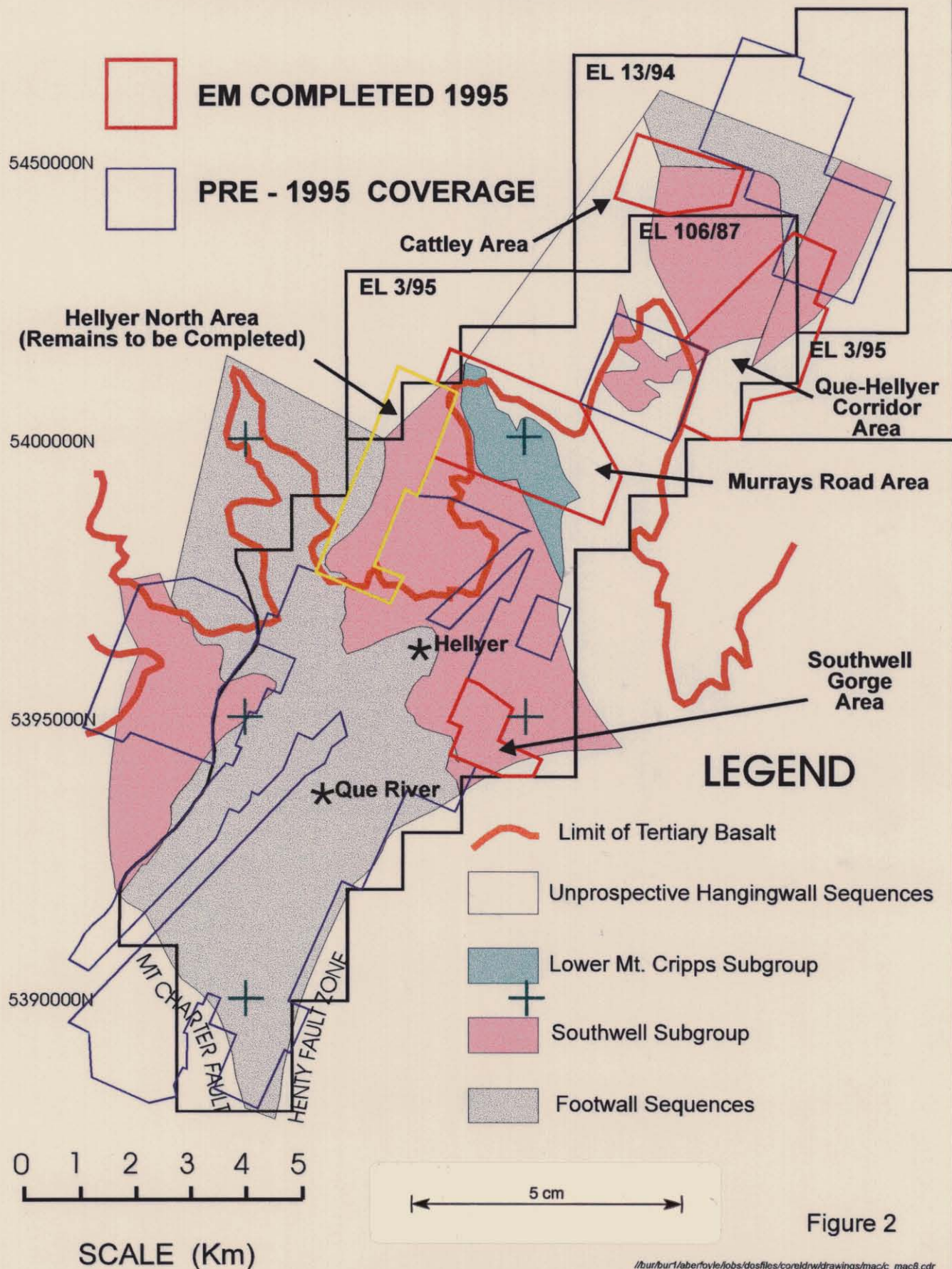
3.2 Specifications

Three areas on EL106/87 were surveyed during the reporting period and these are shown on Fig. 2. A total of 103 line kilometres of data were collected from twenty transmitting loops. Loop and line locations are shown on Plates MAC153P/A, B and E. Some reading lines extended into adjacent EL 3/95 but results are included here for completeness. For logistical reasons loops 1-4, comprising 18 kilometres of reading lines, NW of Hellyer mine, have not been read to date but are planned for completion during 1996.

A Zonge GDP 16 TDEM system operating at 8 hz was used. The system was operated in reconnaissance mode and only vertical component data was collected at 50 metre station spacings. This data was then analysed and where a conductor was interpreted beneath Tertiary cover, infill vertical and horizontal component data was collected at 25 metre station spacing.

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EL 106/87 MACKINTOSH NORTH PROSPECTIVE FELSIC VOLCANICS 1995 SURFACE EM SURVEYS



3.3 Results

Survey results are presented as profiles in Appendix I.

Only one anomaly was detected that potentially related to a massive sulphide accumulation. The anomaly was observed on lines 18000N to 17000N and inferred to continue for another 500-600 metres to about 16500N giving a strike of about 1.5 kilometres; Fig. 3. The features of the response are described in Appendix II. Modelling of the response indicated an inferred source that was flat lying with a width of at least 200 metres. Depth to top of the conductor was estimated at around 250 metres.

The results of drill testing the source of the anomaly are described in section 5.

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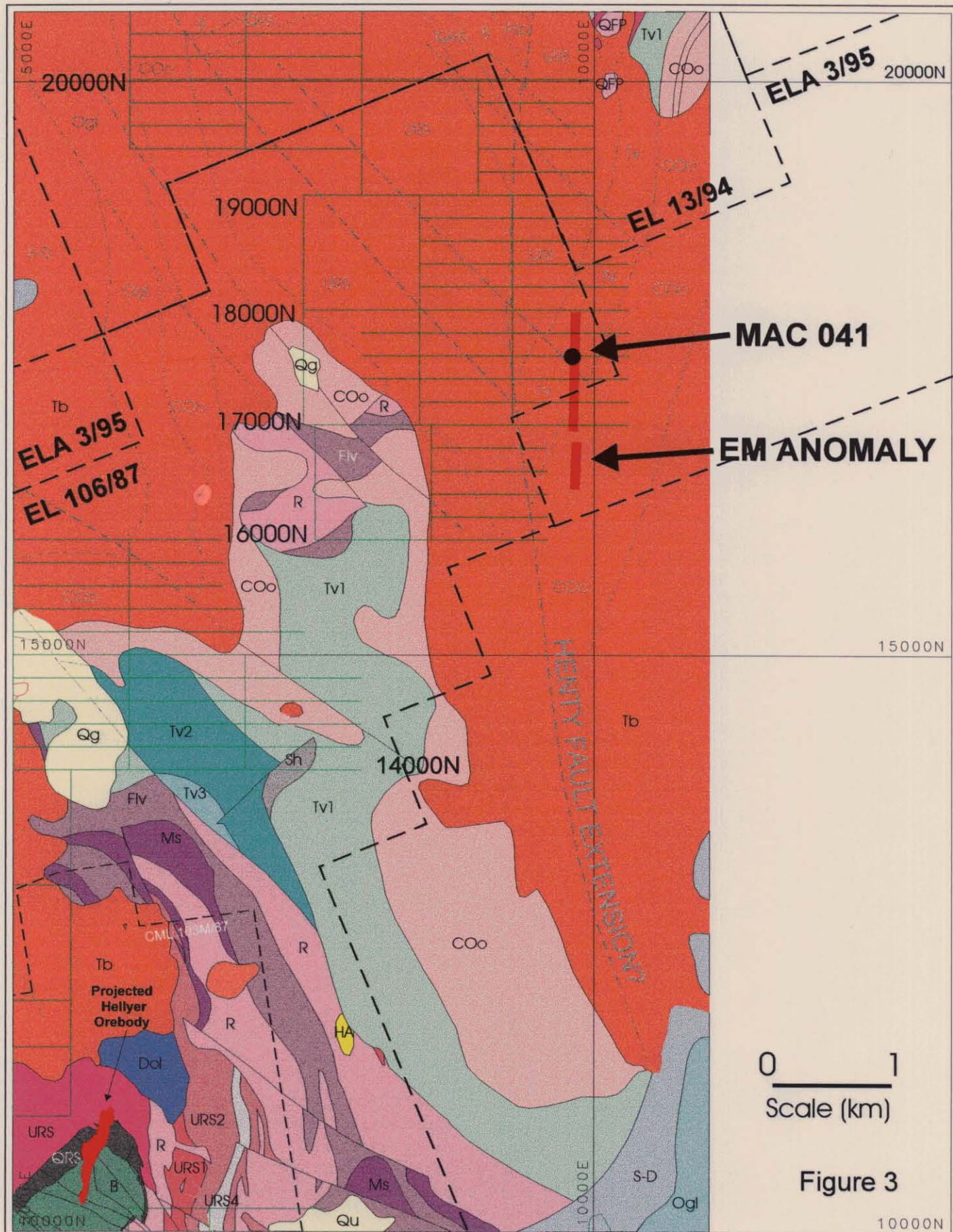


Figure 3

										SCALE NTS		ABERFOYLE RESOURCES LIMITED	
										DRAWN		EXPLORATION DIVISION	
										CHECKED		MACKINTOSH NORTH EM ANOMALY	
										DESIGNED			
										DESIGN CDR			
										DESIGN APP			
										PROJECT APP		DRAWING No.	
												REVISION	
												30/1/96	

//bur/bur1/aberfoyle/jobs/dosfiles/coreidrw/drawings/mac/c_mac11.cdr

5 cm

4.0 MT. CHARTER AREA

4.1 Introduction

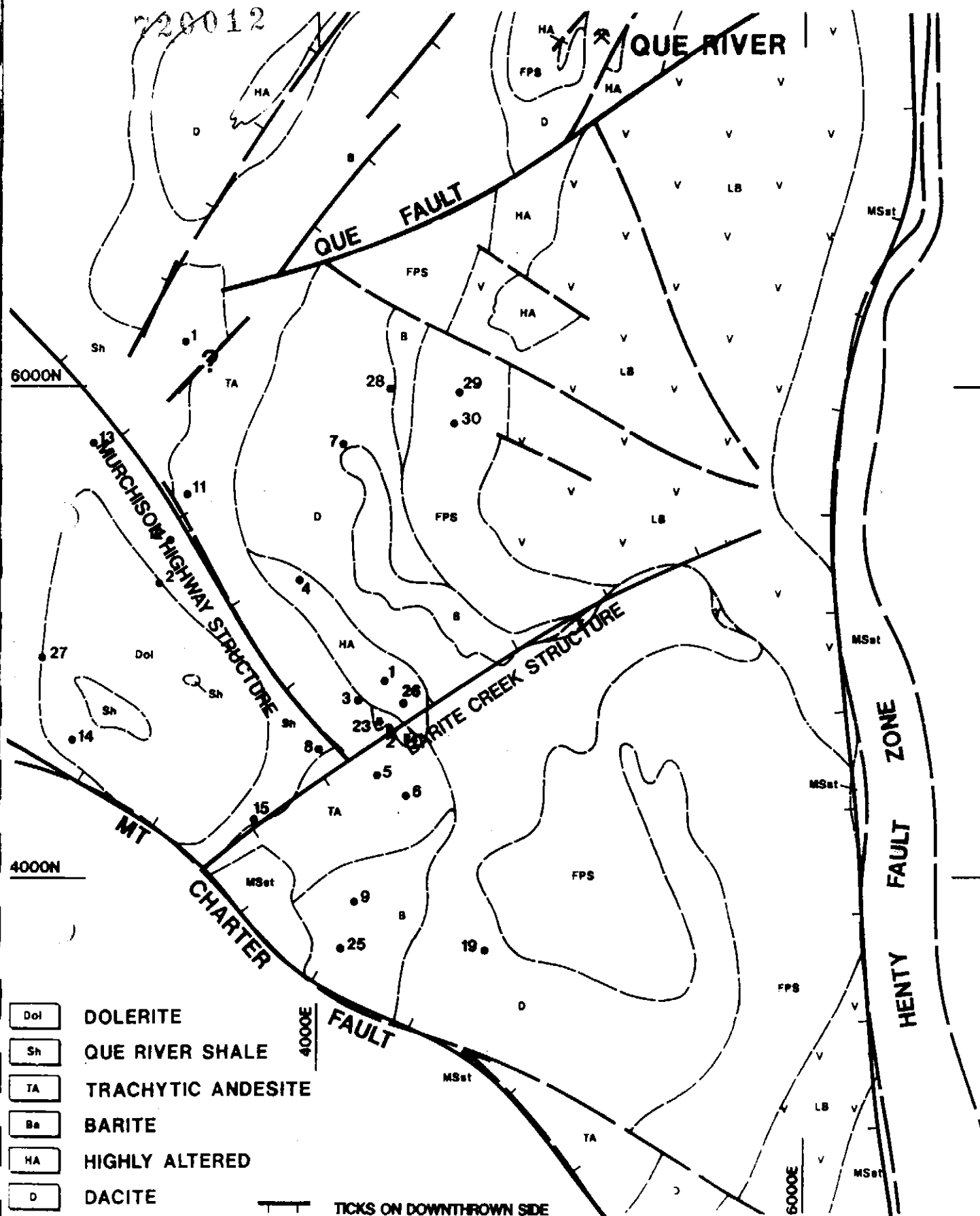
Interpretation of the Mt. Charter area places known mineralisation and alteration at the intersection of two major Cambrian structures, Fig. 4.

The first is the NW trending Murchison Highway structure which is an inferred Cambrian transfer that can be traced from Mt. Charter toward the NW where it is interpreted to join with the Mt. Charter Fault. This structure is reflected in magnetics and can also be interpreted from a rapid thickness increase of Que - Hellyer Volcanics in the vicinity of Mt. Charter; from 600m on the SW side to at least 900m on the NE side. The mapped strike of the Mt. Charter alteration zone parallels this structure and is interpreted to reflect focus of hydrothermal fluids along it.

The second structure is referred to as the Barite Creek structure. Also evident in magnetics this structure trends NE, parallel to the Que fault, in the true extensional orientation (normal fault orientation) for the QHV basin. Lower Basalt thickens to the north across this structure, as was shown by MAC37; Richardson, 1994.

Massive barite mineralisation outcropping on Mt. Charter occurs at the contact between underlying dacitic volcanics and overlying andesite; a correlate of the Hellyer Basalt. Very little drilling tested this horizon ("Hellyer ore position") downdip and downplunge to the west. In addition 400 metres of strike in this area, within range of surface EM, is sterilised by the 220Kv powerline. Potential was perceived for the Mt. Charter massive barite horizon to represent the end of a mineralising system, developed at the "Hellyer Ore Position" and plunging to the NW. This stratigraphic horizon downplunge from Mt. Charter, on section 5000N, was the first of two

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MT CHARTER AREA SUMMARY GEOLOGY MAJOR SYNDEPOSITIONAL FAULTS

two targets to be tested by the proposed hole. The second was the base of the dacitic volcanics with the aim of testing for stacked mineralisation at a lower "Que River" stratigraphic position.

4.2 DDH MAC40

4.2.1 Introduction

DDH MAC40 was collared on 4-6-95 and completed on 14-8-95 at 1168.7 metres. Collar location is at AMG 5391979.11N, 389135.58E and 715.5 RL.

4.2.2 Geology

A detailed log and petrological descriptions are attached as Appendix III, whilst a cross section is included as Plate MAC 448.

A summary log is as follows:

0 - 95m	Charter Dolerite
95 - 196m	Basalt lava - Upper Basalt
196 - 393m	Feldspar phyric andesite lava/volcaniclastic - Upper Basalt
393 - 442m	Polymict epiclastic and (polymict) andesitic breccia - HVS?
442 - 479m	Basalt lava and lapilli volcaniclastics
479 - 610m	Dacite lava and breccia
610 - 629m	Polymict andesitic lapilli volcaniclastic
629 - 712m	Basalt lava and breccia
712 - 726m	Polymict andesitic lapilli volcaniclastic
726 - 1168.7m	Feldspar phyric dacite lava and volcaniclastics grading downhole to feldspar phyric andesite. Local strong Se + Si + Py alteration.

MAC40 drilled a typical sequence for the Mt. Charter area. The hole was collared in the Charter dolerite, the base of which intrudes amygdaloidal Hellyer Basalt. A fault marks the contact with a thick interval of feldspar phyric andesite with geochemistry indicating it as an evolved phase of the Hellyer Basalt. This particular unit contains disseminated sphalerite over a wide area and is intersected by most holes in the SW corner of the EL.

The base of the evolved Hellyer Basalt correlate conformably overlies about forty metres of polymict lapilli epiclastics. Despite the fact these epiclastics are underlain by about thirty metres of basalt they represent a significant quiescent period. They are tentatively correlated to the Hellyer ore position.

Below 479 metres is dominated by feldspar phyric dacite lava and volcanoclastics. They form part of a sequence several hundred metres thick that grades with depth into typical footwall feldspar phyric andesite. From holes elsewhere around Mt. Charter this sequence is known to rest conformably on mica sandstone basement. In stratigraphic terms it is uncertain whether these rocks represent large volume eruptions of Mixed Sequence dacites or more fractionated feldspar phyric andesite footwall. A feature of MAC40 and other holes in the area is the presence of typical Hellyer basalt flows within the dacite.

No well developed Mt. Charter alteration zone was intersected although intervals up to several tens of metres of strong Se + Si + Py alteration occur throughout the dacite but are best developed between 934 and 1008 metres. Pyritic alteration is often strongest in massive coherent units whilst surrounding volcanoclastics are relatively unaltered.

As the boundary between the dacites and typical feldspar phyric andesite footwall is gradational no Que River ore position was evident. No evidence was found for the Mt. Charter alteration zone focussing on the Murchison Highway structure, on this section.

4.2.3 Geochemistry

One hundred and twenty core grind samples covering the length of MAC40 were analysed for whole rock major elements and Cu, Pb, Zn, Ag, Au, Ba, As, Cr and Zr. Results are included as Plates MAC 448A and B and Appendix IV.

Cu, Pb and Zn values are generally below 100, 60 and 300 ppm respectively. However, the evolved Hellyer Basalt correlate between 196.7 and 285.6 metres returned 88.9 metres @ 0.04% Pb and 0.22%Zn. This reflects disseminated sphalerite which is a common feature, especially in the upper part of this unit, in the Mt. Charter - High Point area. K_2O is locally elevated in this part of the hole reflecting sericite alteration.

Silver values are all below the detection limit of 2 ppm. Gold values are also very low only rising above detection within the feldspar phyric dacite where a maximum value of 0.12 ppm is recorded.

Na_2O becomes weakly depleted downhole in the dacites resulting in a gradually increasing "alteration index" ($Na_2O + CaO / Na_2O + CaO + K_2O + MgO$). Values in the bottom of the hole are around sixty which is similar to the Hellyer stringer envelope zone.

Major element data indicate that basalt within the feldspar phyric dacite sequence has a P_2O_5/TiO_2 ratio over 0.4 and therefore has Hellyer Basalt affinities.

4.2.4 Geophysics

A five loop downhole (Zonge) EM survey was undertaken in MAC40. Loop locations and survey results are attached as Appendix V.

An "anomalous" response was noted with late time cross-over at around 950 metres. The anomaly is similar to a response in MAC28 with distinguishing features of very flat negative secondary fields. The MAC28 response was eventually attributed to instrument related problems with EM systems using probes with an mu-metal core. To check whether the MAC40 response was also instrument related Crone EM, using an air cored coil, were contracted to survey the hole. The results of this survey are shown in Appendix VI.

An identical anomaly was detected by the Crone system using a mu-metal cored probe but when an air cored probe was used no anomaly was detected. The MAC40 DHEM anomaly has therefore been discounted as an instrumental artefact.

5.0 MACKINTOSH NORTH AREA

5.1 Introduction

Surface EM surveying of felsic volcanic sequences at the beginning of 1995 resulted in detection of a late time anomaly in the NE corner of EL106/87 (see section 3).

The source of the response lay beneath Tertiary basalt within unknown host rocks. An interpretation of sub Tertiary geology, based on available information, placed the target within Upper Mt. Cripps Subgroup volcanogenic conglomerates on the eastern side of the Cattley Fault (Fig. 3). However, the Cattley Fault is poorly constrained and could lie up to one kilometre to the east placing the anomaly in Southwell Subgroup through to Que - Hellyer Volcanics. Where in that stratigraphy would depend on tightness of the Black Marsh Syncline.

Although the source of the EM anomaly was interpreted to lie at a similar depth to the base of the Tertiary basalt, a massive sulphide source could not be ruled out and it was decided that a diamond drill test was warranted.

5.2 MAC041

5.2.1 Introduction

MAC41 was collared on 25-5-95 and completed on 13-6-95 at 353.5 metres. The hole was drilled vertically at AMG co-ordinates 5401252.3N 399750.2E 685.6RL. A very detailed log is attached as Appendix VII, whilst a cross section is included as Plate MAC 446.

A summary log is as follows:

0 - 281.9m	Tertiary basalt lava and minor gravel
281.9 - 298.3m	Tertiary sand grit and gravel
298.3 - 320.9m	Tertiary laminated organic rich sand
320.9 - 322.7m	Tertiary boulder bed
322.7 - 346.5m	Weathered calcareous sandstone - Gordon Limestone?
346.5 - 353.5m	Limestone - Gordon Limestone?

The source of the surface EM anomaly is interpreted to be porous organic rich laminated sand that underlies the Tertiary basalt. These sands appear to represent deposits within a Tertiary lake or swamp. The sub-Tertiary lithology is uncertain but appears to be Gordon Limestone.

5.2.2 Geology

5.2.3 Geochemistry

Nine samples covering the organic rich sand at the base of the basalt were "core ground" and submitted for gold assay. Assay results are included in Appendix VIII.

All samples were below the detection level of 0.008 ppm.

5.2.4 Geophysics

A single loop downhole EM survey was conducted in MAC41. Loop locations and survey results are attached as Appendix IX.

The sands at the base of the Tertiary basalt are conductive and consistent with the source of the original surface EM anomaly.

6.0 CONCLUSIONS

A network of synvolcanic faults within the Que - Hellyer Volcanic basin is inferred from geological, geochemical and geophysical data. Deep drill targets are indicated where prospective stratigraphy occurs adjacent to these structures and in particular their intersection, below surface EM penetration. Over the past three years twelve deep geologically based targets have been tested on the Mackintosh EL and Hellyer CML from an original list of 32 targets.

Over the next year it is proposed to continue diamond drill testing of identified conceptual targets.

It is also planned to undertake a programme of partial leach soil geochemistry over the extrapolated Que - Hellyer corridor north of Hellyer mine. The aim is to detect transported metal ions above massive sulphide mineralisation, below surface EM penetration, through thick barren hangingwall stratigraphy.

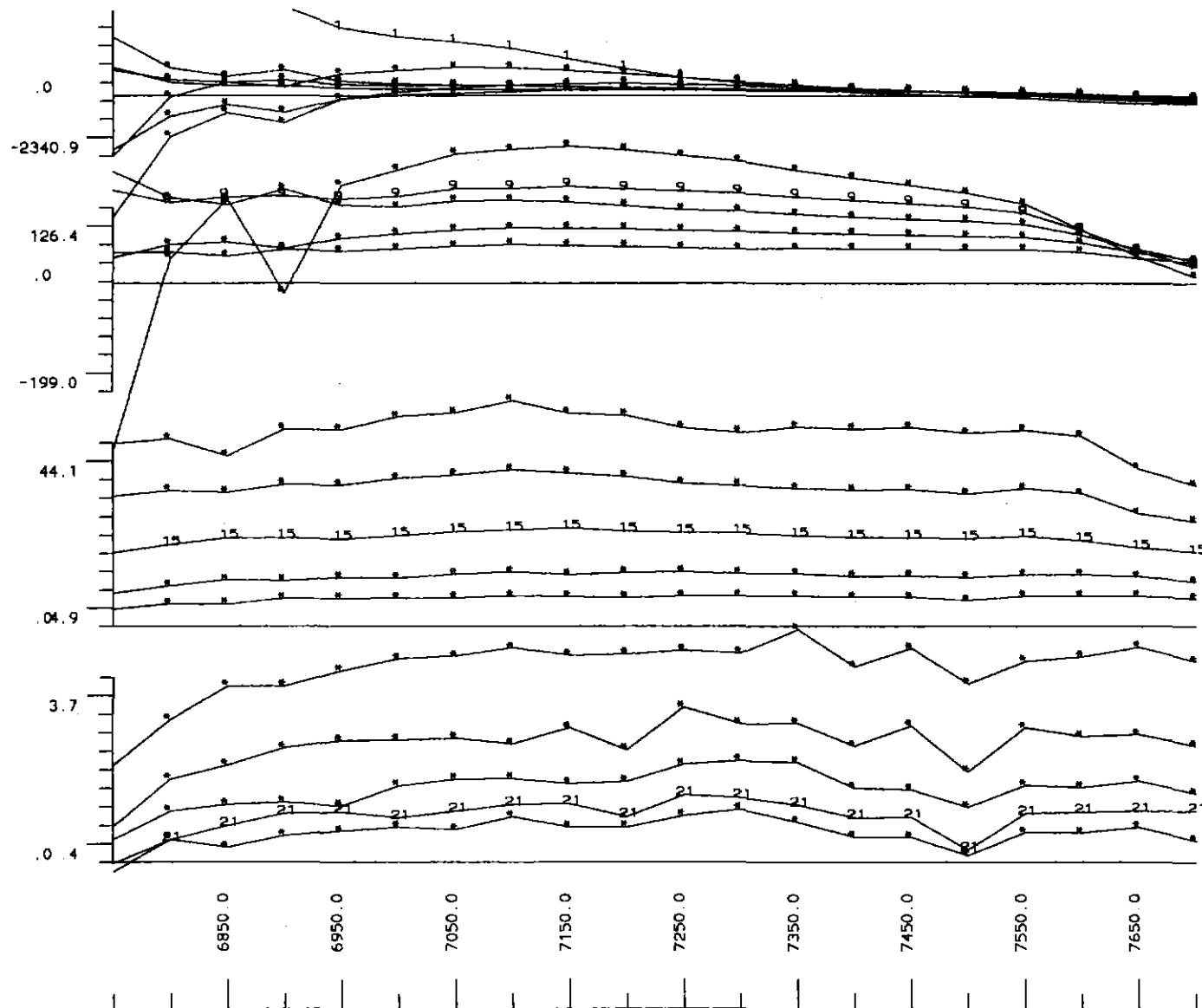
7.0 REFERENCES

Richardson, S., 1994. Exploration Licence 106/87. Progress Report for the Period April 1993 to February 1994. Aberfoyle Resources Ltd. Unpub. Report.

Richardson, S., 1995. Exploration Licence 106/87. Progress Report for the Period February 1994 to February 1995. Aberfoyle Resources Ltd. Unpub. Report.

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APPENDIX I



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MACKINTOSH

SURFACE EM

HZ COMPONENT

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MAR 1995

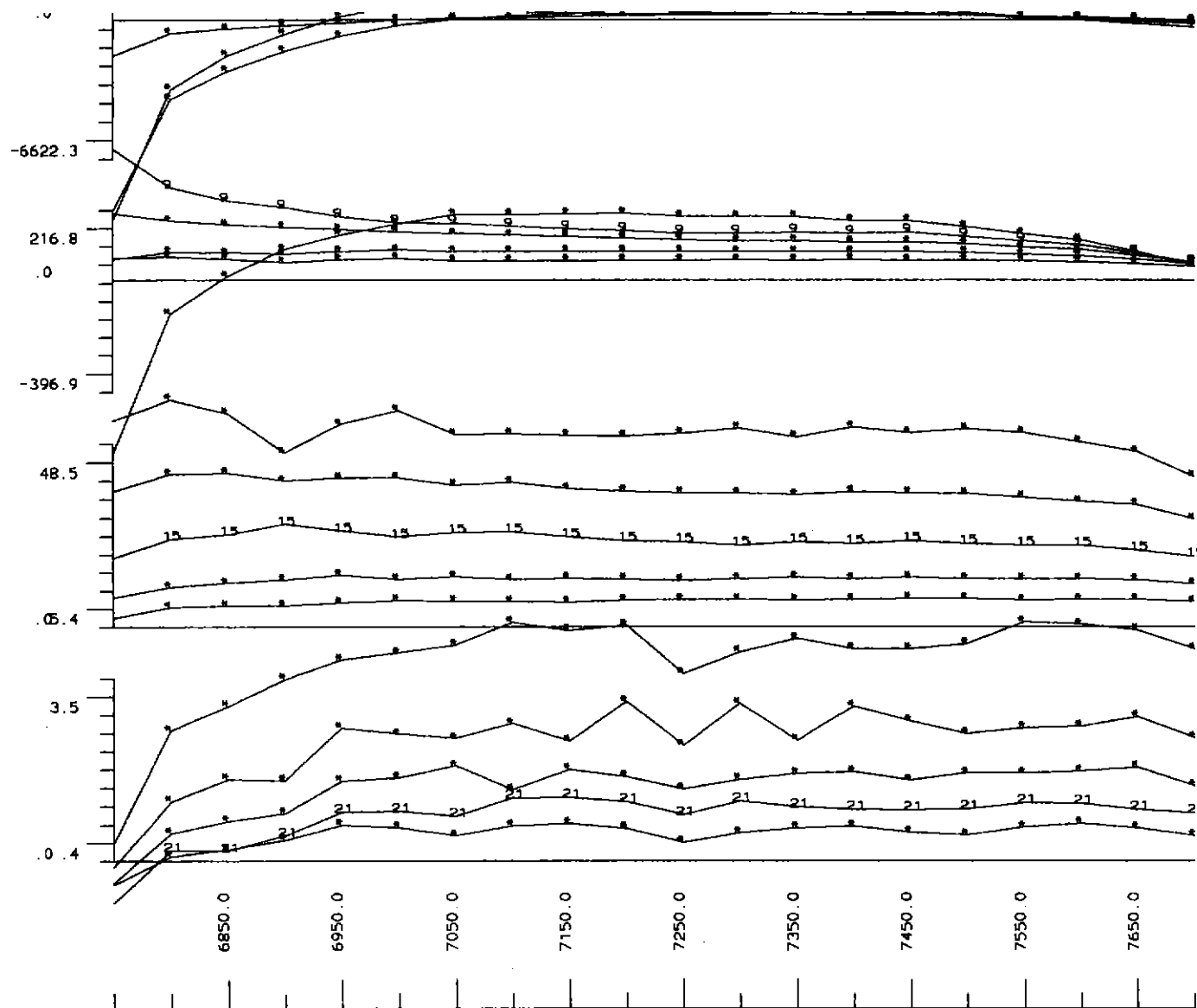
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5 cm

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Date Plotted: 18/03/95

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MACKINTOSH

SURFACE EM

HZ COMPONENT

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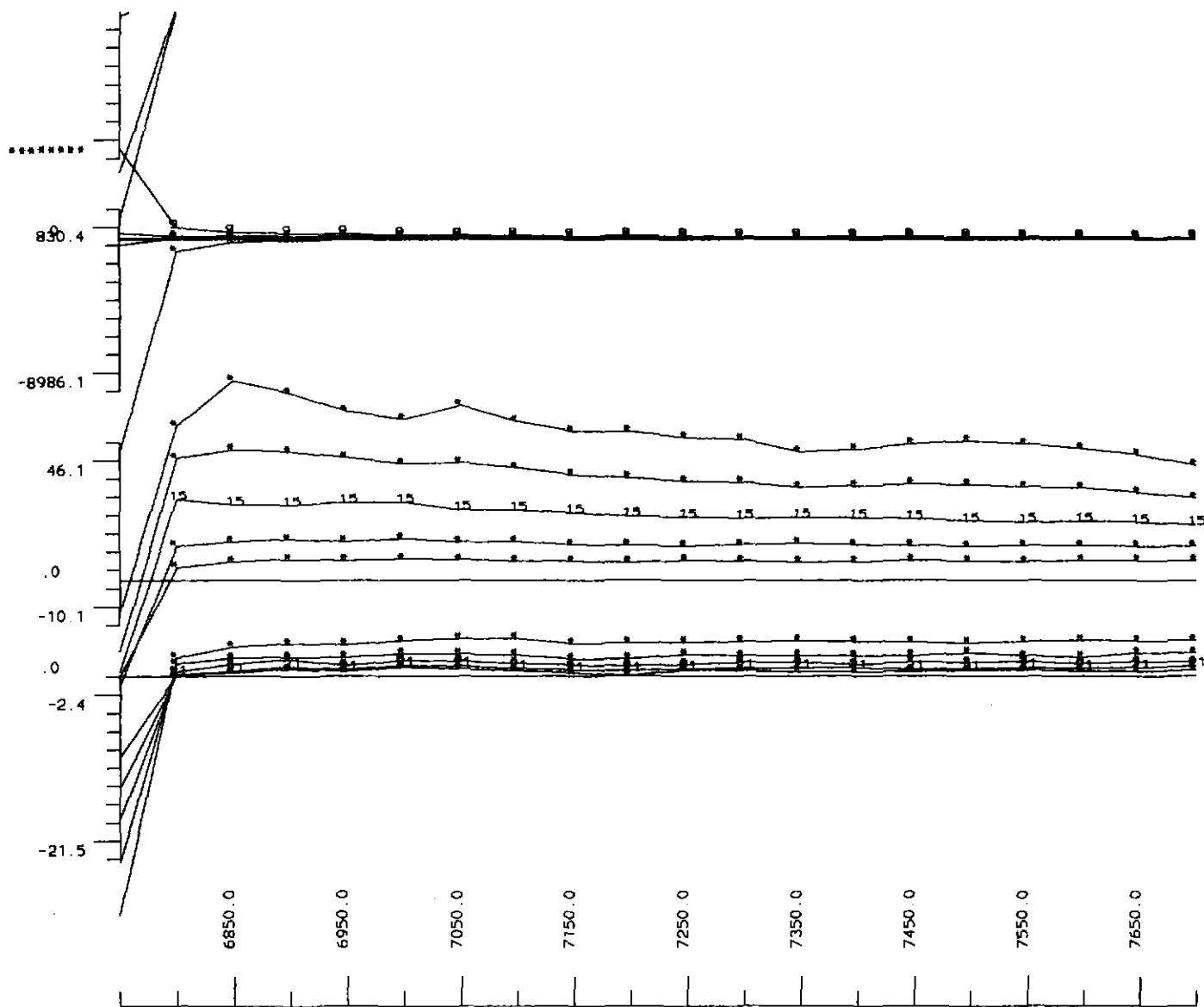
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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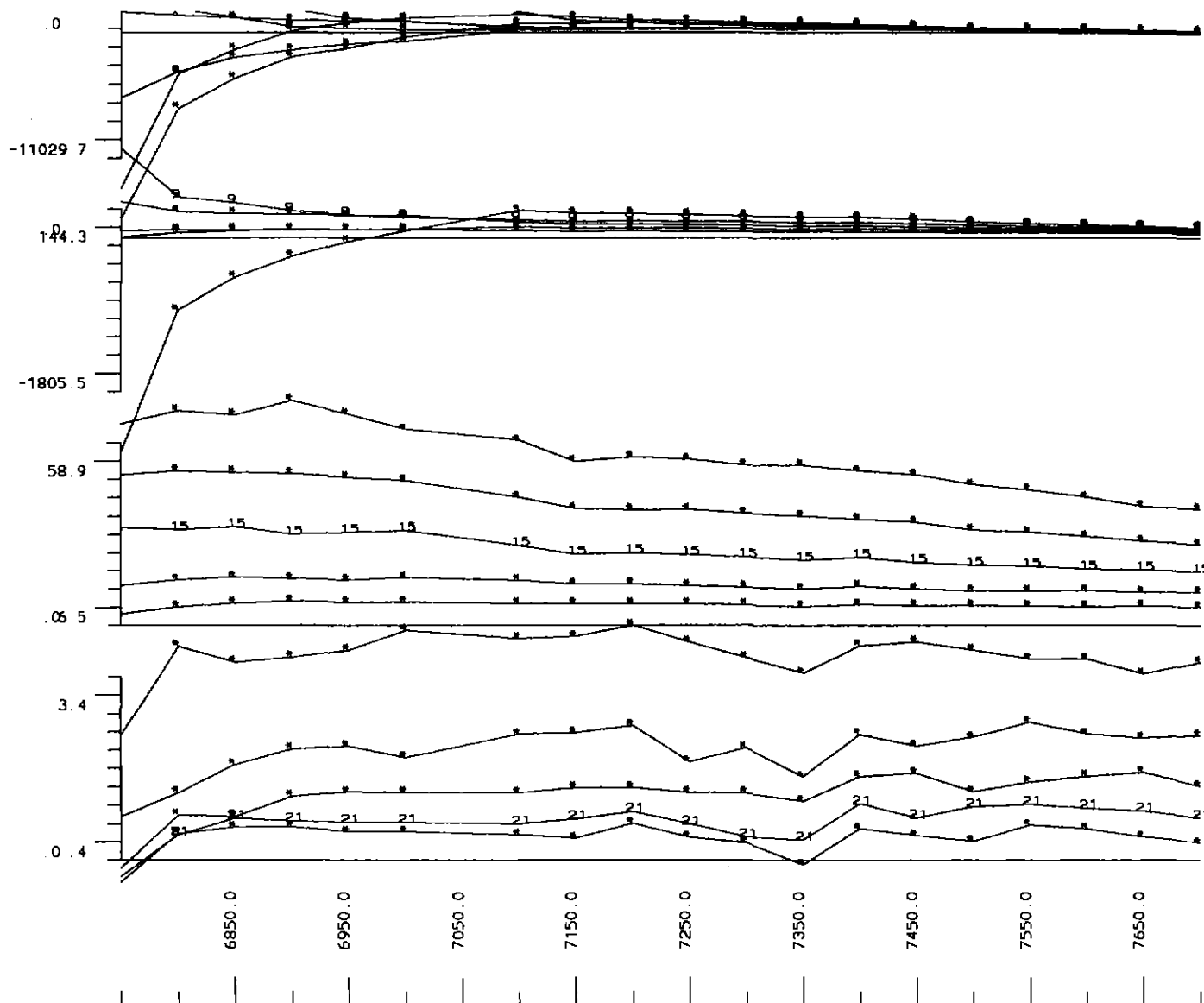
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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MAR 1995

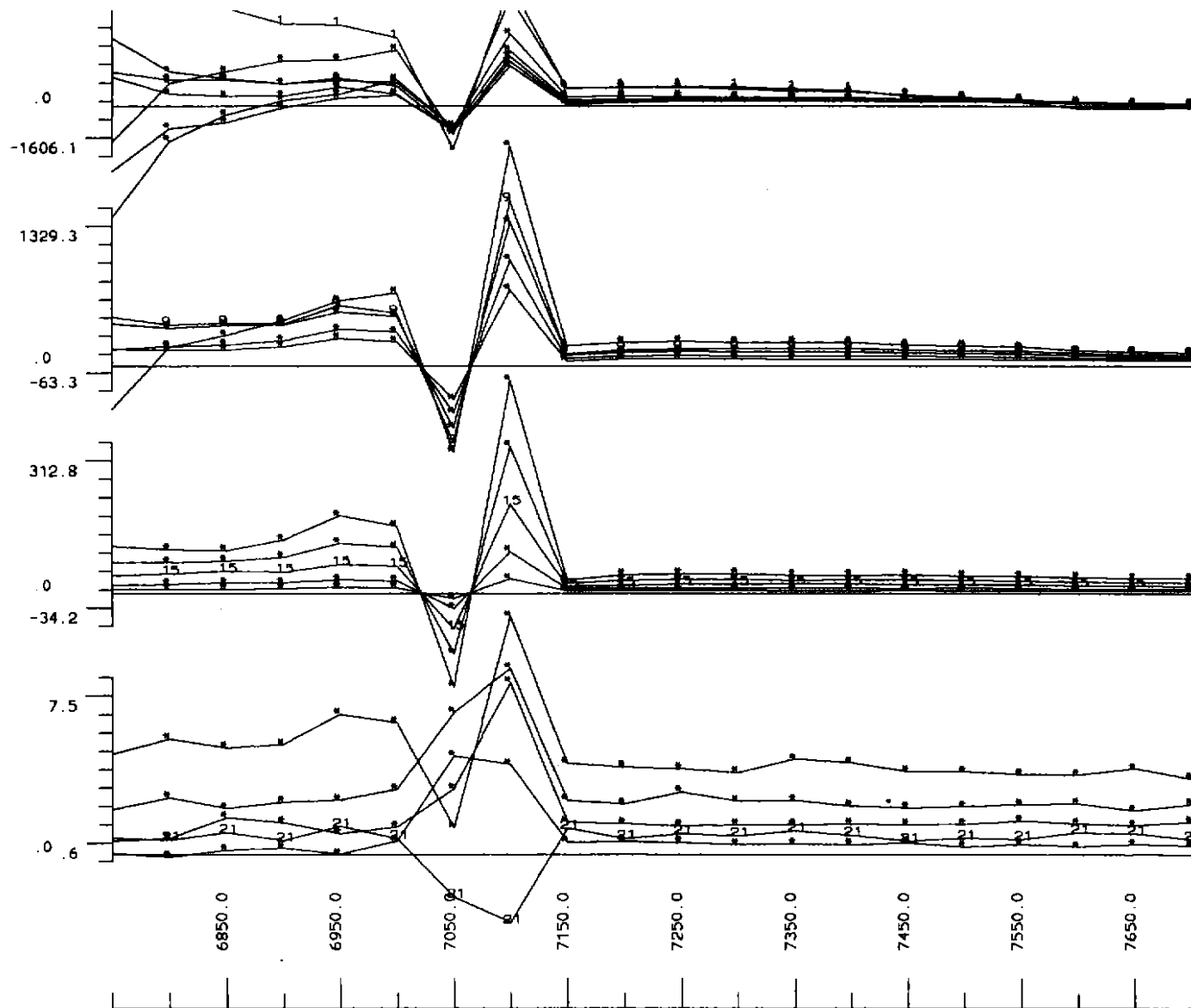
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5 cm



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MACKINTOSH

SURFACE EM

HZ COMPONENT

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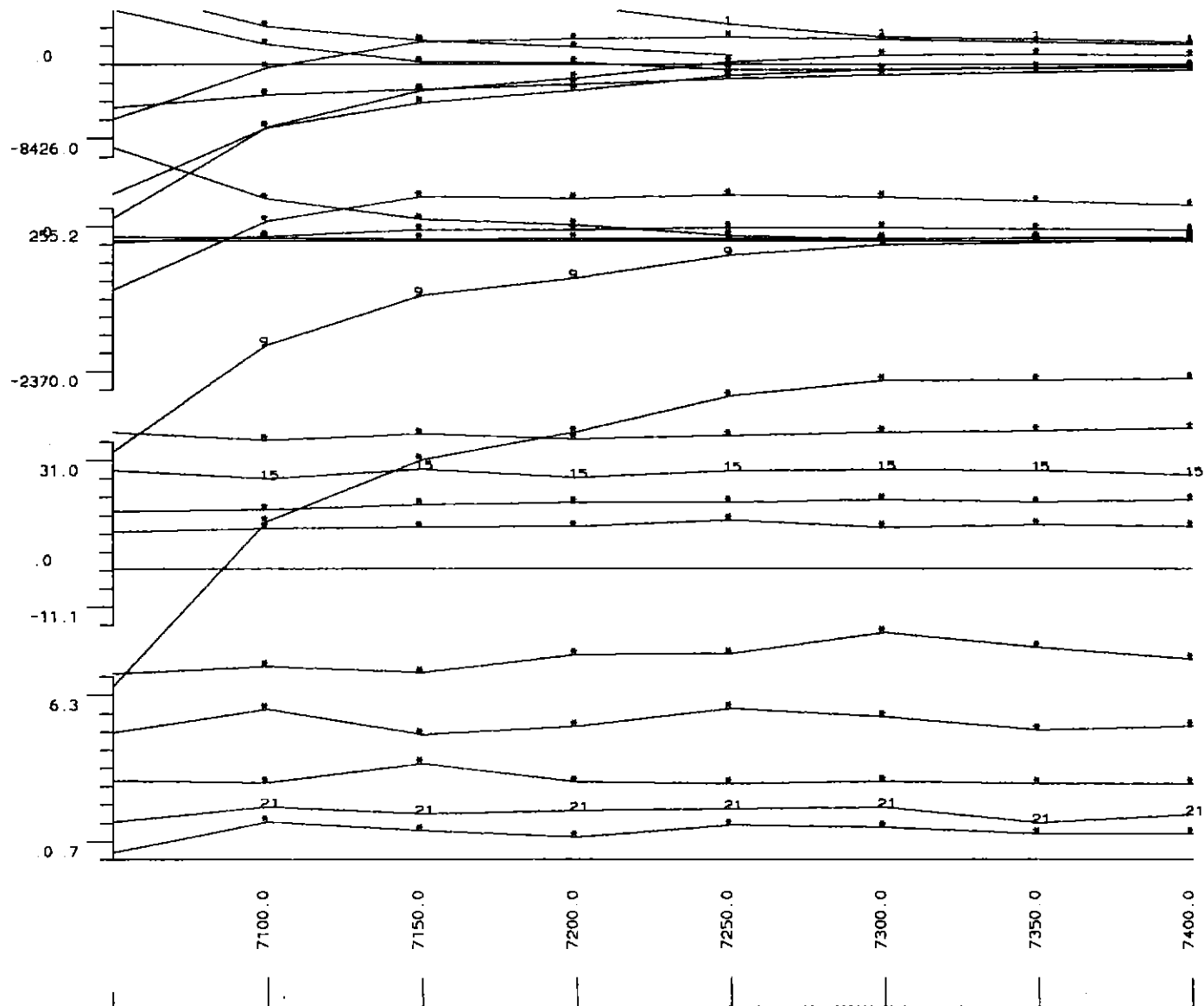
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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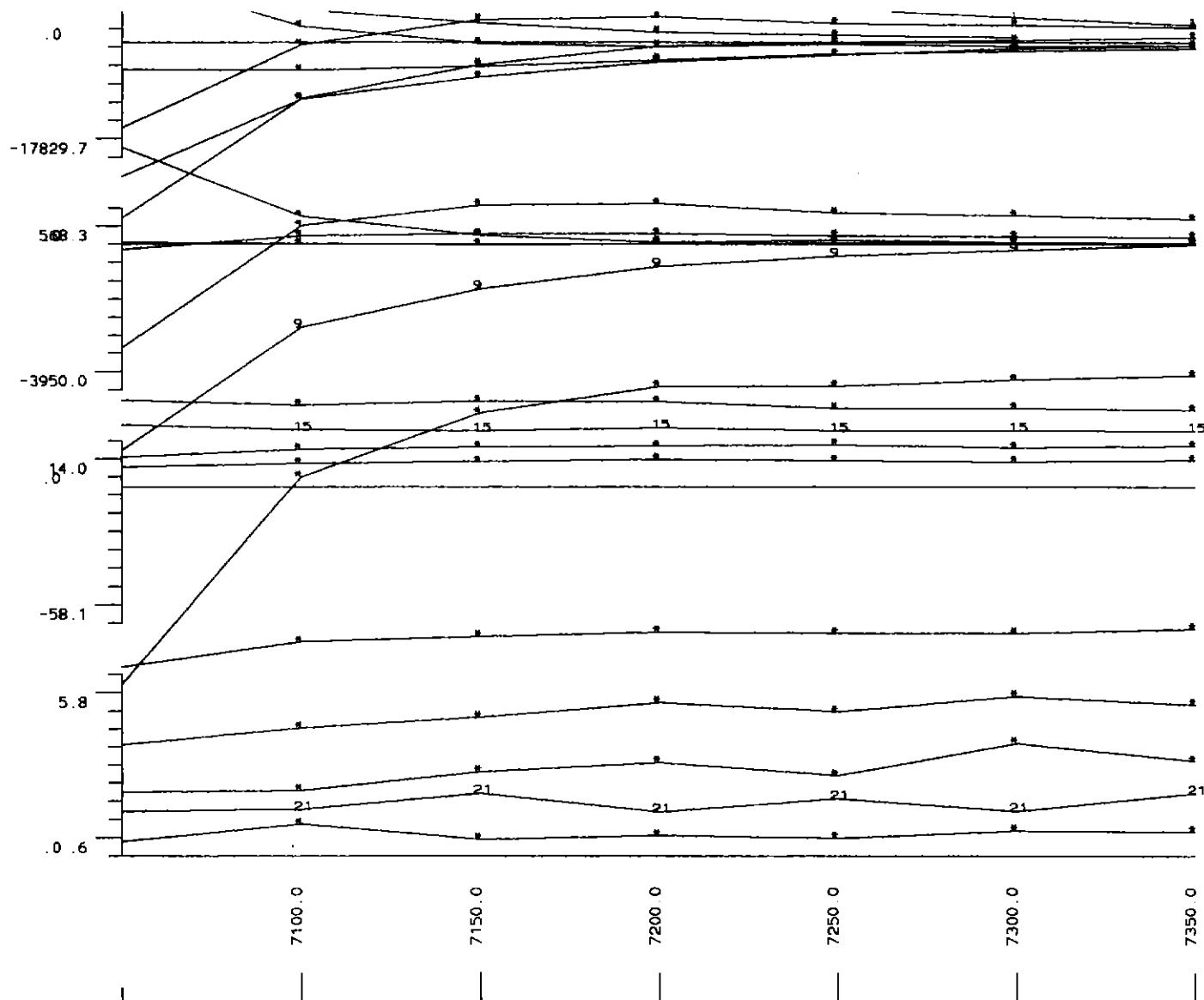
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MACKINTOSH

SURFACE EM

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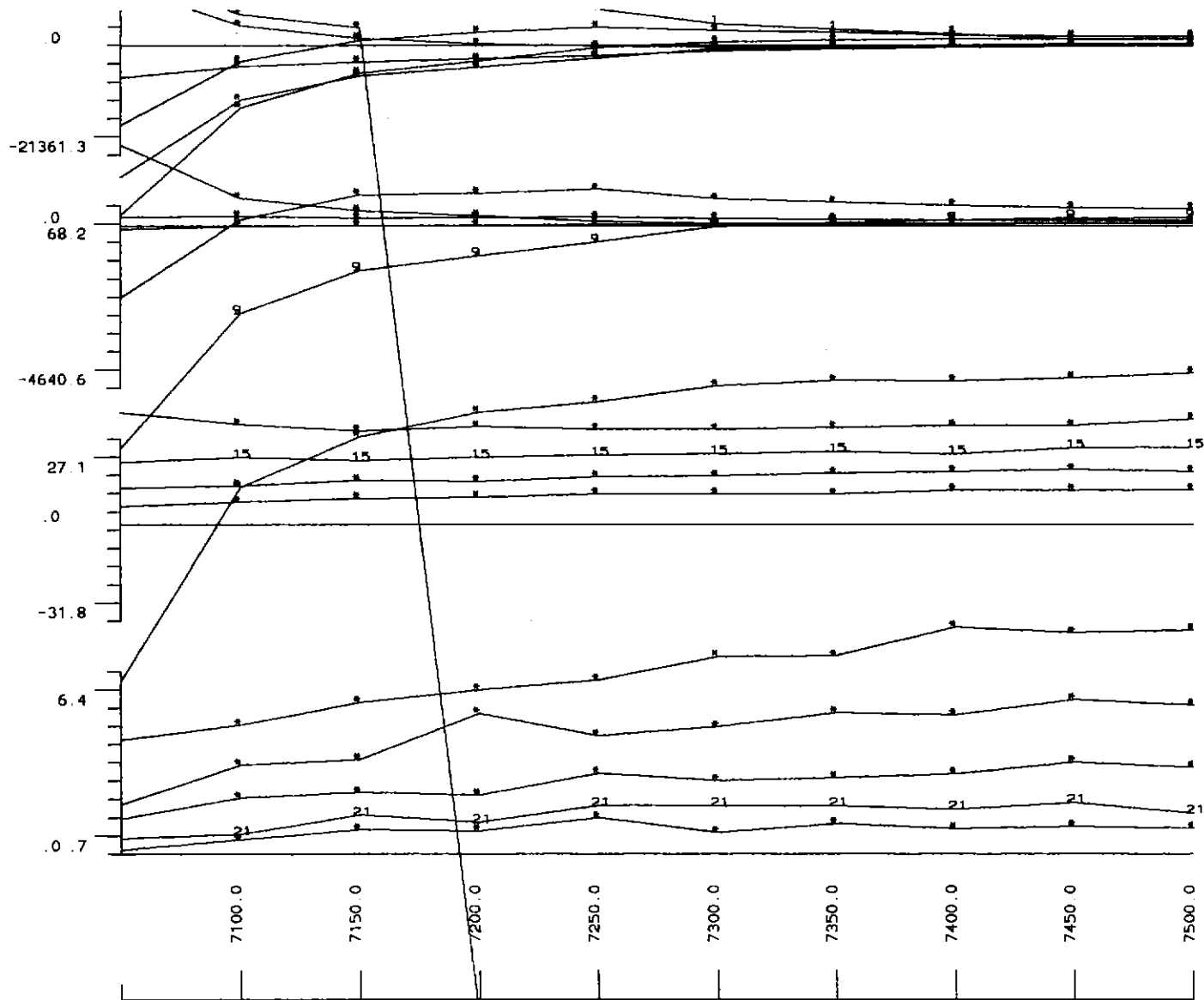
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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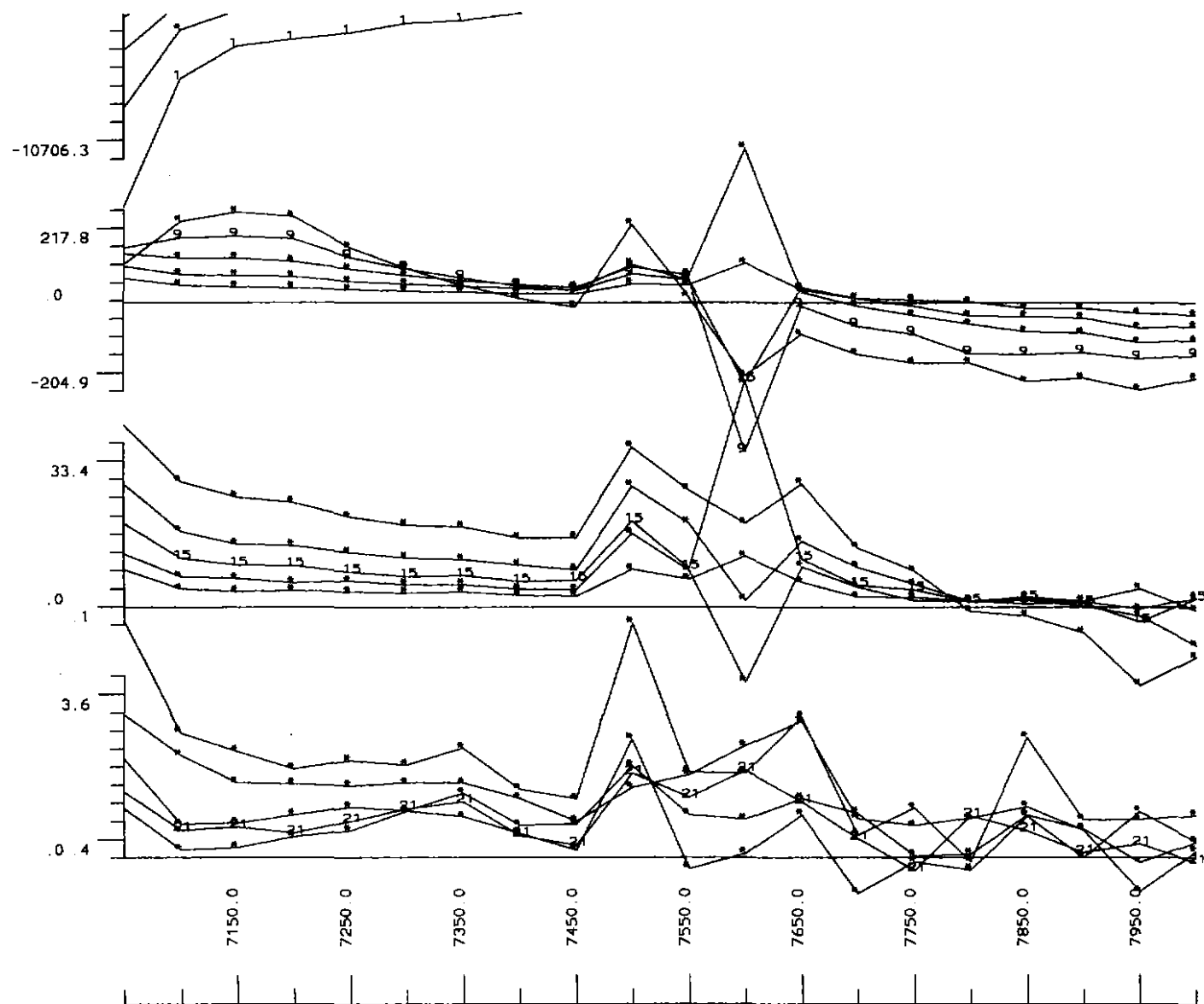
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Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

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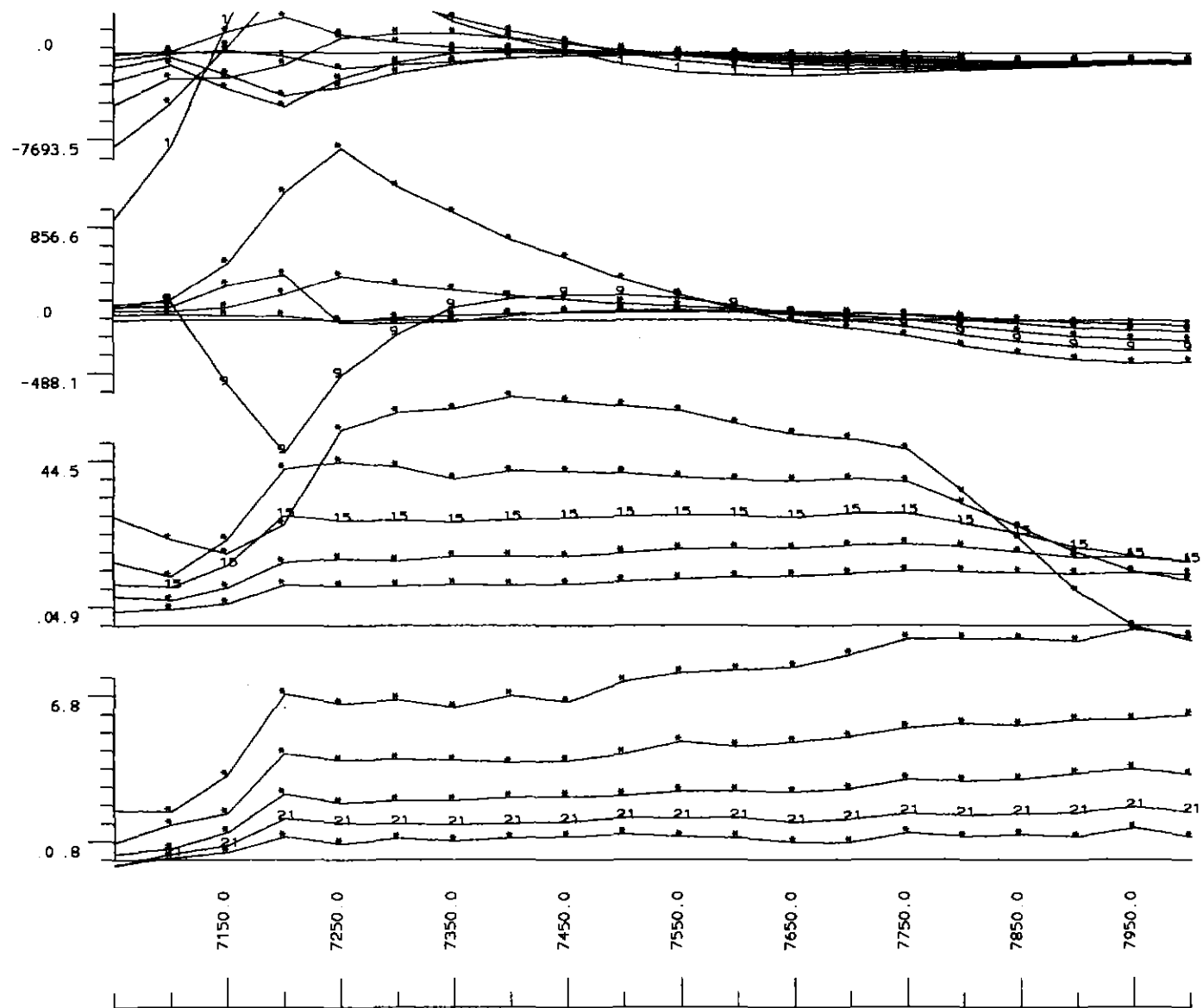
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ABERFOYLE RESOURCES LTD

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LINE: 9200.00

Date Plotted: 18/03/95

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MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 32HZ

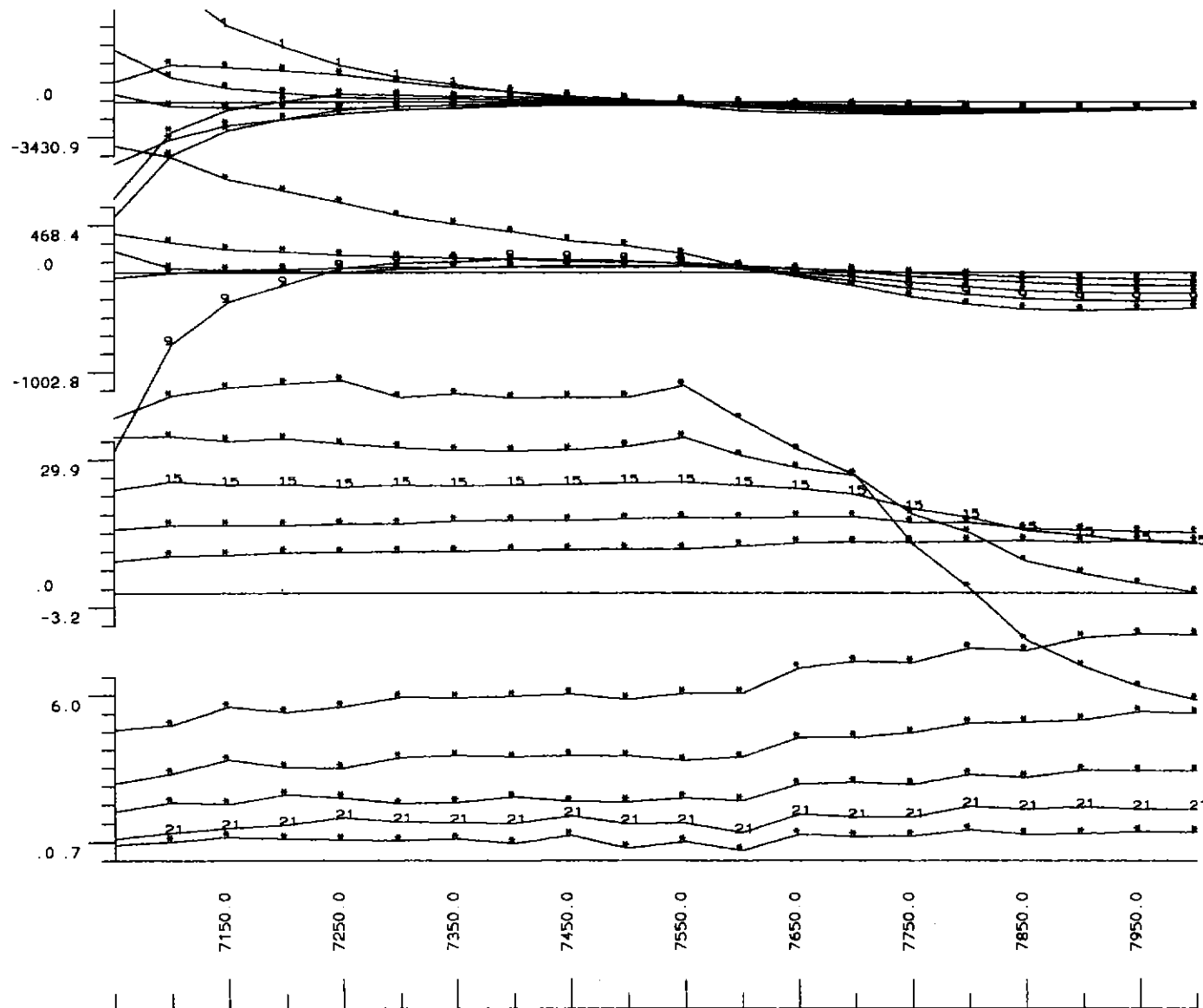
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ABERFOYLE RESOURCES LTD

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Date Plotted: 18/03/95

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MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 32HZ

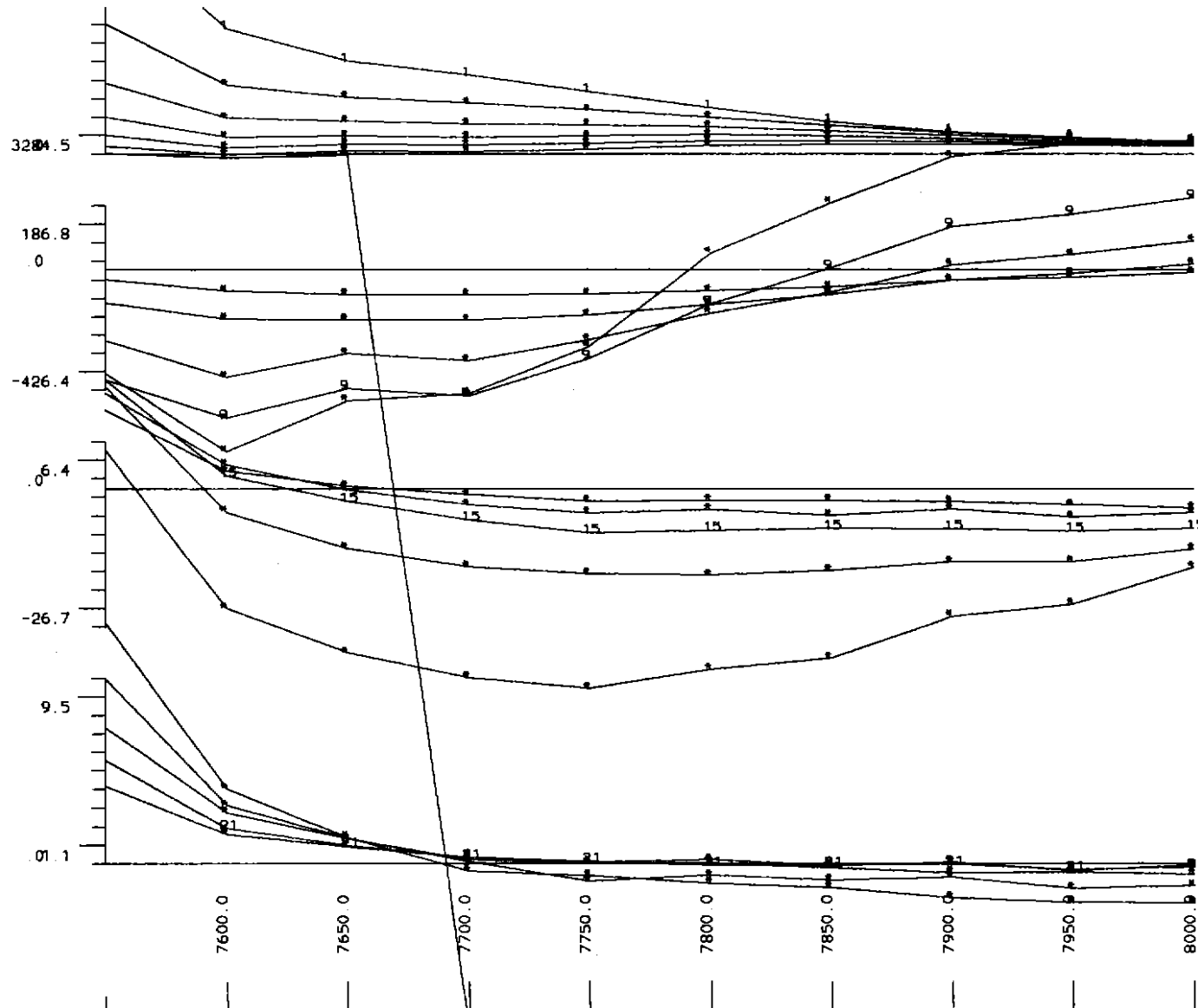
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ABERFOYLE RESOURCES LTD

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MACKINTOSH

SURFACE EM

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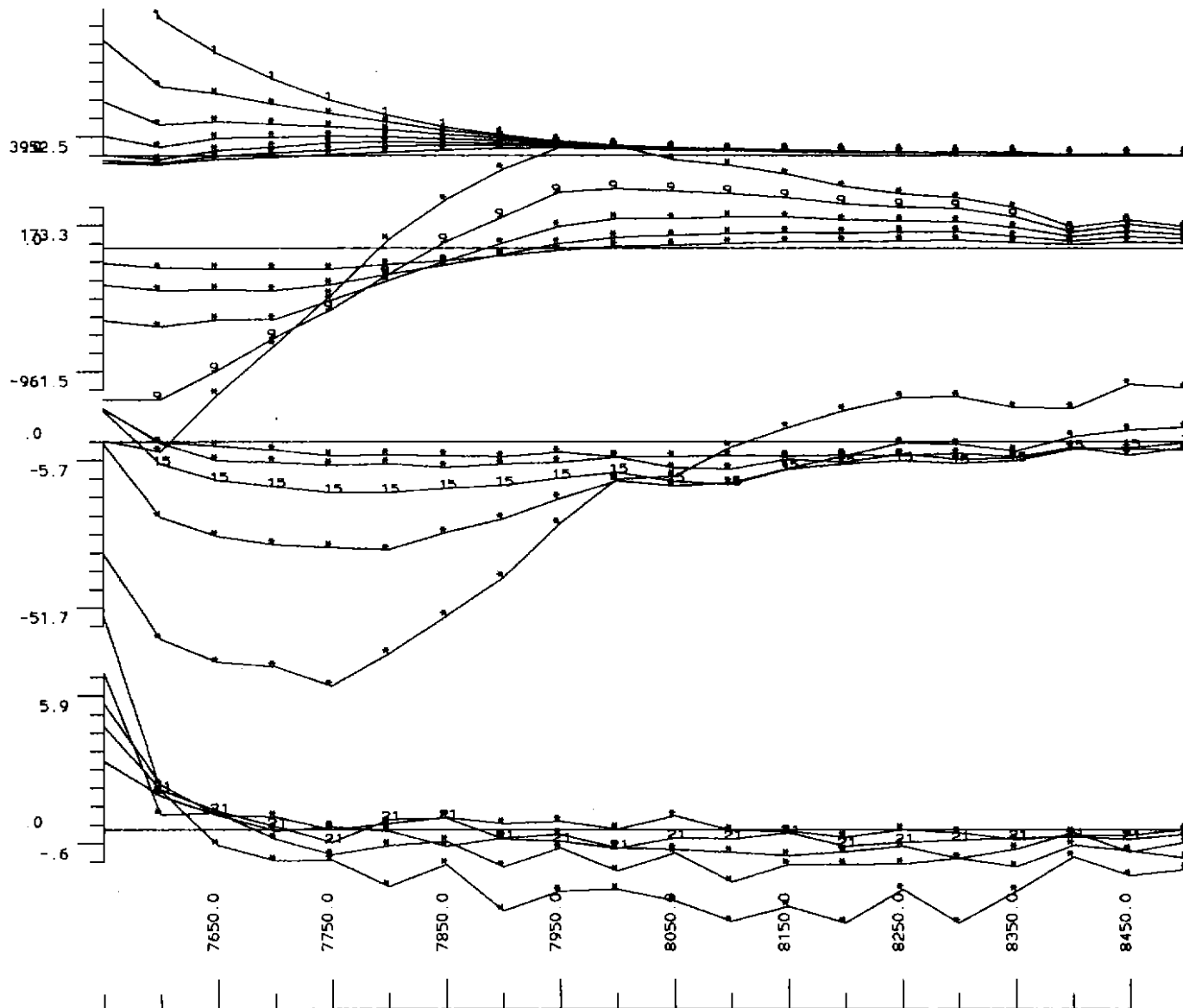
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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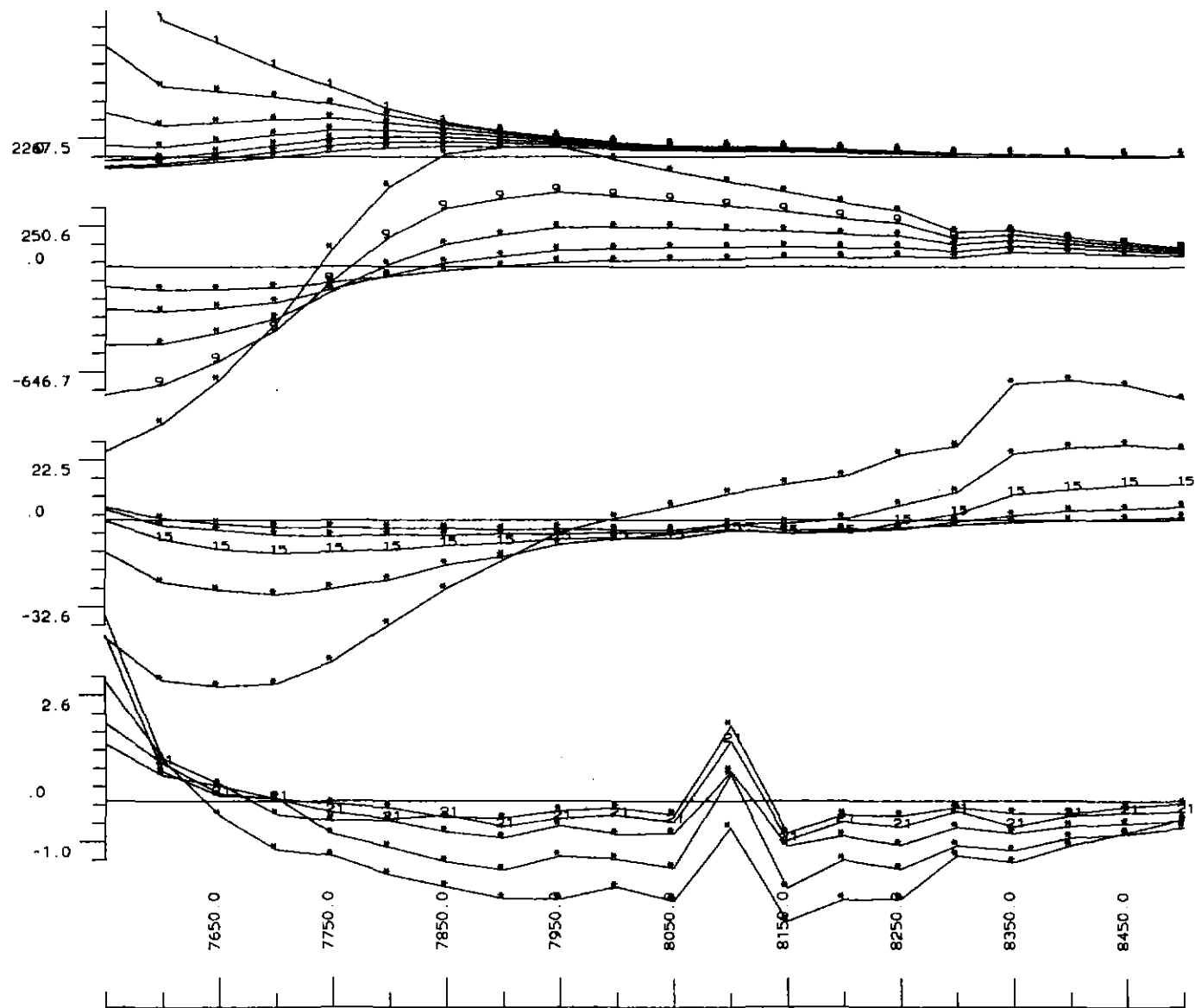
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MACKINTOSH

SURFACE EM

HZ COMPONENT

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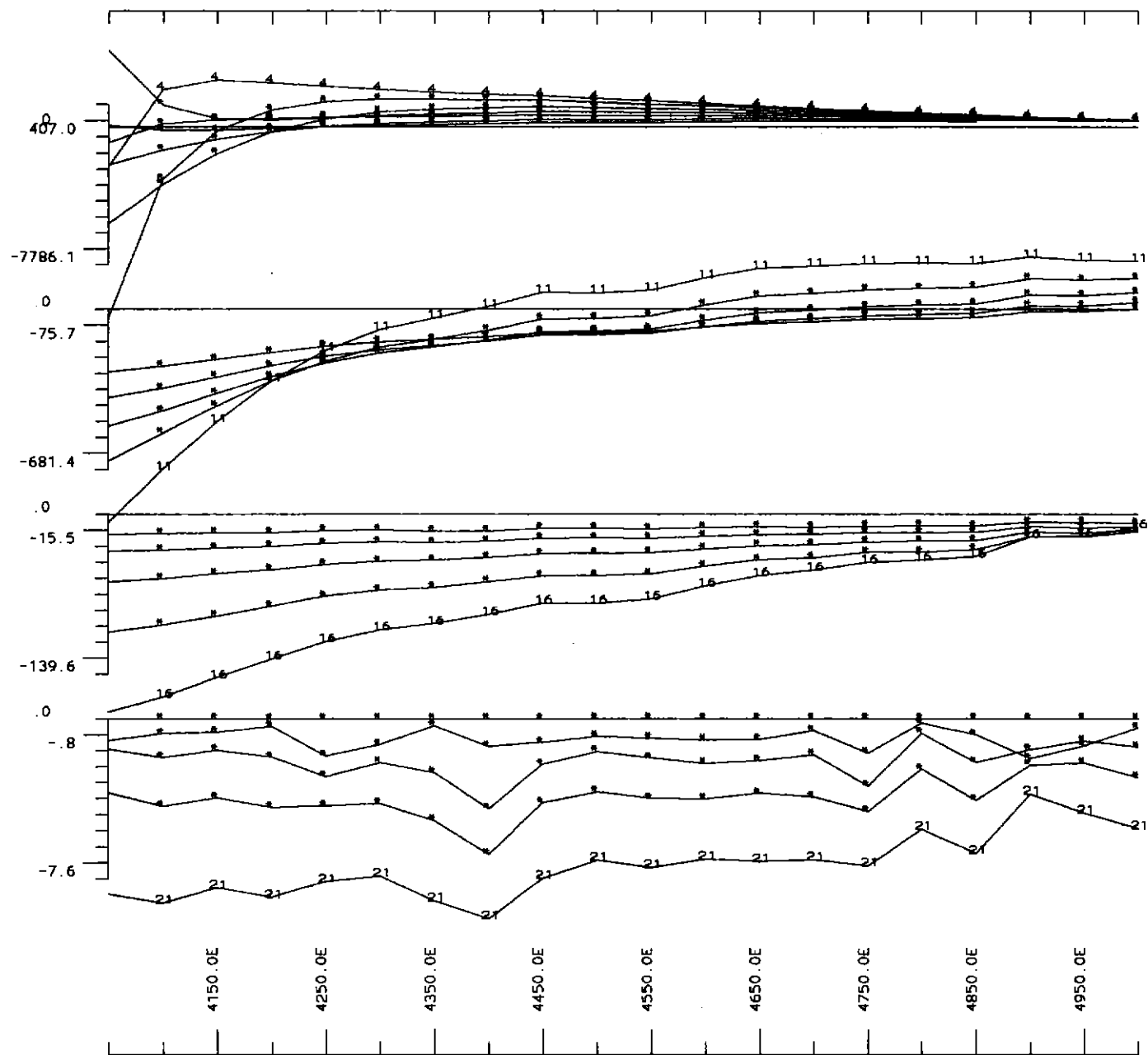
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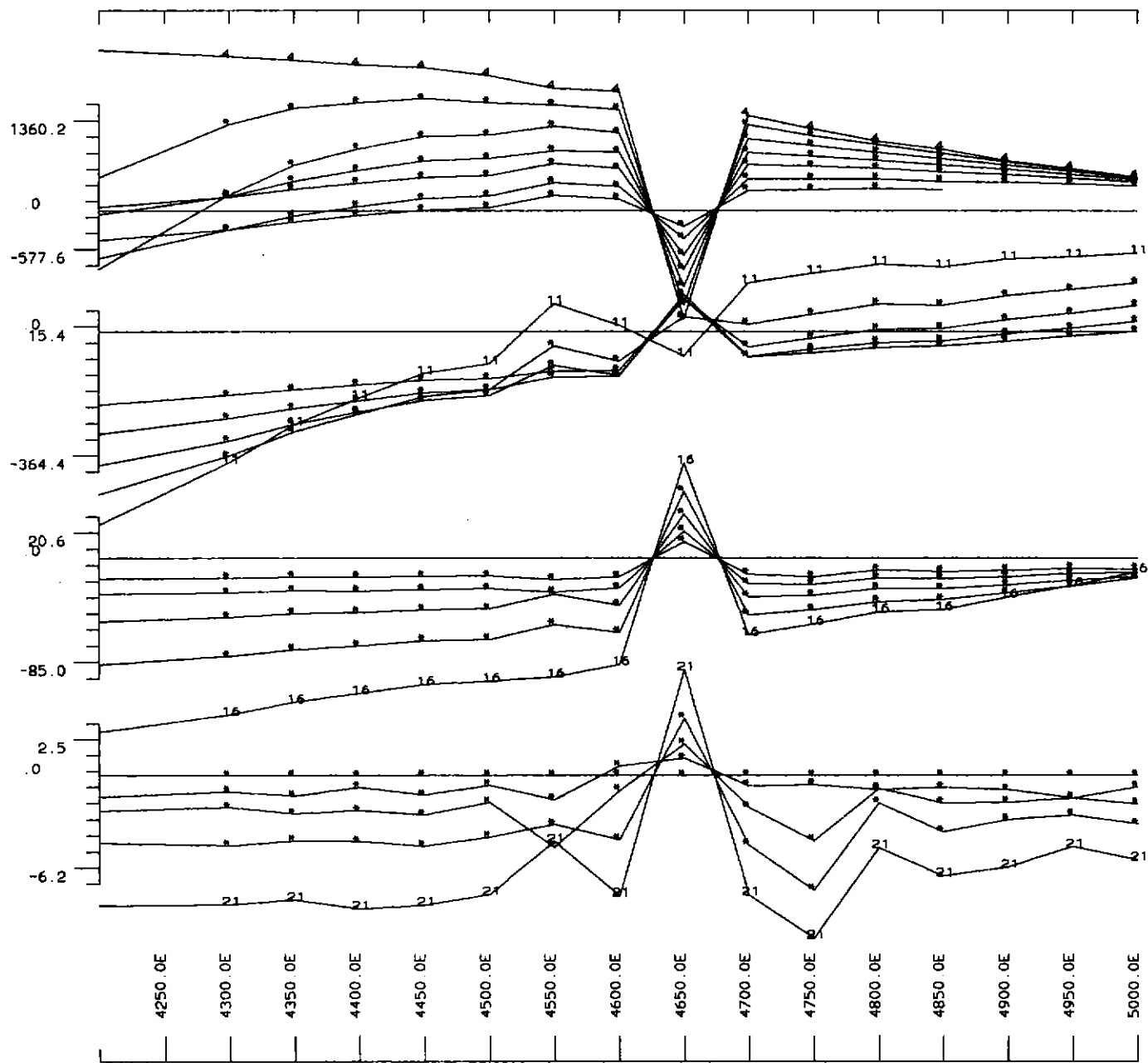
MACKINTOSH SURFACE EM

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5 cm



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Aberfoyle Resources Ltd

Datafile: loop8.av

LOOP: 8

LINE: 14200.00N

Date Plotted: 18/03/95

Horiz scale 1: 4848.5

MACKINTOSH SURFACE EM

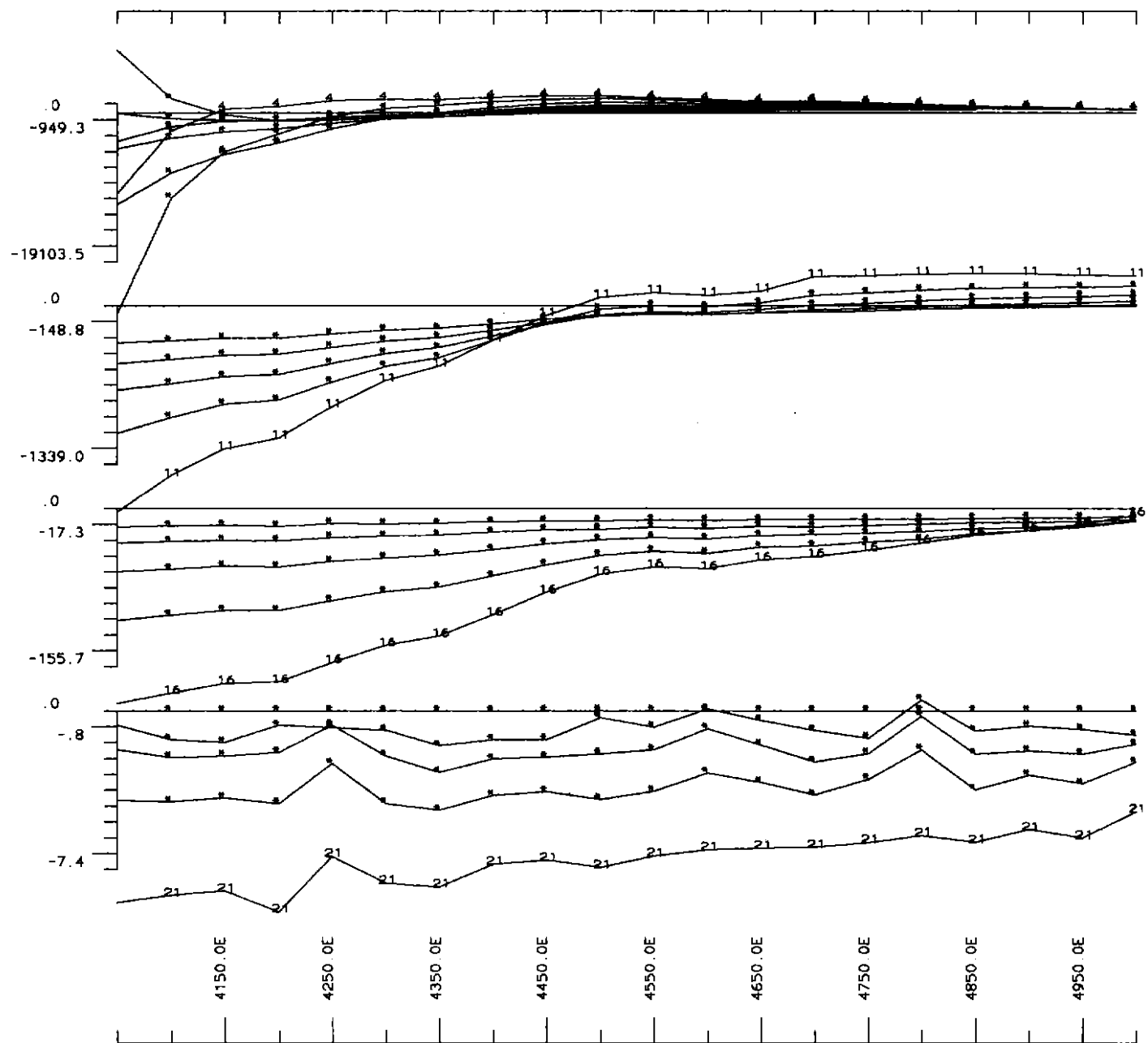
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

2002



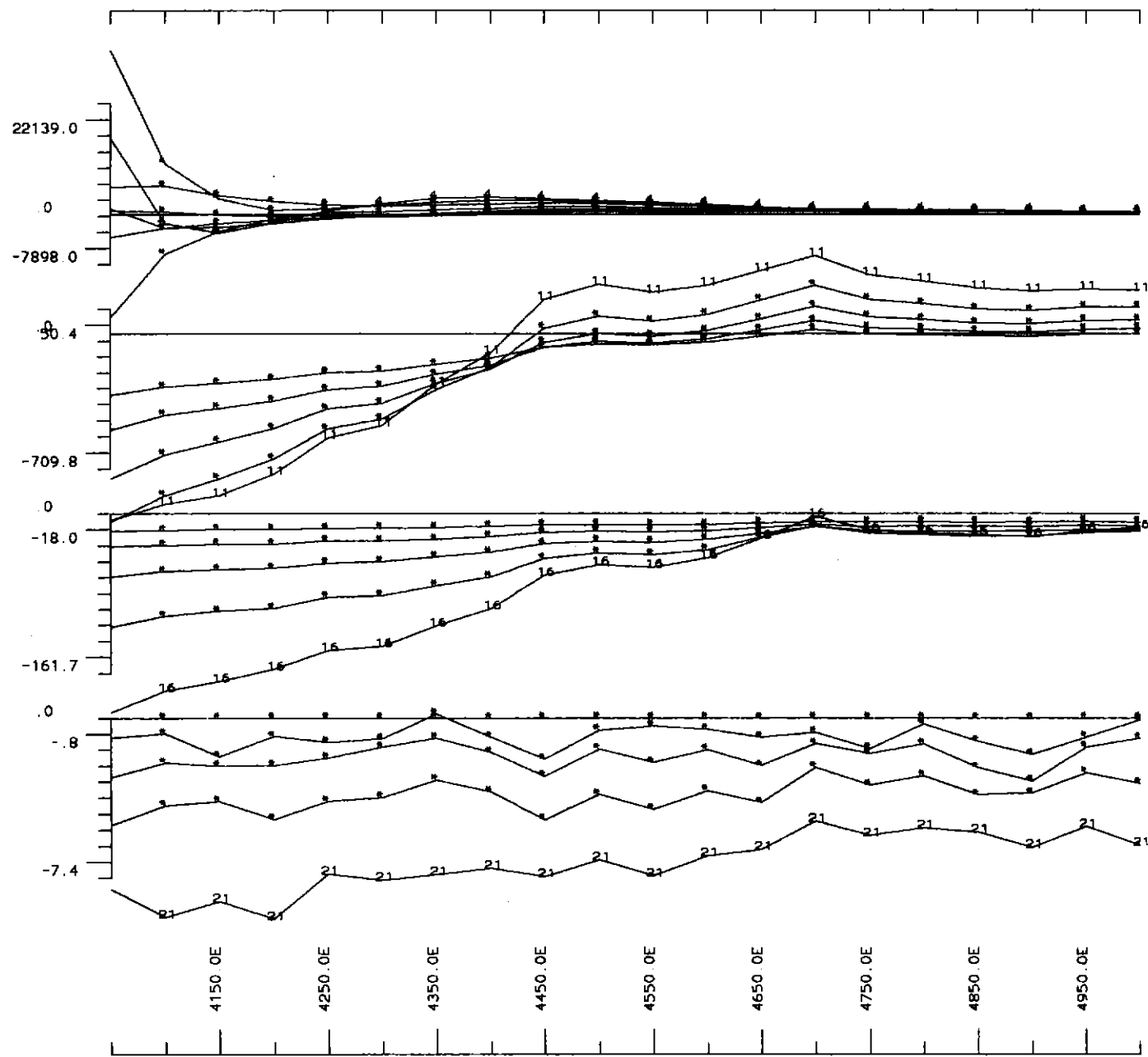
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: loop8.av
 LOOP: 8
 LINE: 14400.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LDDP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

800038



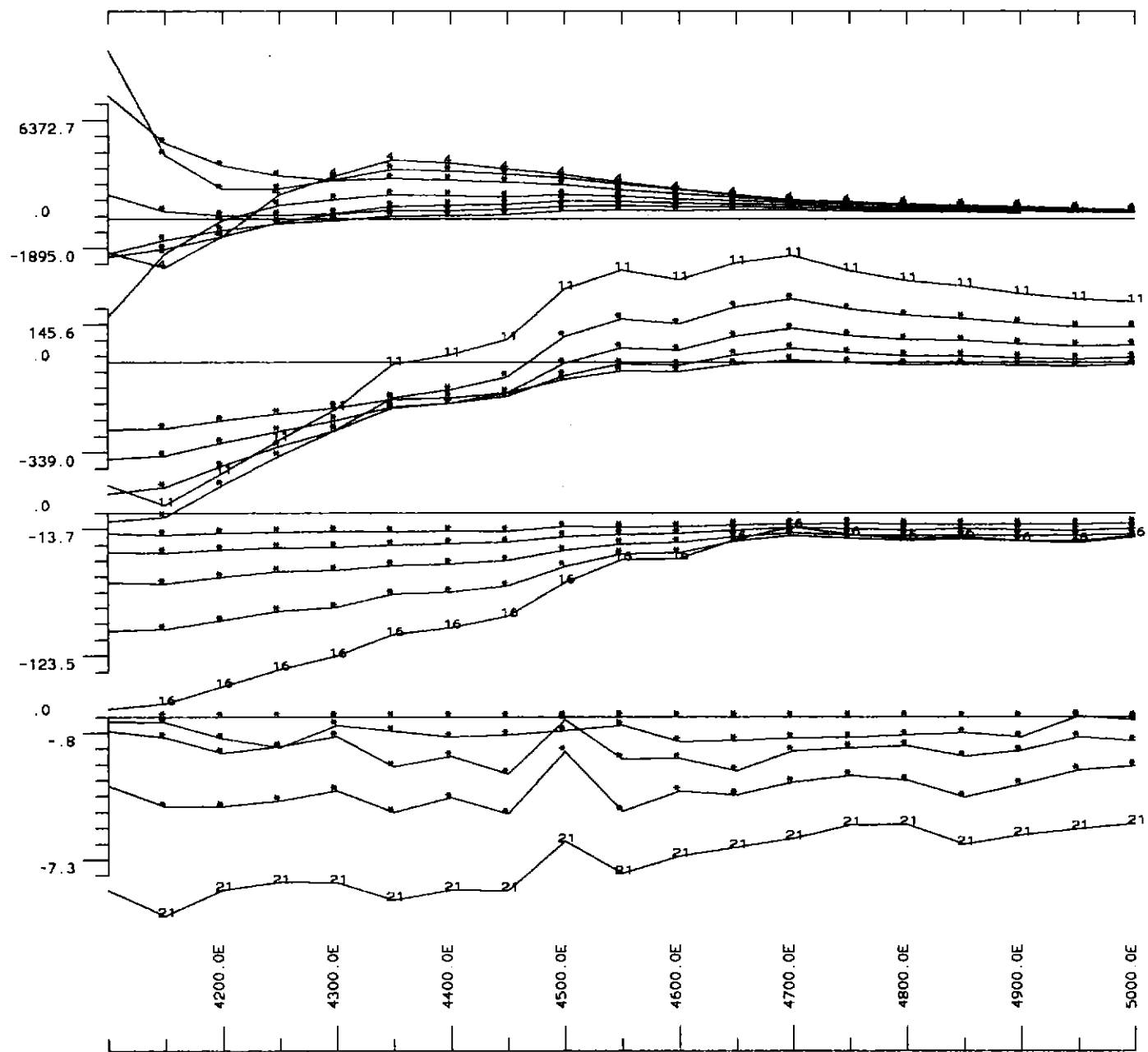
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: loop8.av
 LOOP: 8
 LINE: 14600.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720030



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: loop8.av
 LOOP: 8
 LINE: 14800.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5454.5

MACKINTOSH SURFACE EM

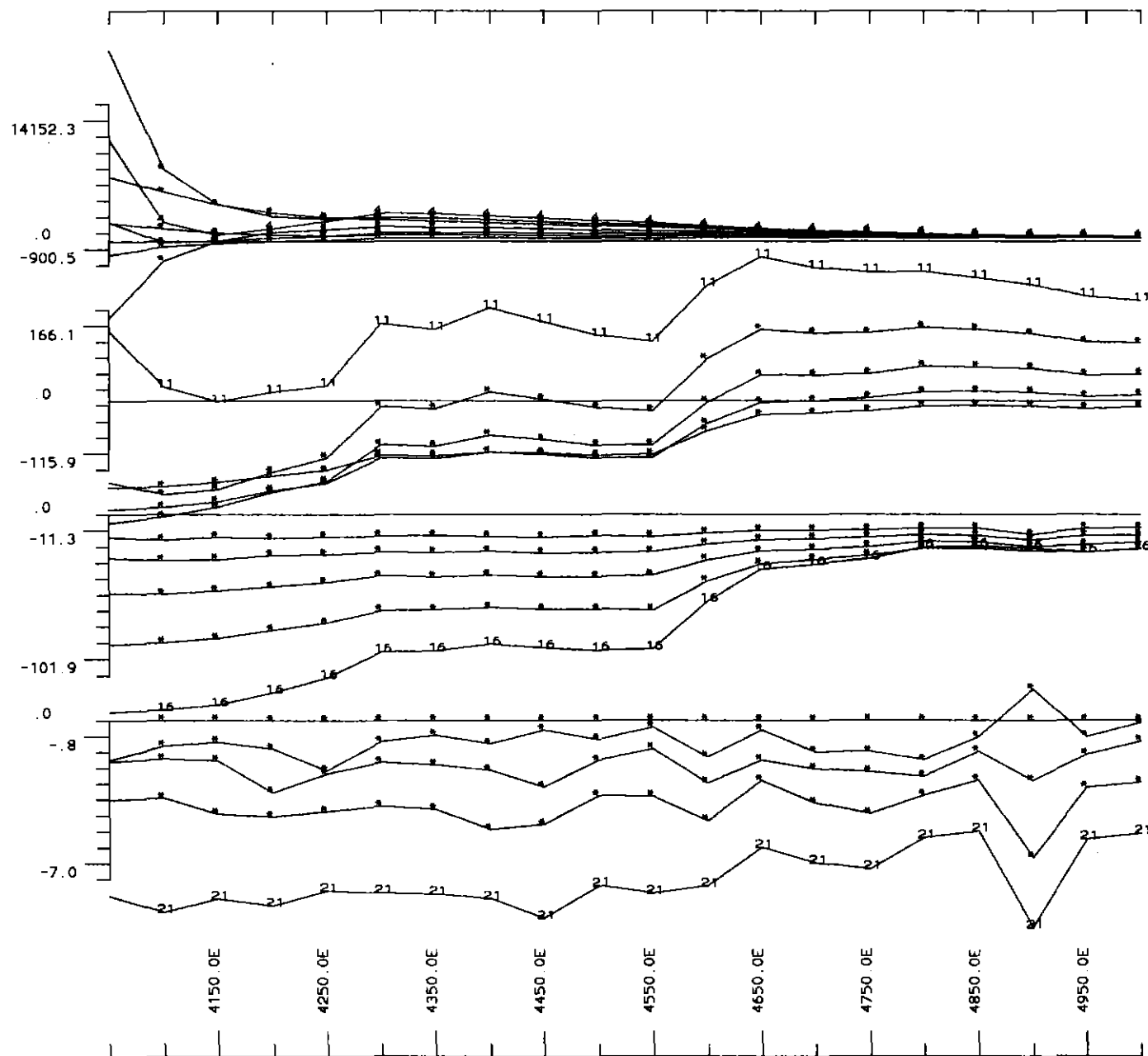
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720040



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: loop8.av

LOOP: 8

LINE: 15000.00N

Date Plotted: 18/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

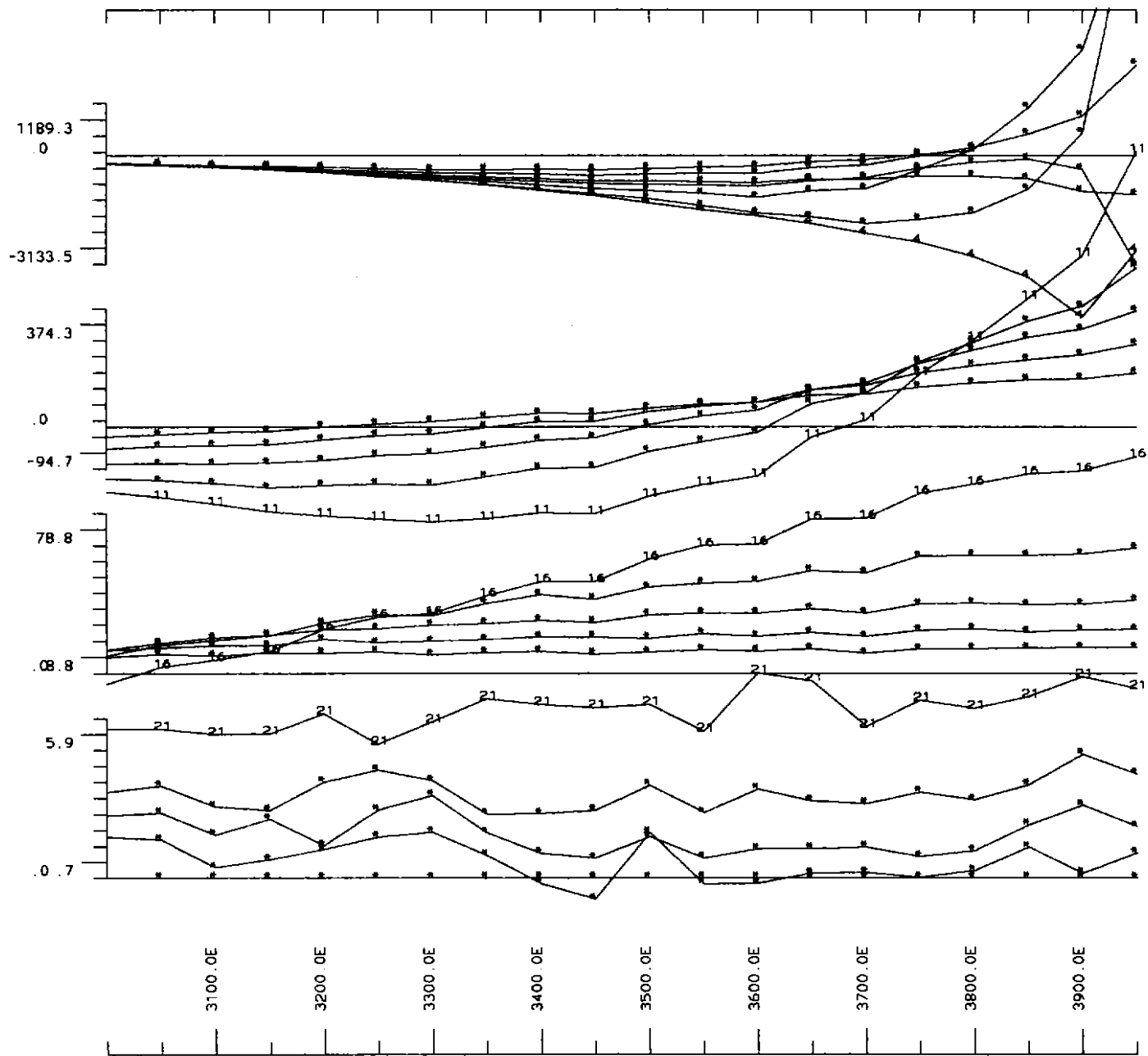
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720041



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: loop9.av
 LOOP: 9
 LINE: 14000 00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

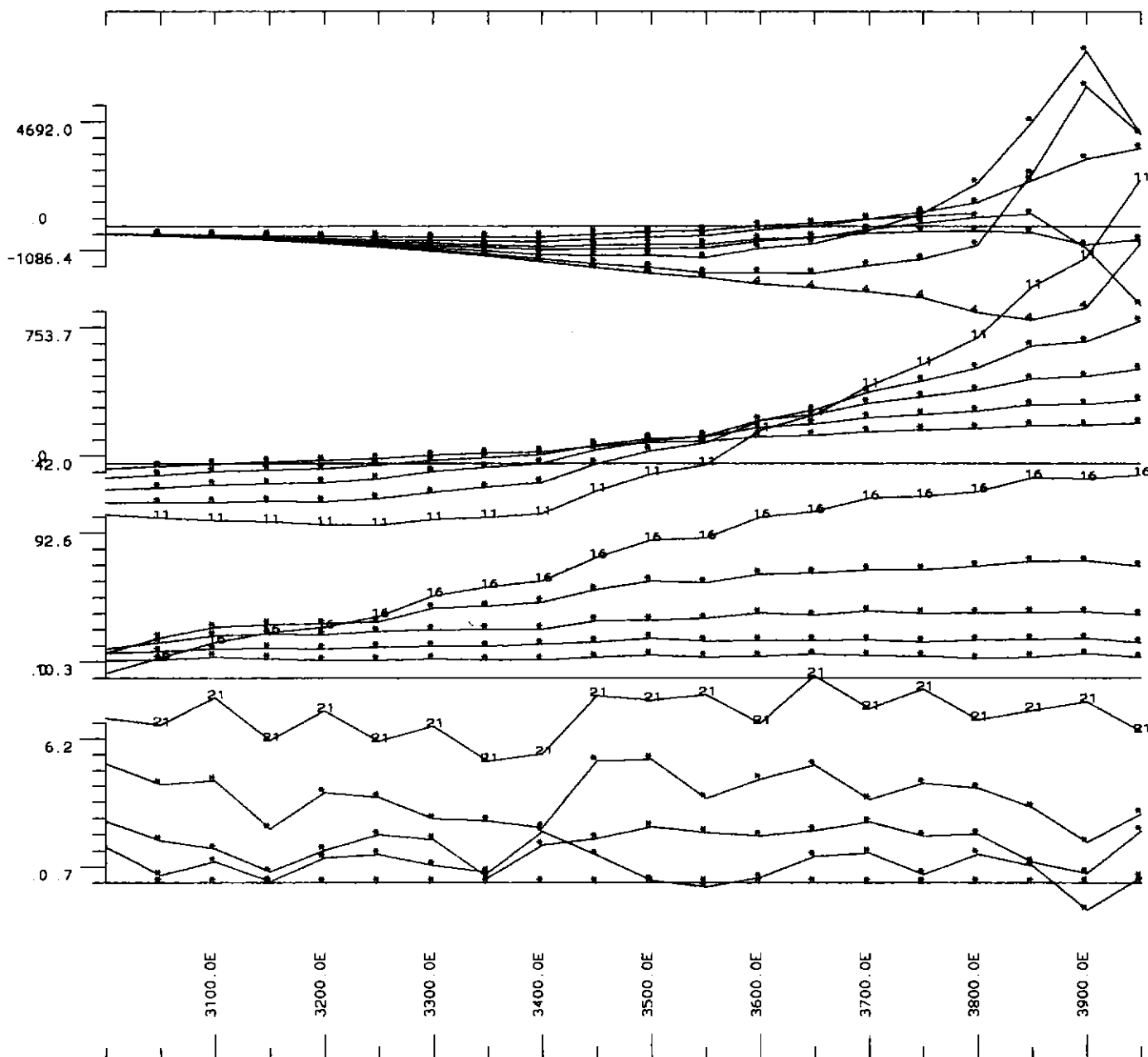
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720042



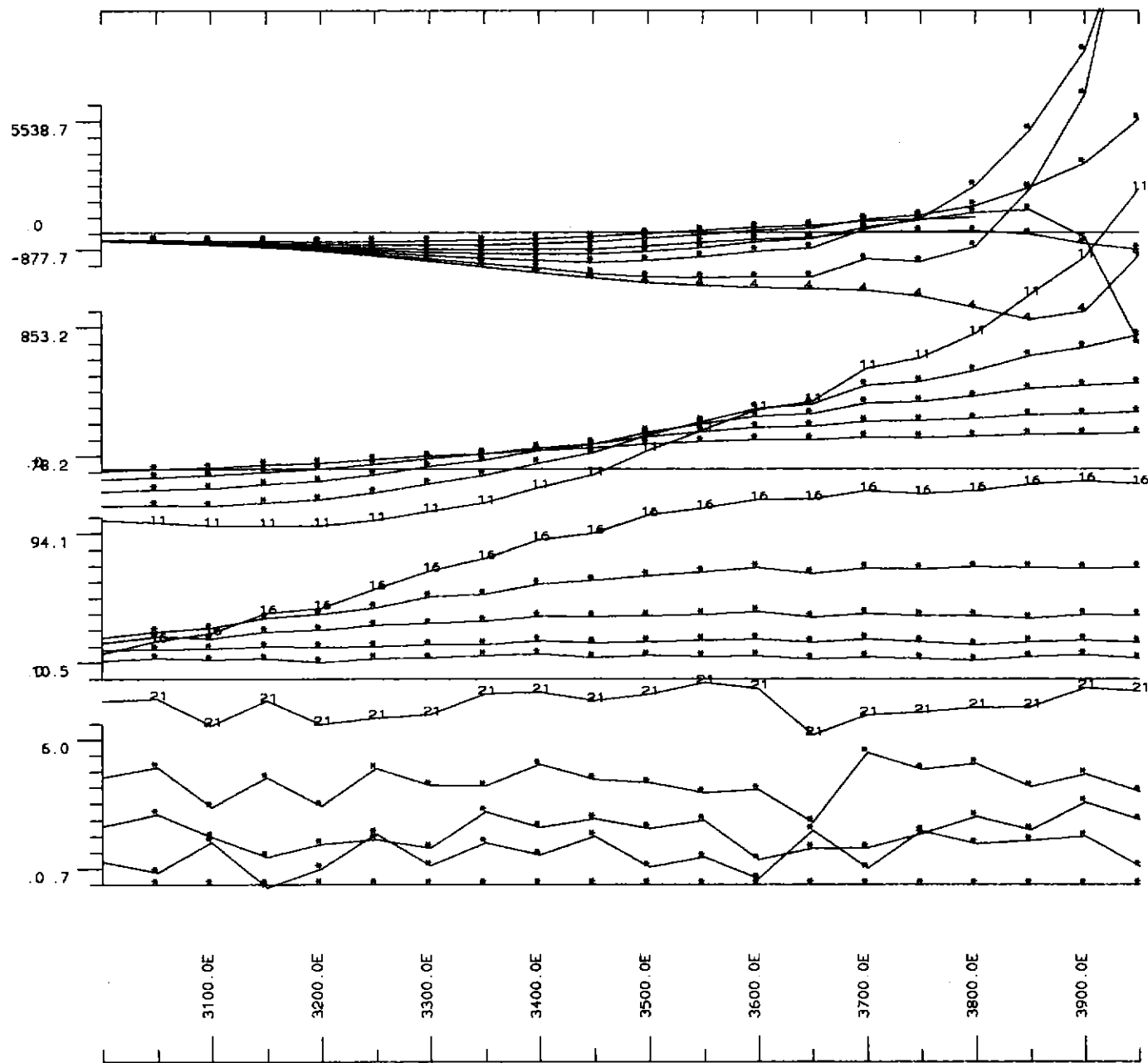
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: loop9.av
 LOOP: 9
 LINE: 14200.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720043



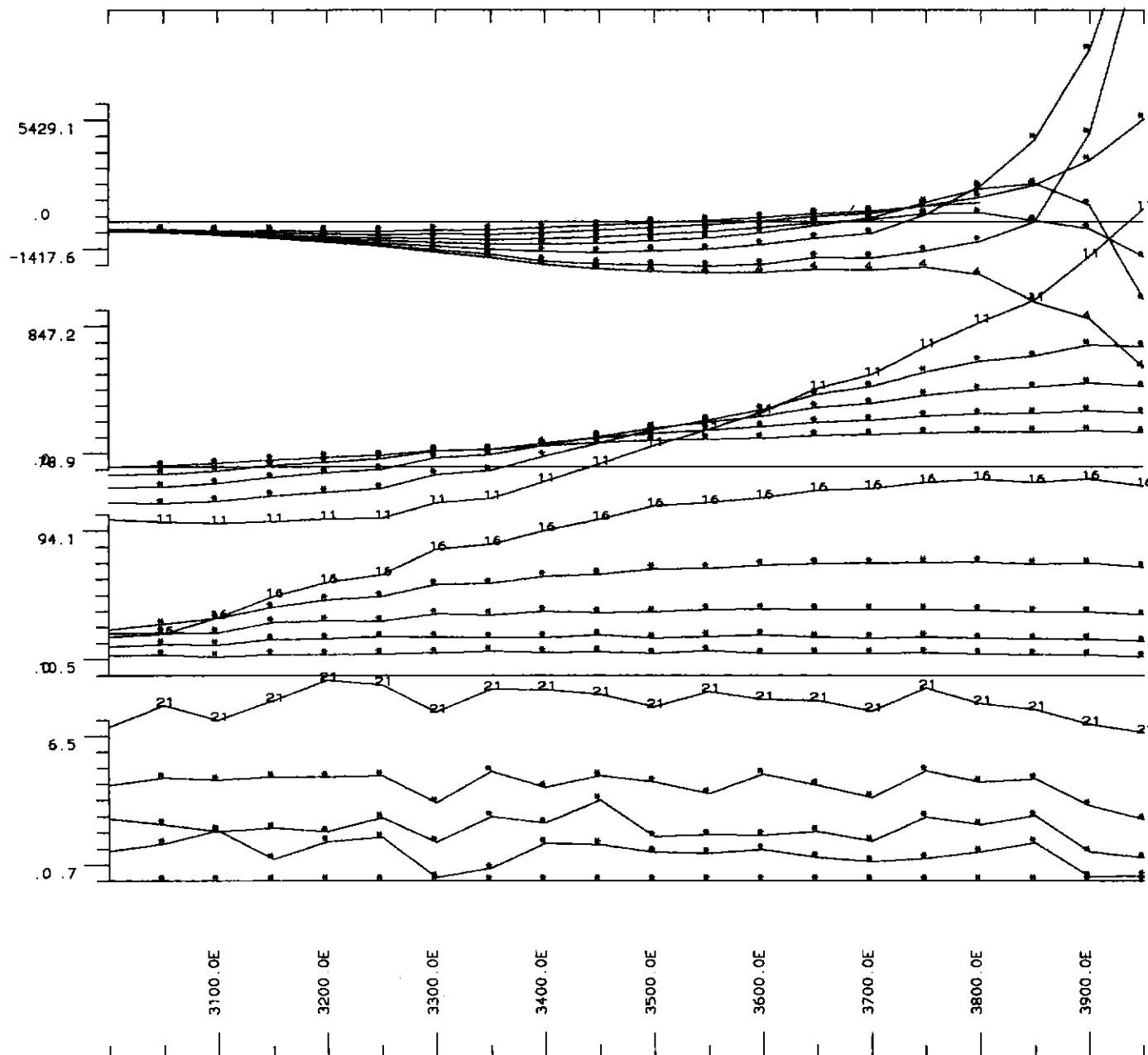
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: loop9.av
 LOOP: 9
 LINE: 14400.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LODP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720044



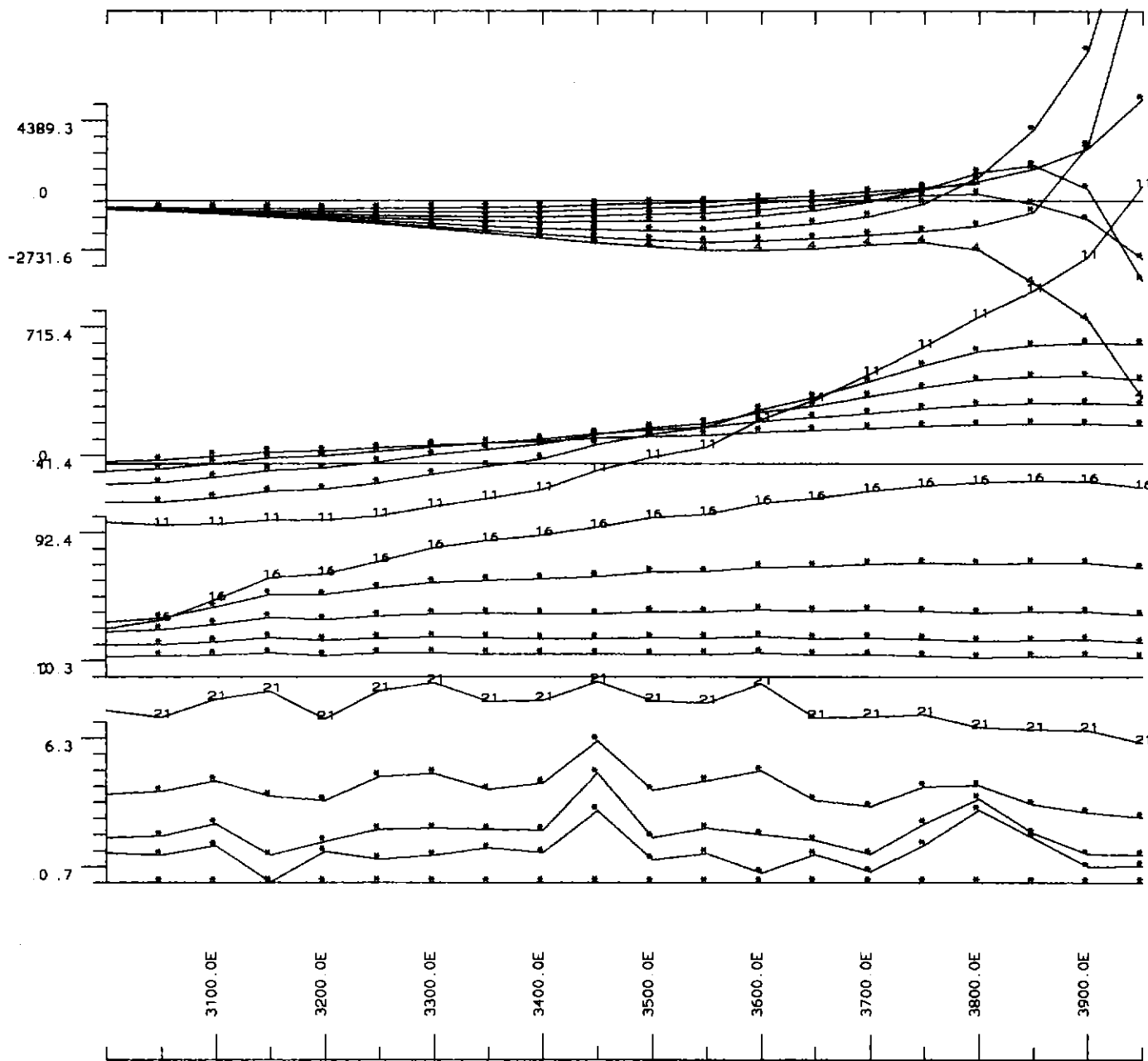
Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: loop9 av
 LOOP: 9
 LINE: 14600.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720045



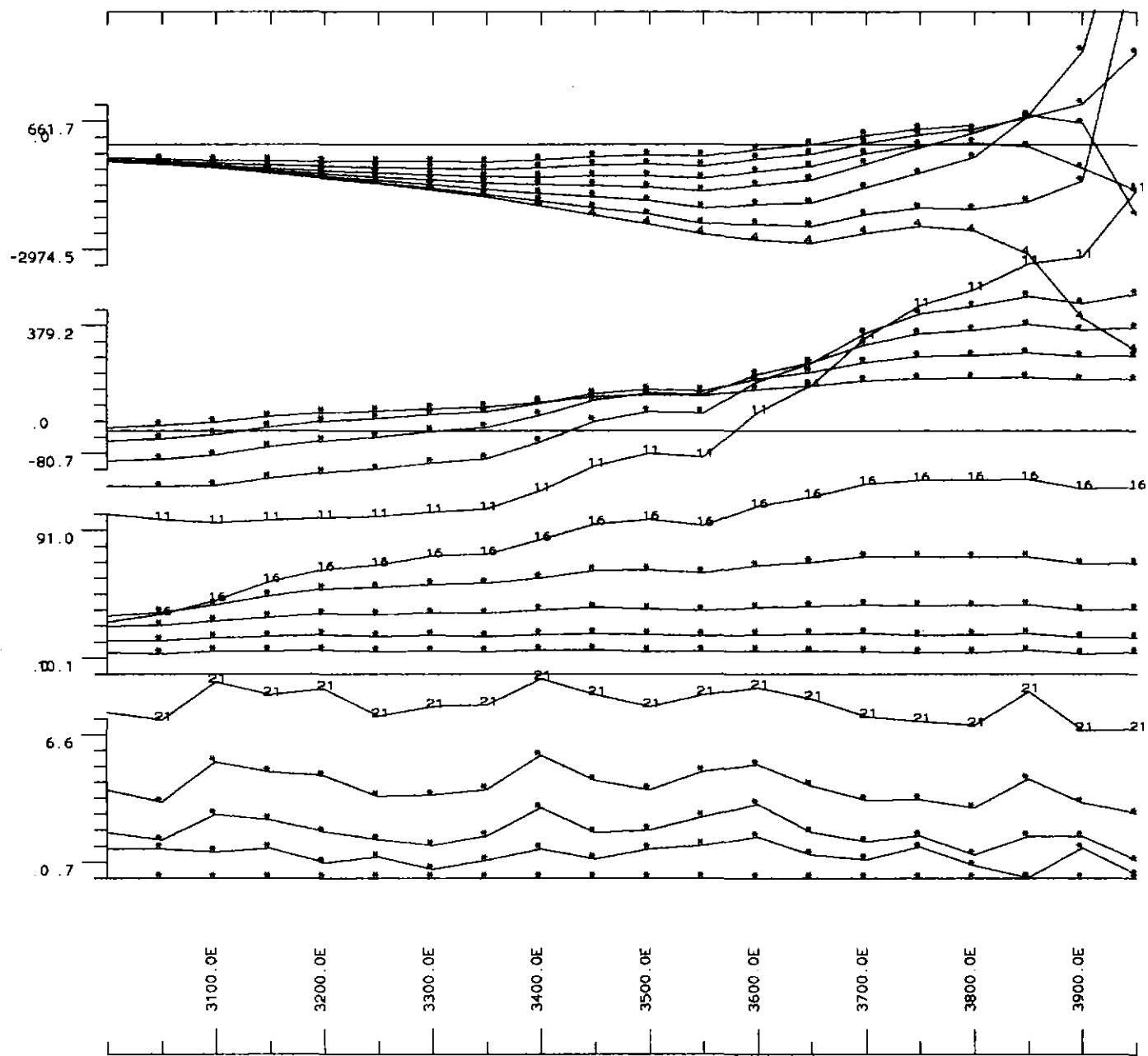
Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: loop9.av
 LOOP: 9
 LINE: 14800.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720040



Program PLDTEM
 Aberfoyle Resources Ltd
 Datafile: loop9.av
 LOOP: 9
 LINE: 15000.00N
 Date Plotted: 18/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

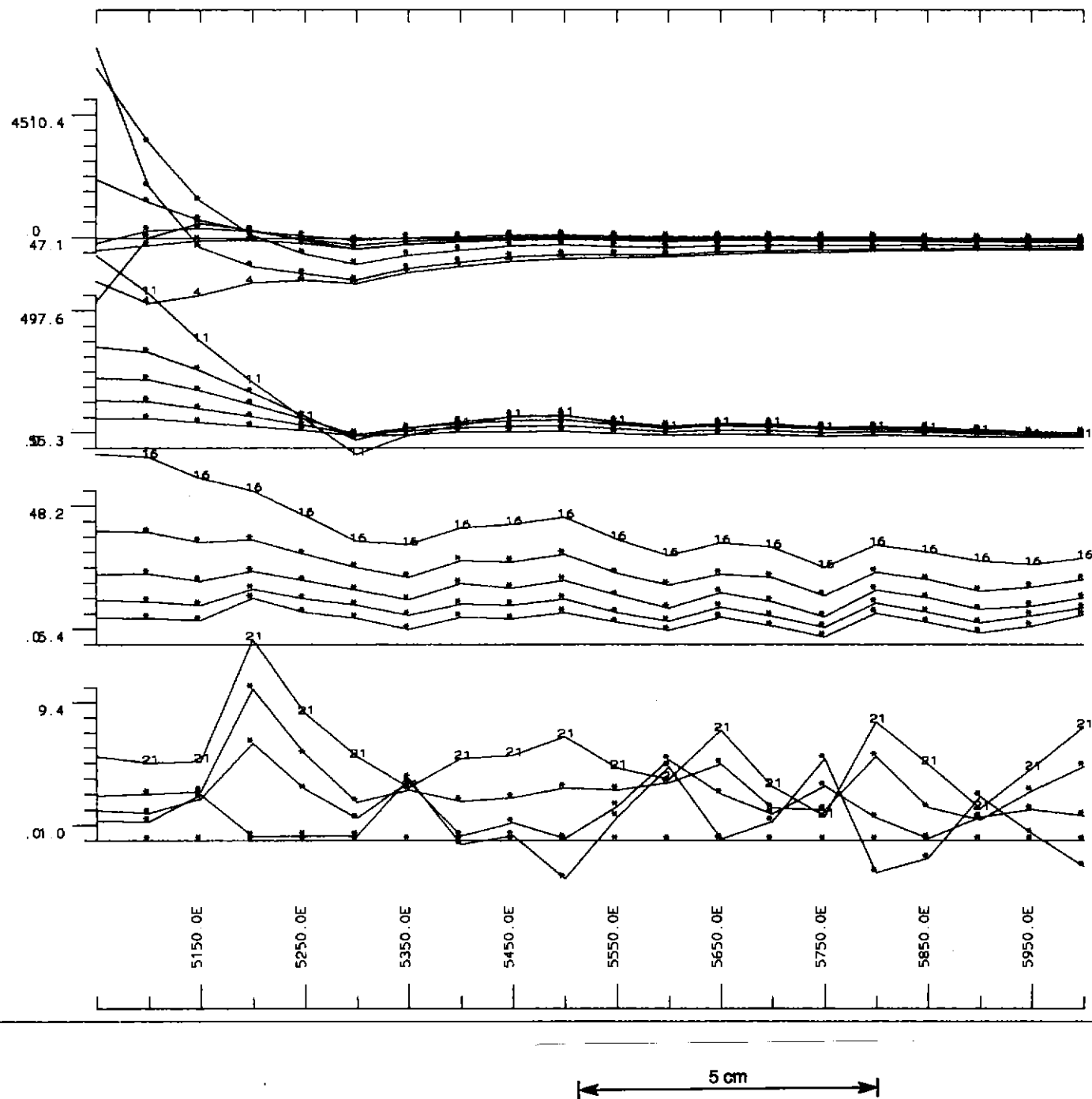
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720047



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop9b.av
 LOOP: 9
 LINE: 14000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

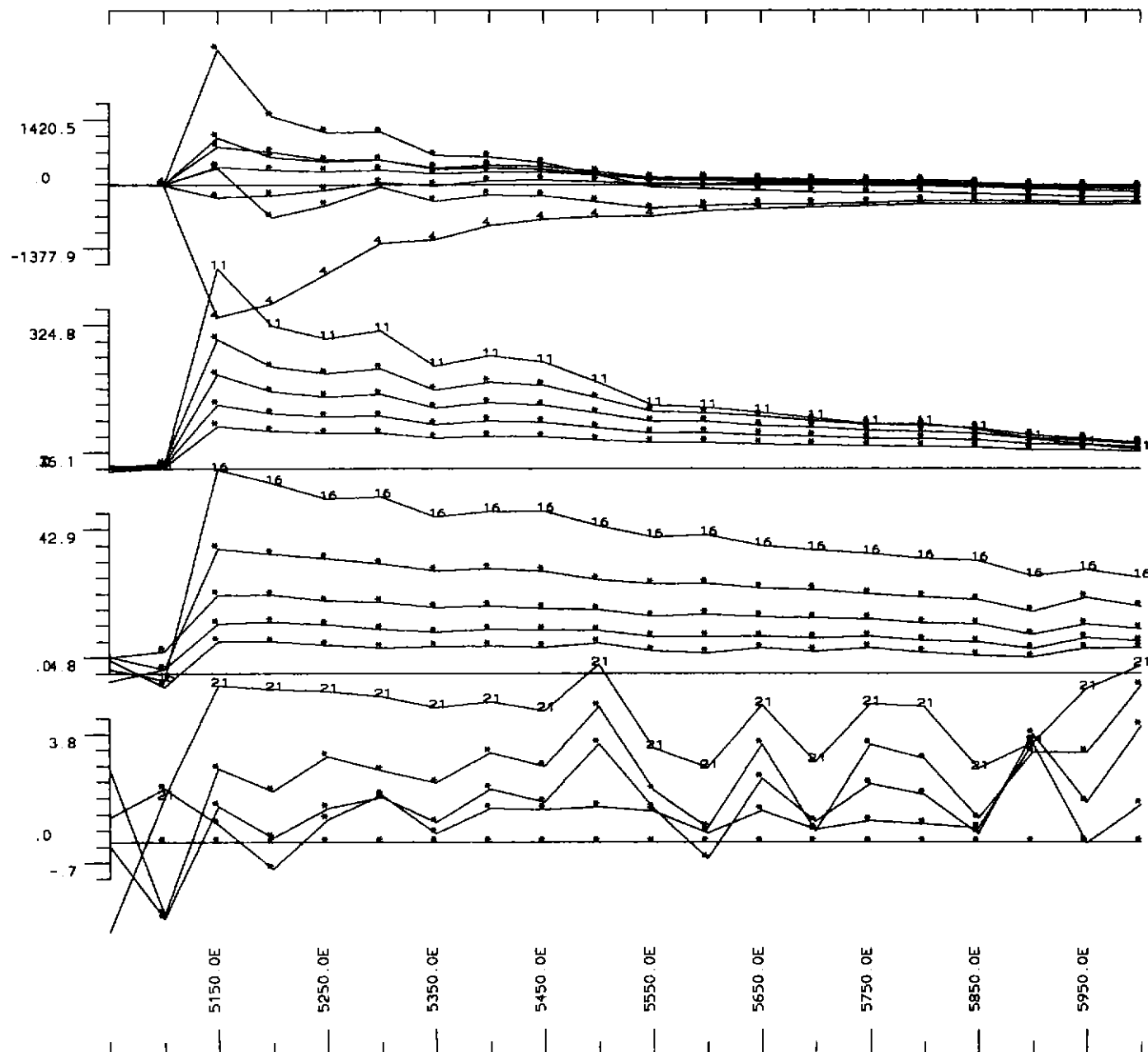
LOOP 9B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

520046



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop9b.av
 LOOP: 9
 LINE: 14200.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

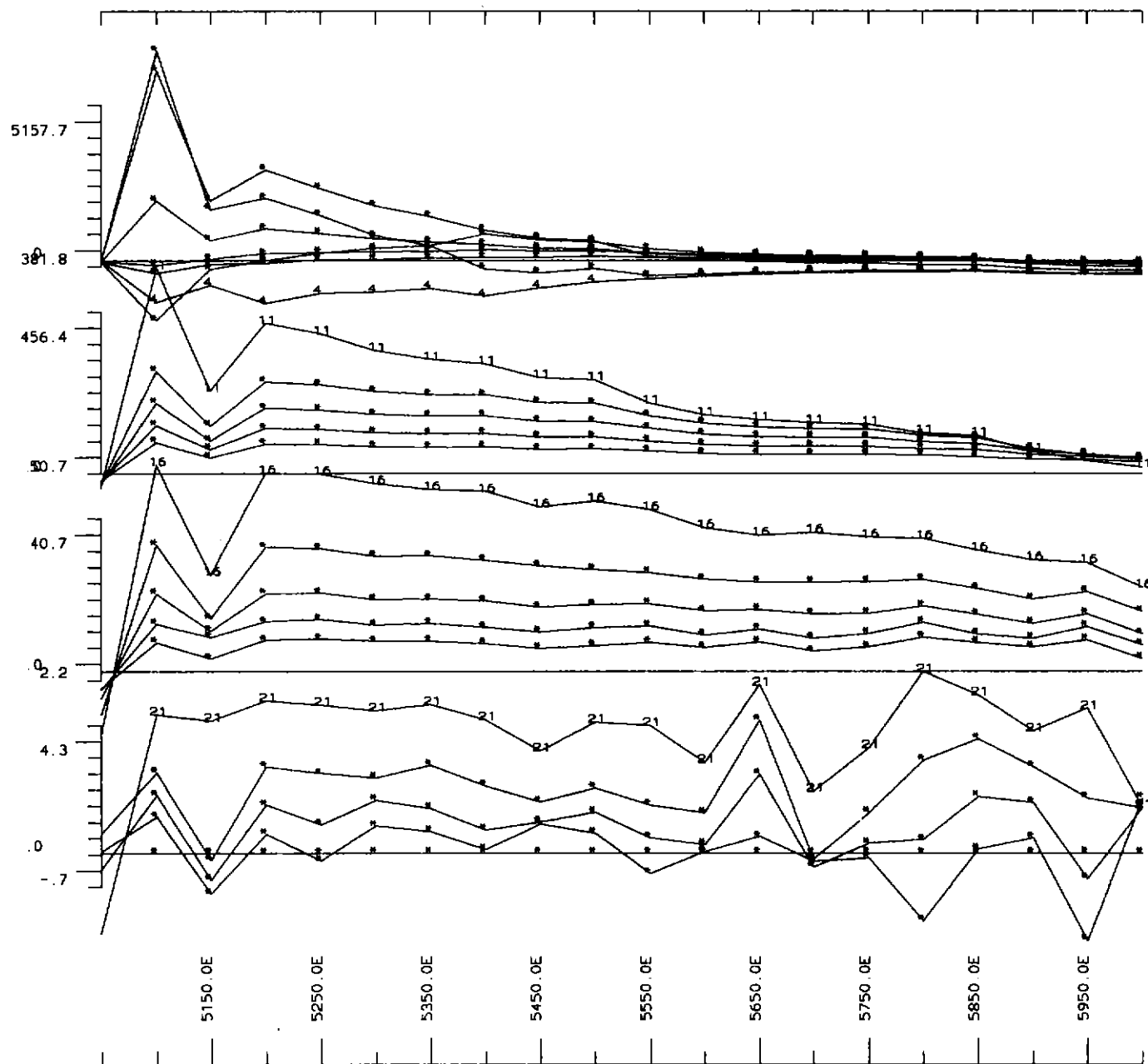
LOOP 9B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720049



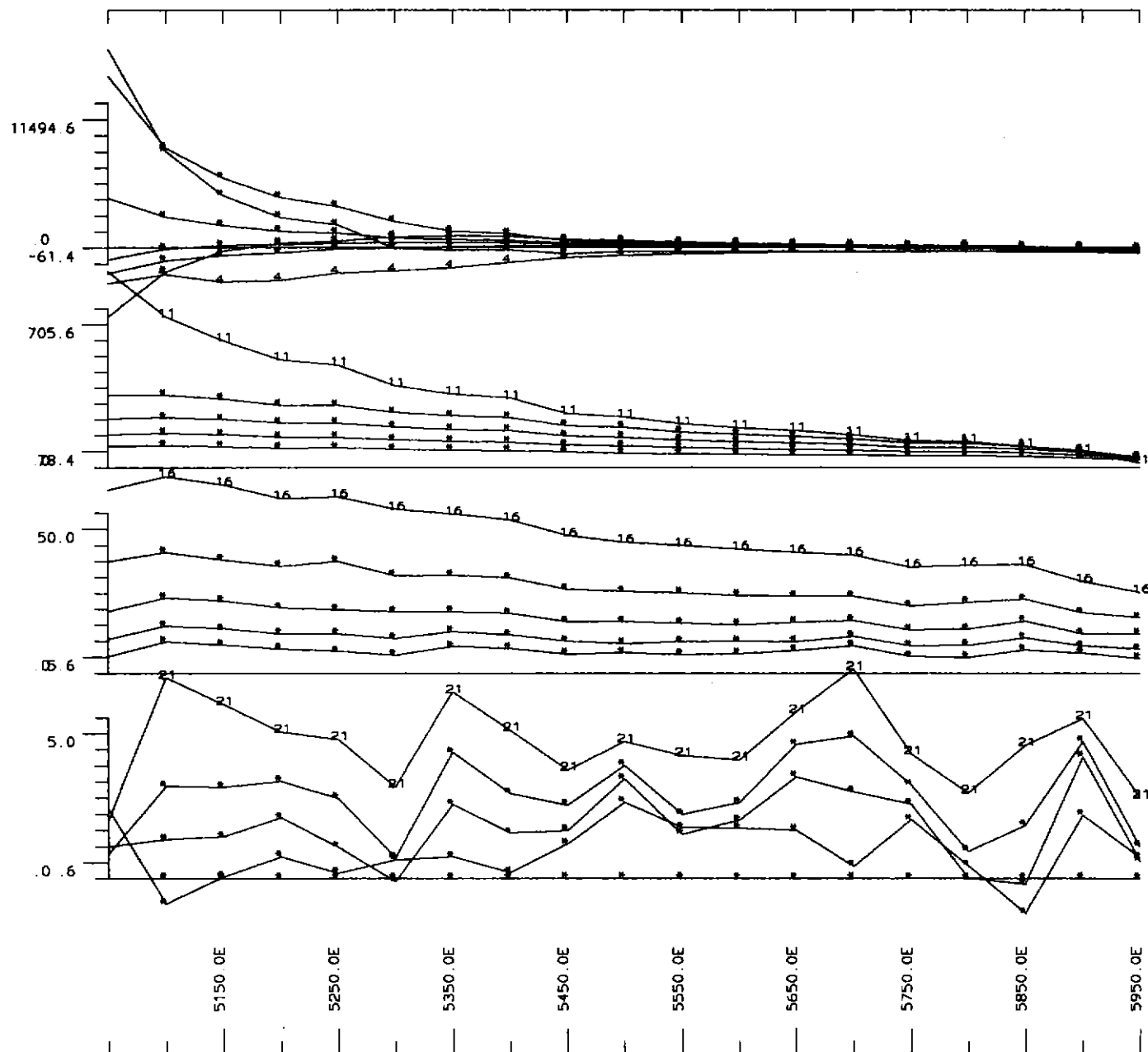
Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop9b.av
 LOOP: 9
 LINE: 14400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 9B
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720050



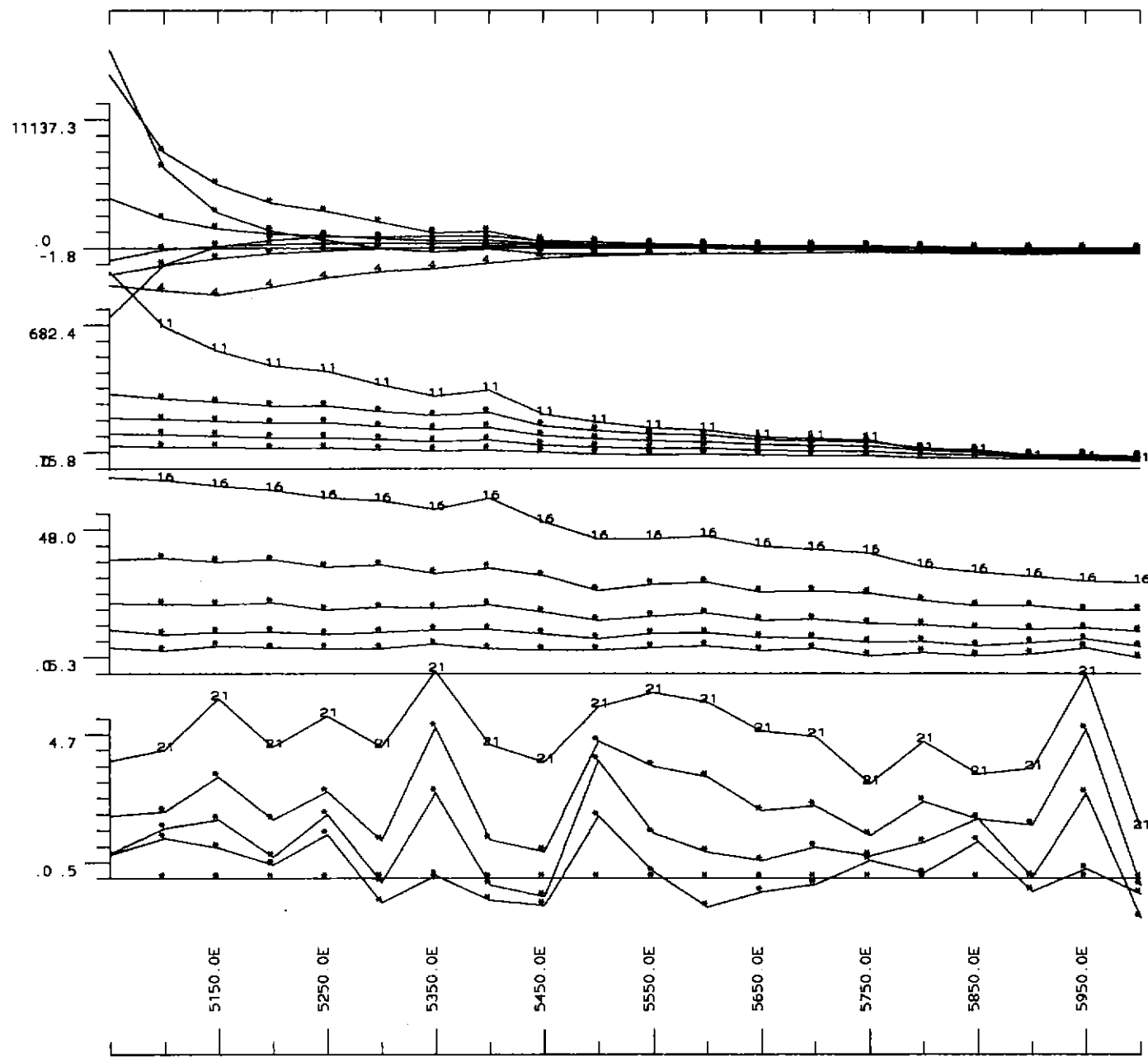
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop9b av
 LOOP: 9
 LINE: 14600.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5454.5

MACKINTOSH SURFACE EM

LOOP 9B
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720051



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop9b av
 LOOP: 9
 LINE: 14800.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

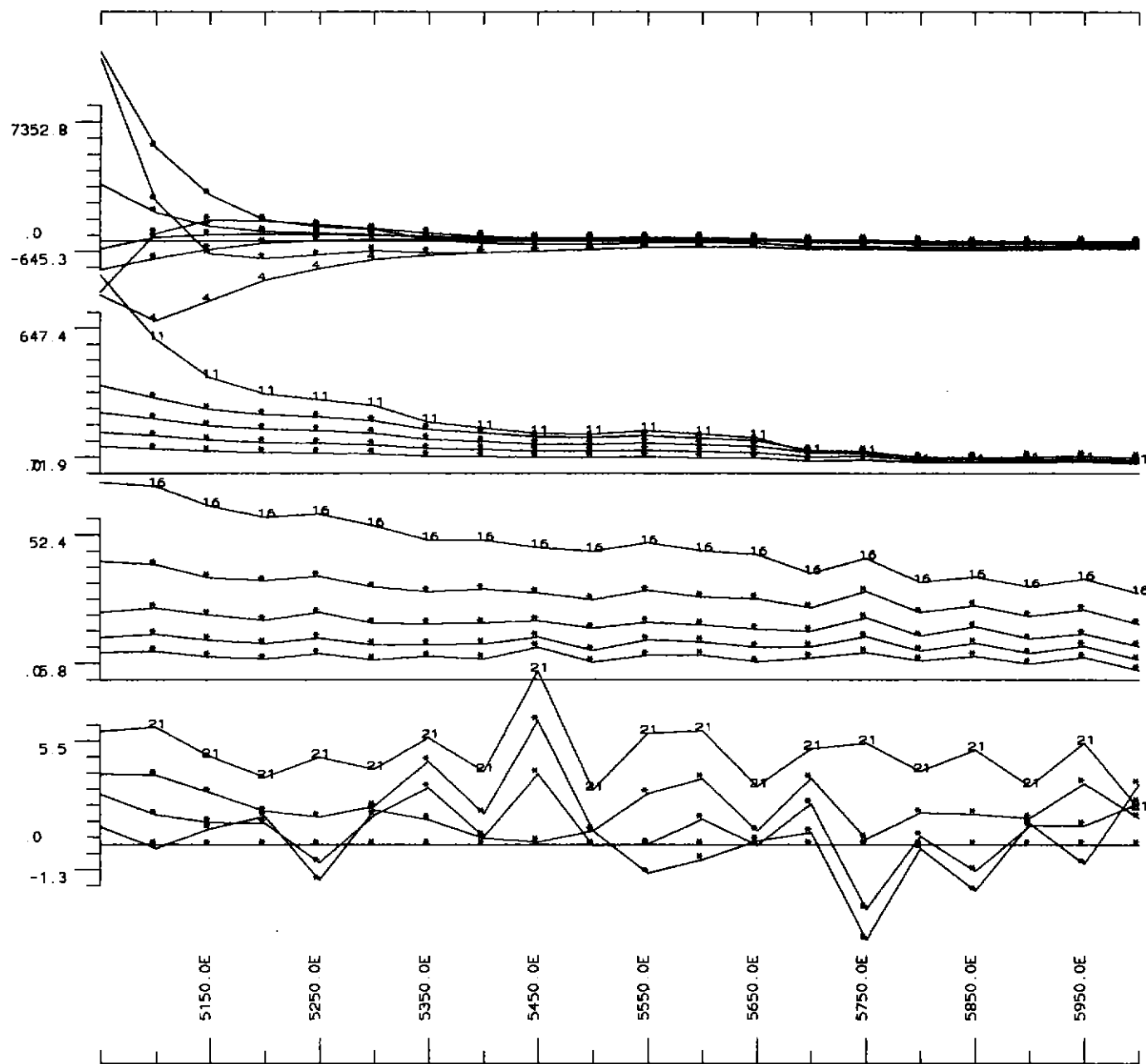
LOOP 9B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

2200022



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop9b av

LOOP: 9

LINE: 15000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

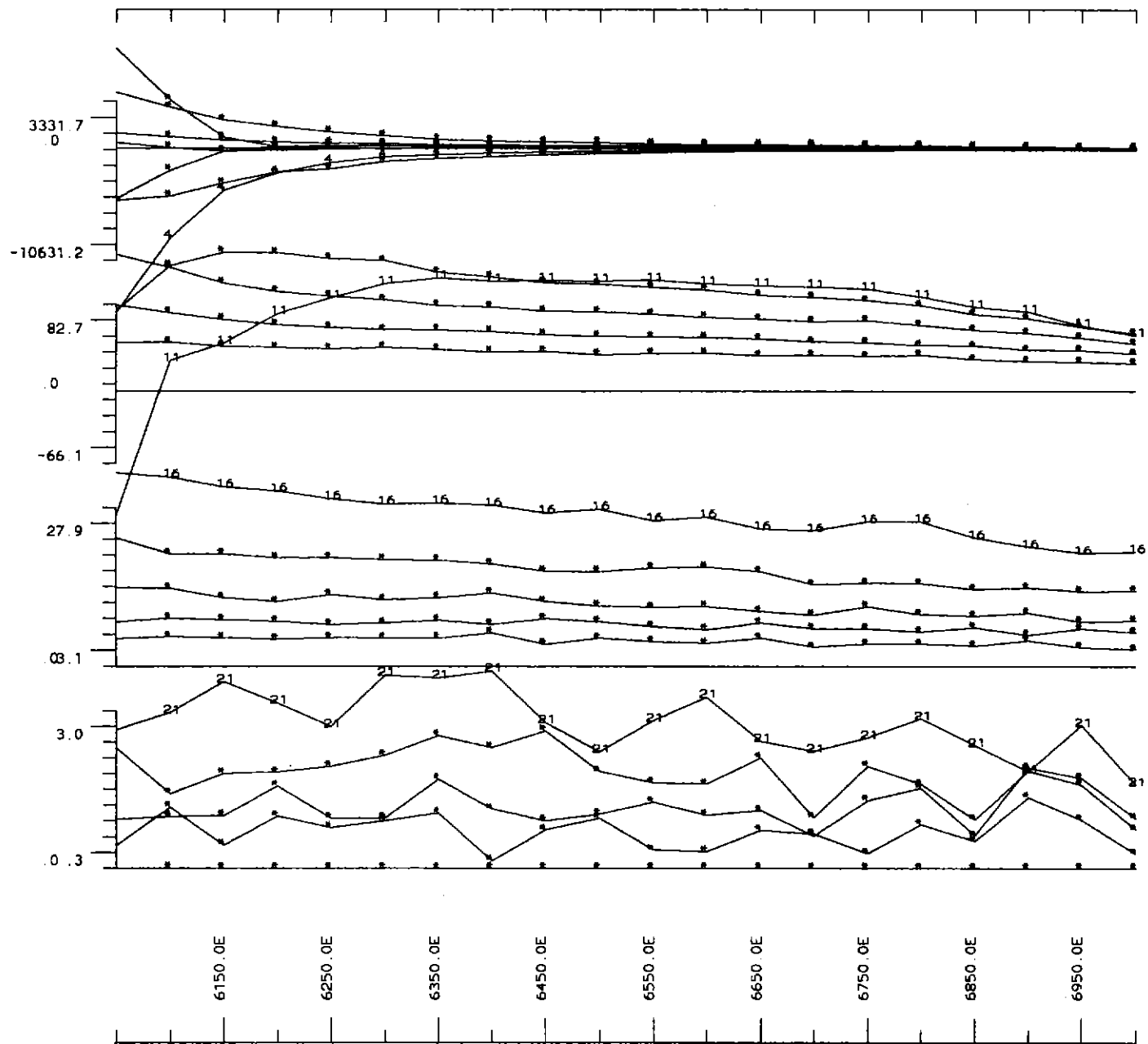
LOOP 98

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720003



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop10 av

LOOP: 10

LINE: 14000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

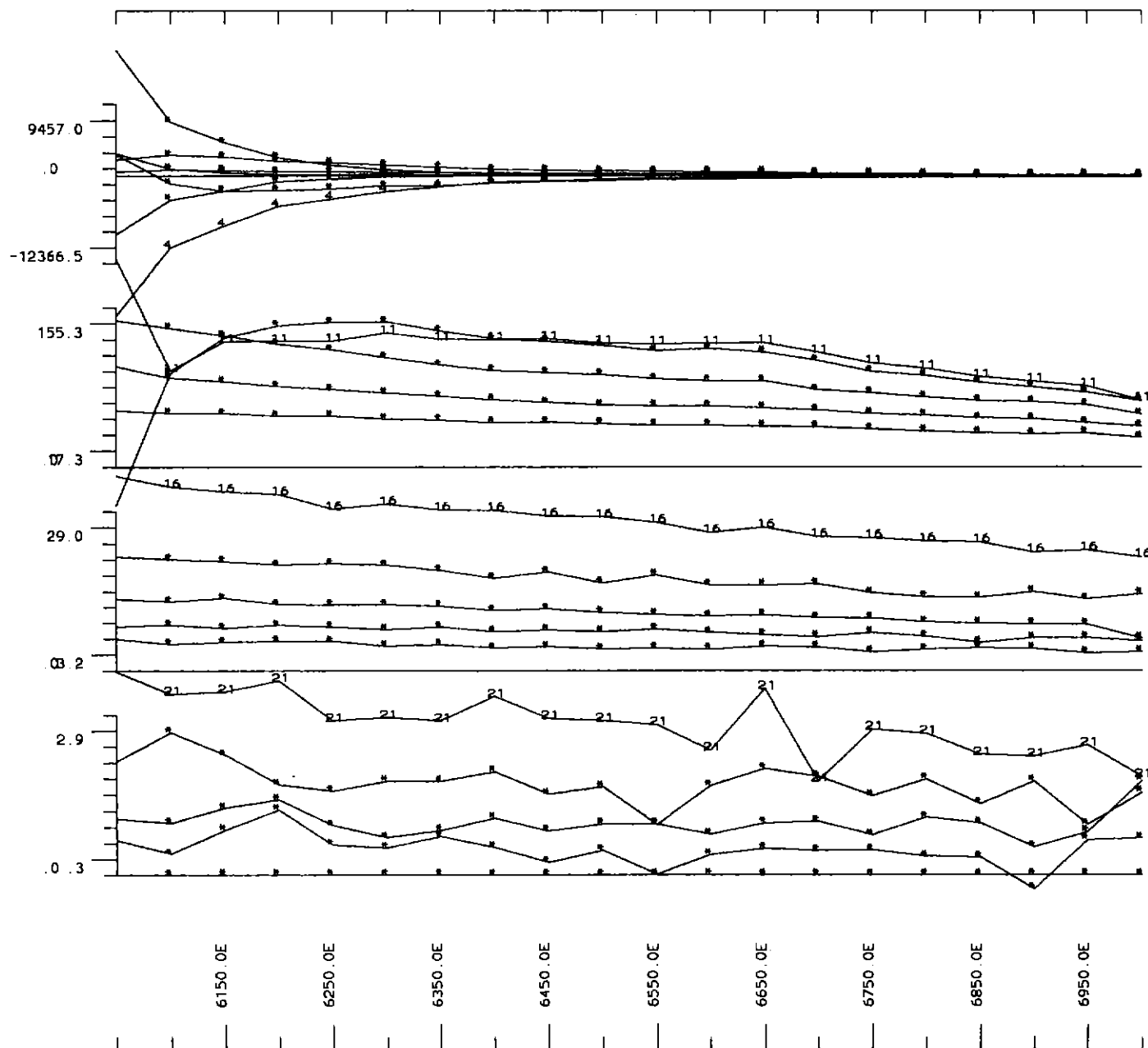
LOOP 10

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720054



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop10.av
 LOOP: 10
 LINE: 14200.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

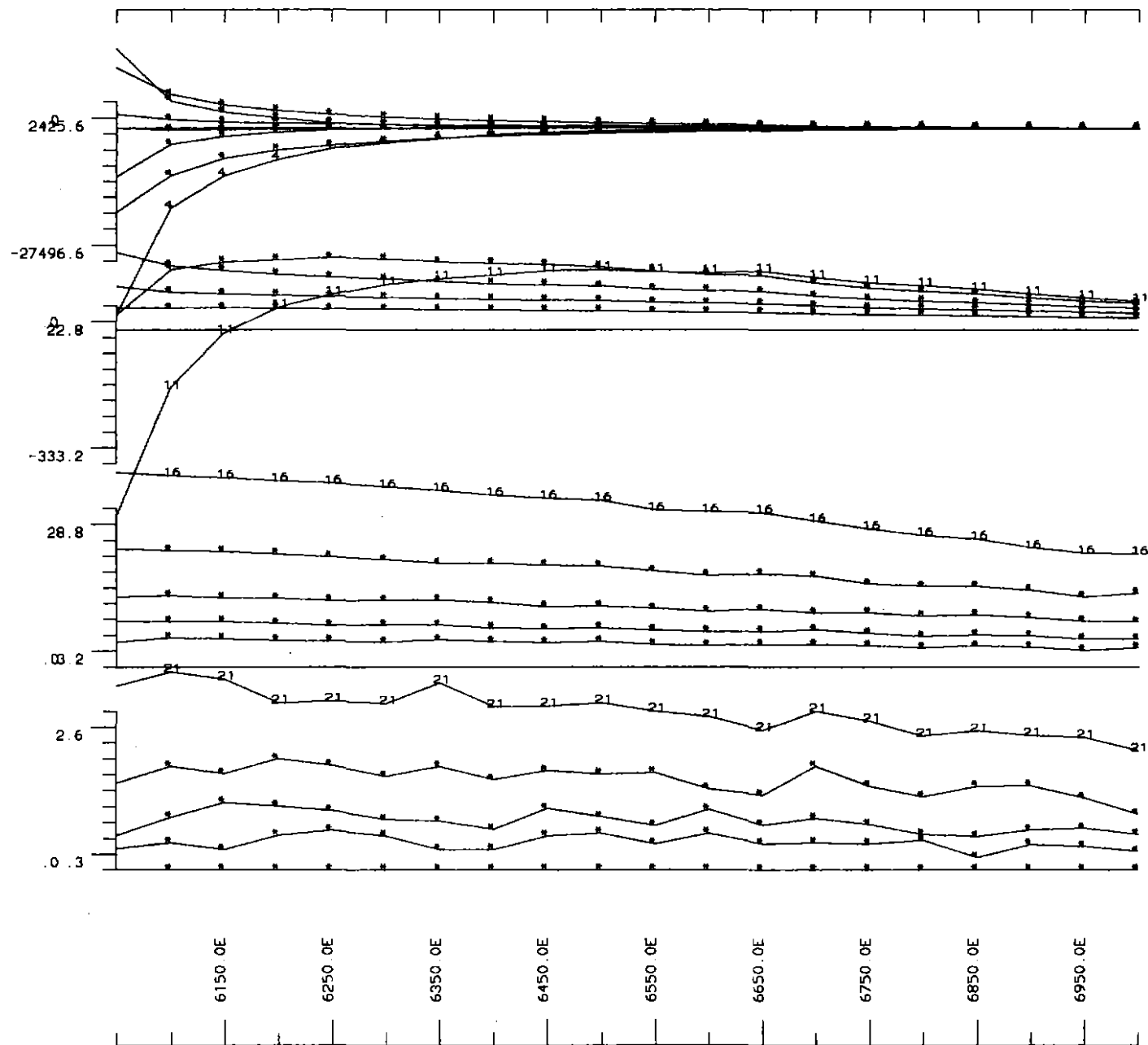
LOOP 10

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720065



Program PLDTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop10 av
 LOOP: 10
 LINE: 14400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

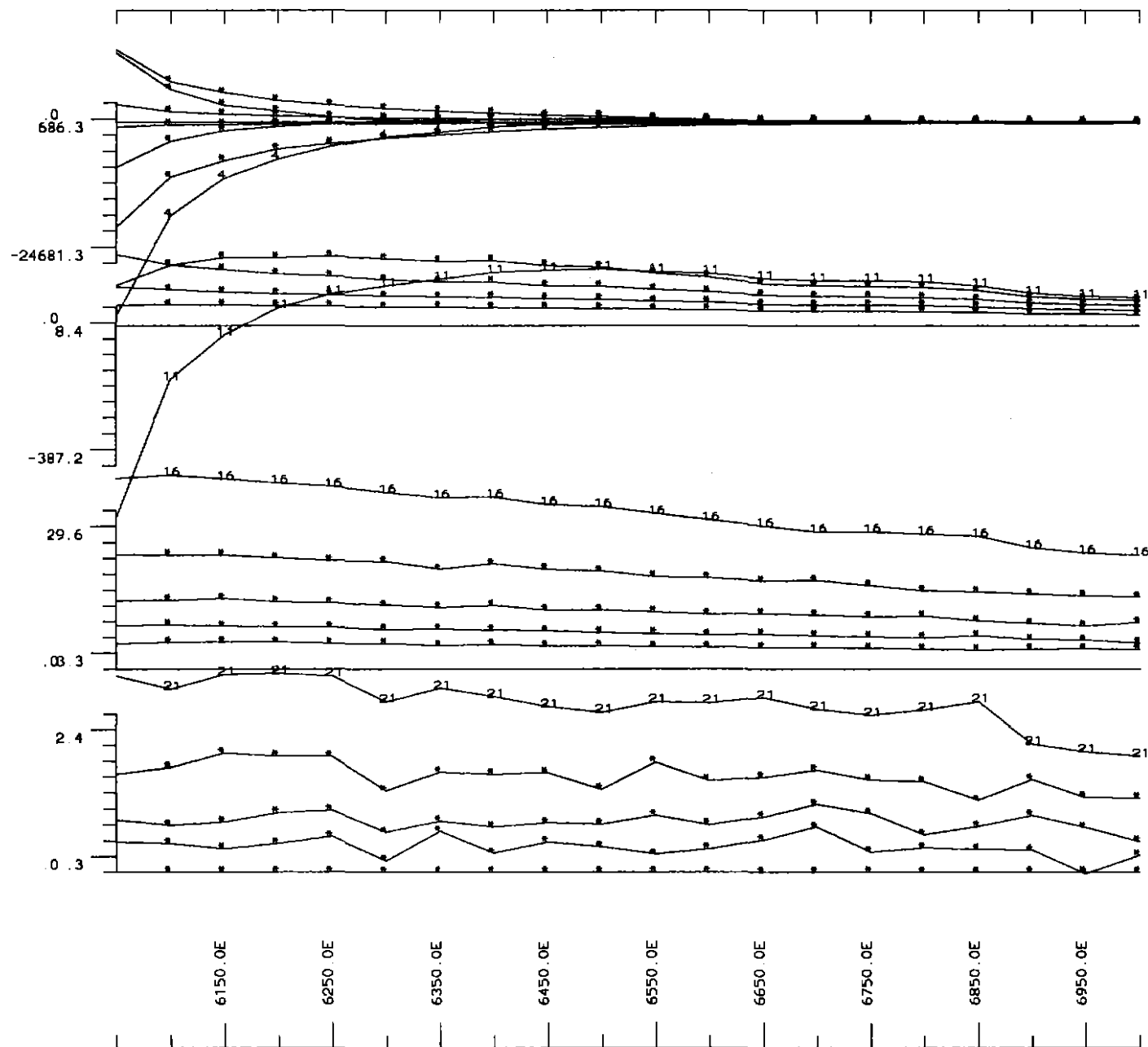
LOOP 10

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720056



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop10.av

LOOP: 10

LINE: 14600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

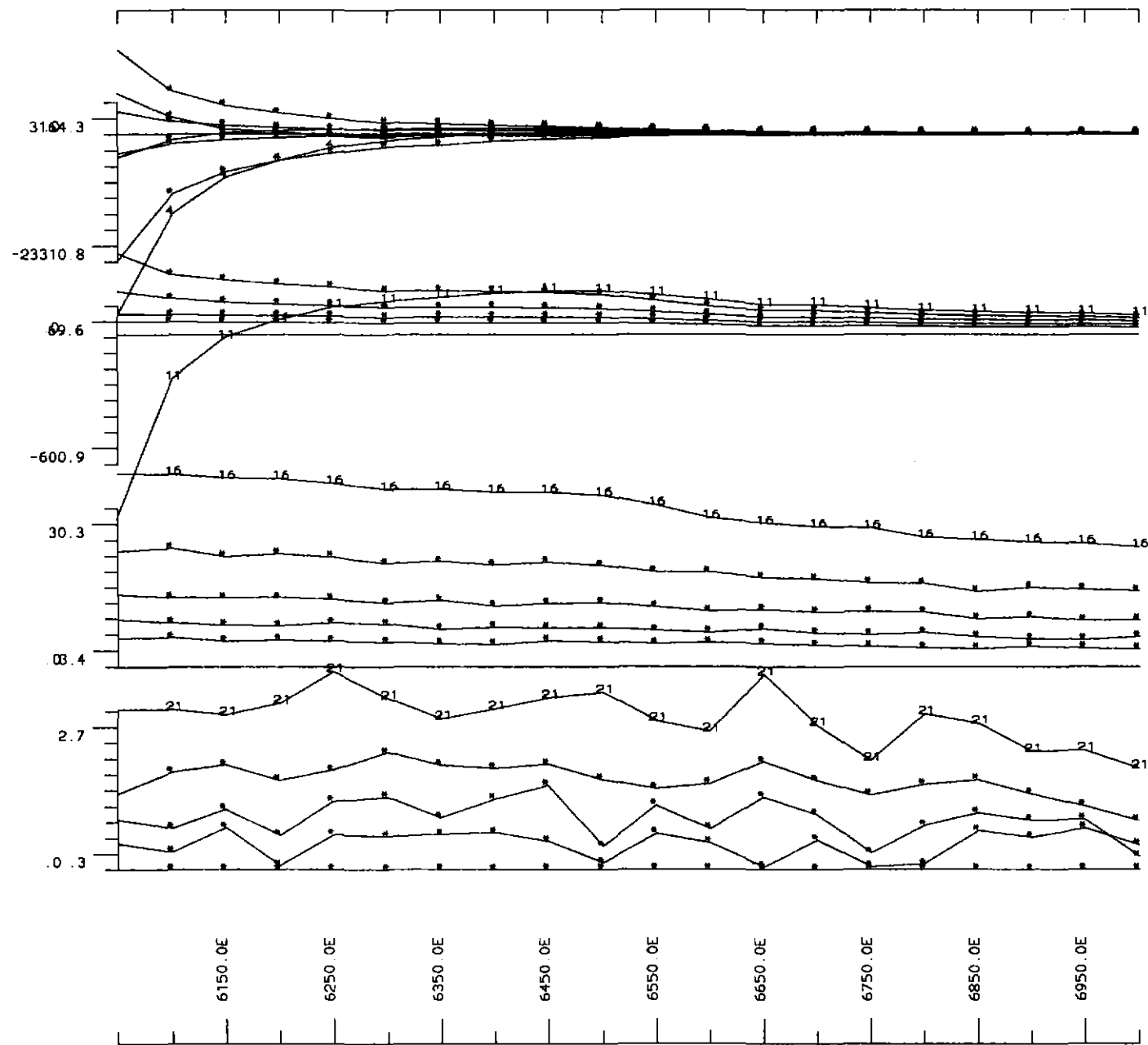
LOOP 10

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720057



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop10 av

LOOP: 10

LINE: 14800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 10

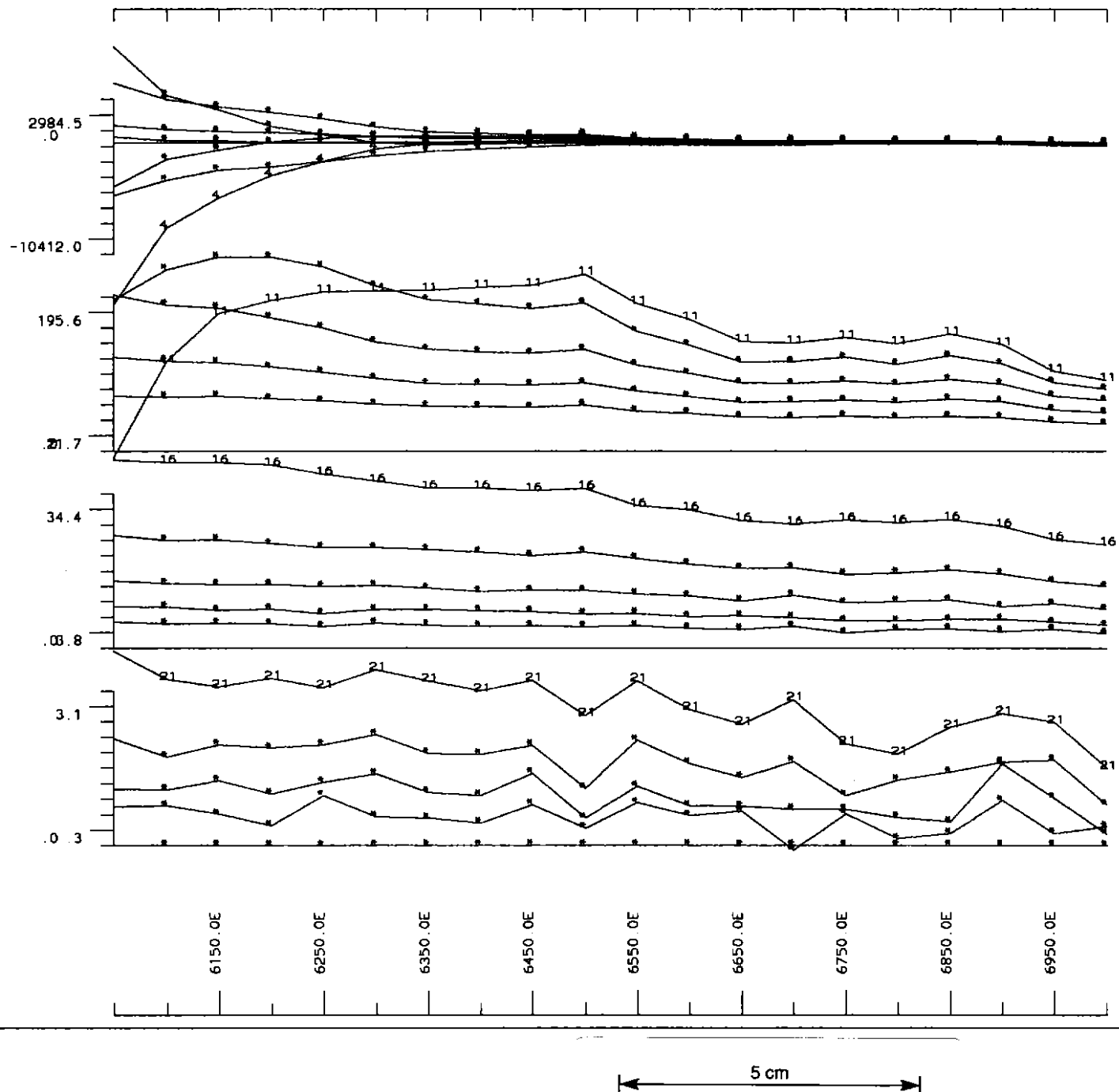
HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720058

5 cm



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop10.av

LOOP: 10

LINE: 15000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACINTOSH SURFACE EM

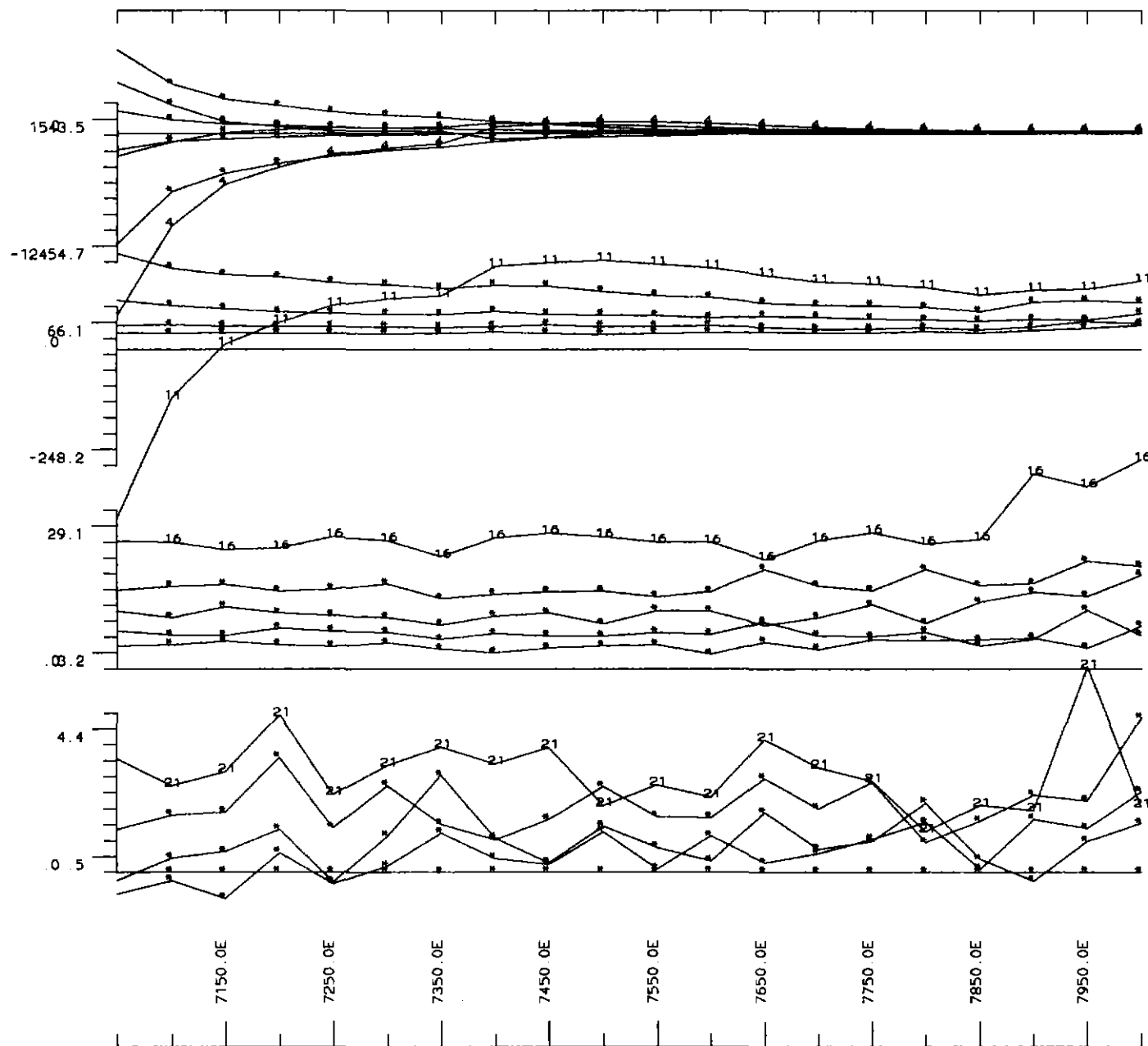
LOOP 10

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

620059



Program PLOTEM
Aberfoyle Resources Ltd
Datafile: s\mac_em2\loop11.av

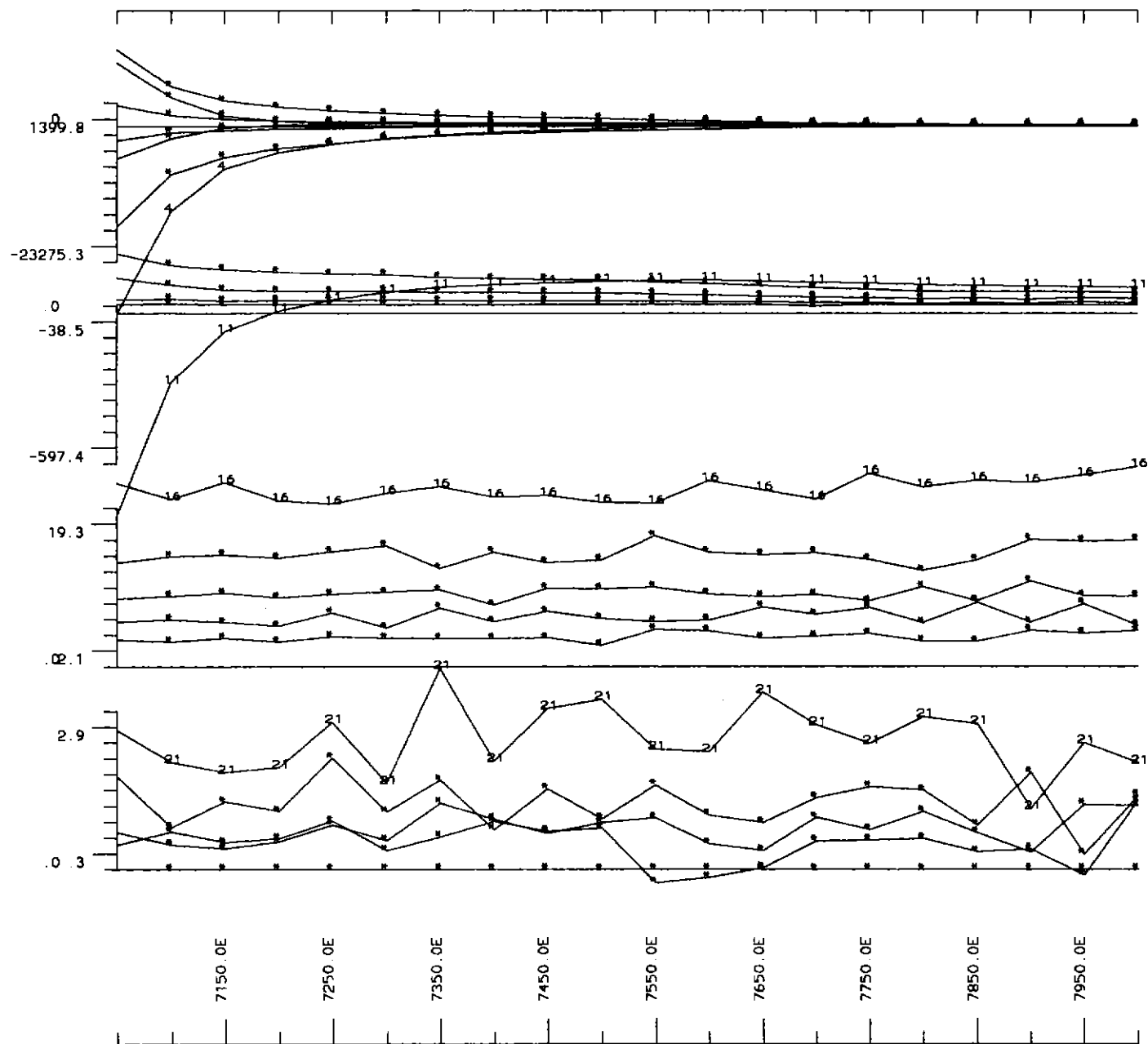
LOOP: 11
LINE: 14000.00N
Date Plotted: 19/03/95
Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
HZ COMPONENT
ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

7200060



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop11.av

LOOP: 11

LINE: 14200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

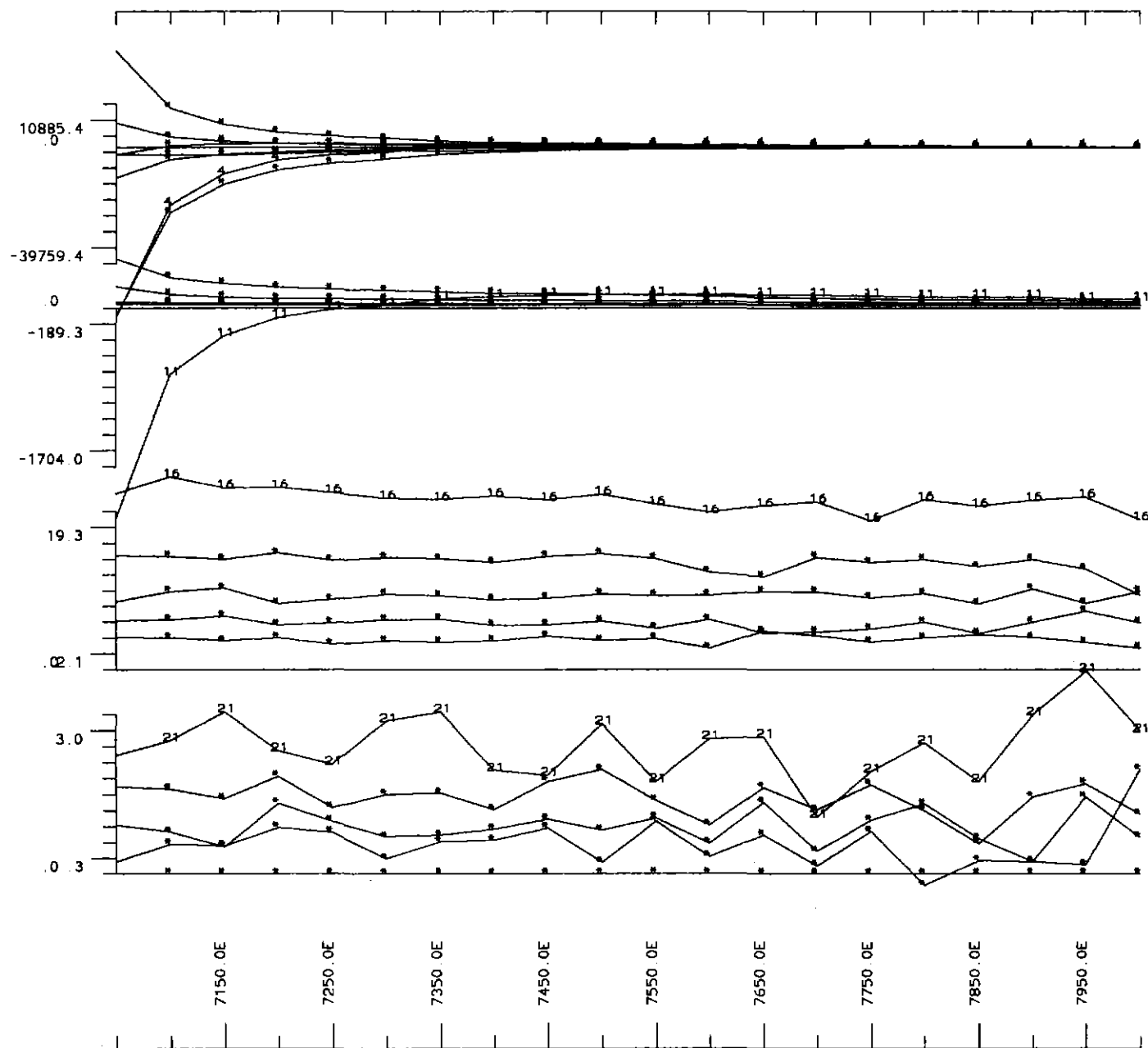
LOOP 11

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720061



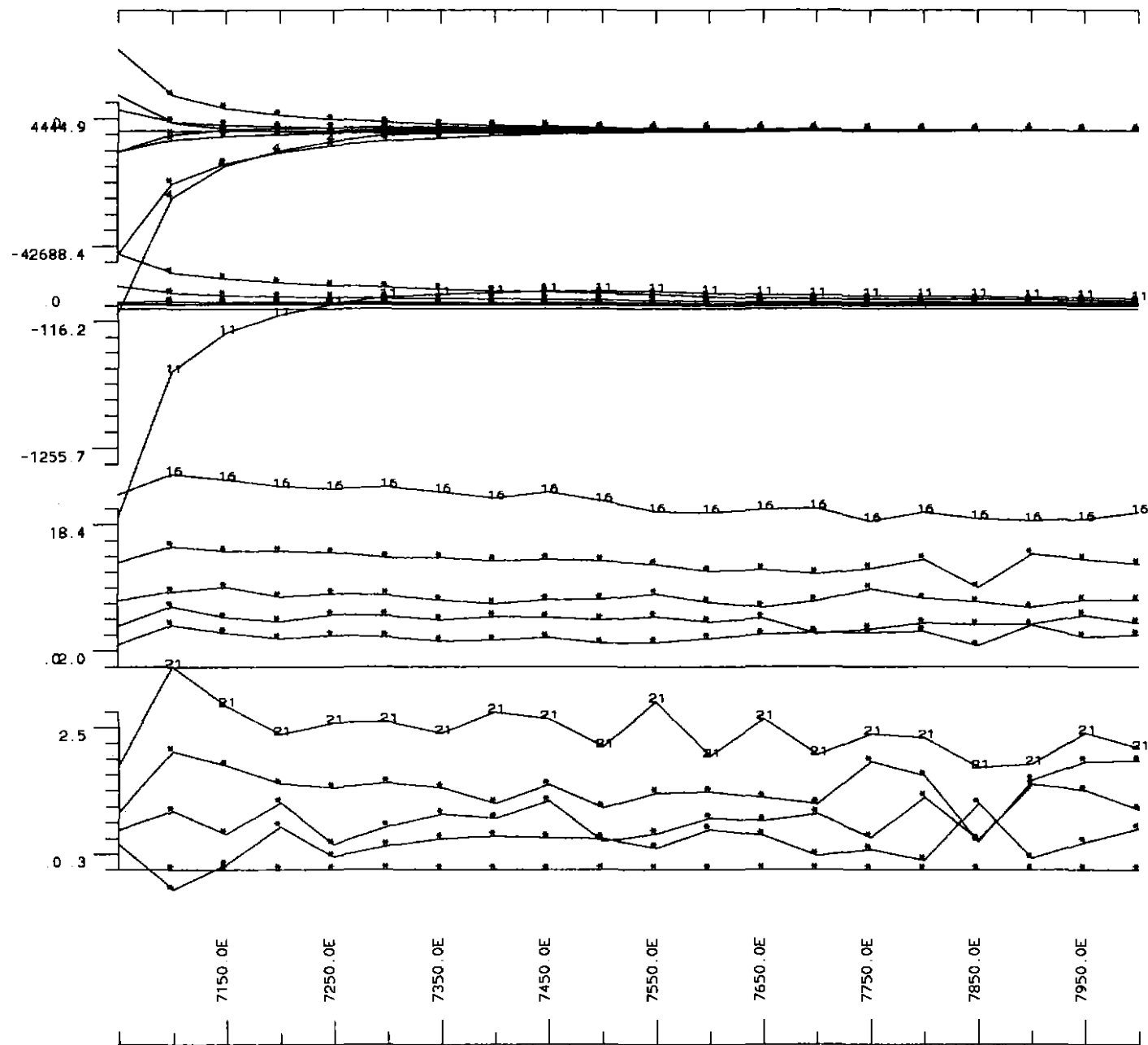
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop11.av
 LOOP: 11
 LINE: 14400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720062



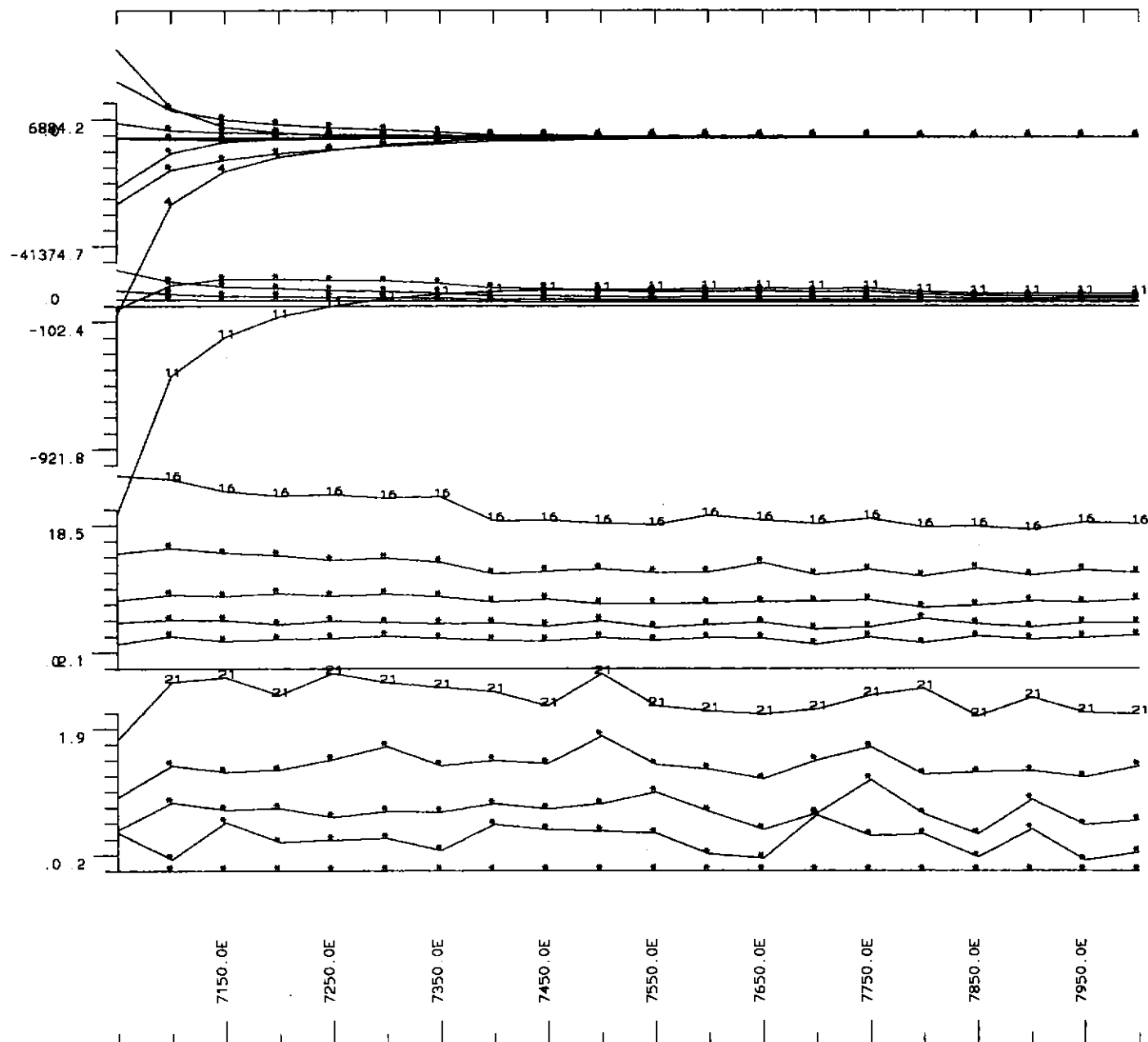
Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop11 av
 LOOP: 11
 LINE: 14600.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720063



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop11.av

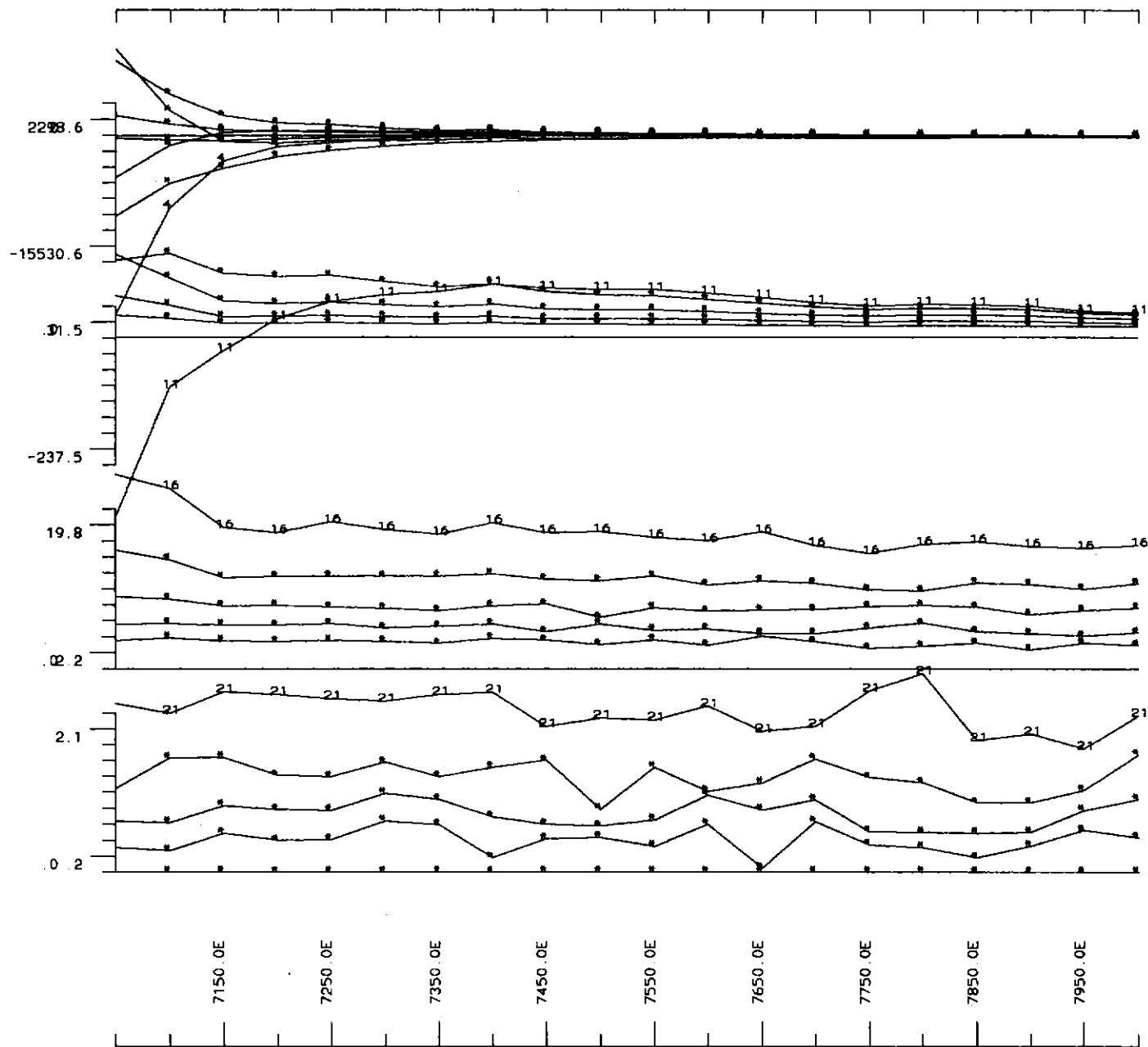
LOOP: 11
 LINE: 14800.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 11
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

120064



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop11.av

LOOP: 11

LINE: 15000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

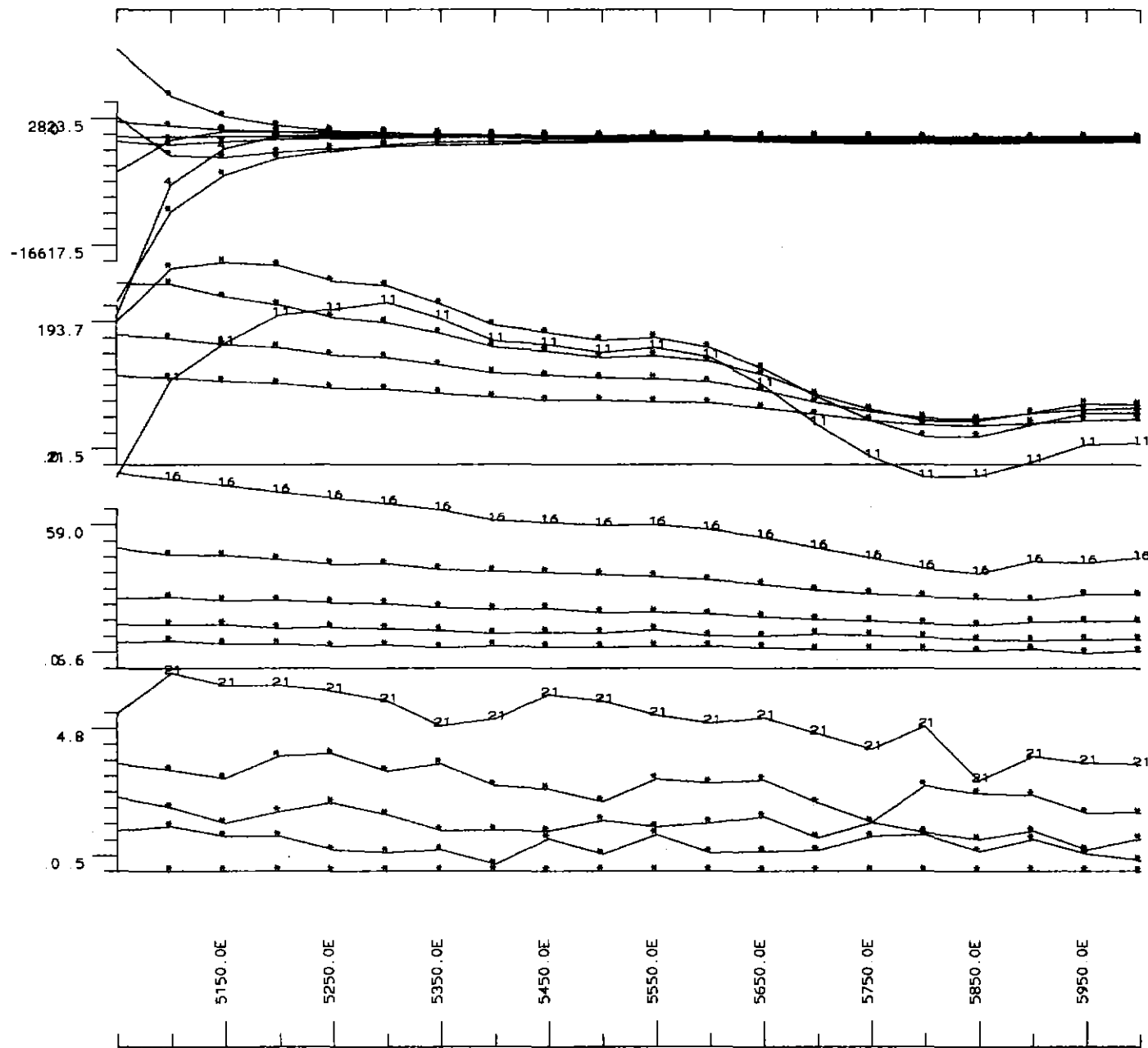
LOOP 11

HZ COMPONENT

ZONCE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720063



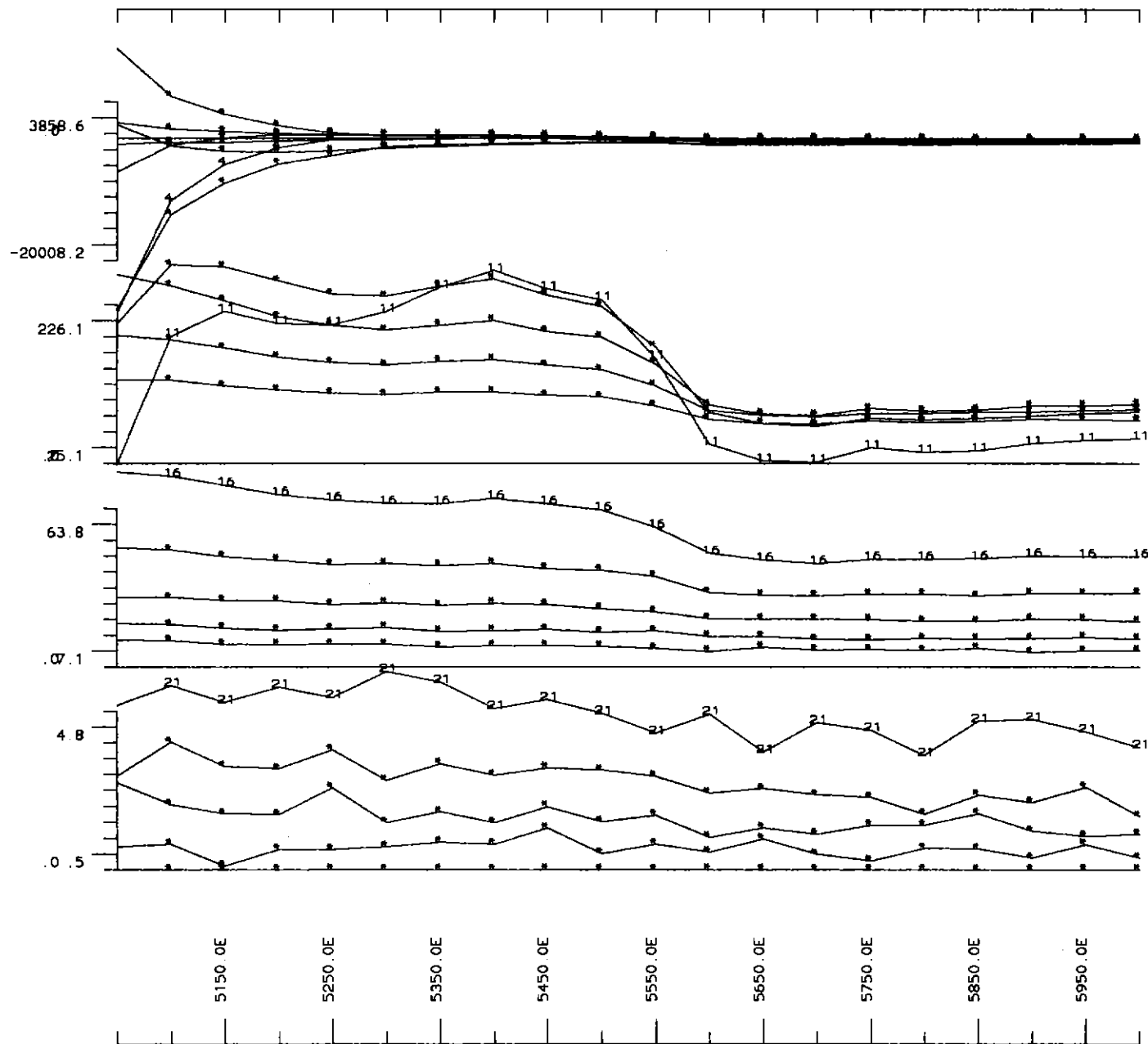
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop12.av
 LOOP: 12
 LINE: 1500.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 12
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720066



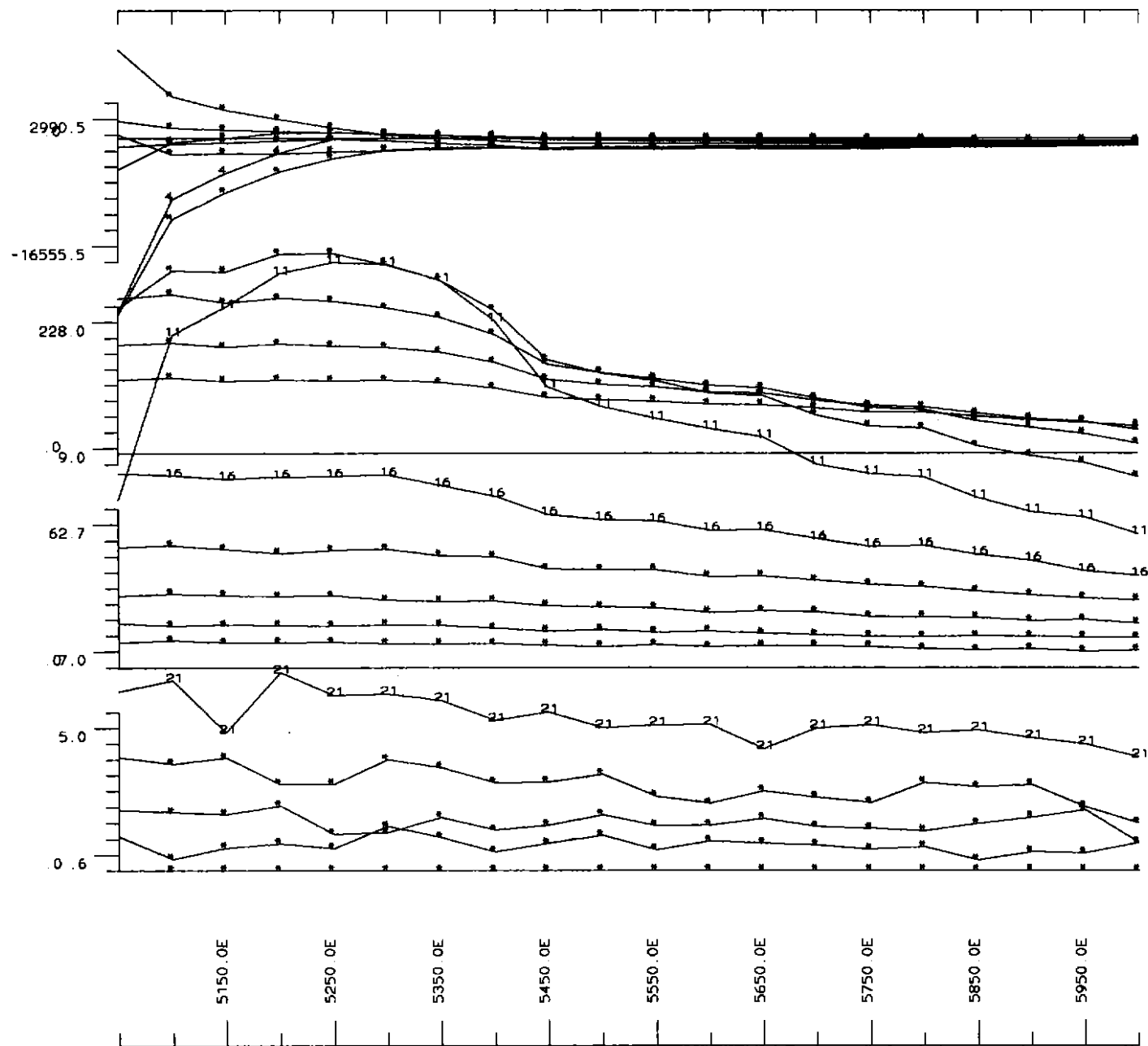
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop12.av
 LOOP: 12
 LINE: 15200.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 12
 HZ COMPONENT
 ZONGE GOP16 16HZ

ABERFOYLE RESOURCES LTD

720067



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop12.av
 LOOP: 12
 LINE: 15400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 12

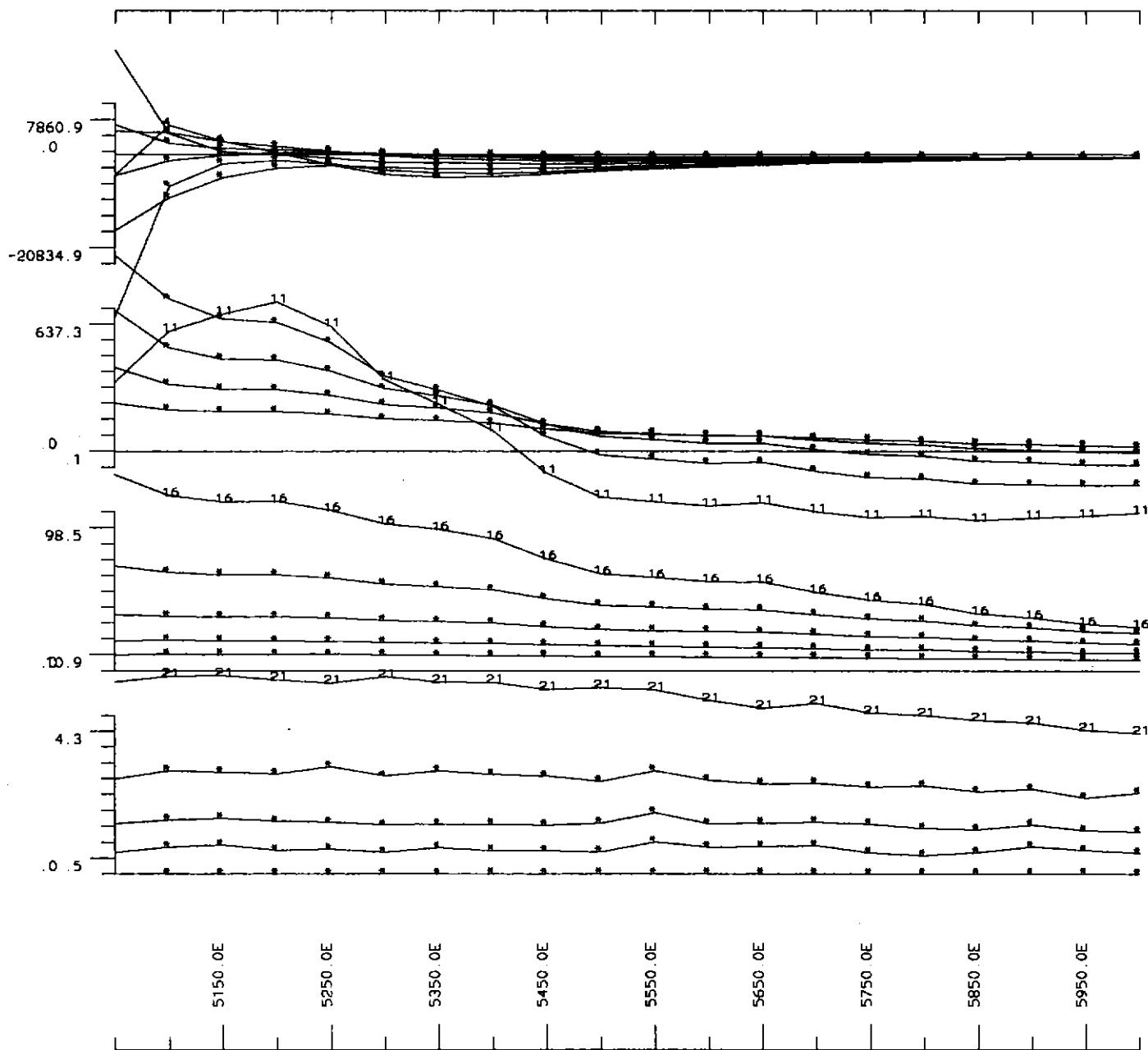
HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720068

5 cm



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop12.av

LOOP: 12

LINE: 15600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

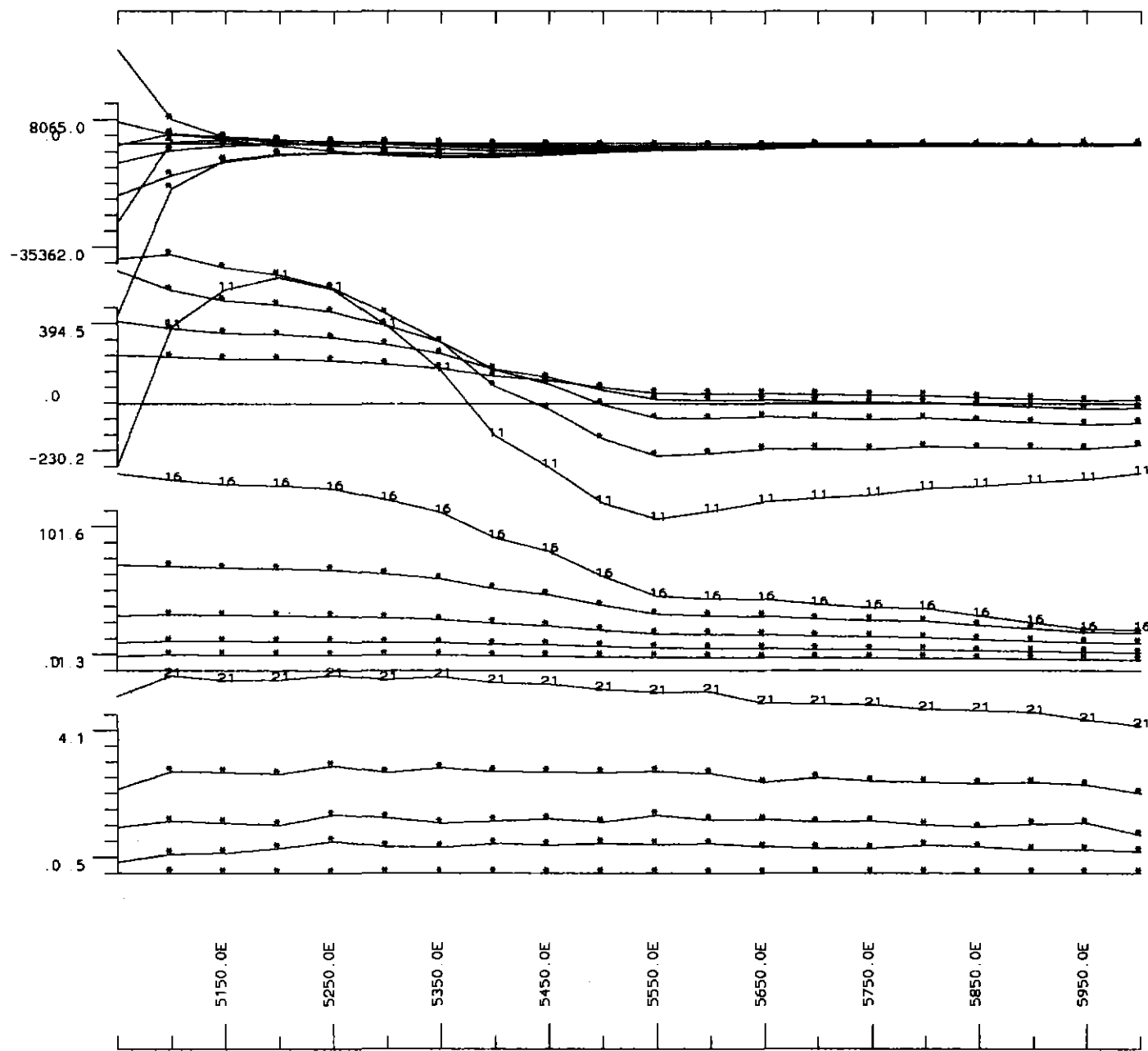
LOOP 12

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720069



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop12.av

LOOP: 12

LINE: 15800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

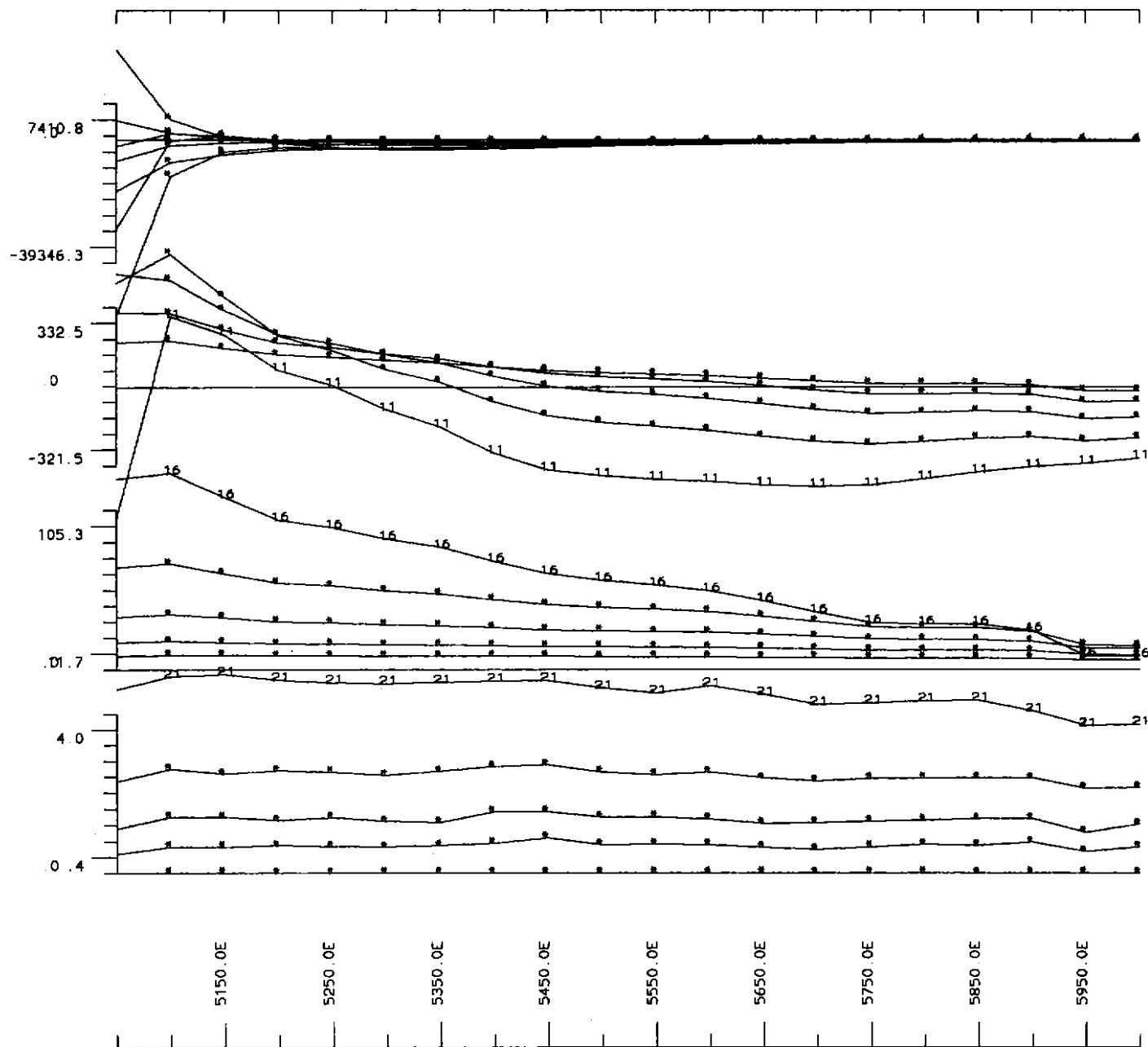
LOOP 12

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720010



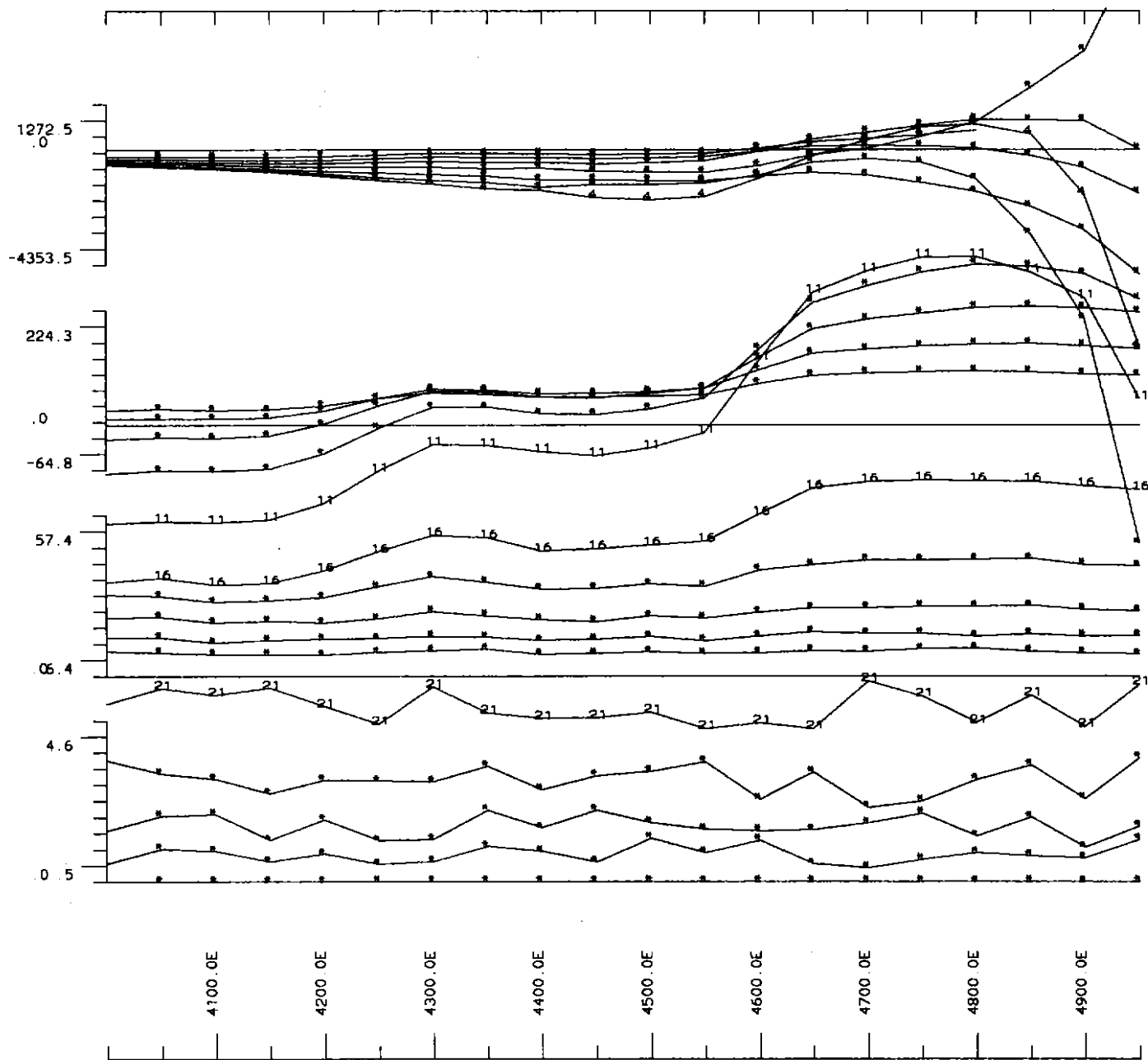
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop12.av
 LOOP: 12
 LINE: 16000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 12
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720071



Program PLOTTEM
Aberfoyle Resources Ltd
Datafile: s\mac_em2\loop13.av

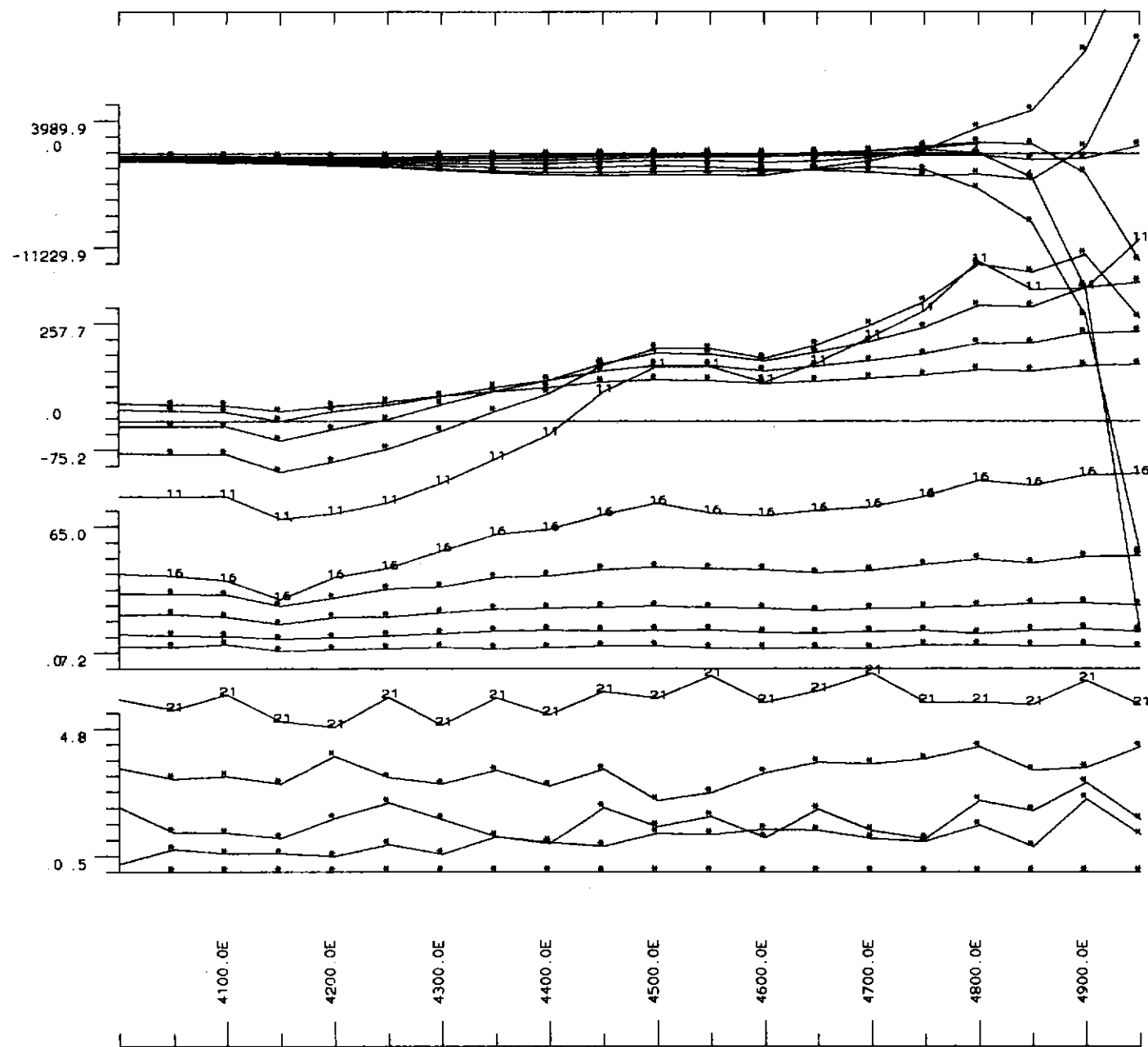
LOOP: 13
LINE: 15000.00N
Date Plotted: 19/03/95
Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 13
HZ COMPONENT
ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720072



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop13.av

LOOP: 13

LINE: 15200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

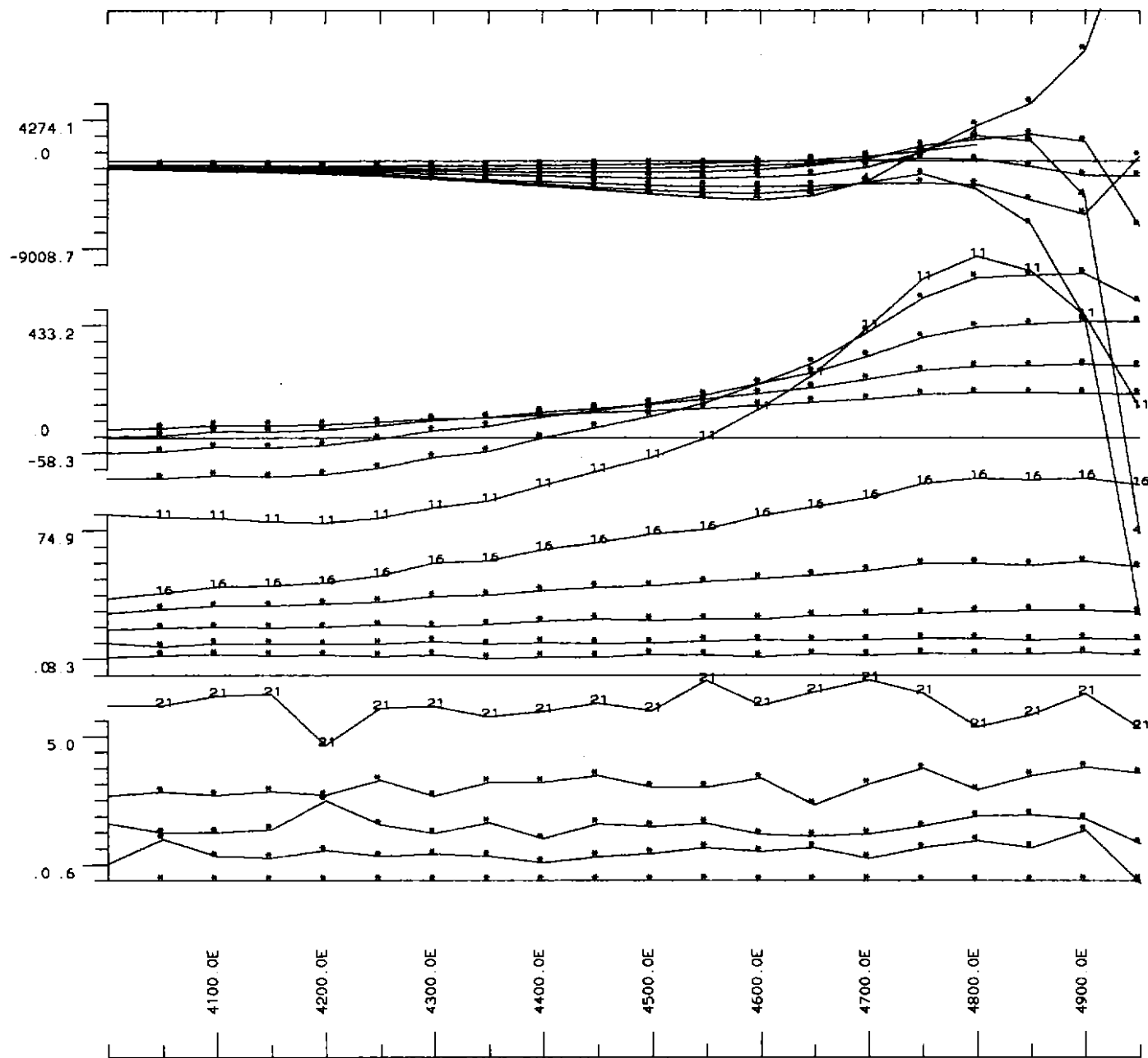
LOOP 13

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

820023



Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop13 av
 LOOP: 13
 LINE: 15400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

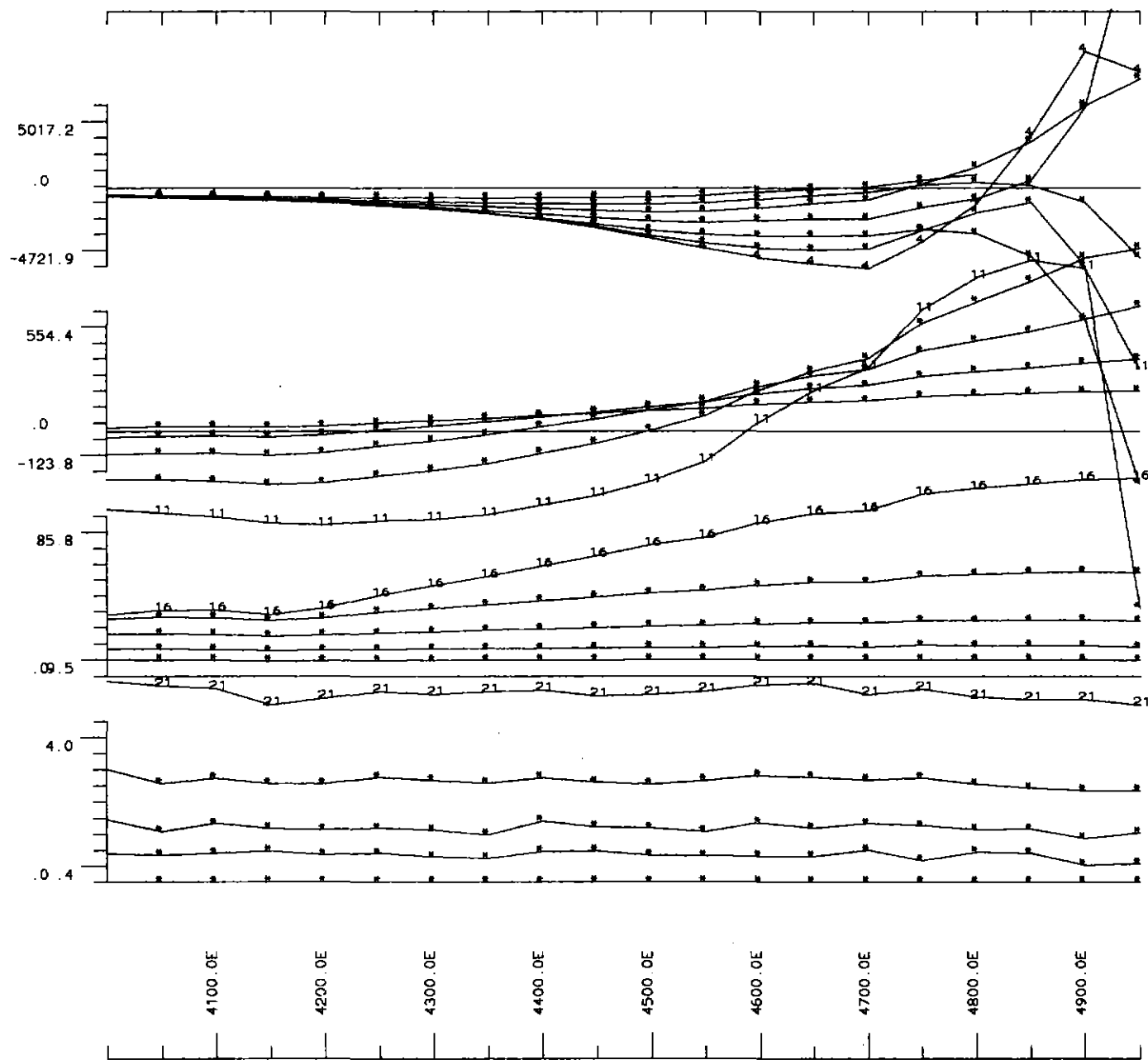
LOOP 13

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720074



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop13.av

LOOP: 13

LINE: 15600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

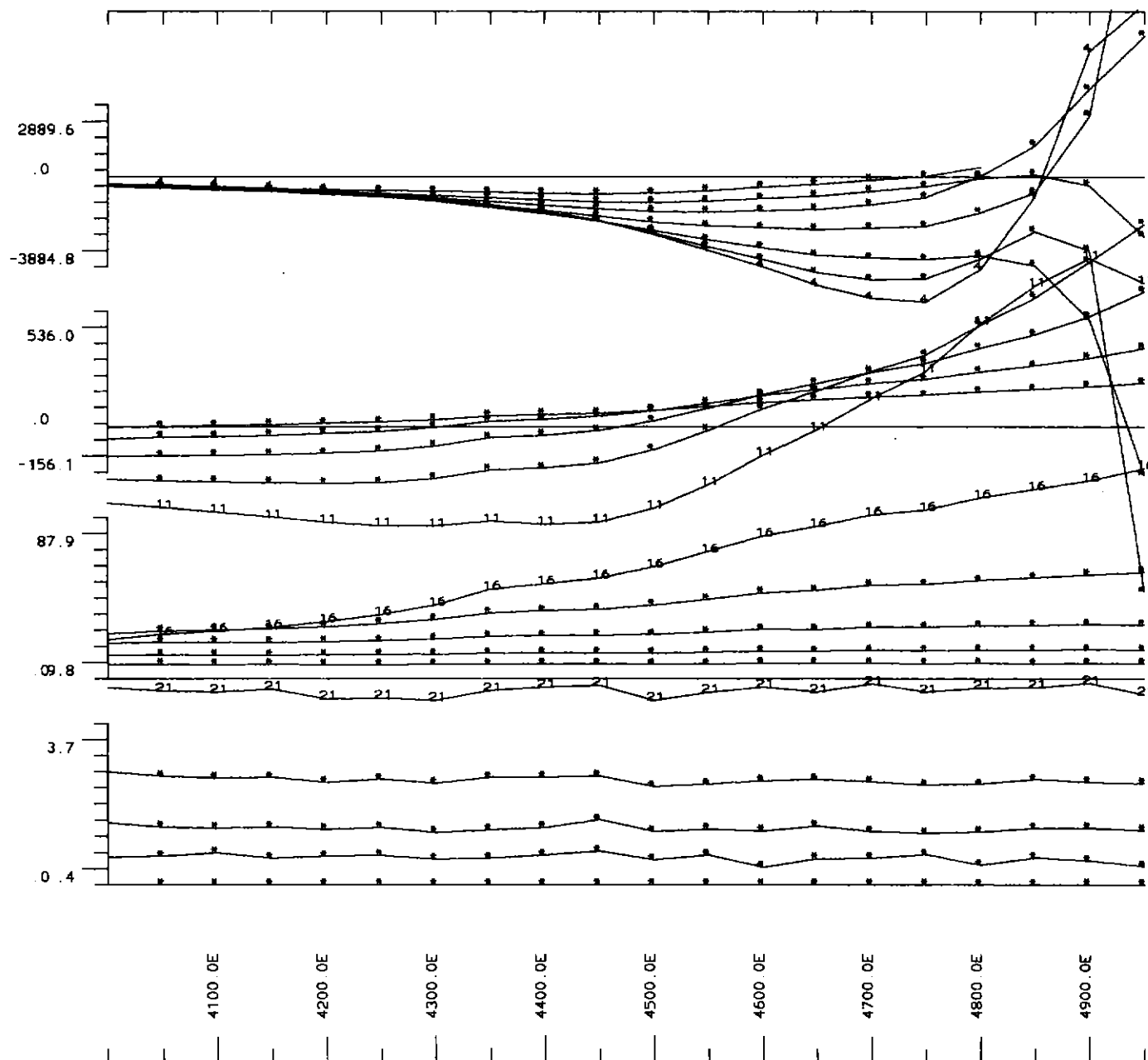
LOOP 13

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720075



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop13.av

LOOP: 13

LINE: 15800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

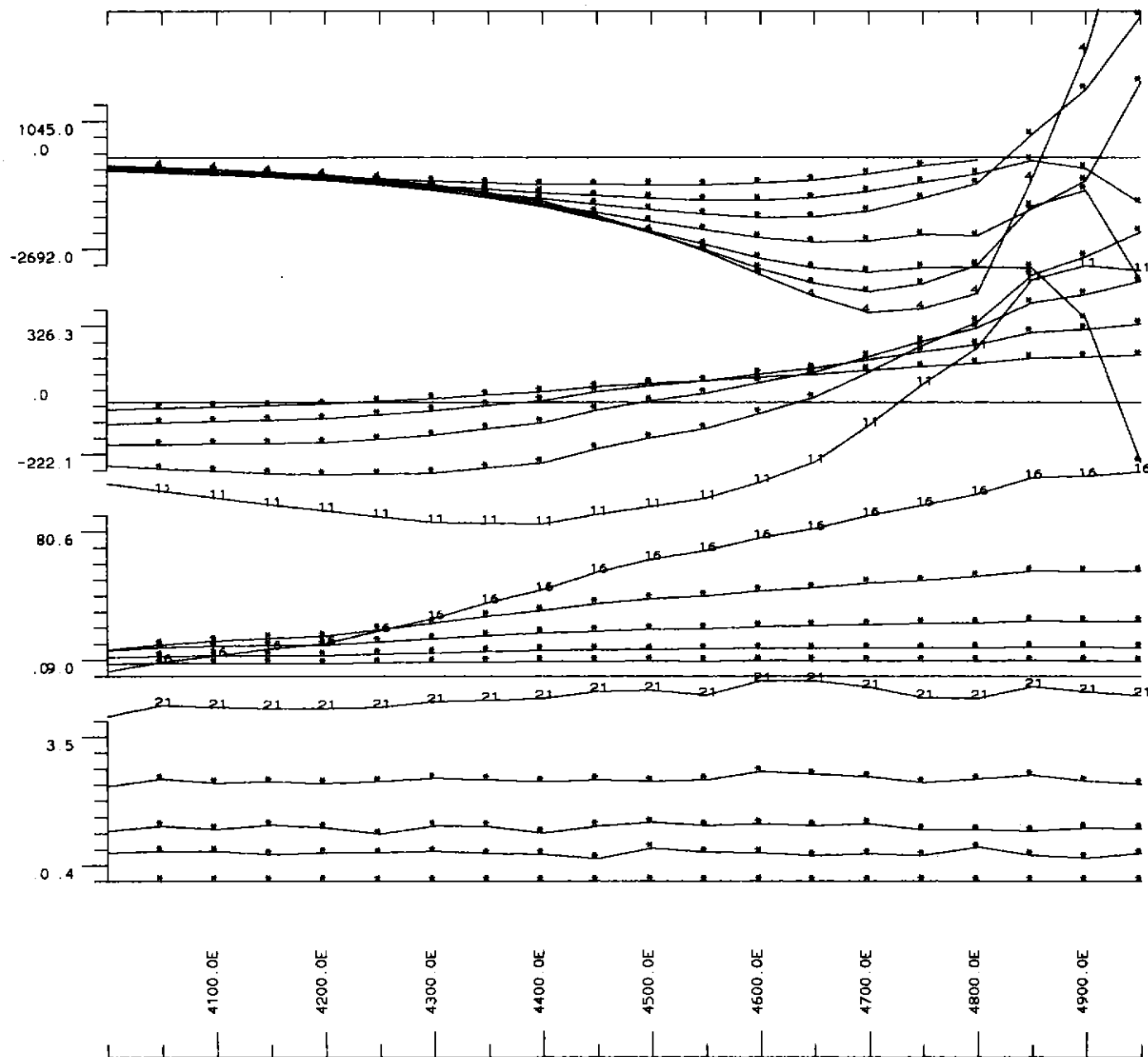
LOOP 13

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

920076



5 cm

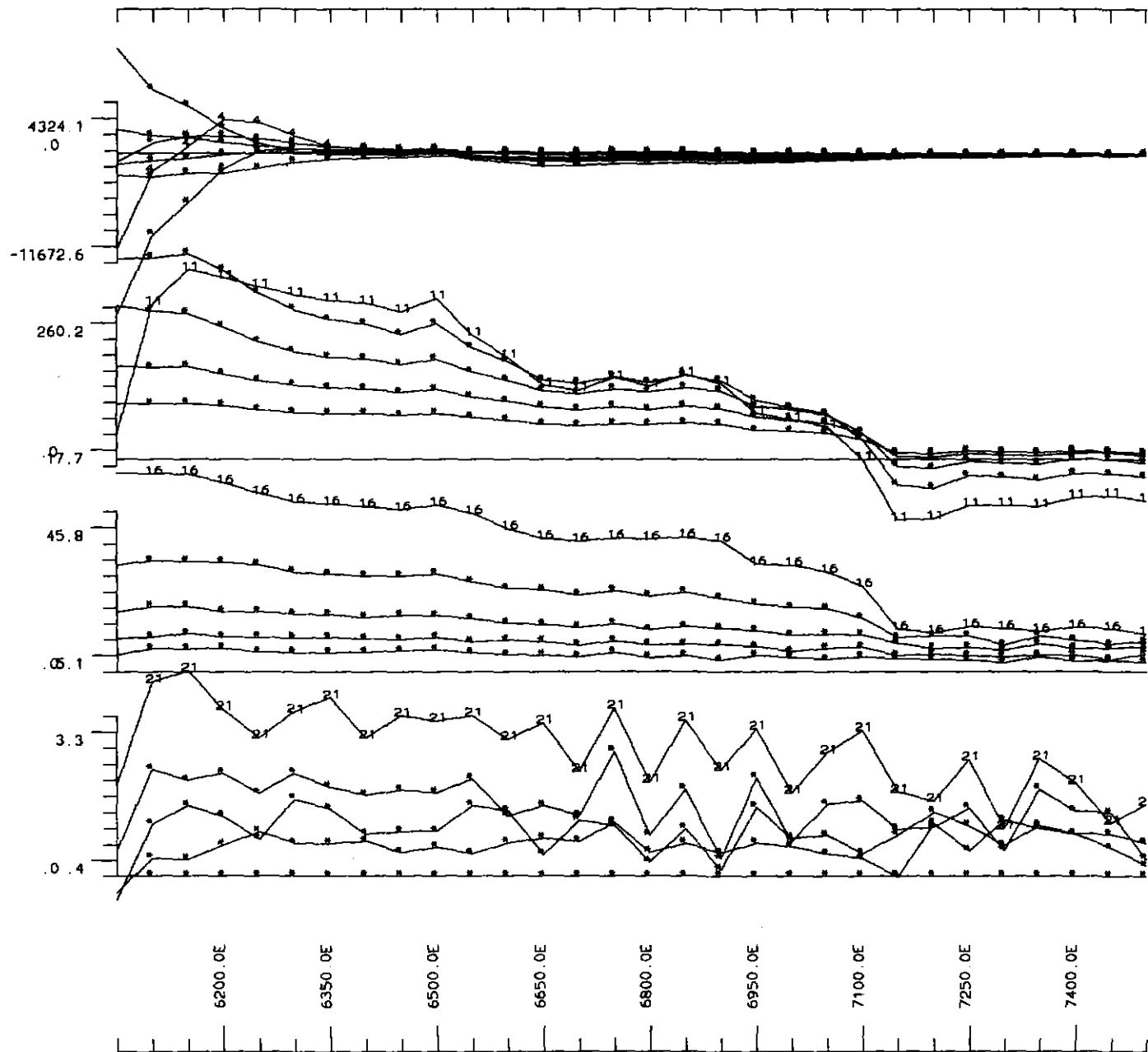
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop13.av
 LOOP: 13
 LINE: 16000 00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 13
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720077



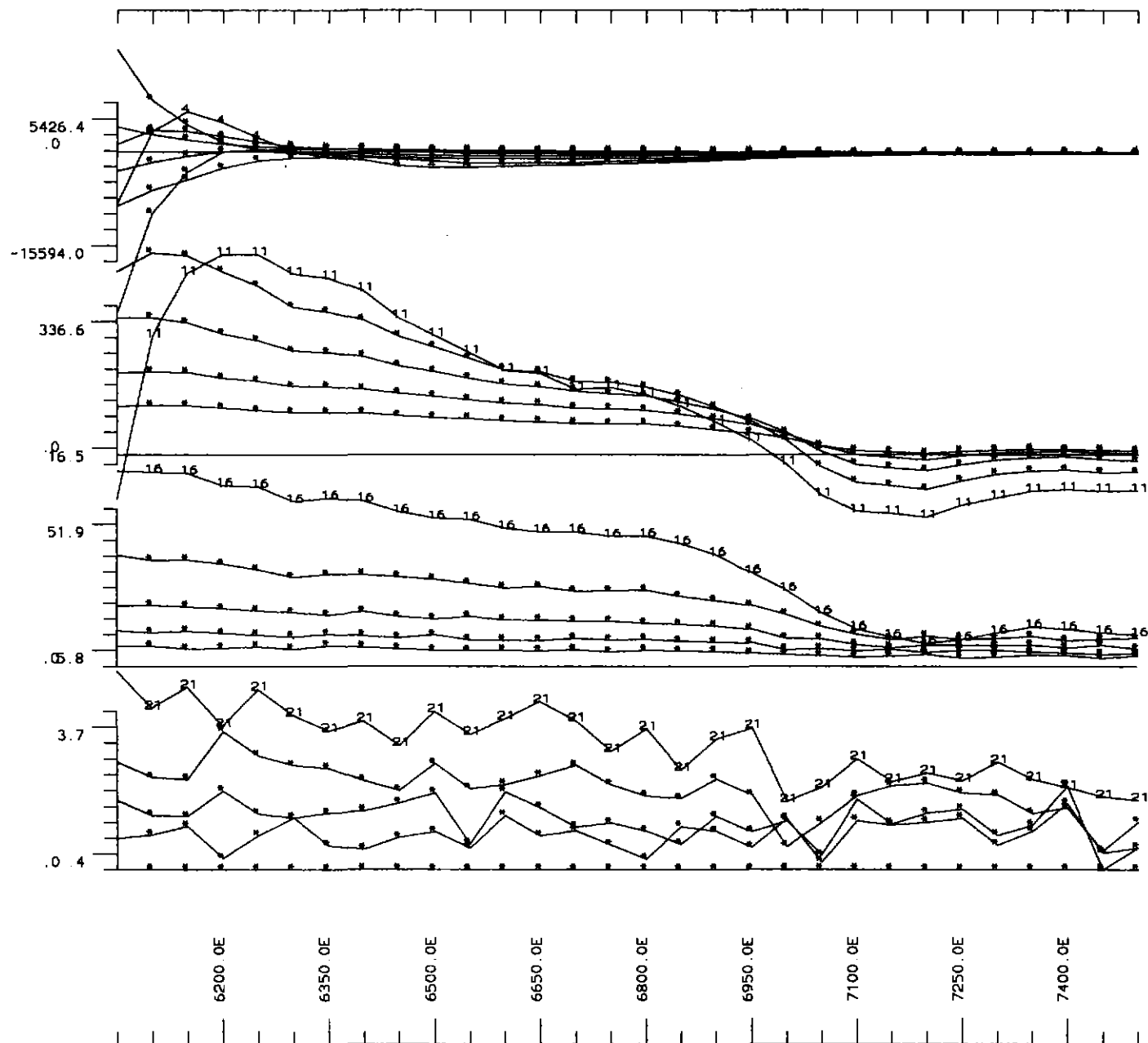
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: obs\mac_em2\113b av
 LOOP: 13
 LINE: 15000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 8787.9

MACKINTOSH SURFACE EM

LOOP 13B
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720078



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: obs\mac_em2\113b.av

LOOP: 13

LINE: 15200.00N

Date Plotted: 19/03/95

Horiz scale 1: 8787.9

MACKINTOSH SURFACE EM

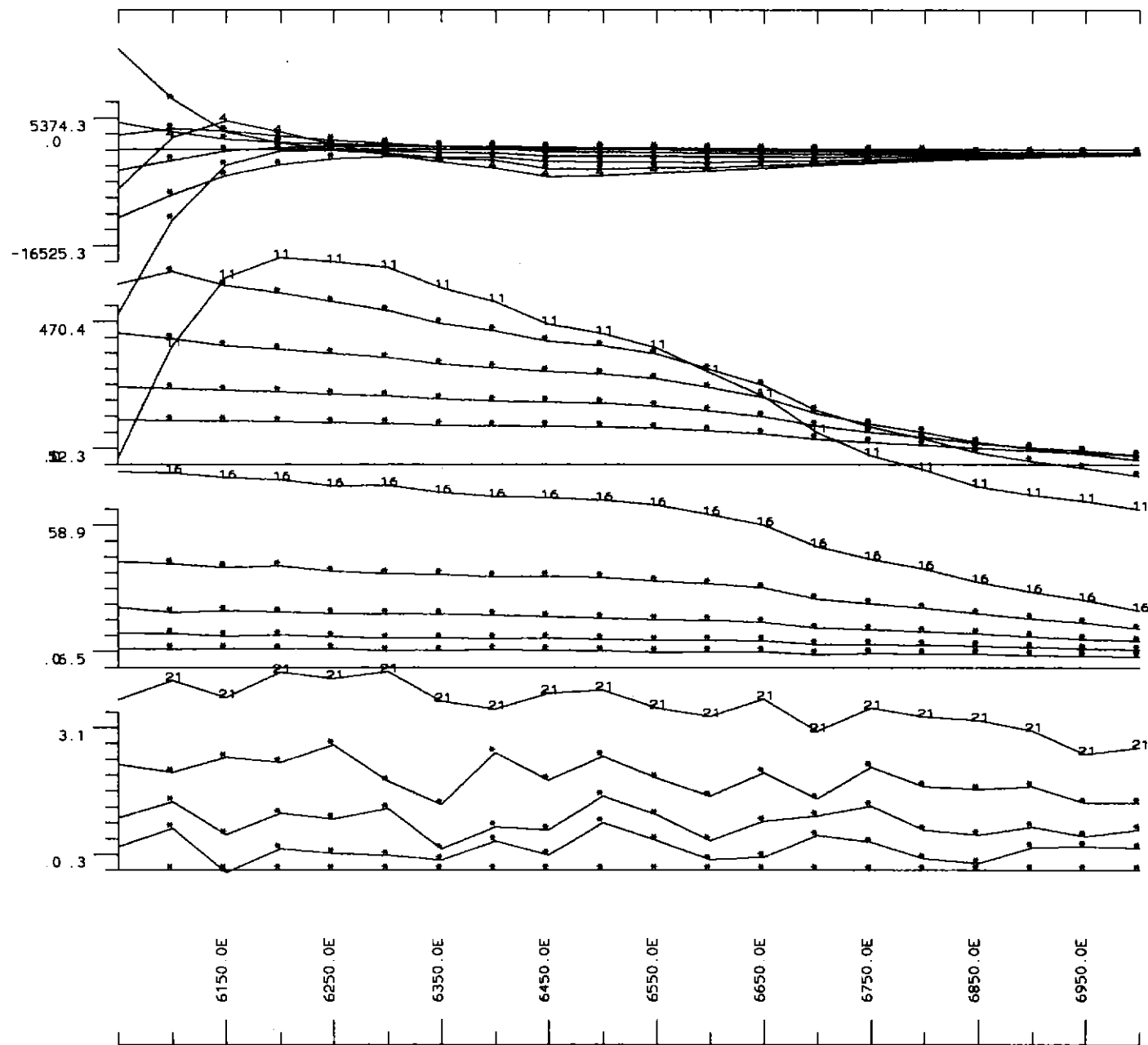
LOOP 13B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

620029



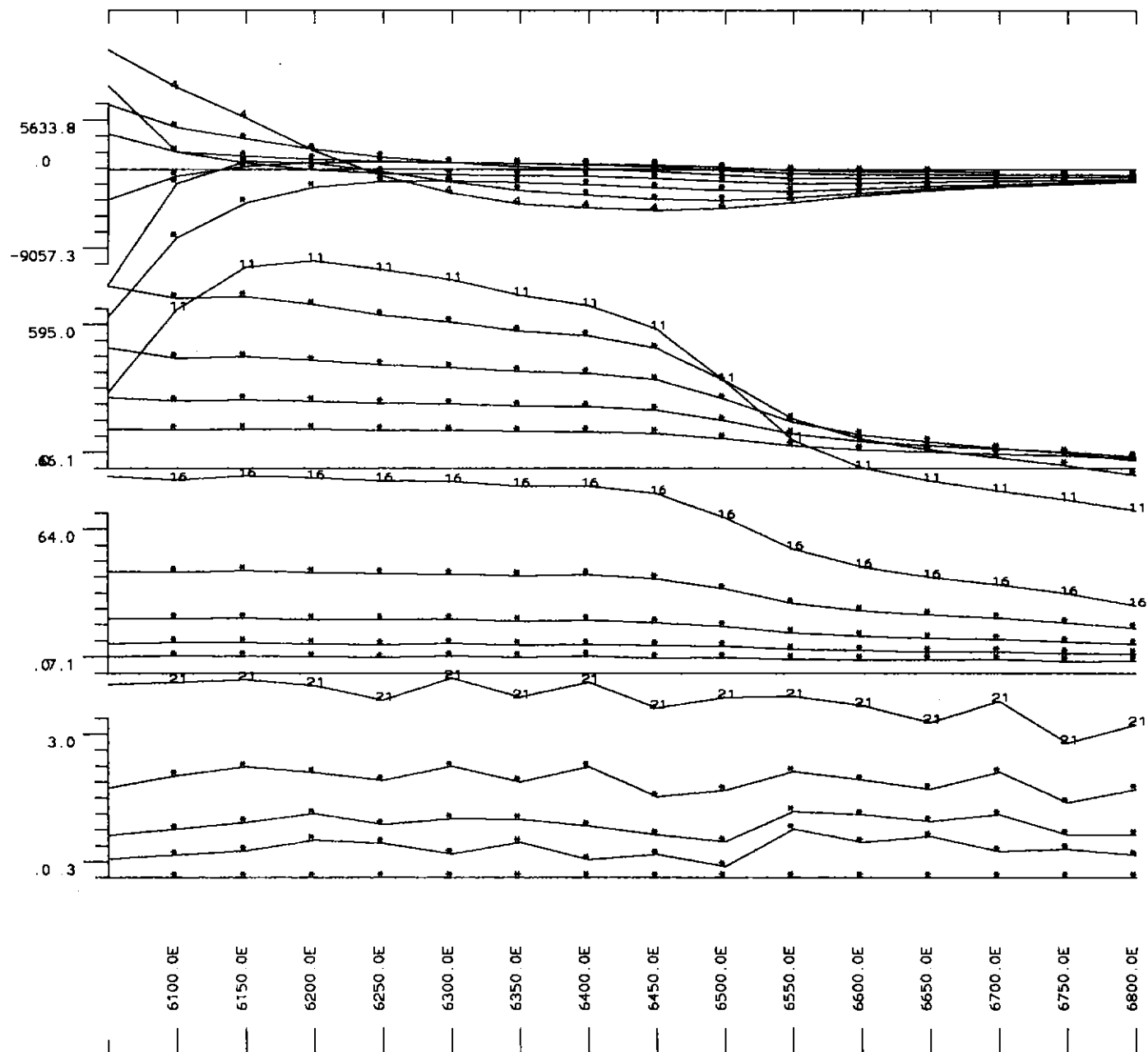
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: obs\mac_em2\113b.av
 LOOP: 13
 LINE: 15400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

 MACKINTOSH SURFACE EM

 LOOP 13B
 HZ COMPONENT
 ZONGE GDP16 16HZ

 ABERFOYLE RESOURCES LTD

720080



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: obs\mac_em2\113b av

LOOP: 13

LINE: 15600.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

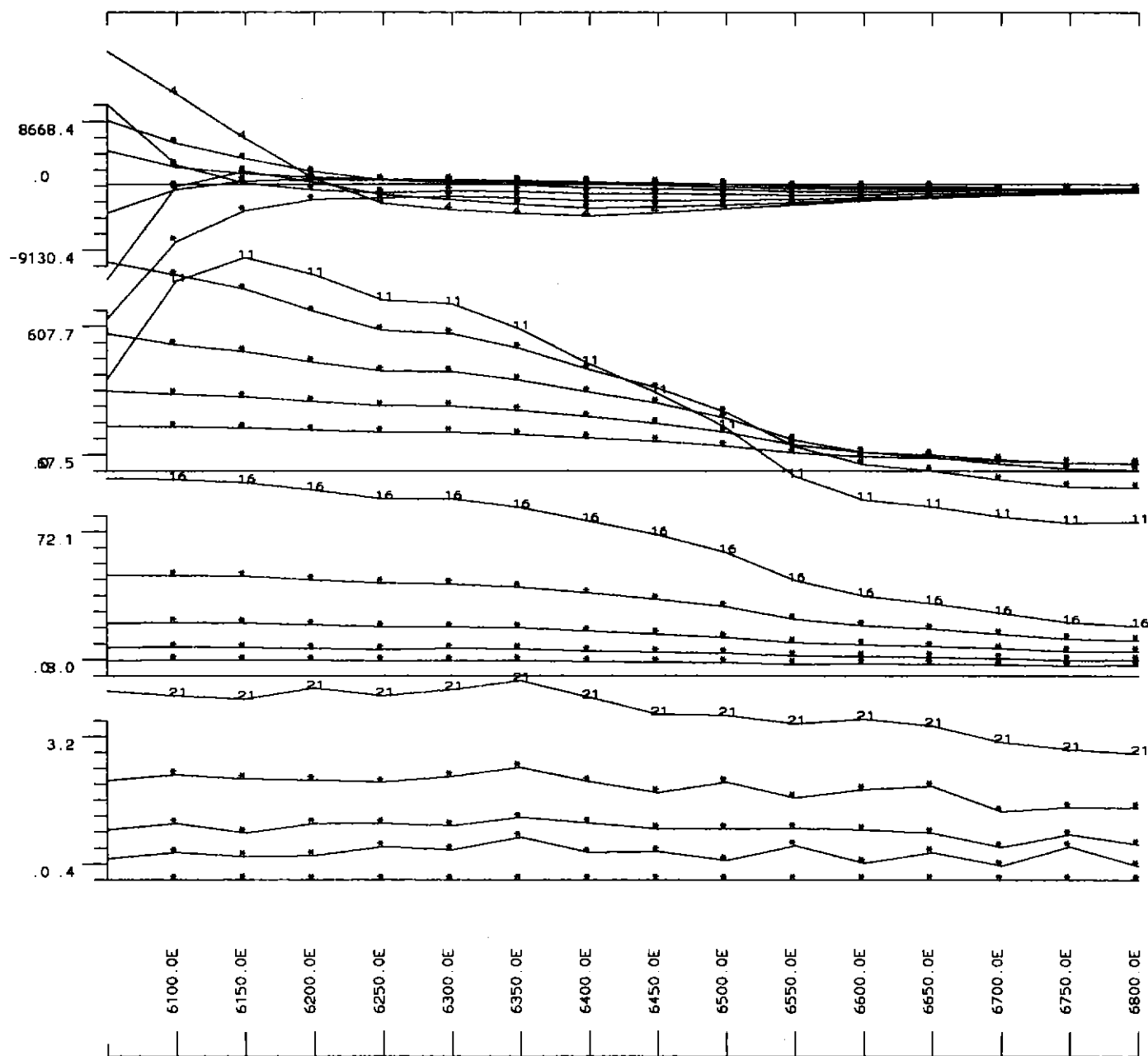
LOOP 13B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220081



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: obs\mac_em2\113b av

LOOP: 13

LINE: 15800.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

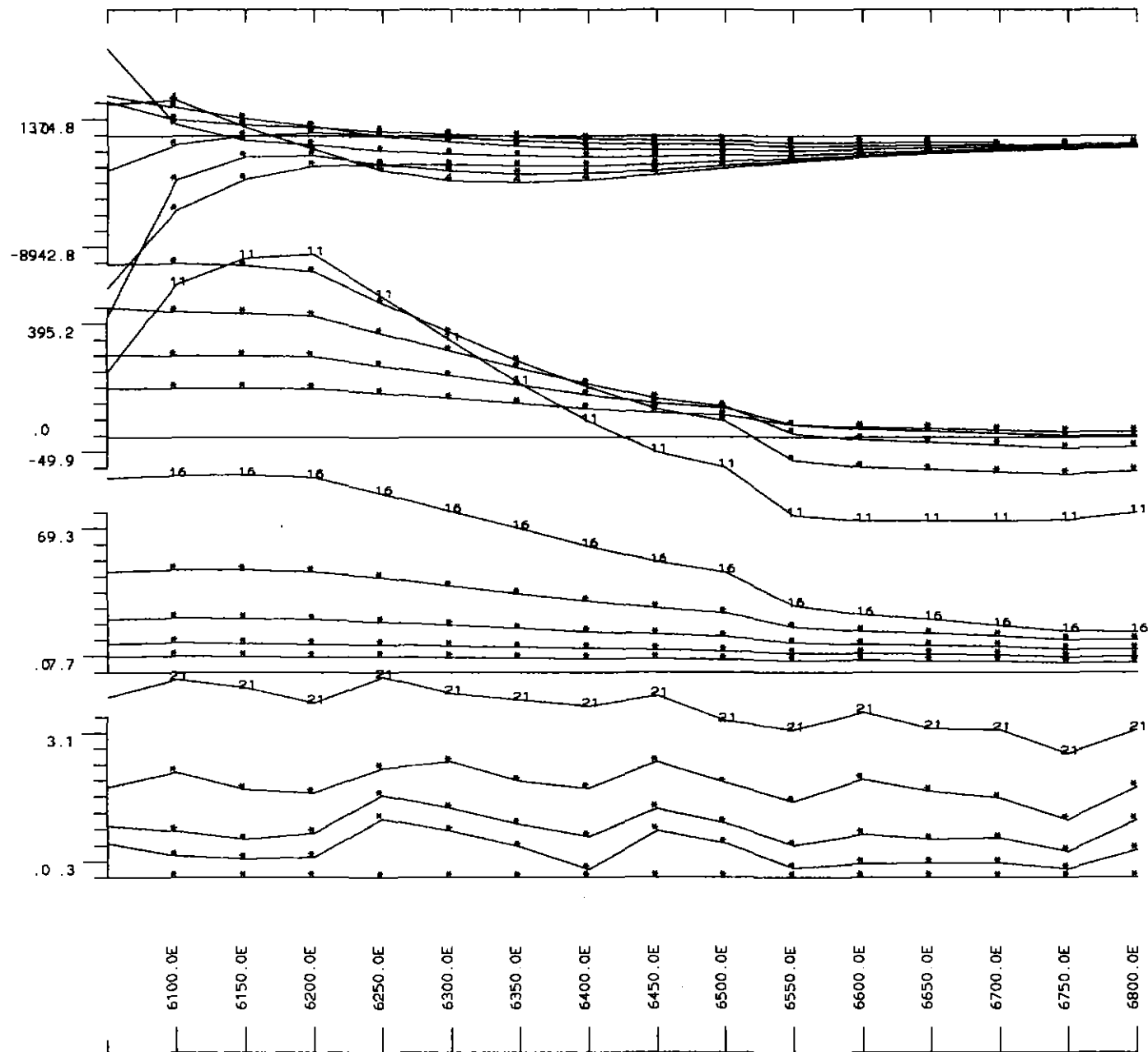
LOOP 13B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFDOYLE RESOURCES LTD

720082



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: obs\mac_em2\113b av

LOOP: 13

LINE: 16000.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

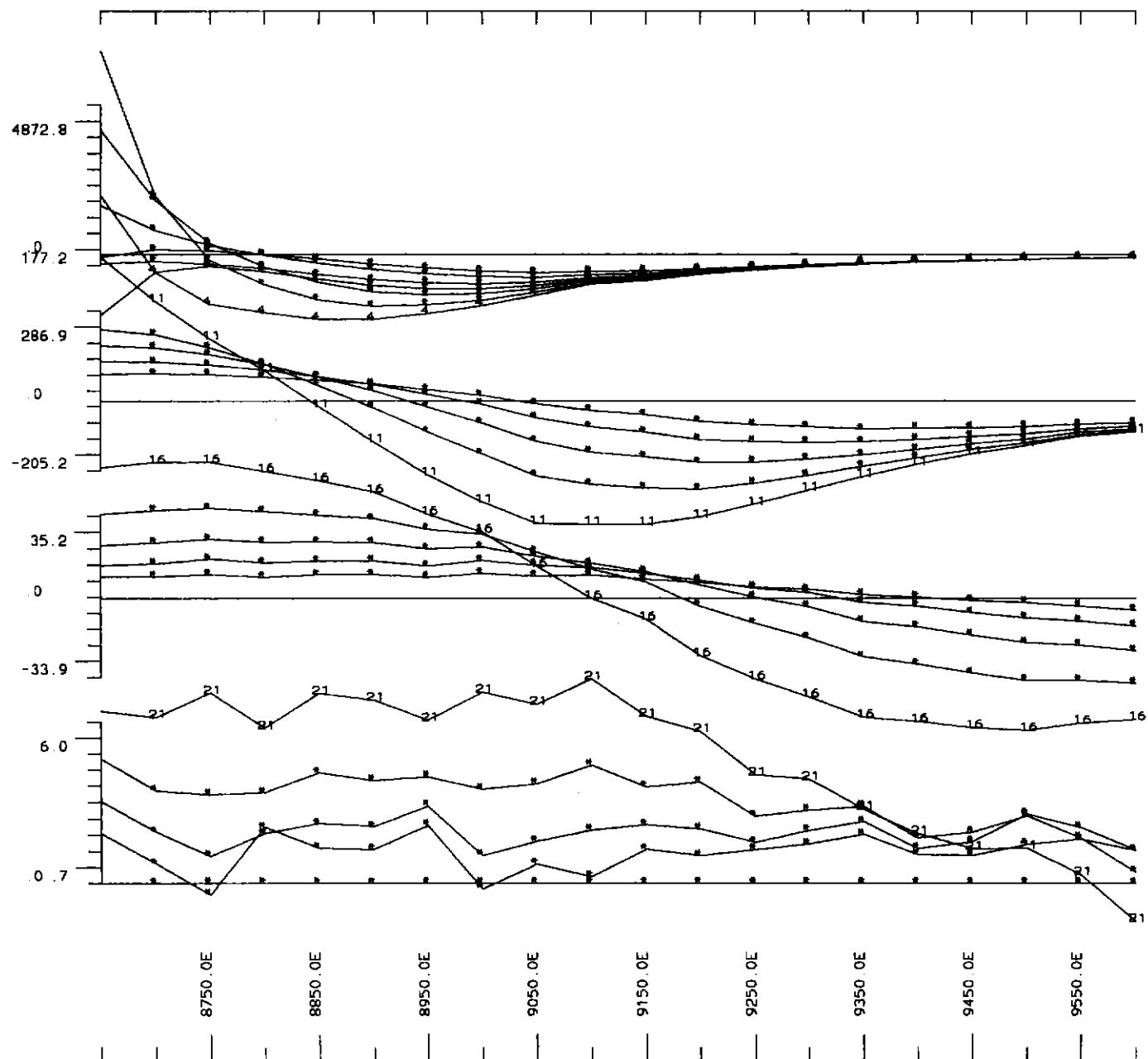
LOOP 13B

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

380031



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop14.av

LOOP: 14

LINE: 16000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

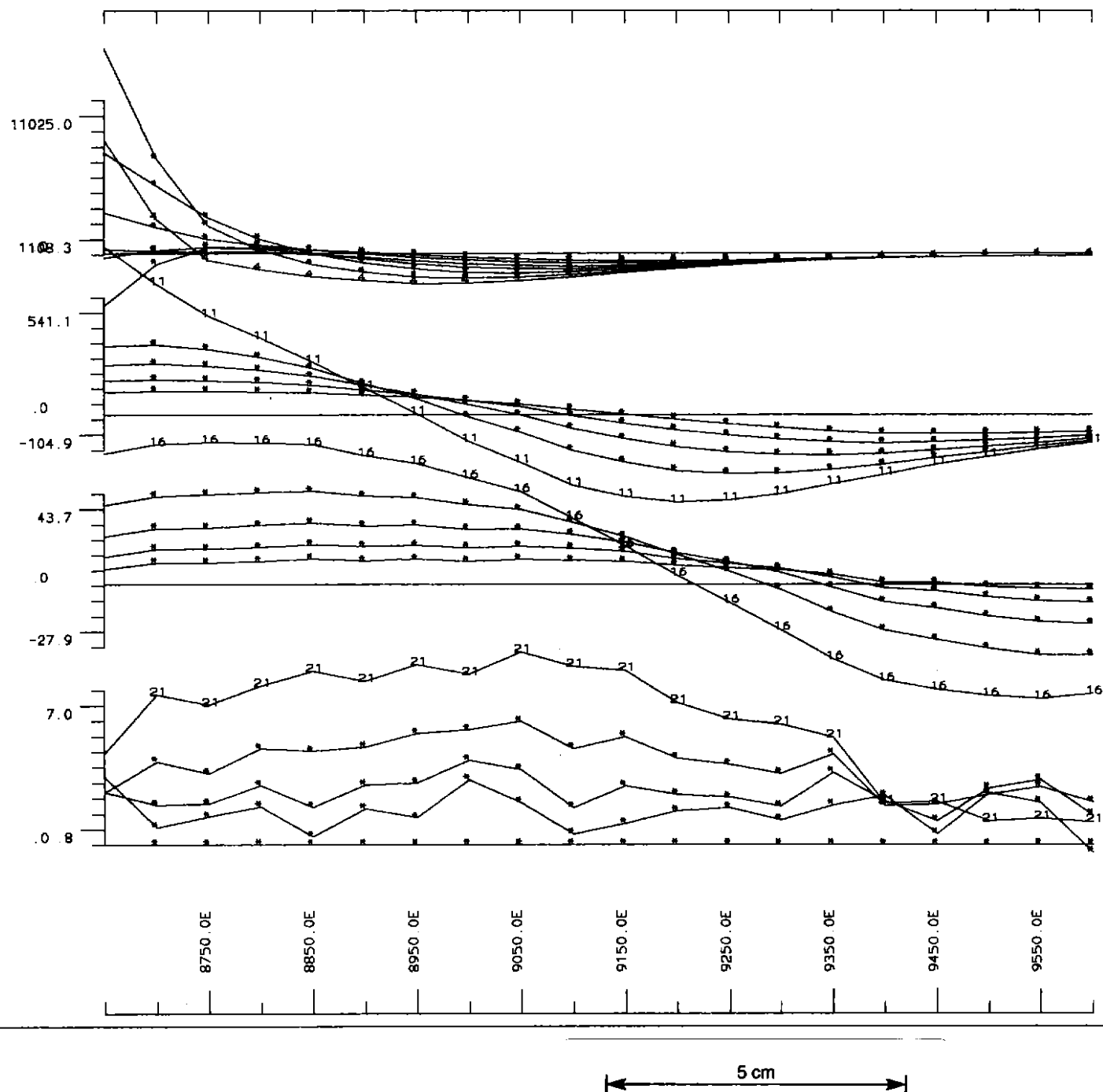
LOOP 14

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

520084



Program PLOTEN
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop14.av
 LOOP: 14
 LINE: 16200.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

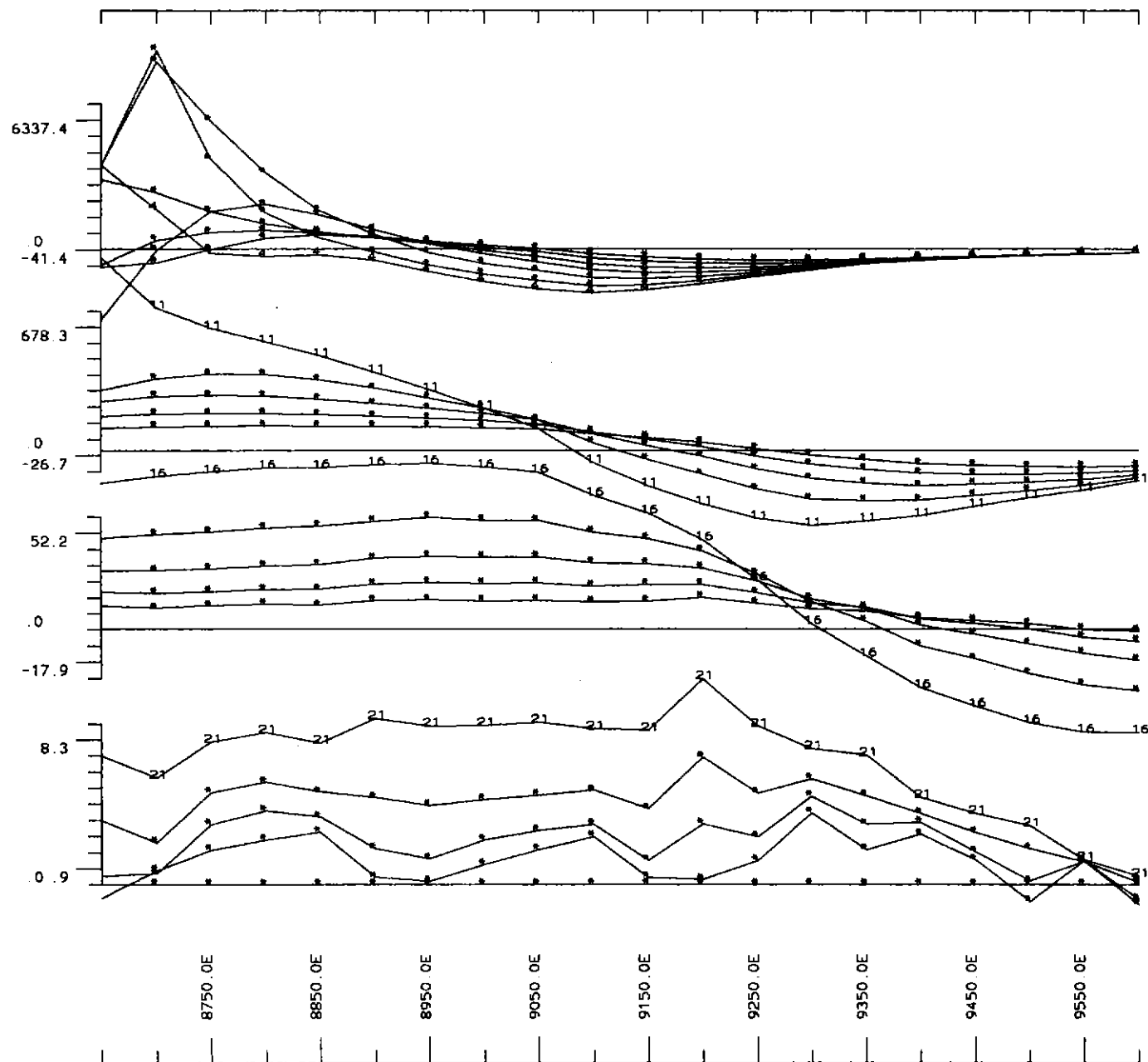
LOOP 14

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720083



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop14.av

LOOP: 14

LINE: 16400.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

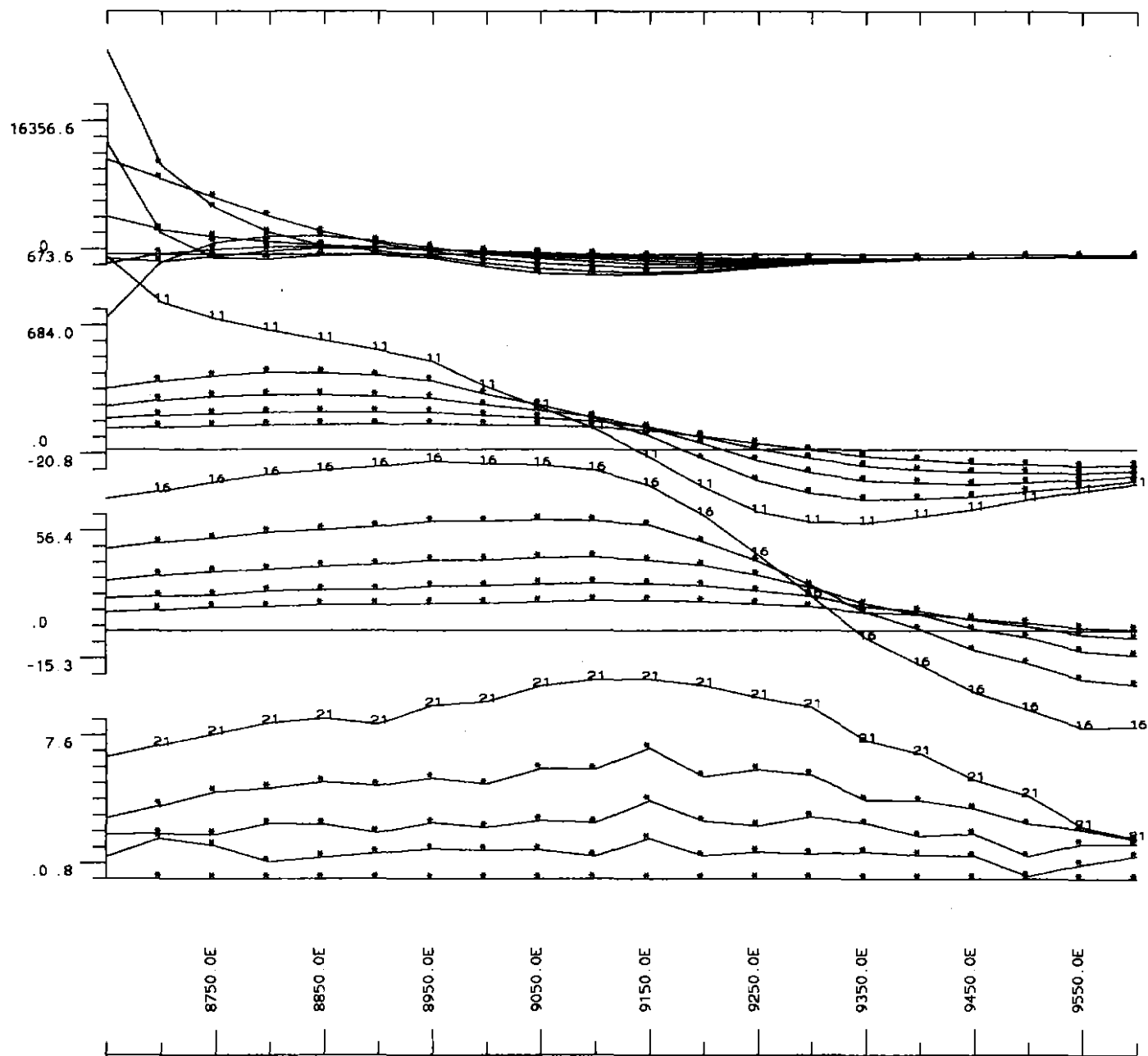
LOOP 14

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720086



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop14.av

LOOP: 14

LINE: 16600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

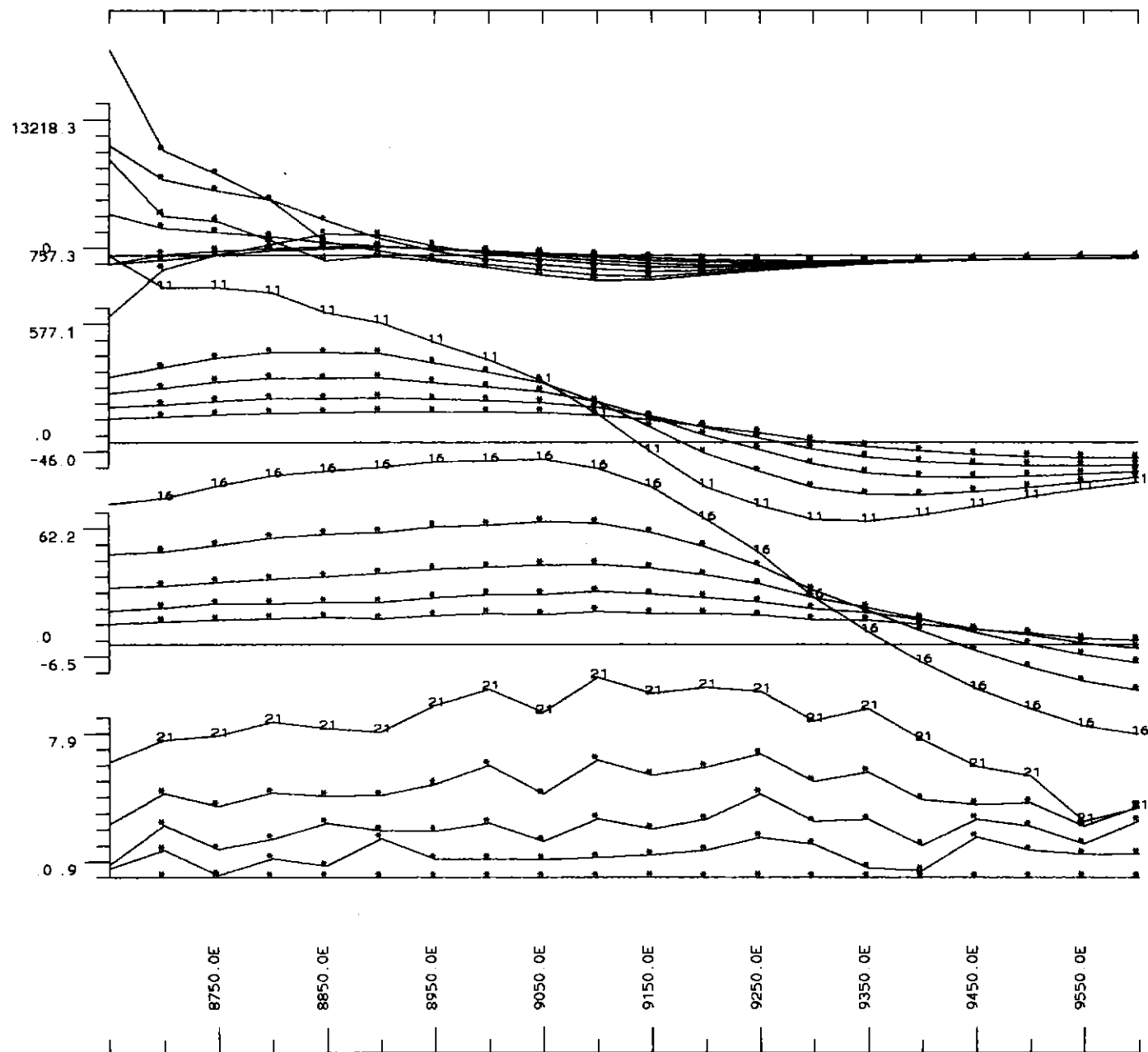
LOOP 14

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

280022



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop14.av

LOOP: 14

LINE: 16800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

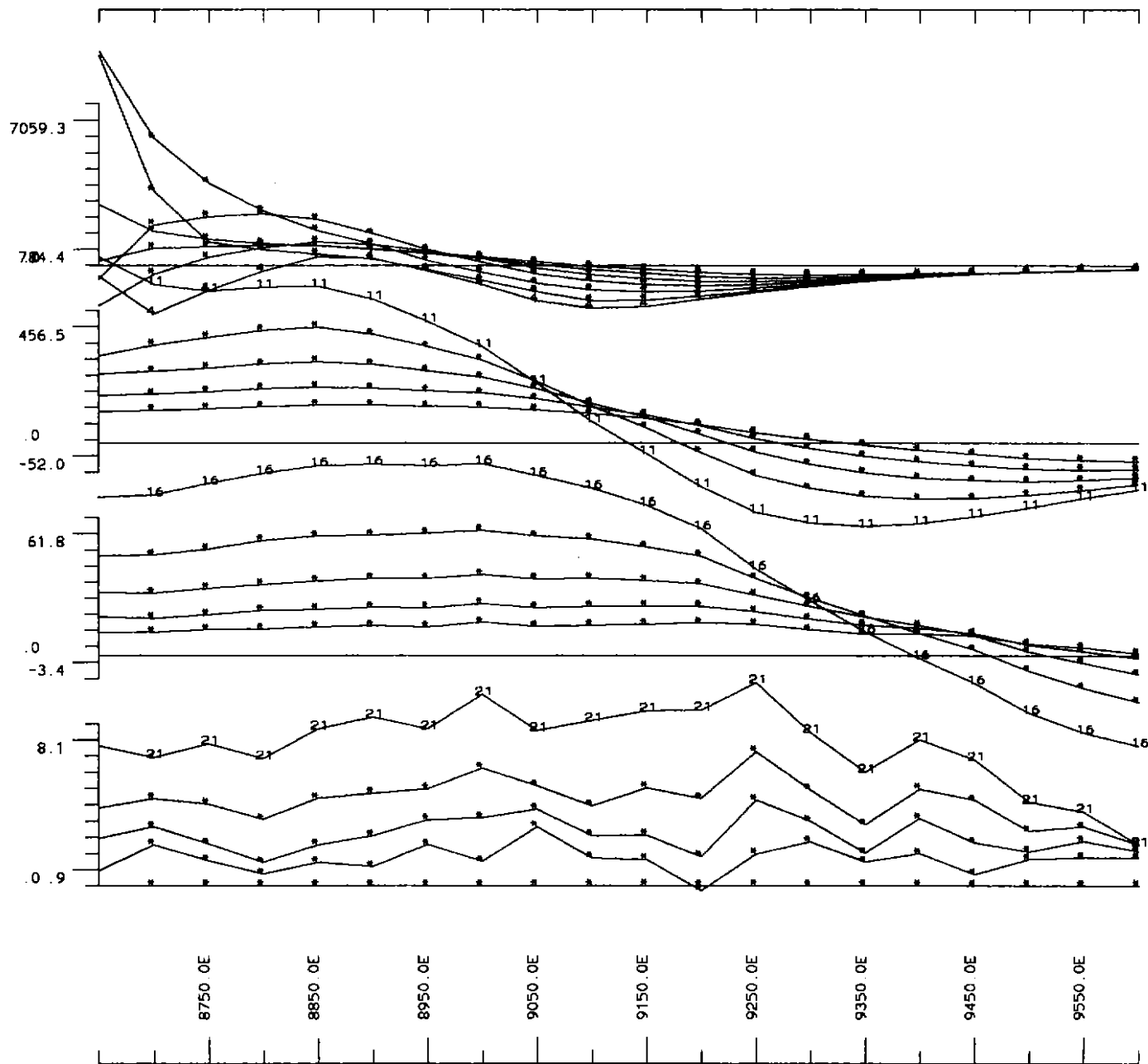
LOOP 14

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720088



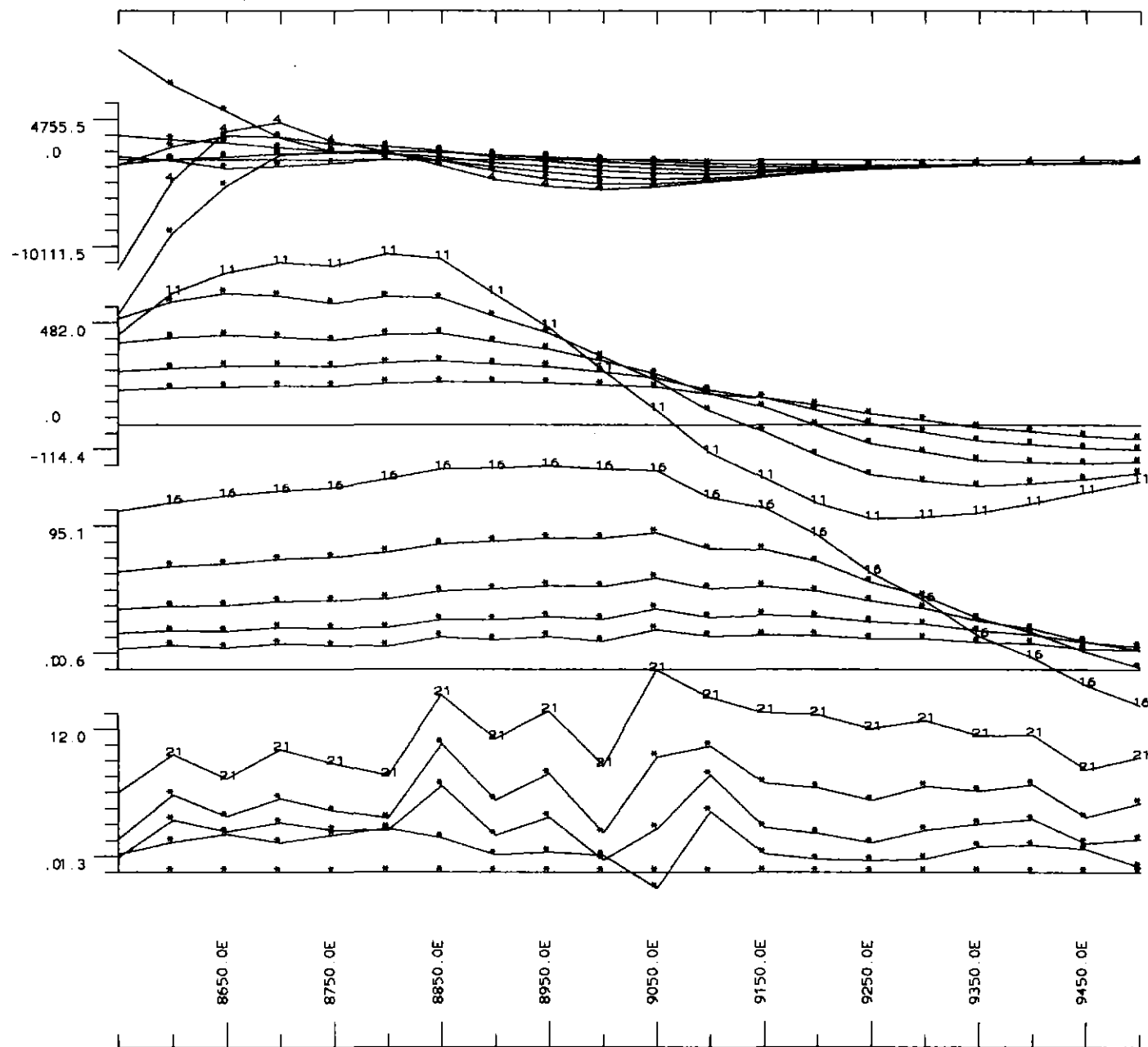
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop14.av
 LOOP: 14
 LINE: 17000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 14
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720089



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop16 av

LDOP: 16

LINE: 17000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

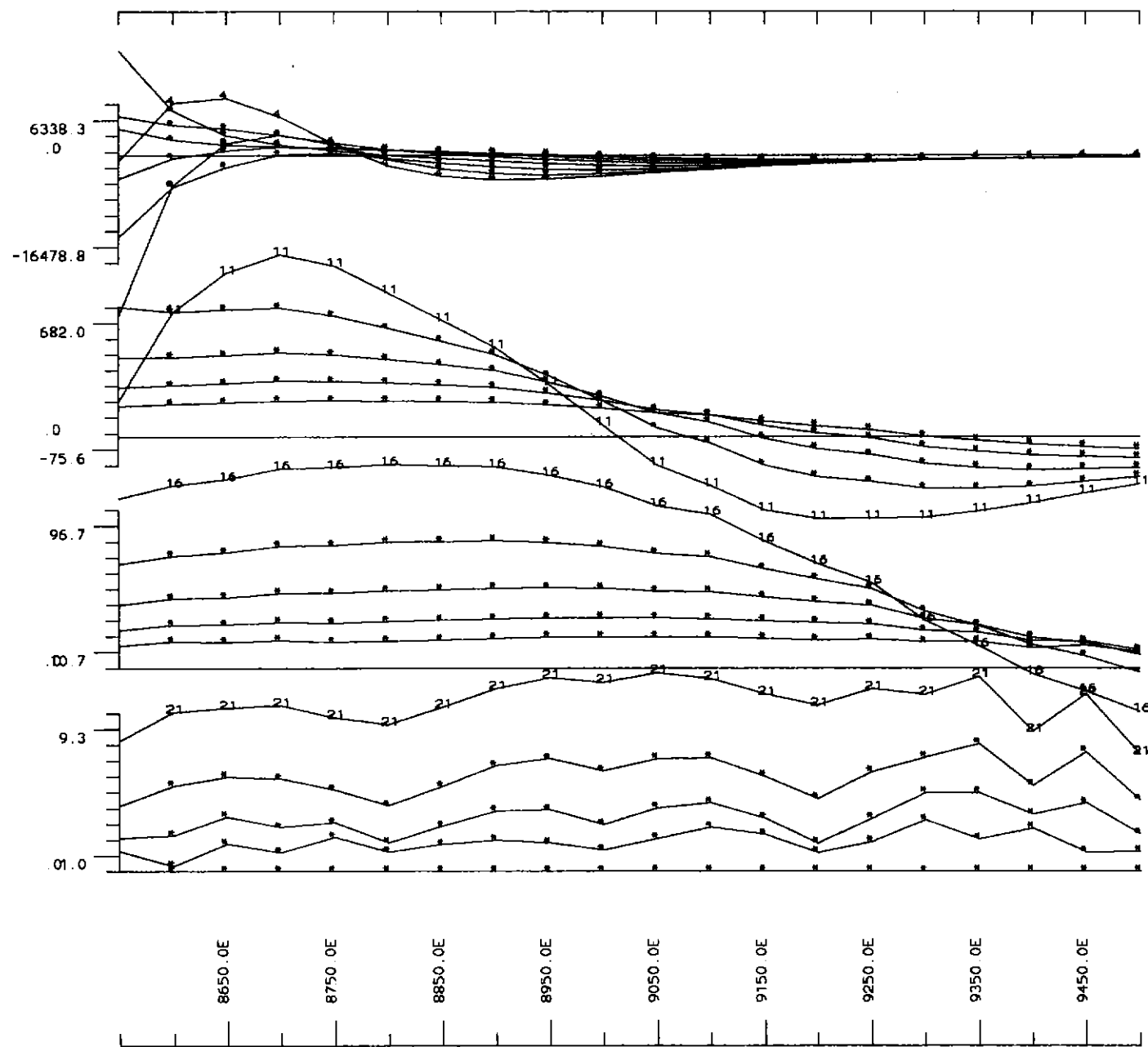
LOOP 16

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

7200000



5 cm

Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop16 av

LOOP: 16

LINE: 17200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

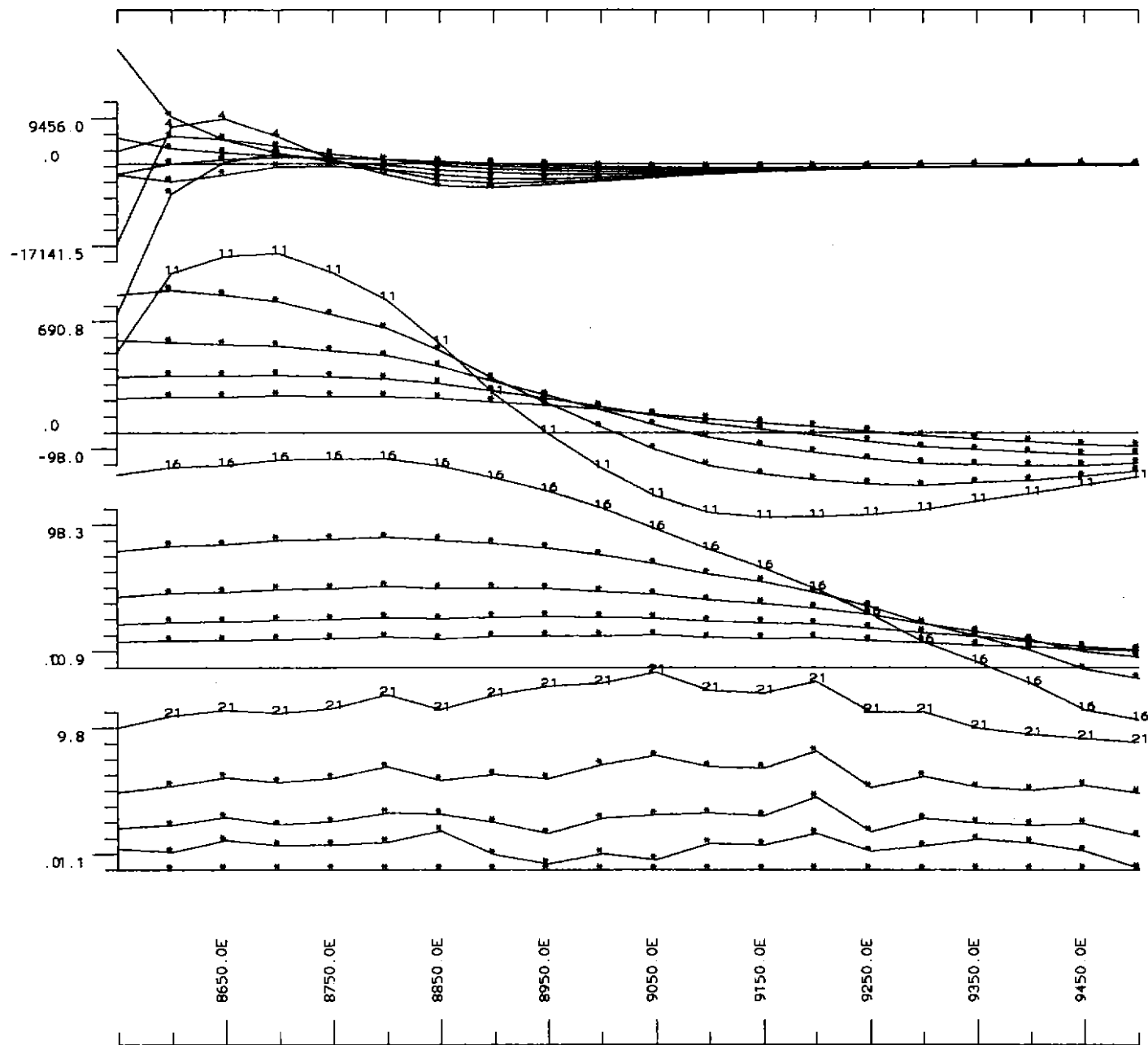
LOOP 16

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720091



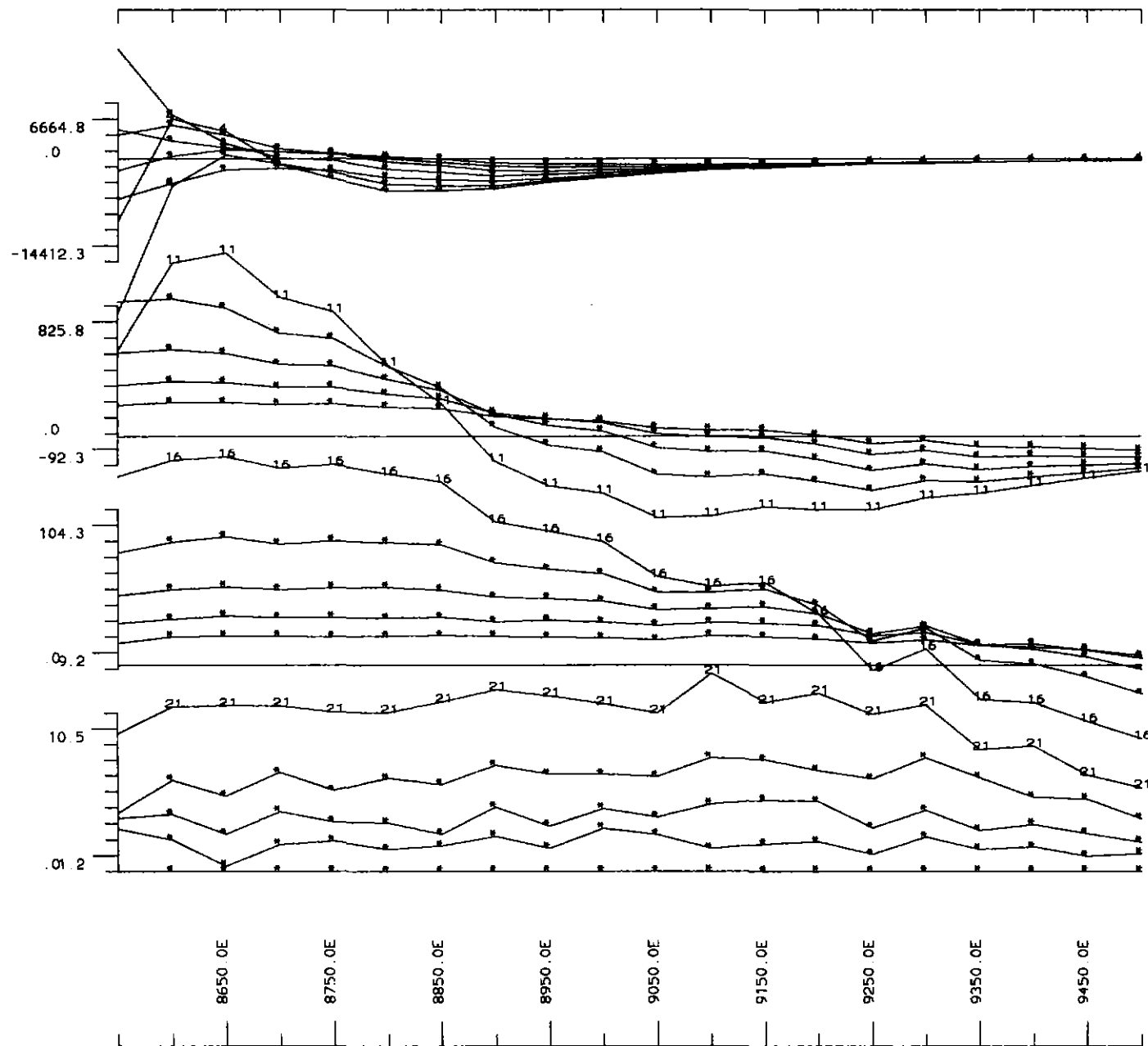
Program PLOTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop16.av
 LOOP: 16
 LINE: 17400.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

LOOP 16
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720002



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop16.av

LOOP: 16

LINE: 17600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

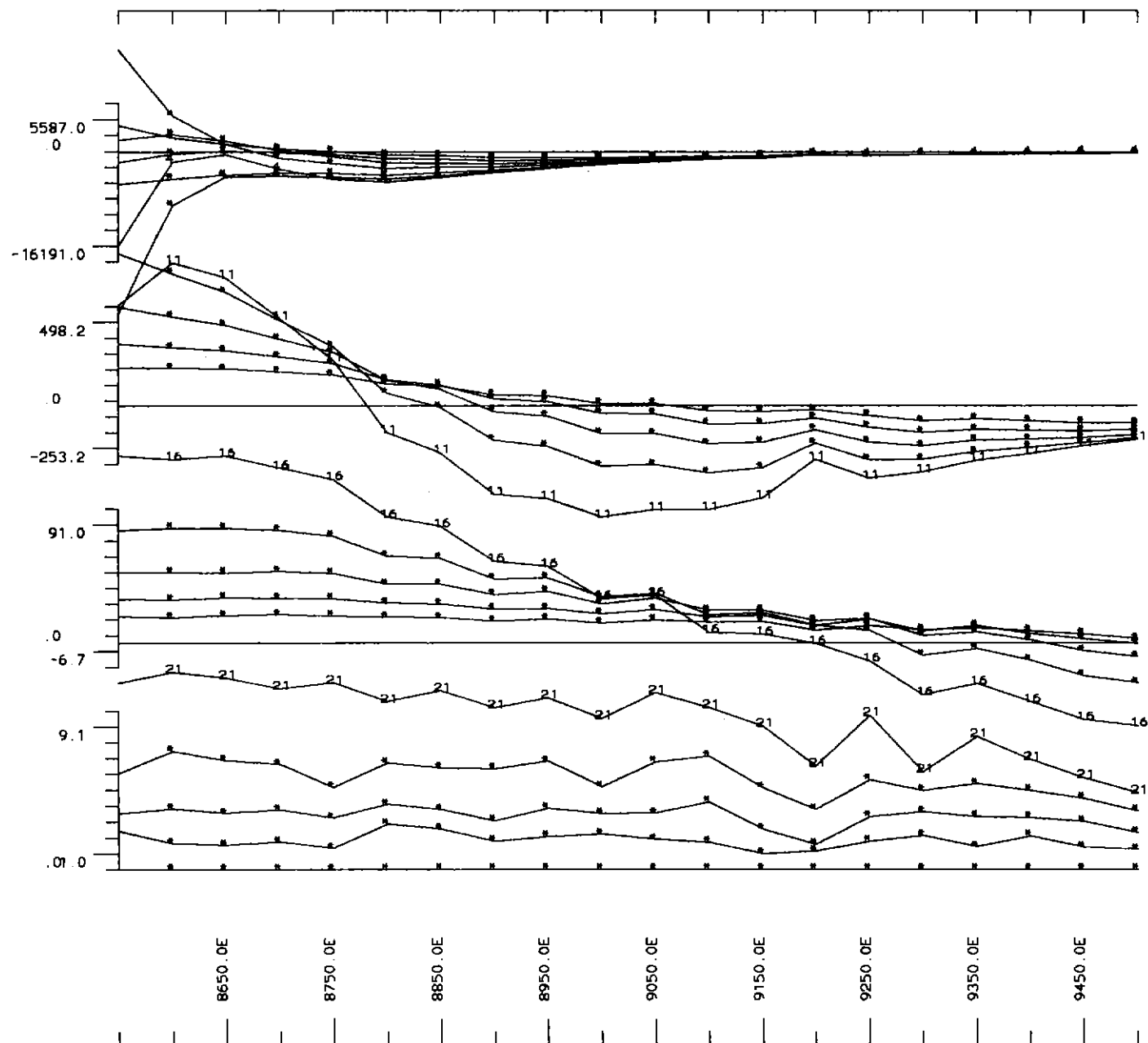
LOOP 16

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

000021



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop16.av

LOOP: 16

LINE: 17800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

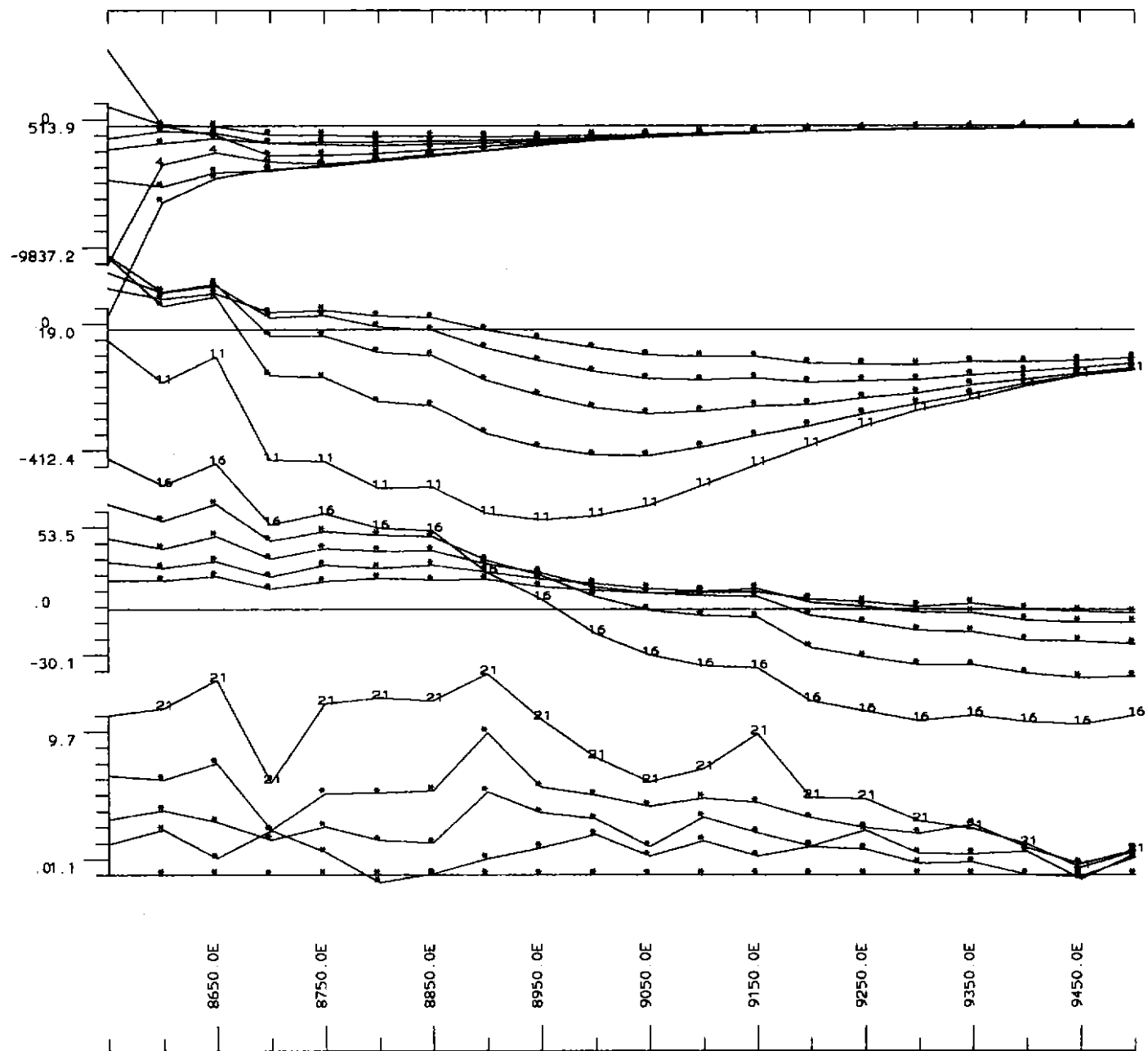
LOOP 16

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720094



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop16 av

LOOP: 16

LINE: 18000.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

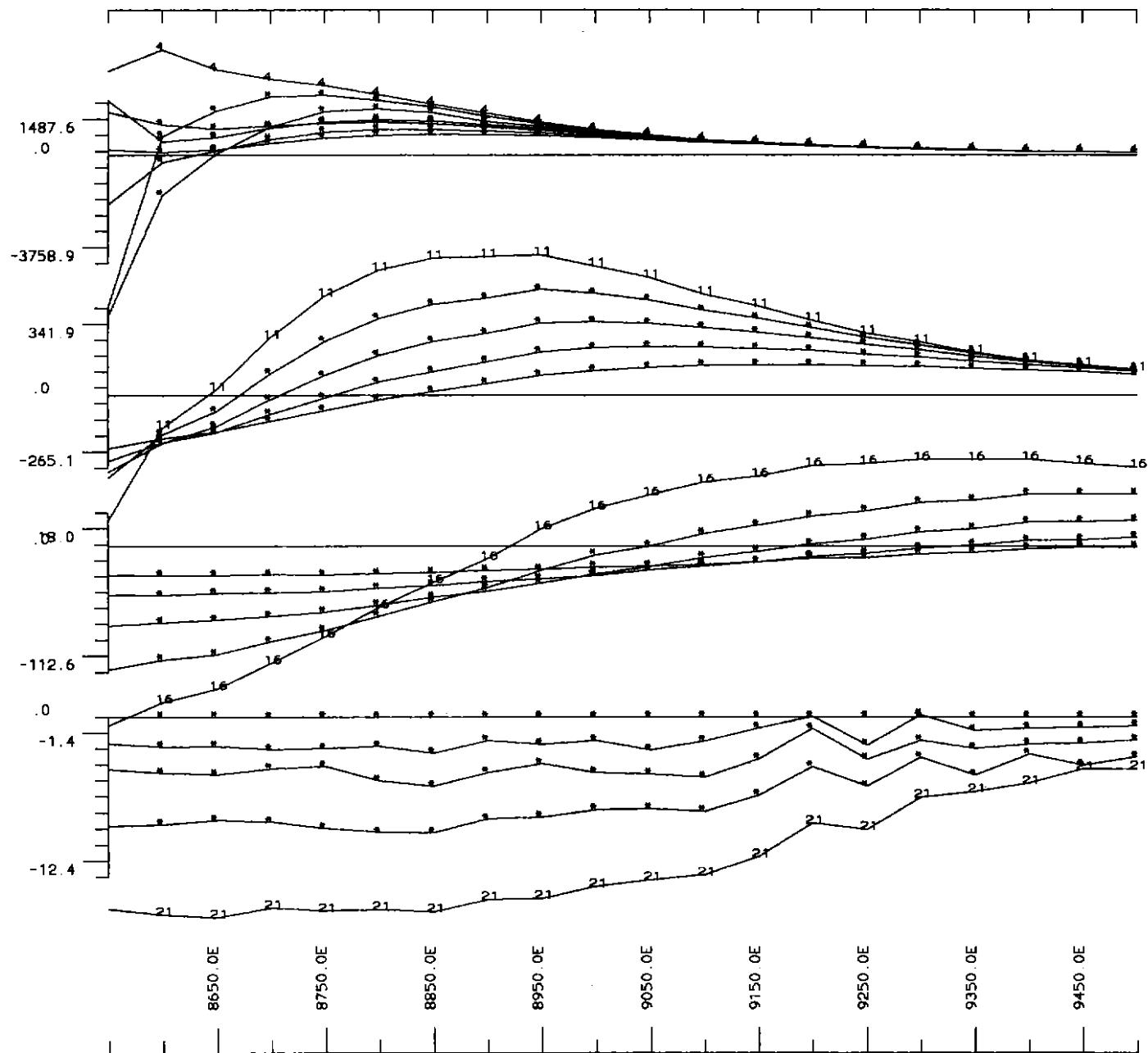
LOOP 16

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720095



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop17.av
 LOOP: 17
 LINE: 18000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

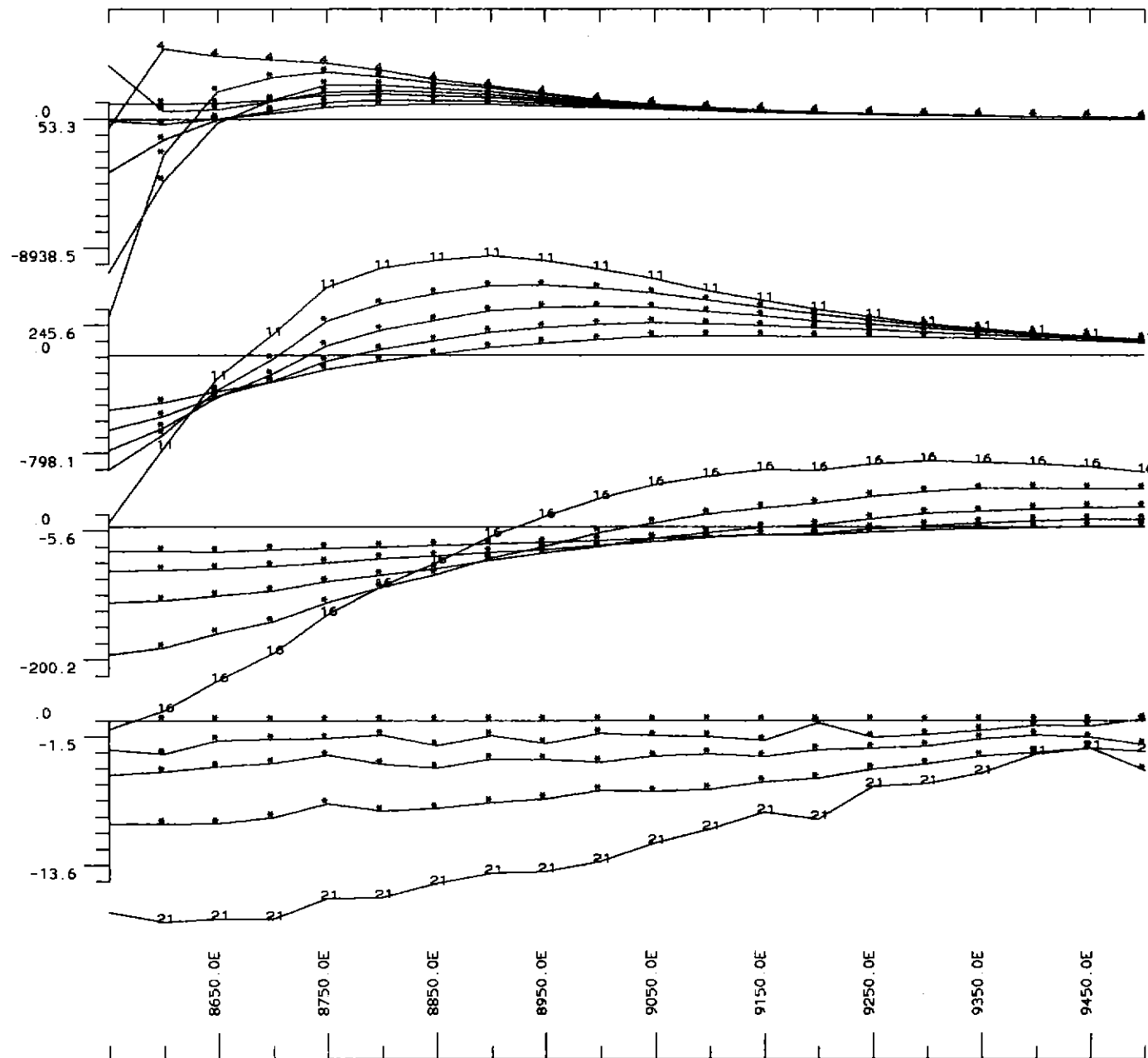
LOOP 17

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720096



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop17.av

LOOP: 17

LINE: 18200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

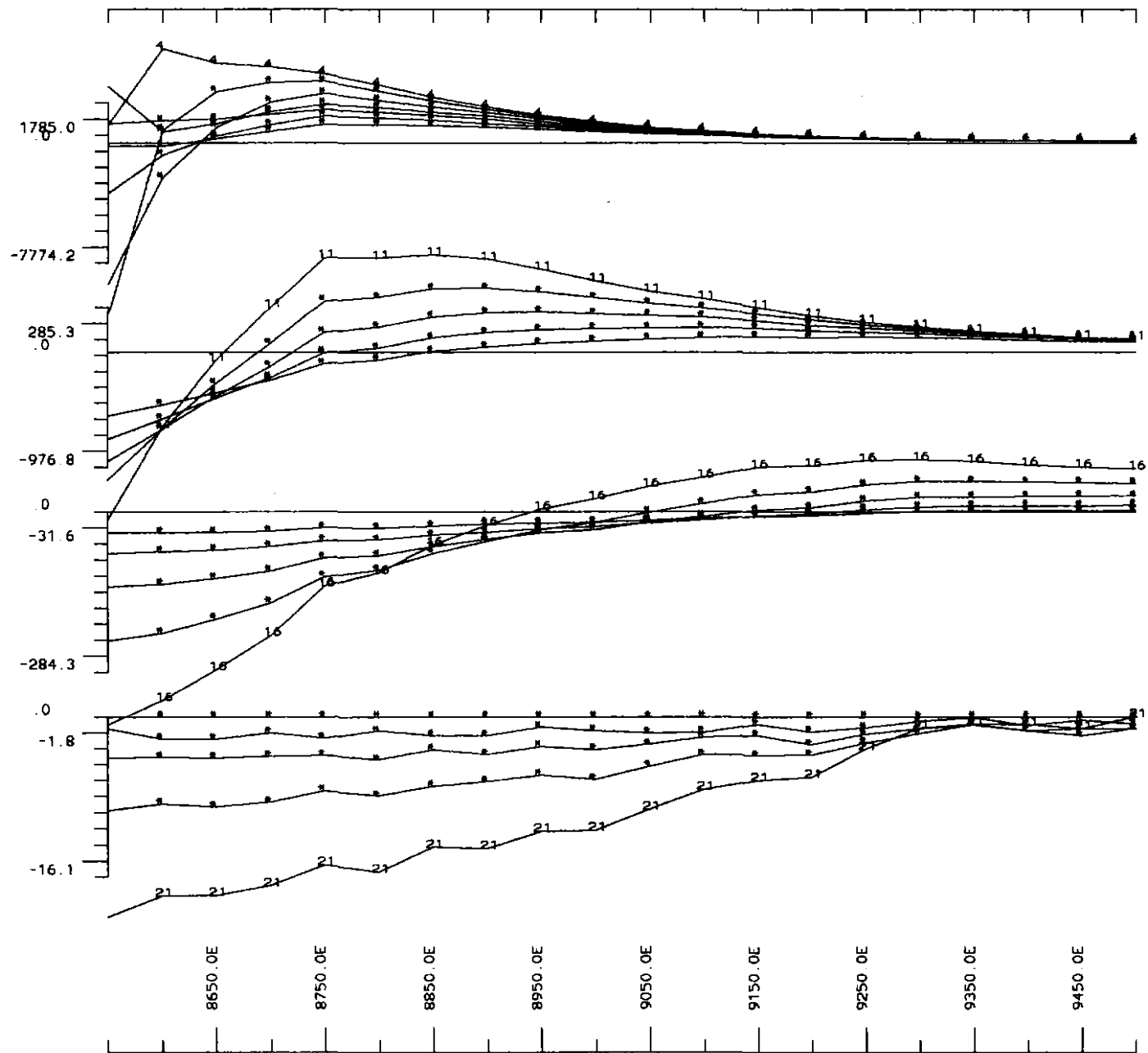
LOOP 17

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220082



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop17.av

LOOP: 17

LINE: 18400.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

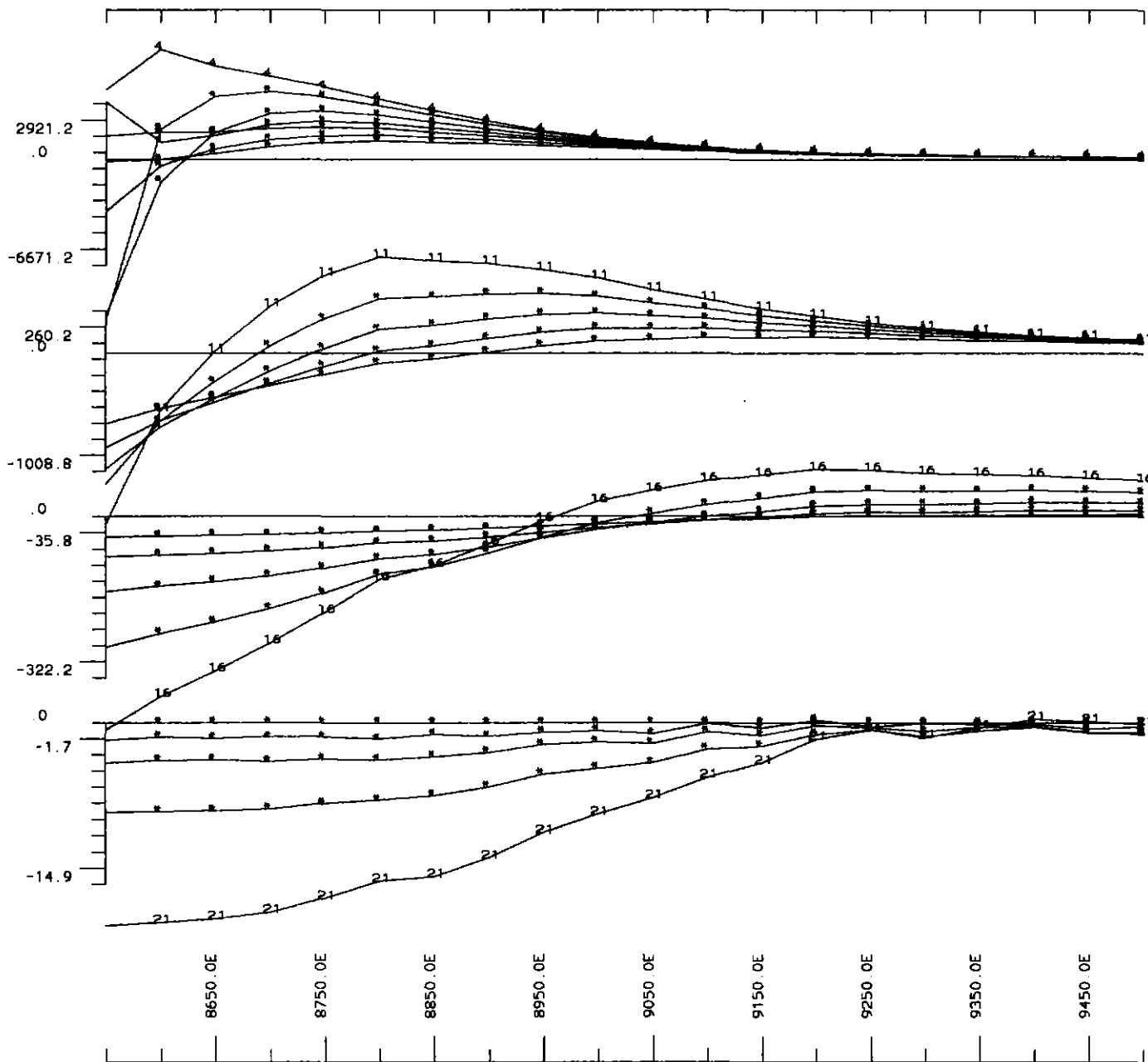
LOOP 17

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220098



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop17.av

LOOP: 17

LINE: 18600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACINTOSH SURFACE EM

LOOP 17

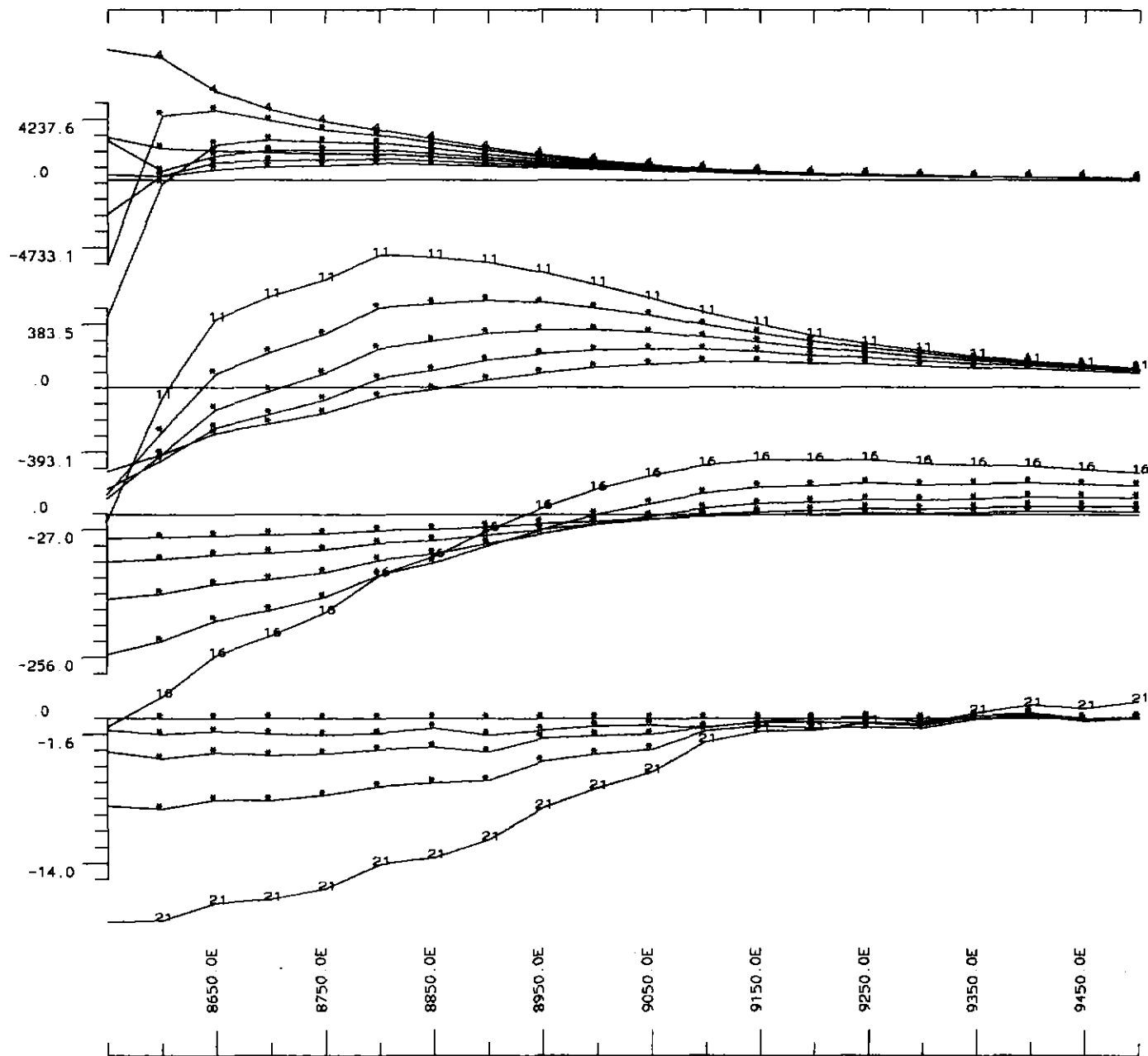
HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

680024

5 cm



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop17.av

LOOP: 17

LINE: 18800.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

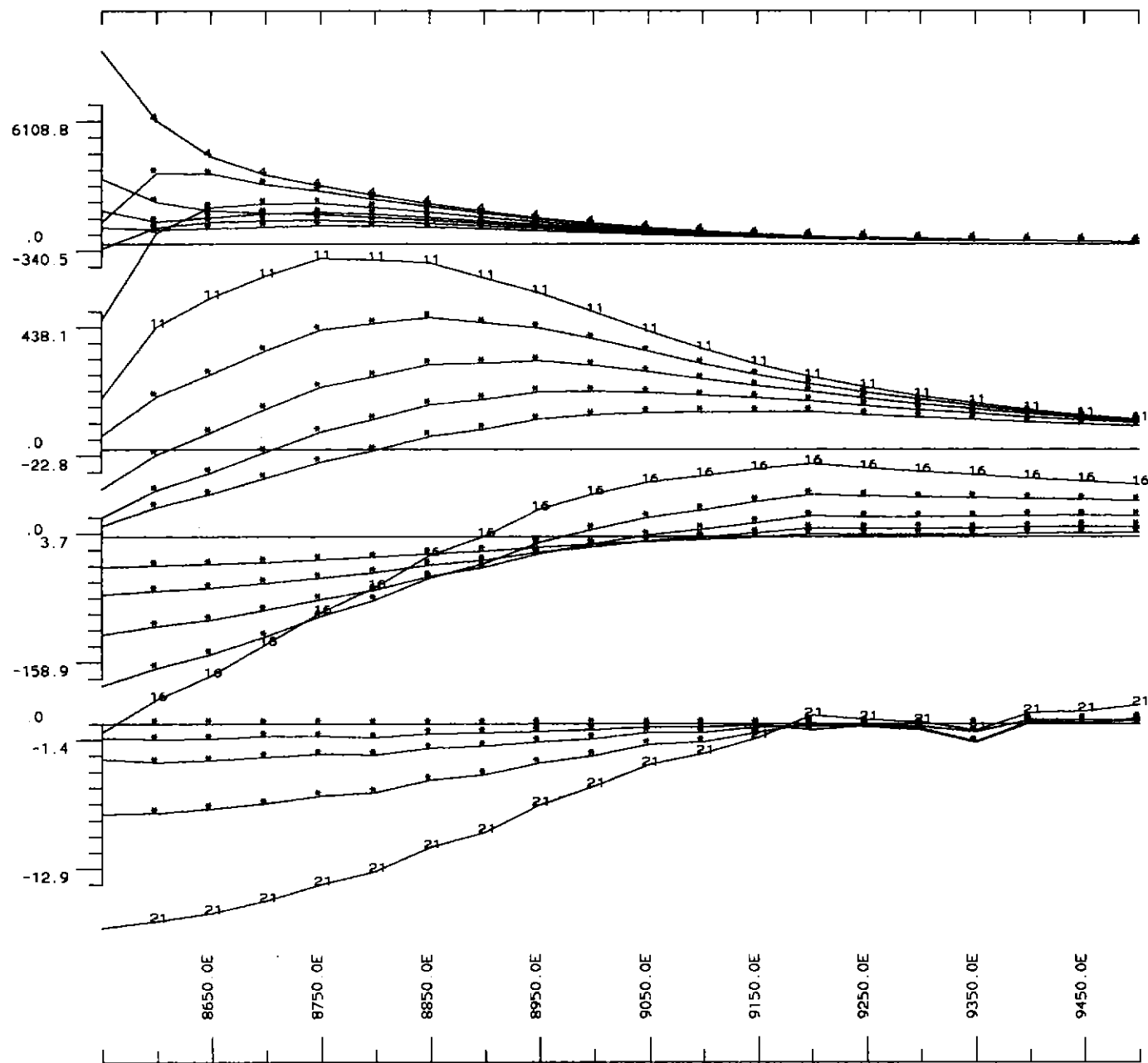
LOOP 17

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720100



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop17 av
 LOOP: 17
 LINE: 19000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

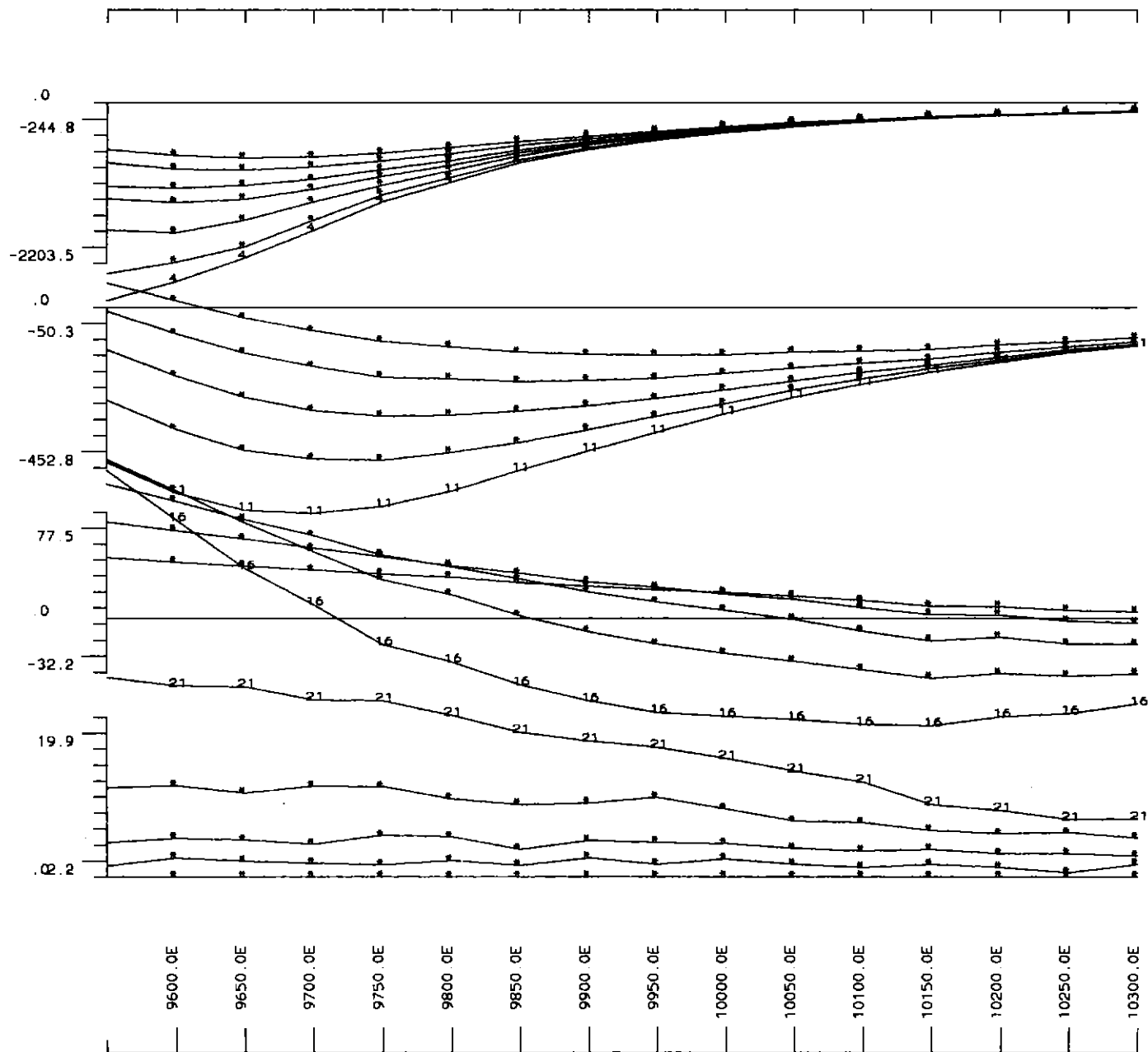
LOOP 17

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220101



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop18.av
 LOOP: 18
 LINE: 18000.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

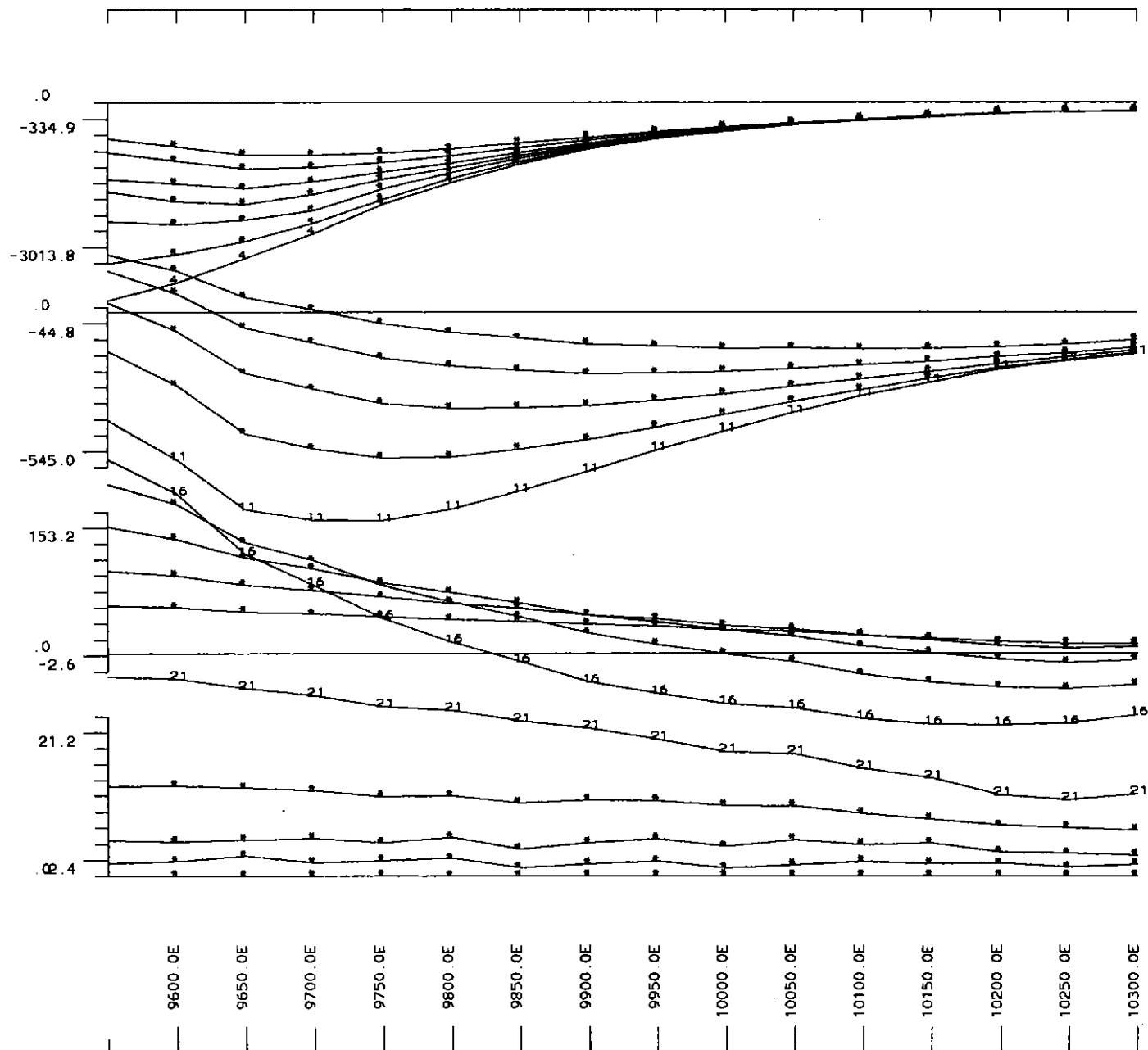
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720102



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop18.av
 LOOP: 18
 LINE: 18200.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

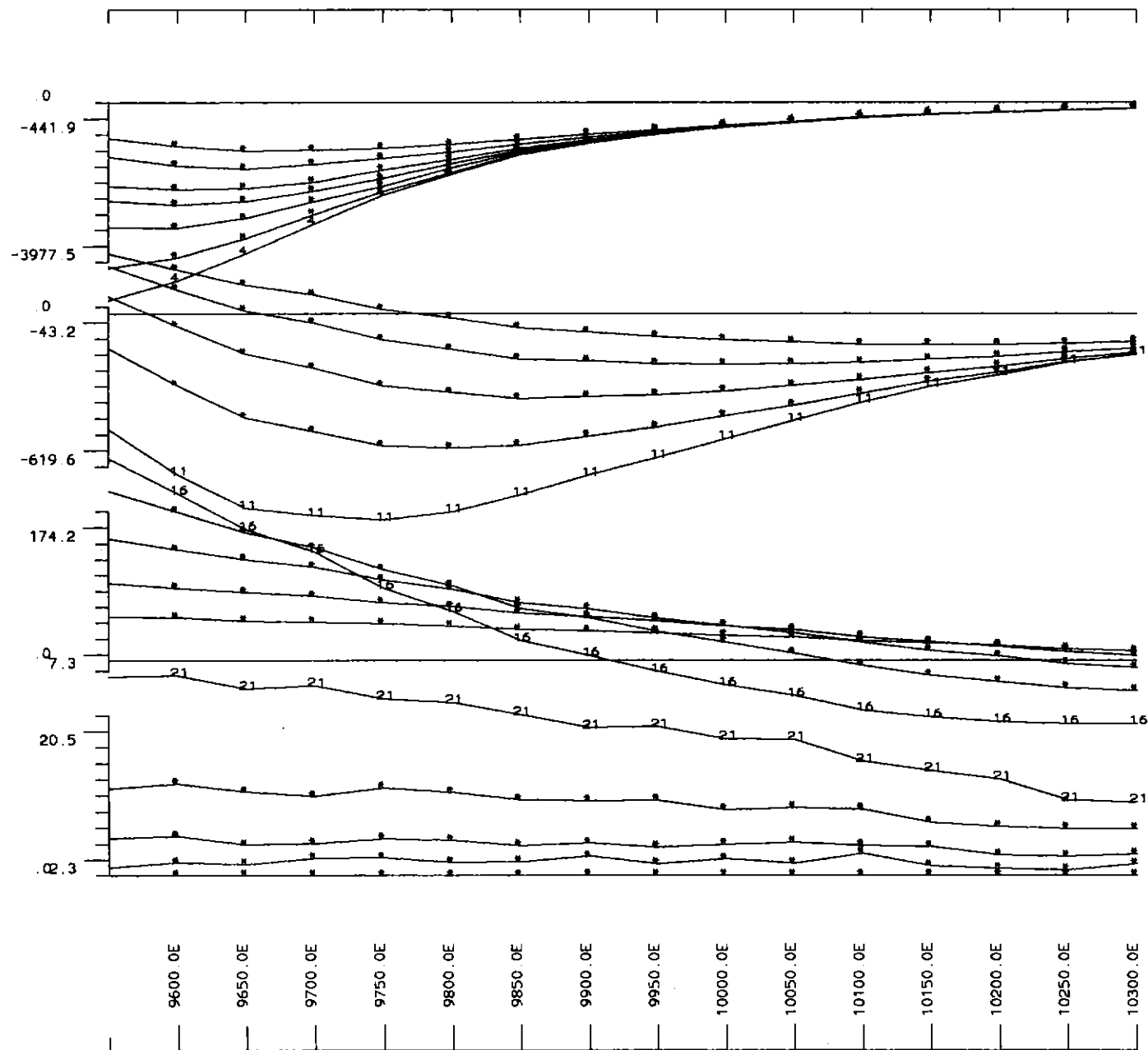
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720103



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop18.av

LOOP: 18

LINE: 18400.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

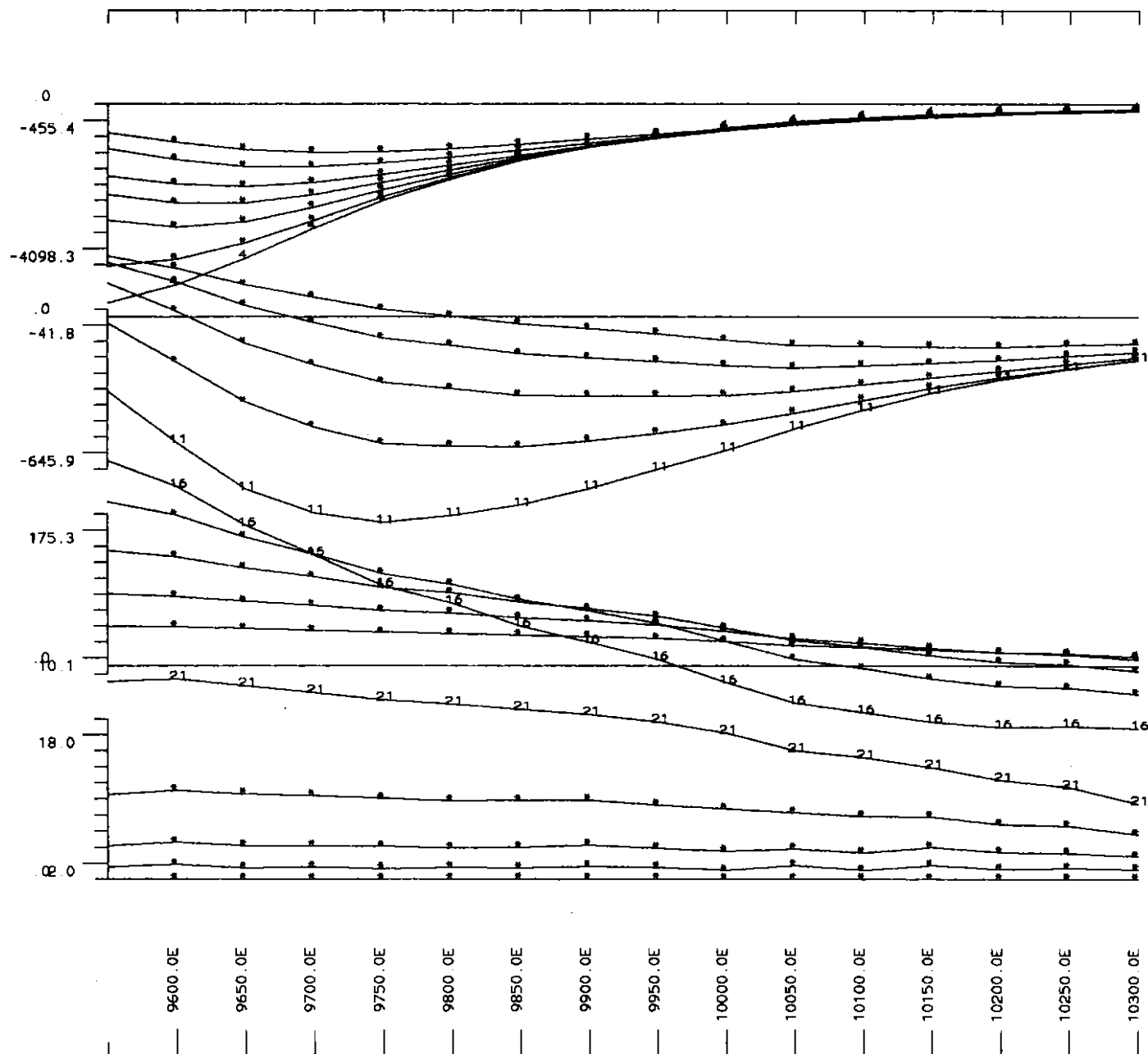
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720104



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop18.av

LOOP: 18

LINE: 18600.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

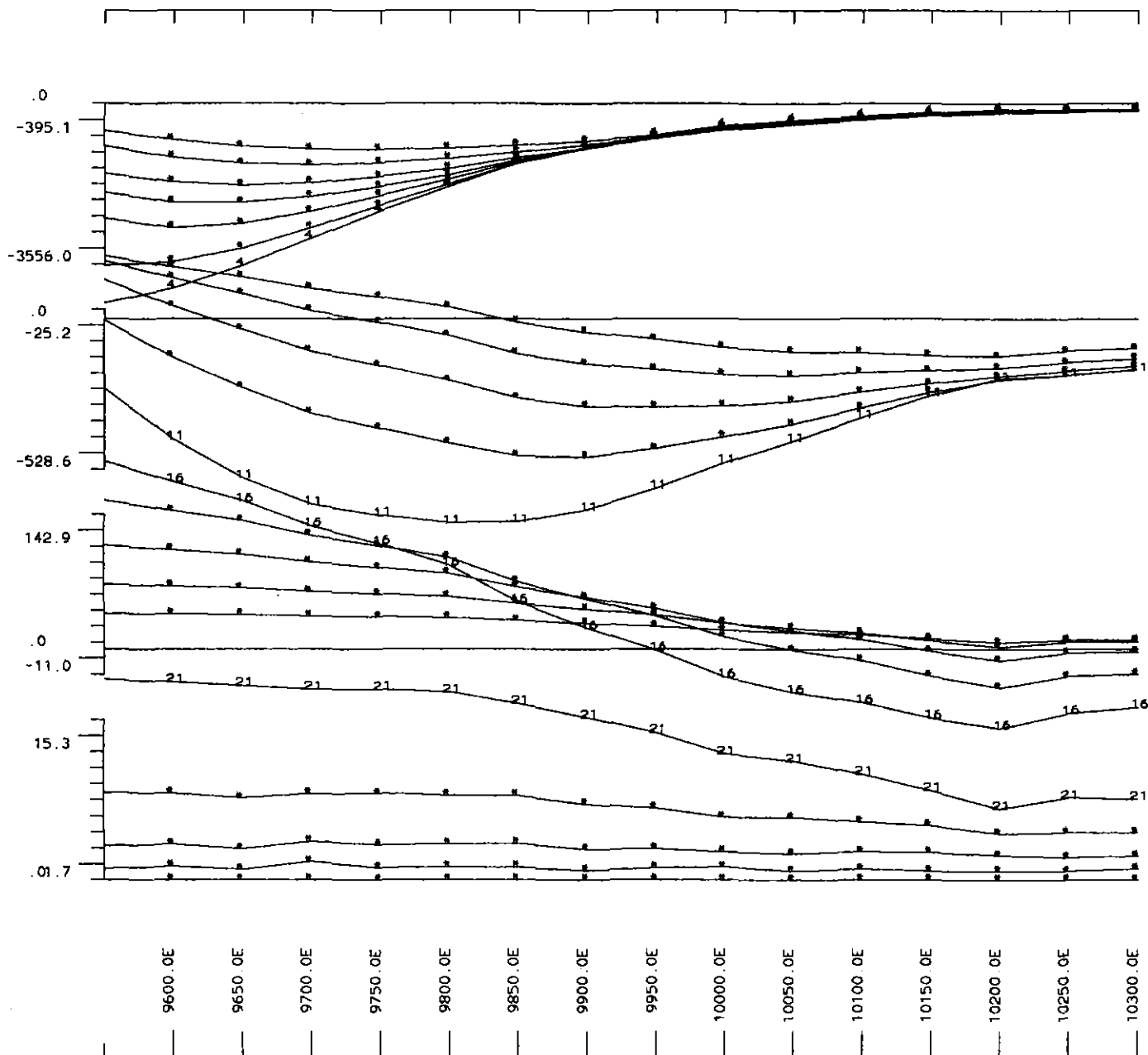
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720105



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop18.av

LOOP: 18

LINE: 18800.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

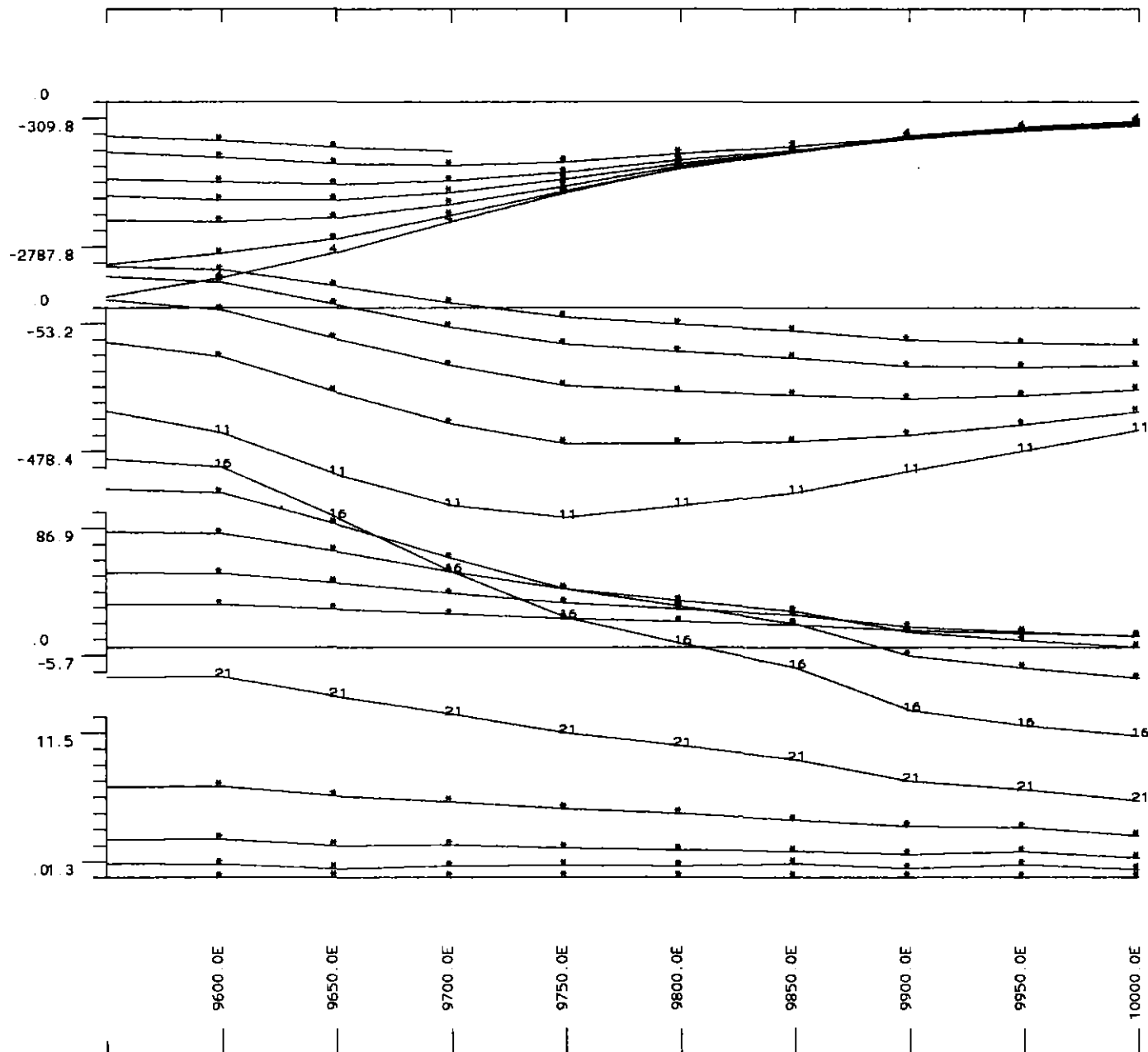
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720106



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop18.av

LOOP: 18

LINE: 19000.00N

Date Plotted: 19/03/95

Horiz scale 1: 2727.3

MACKINTOSH SURFACE EM

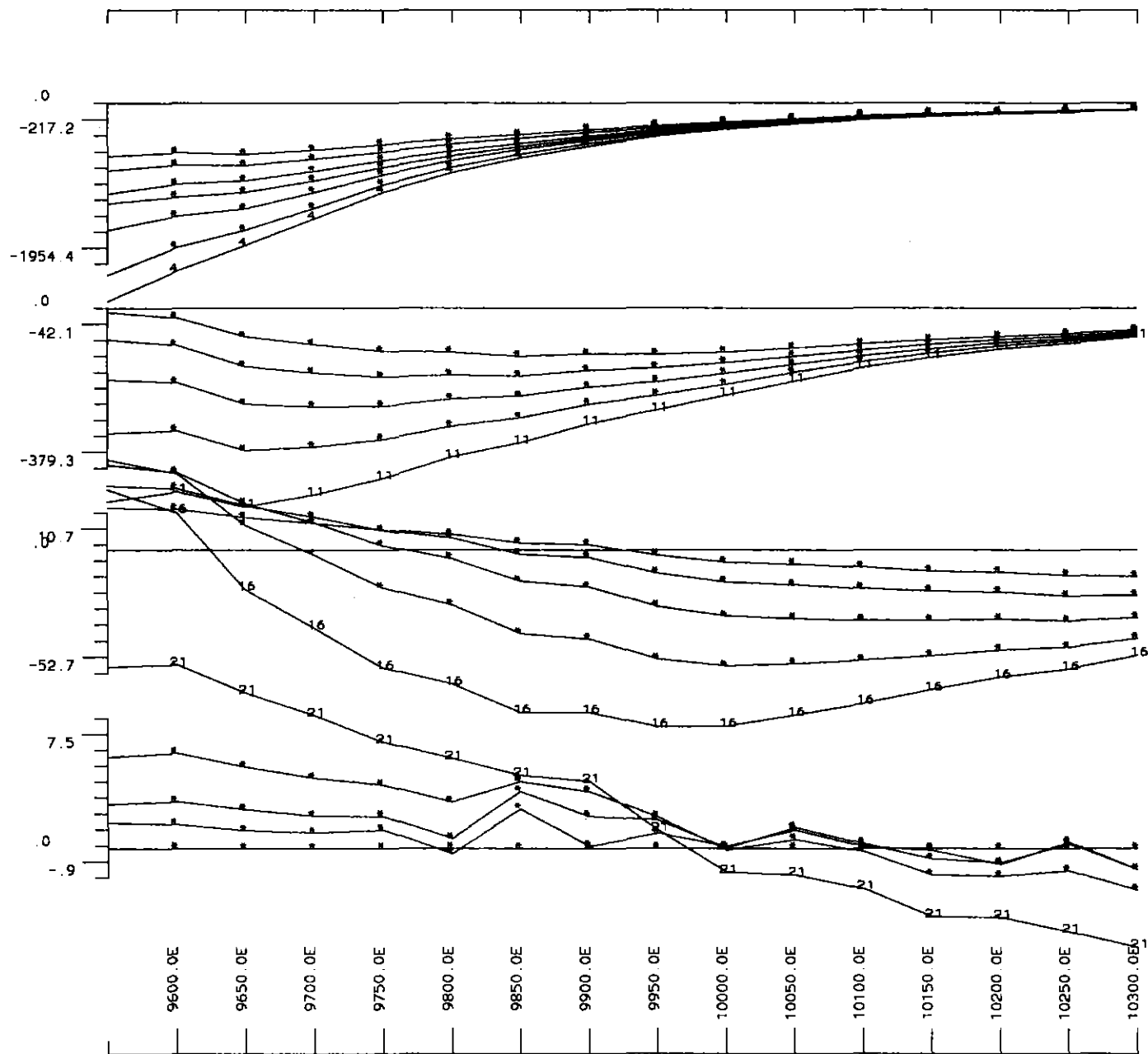
LOOP 18

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720107



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop19.av

LOOP: 19

LINE: 17000.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

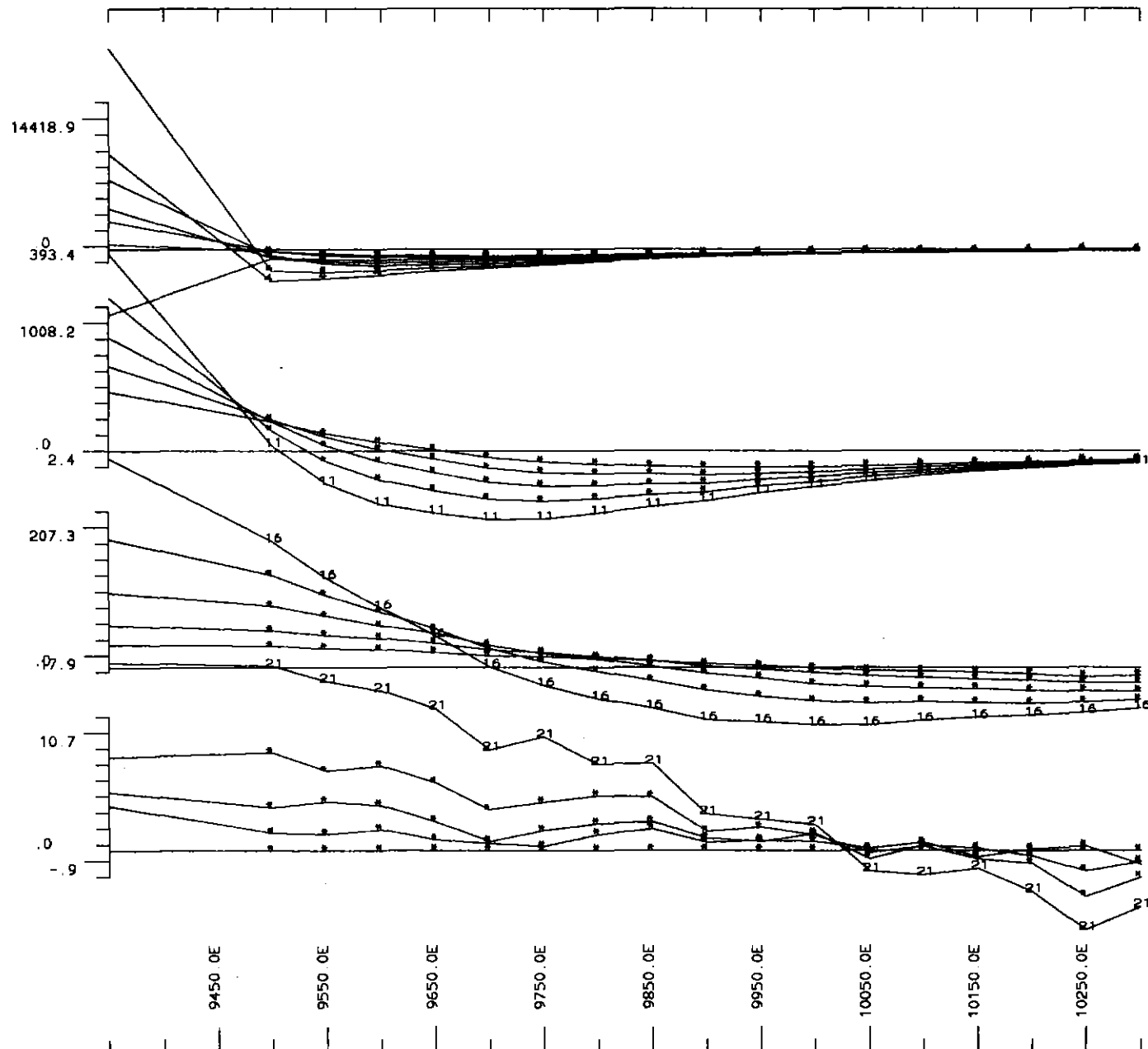
LOOP 19

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720108



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop19.av

LOOP: 19

LINE: 17200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

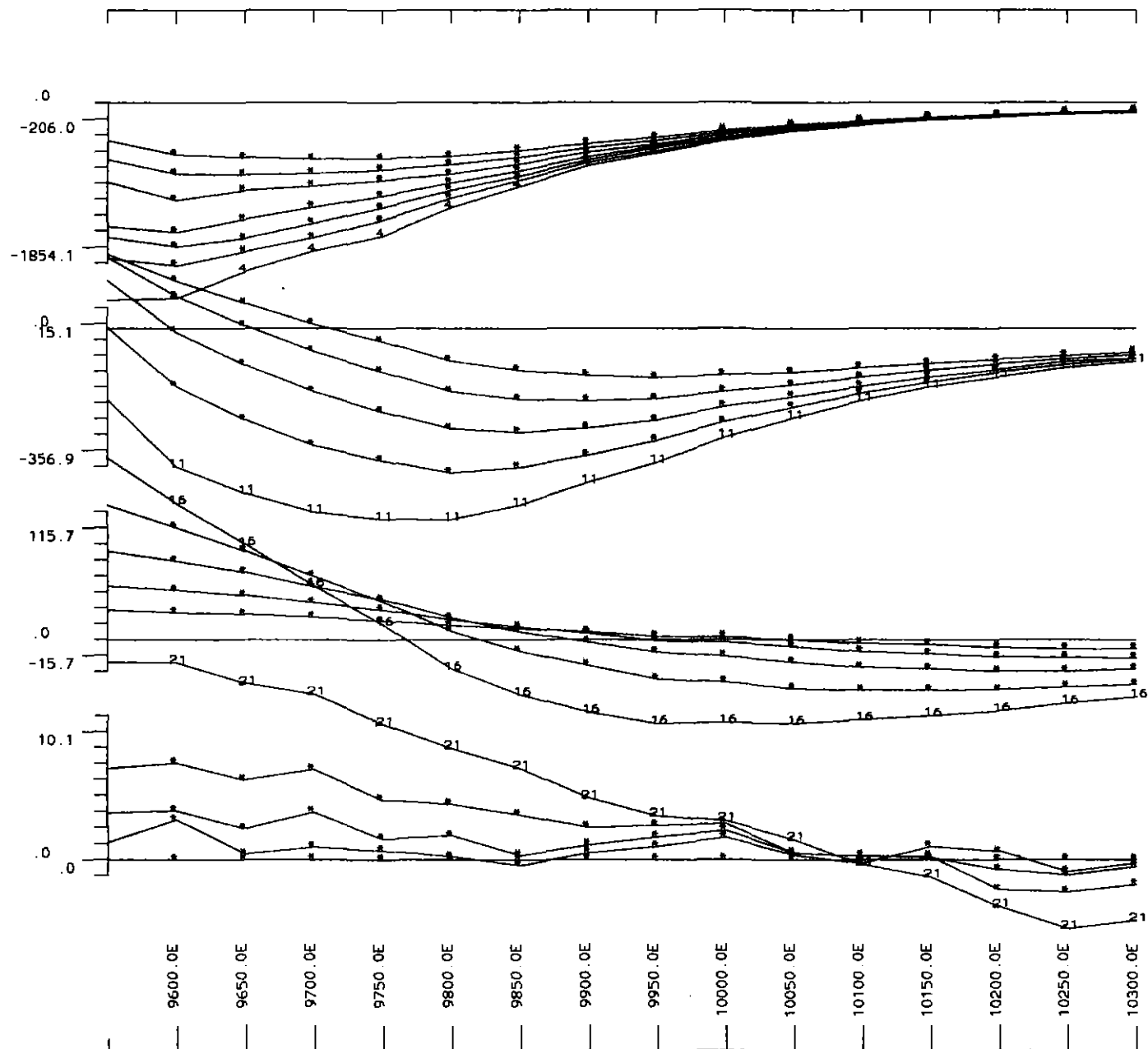
LOOP 19

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720109



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop19.av

LOOP: 19

LINE: 17400.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

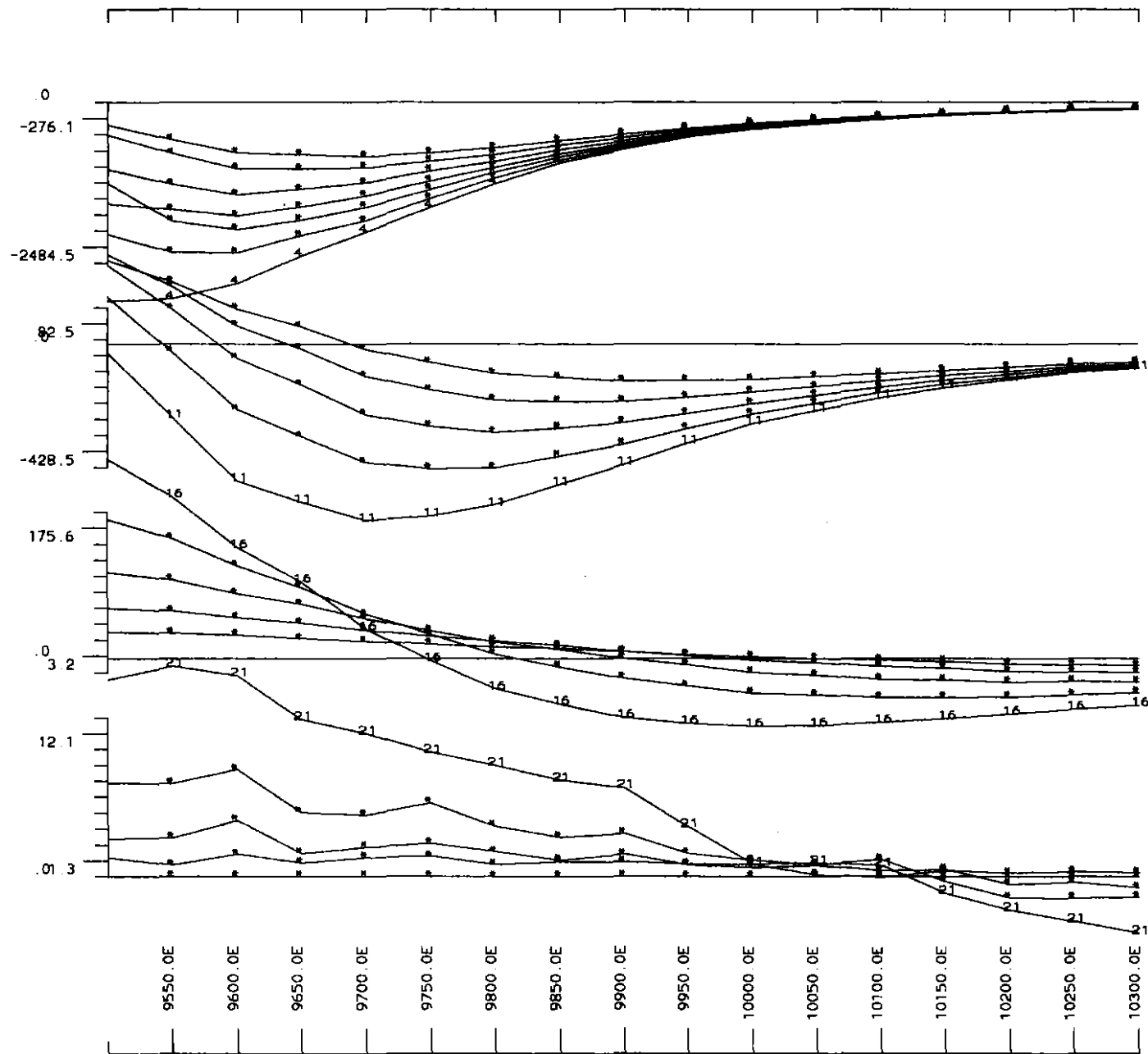
LOOP 19

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720110



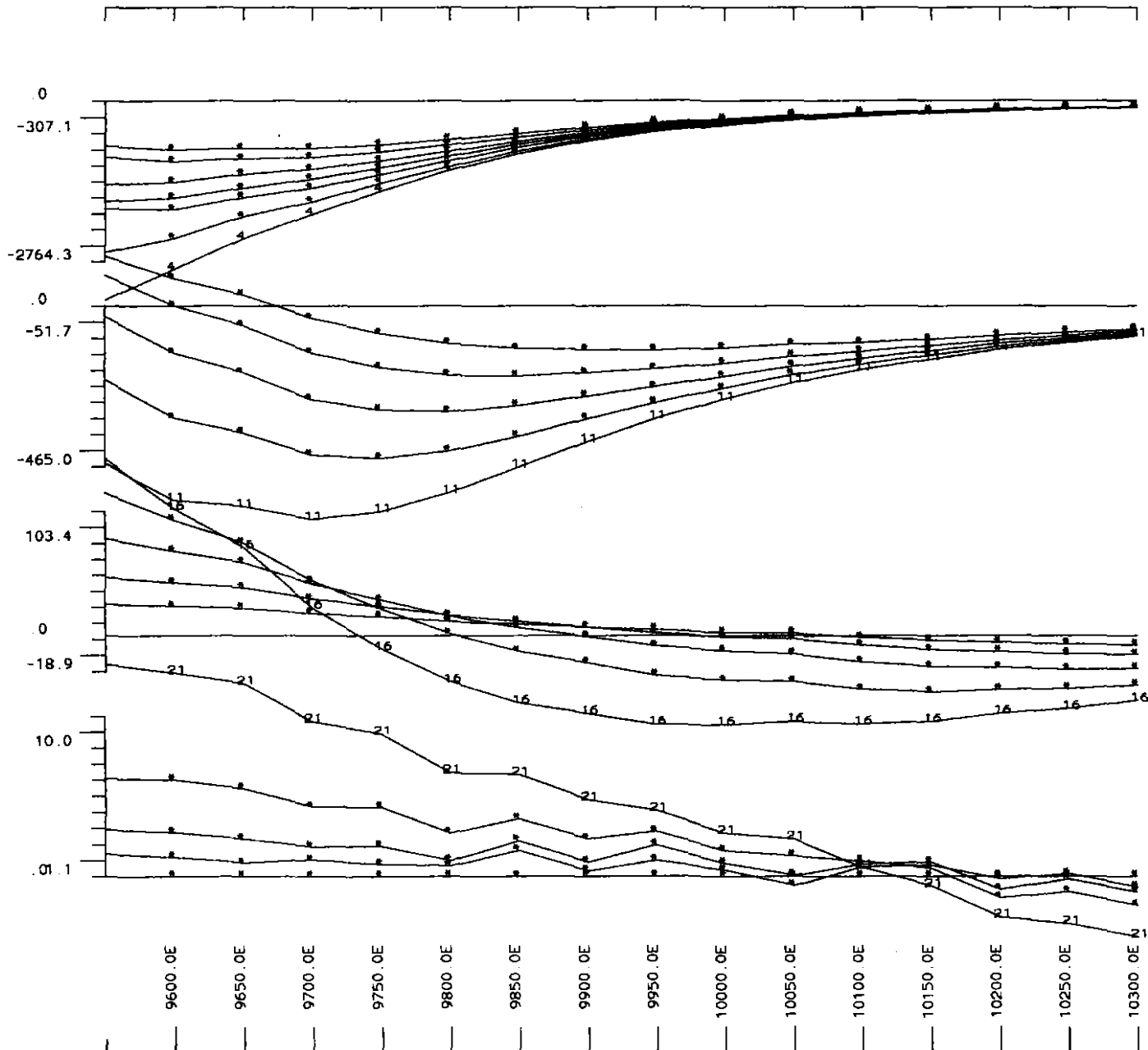
Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop19 av
 LOOP: 19
 LINE: 17600.00N
 Date Plotted: 19/03/95
 Horiz scale 1: 4848.5

MACKINTOSH SURFACE EM

LOOP 19
 HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220111



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop19.av

LOOP: 19

LINE: 17800.00N

Date Plotted: 19/03/95

Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

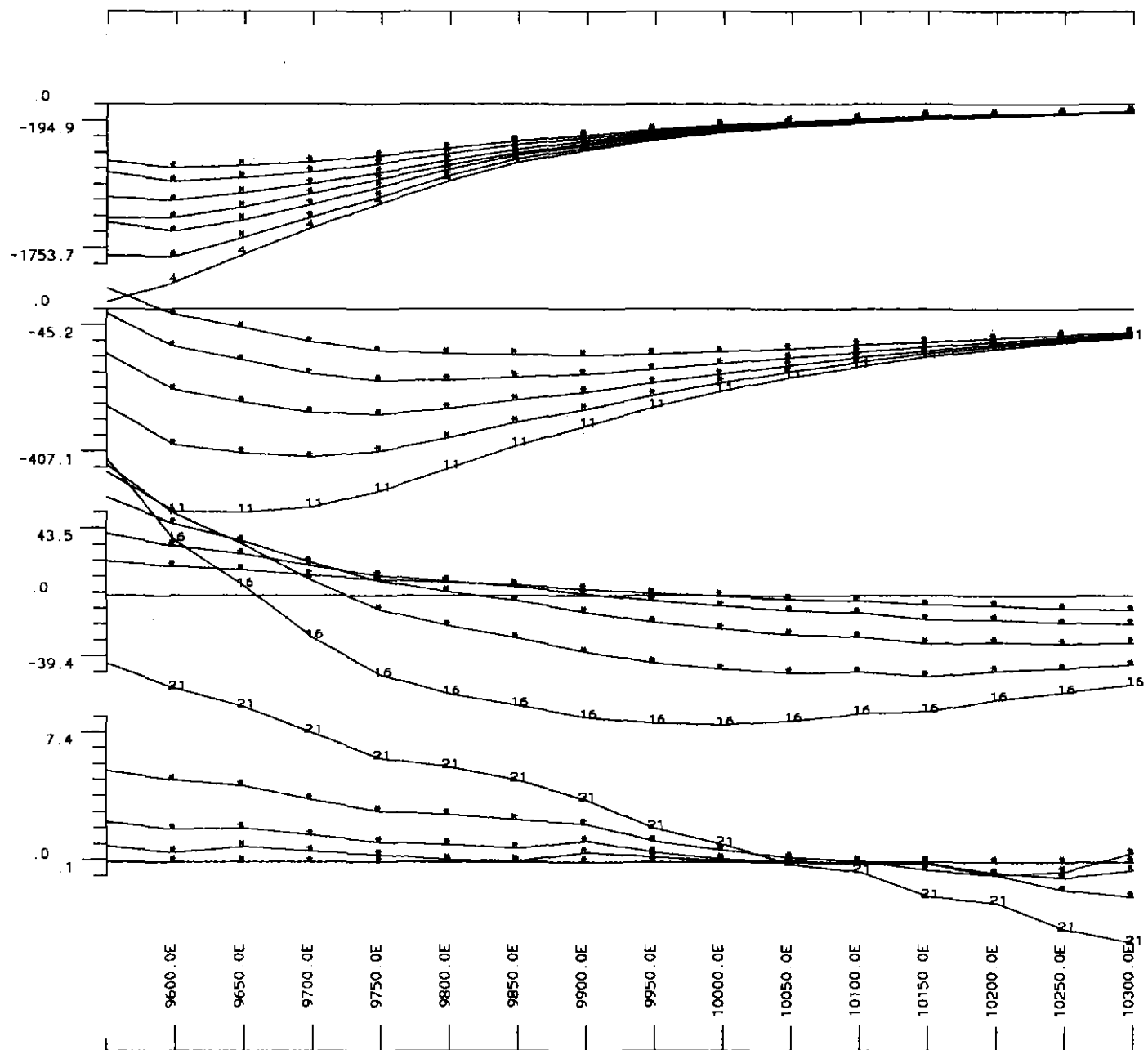
LOOP 19

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

720112



Program PLOTEM
Aberfoyle Resources Ltd
Datafile: s\mac_em2\loop19.av
LOOP: 19
LINE: 18000.00N
Date Plotted: 19/03/95
Horiz scale 1: 4545.5

MACKINTOSH SURFACE EM

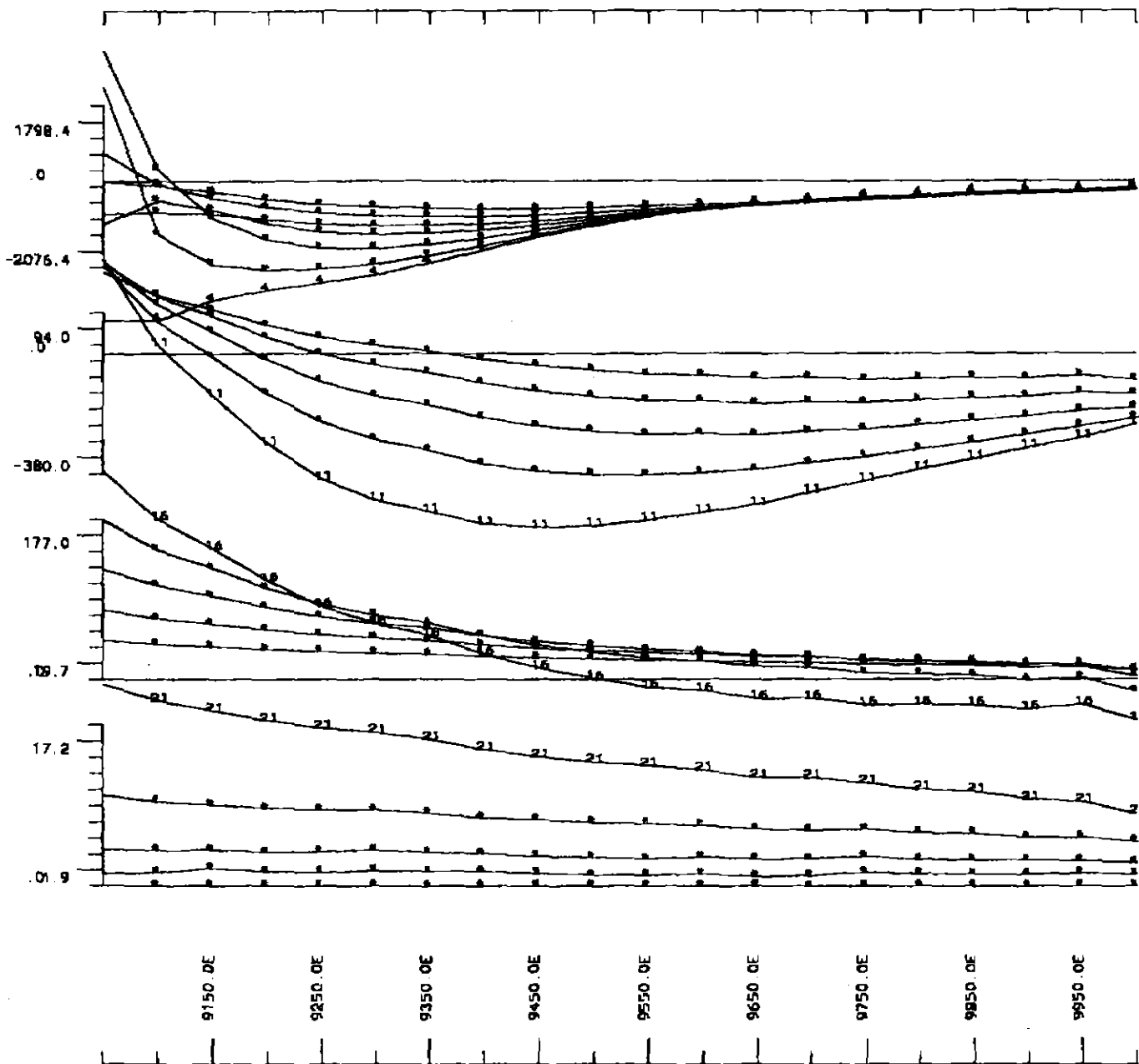
LOOP 19

HZ COMPONENT

ZONGE GGP16 16HZ

ABERFOYLE RESOURCES LTD

720113



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: s\mac_em2\loop20.av
 LOOP: 20
 LINE: 19000.00H
 Date Plotted: 16/02/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

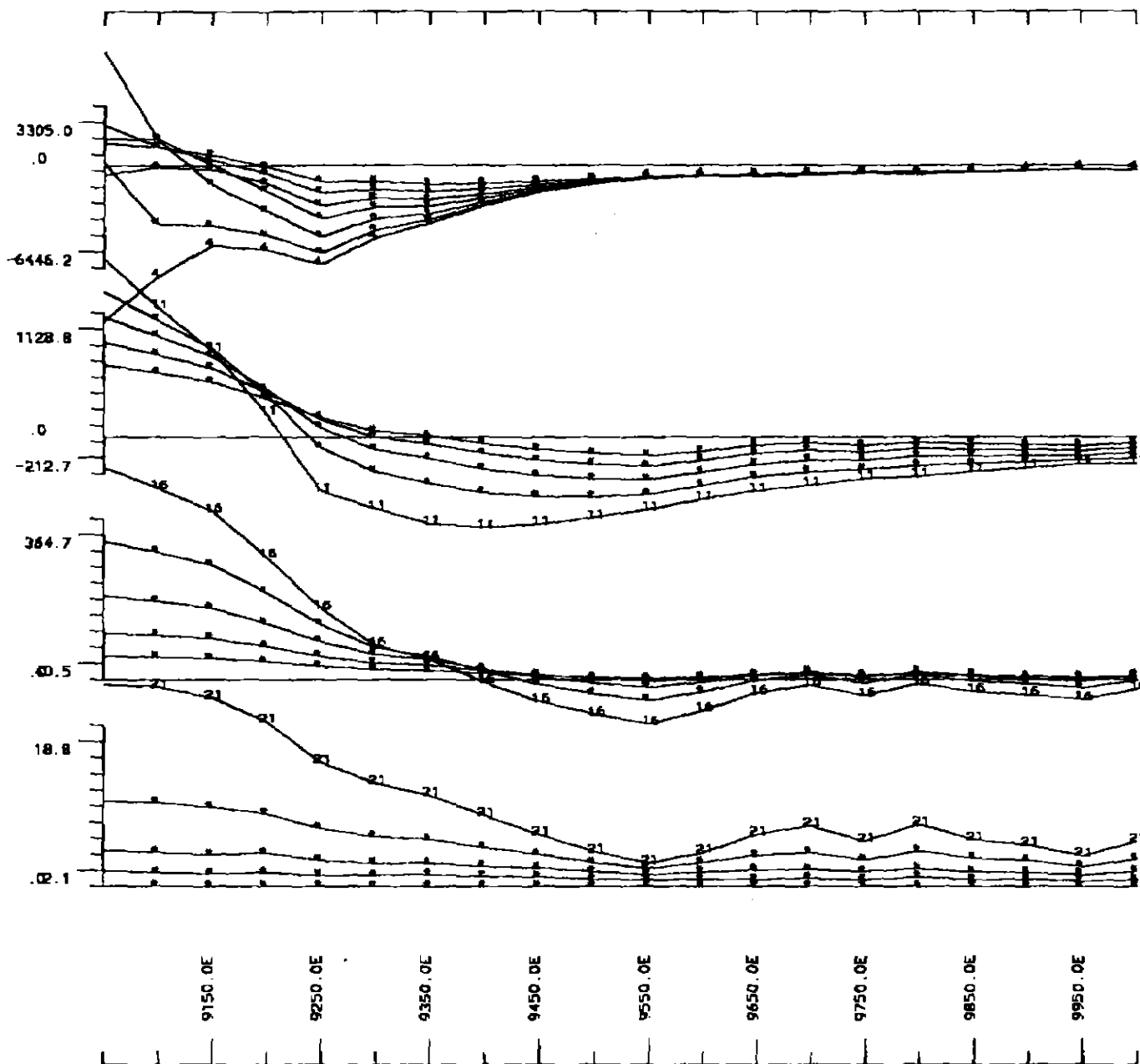
HZ COMPONENT

ZONDE GGP16 16HZ

ABERFOYLE RESOURCES LTD

720114

MAR 23 '95 03:52PM ABERFOYLE RESOURCES 03 2106699



Program PLOTEN

Aberfoyle Resources Ltd

Datafile: s\mac_ep2\loop20 av

LOOP: 20

LINE: 19400.00N

Date Plotted: 16/02/95

Horiz scale 1: 5757.6

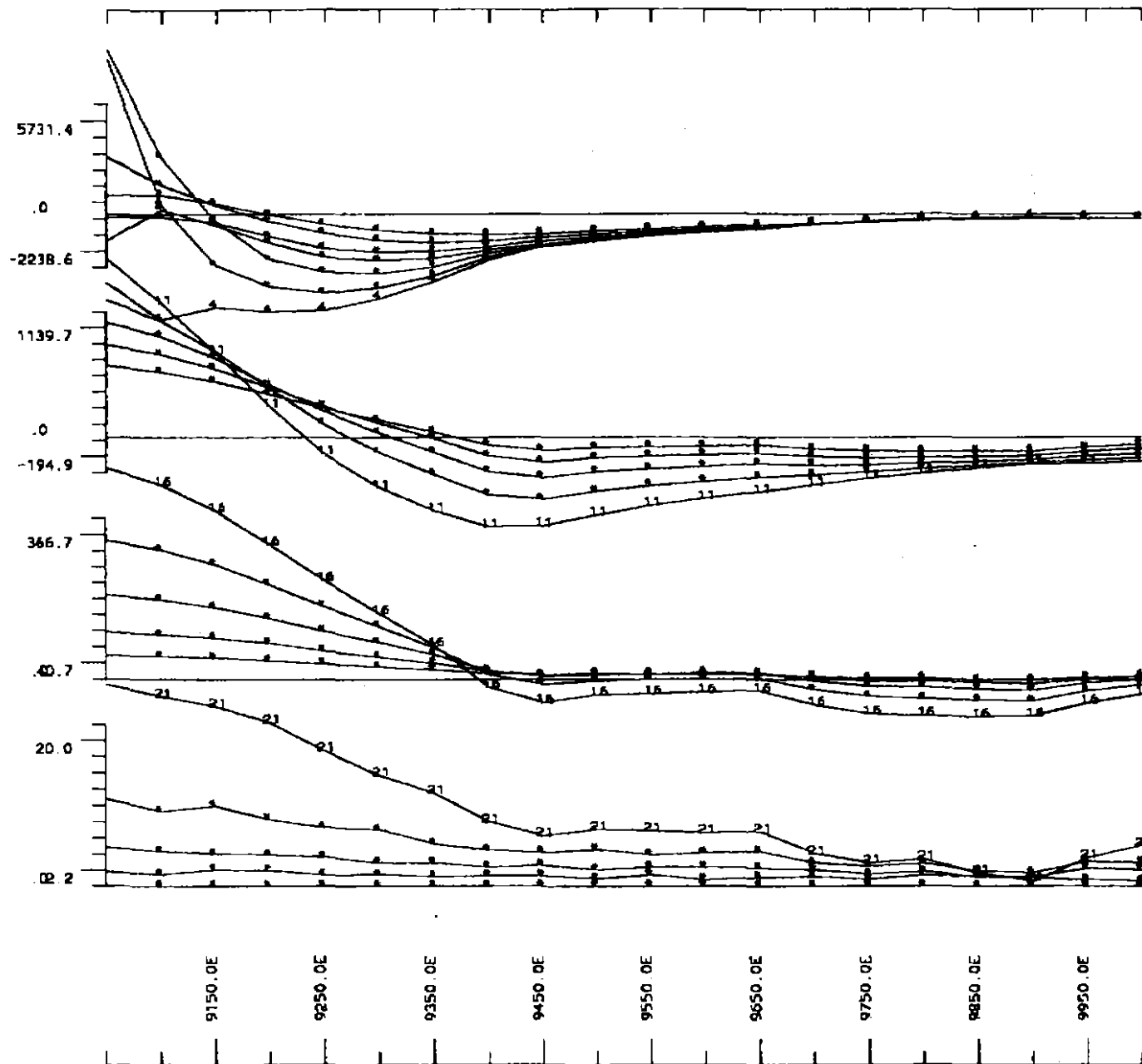
MACKINTOSH SURFACE EM

HZ COMPONENT

ZONGE GOP16 16HZ

ABERFOYLE RESOURCES LTD

720116



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop20 av

LOOP: 20

LINE: 19600.00N

Date Plotted: 16/02/95

Horiz scale 1: 5757.6

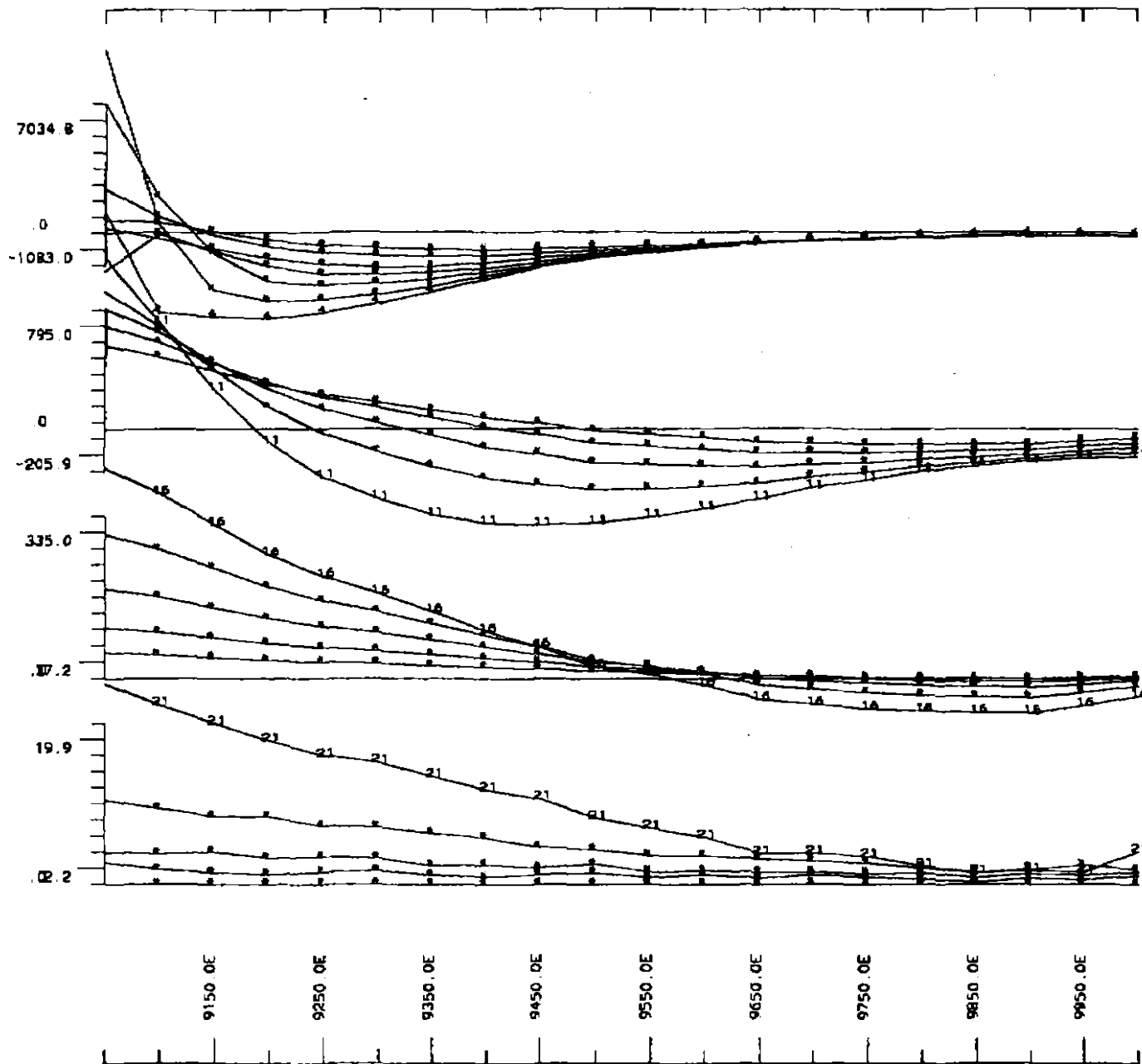
MACKINTOSH SURFACE EM

HZ COMPONENT

ZONGE GGP16 16HZ

ABERFOYLE RESOURCES LTD

720117



Program PLOTOK

Aberfoyle Resources Ltd

Datafile: s\mac_em2\loop20.av

LDDP: 20

LINE: 19800.00N

Date Plotted: 16/02/95

Horiz scale 1: 5757.6

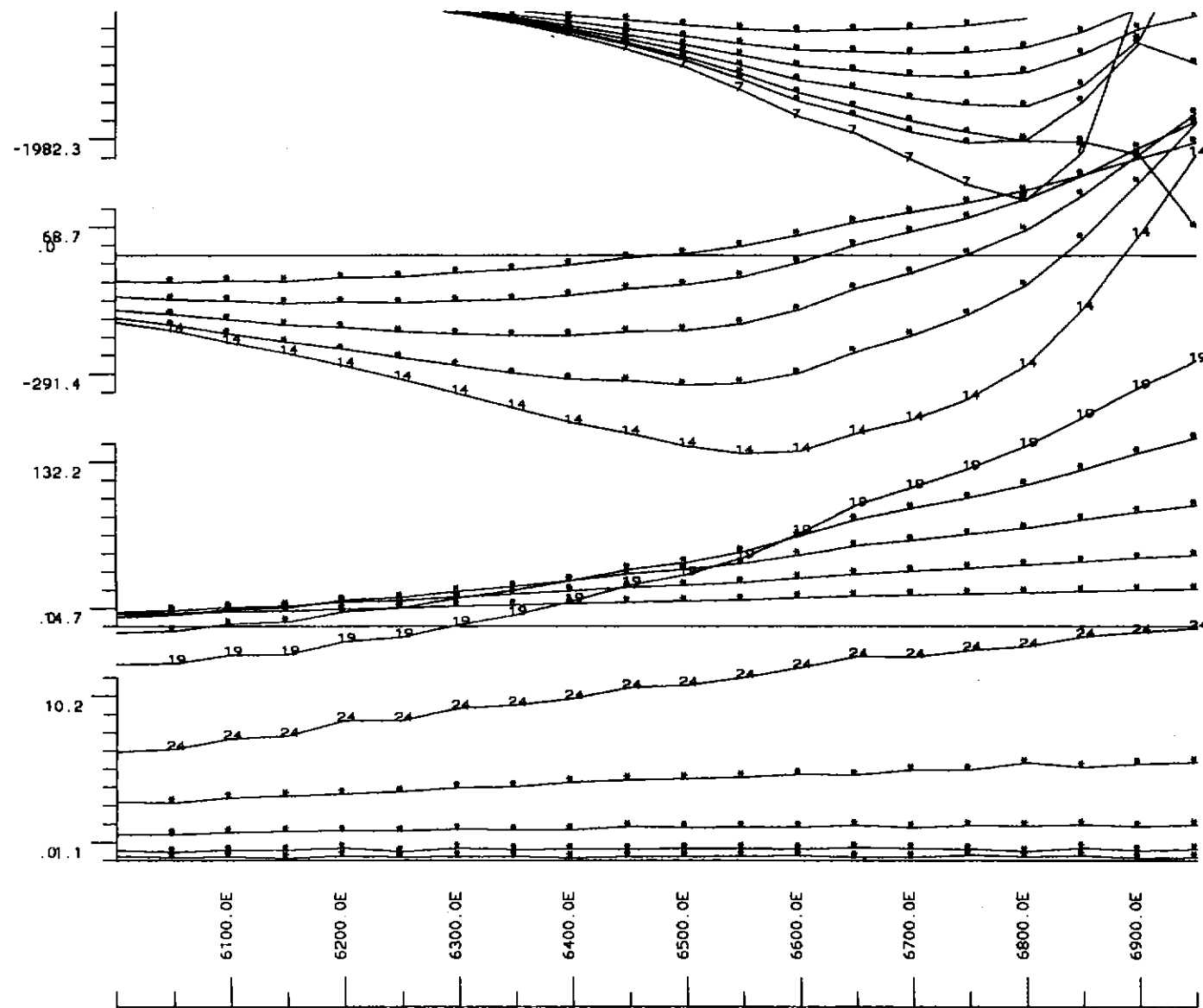
HACKINTOSH SURFACE EN

HZ COMPONENT

ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220118



Datafile: s\mac_em2\loop21.av

LOOP: 21

LINE: 19400.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

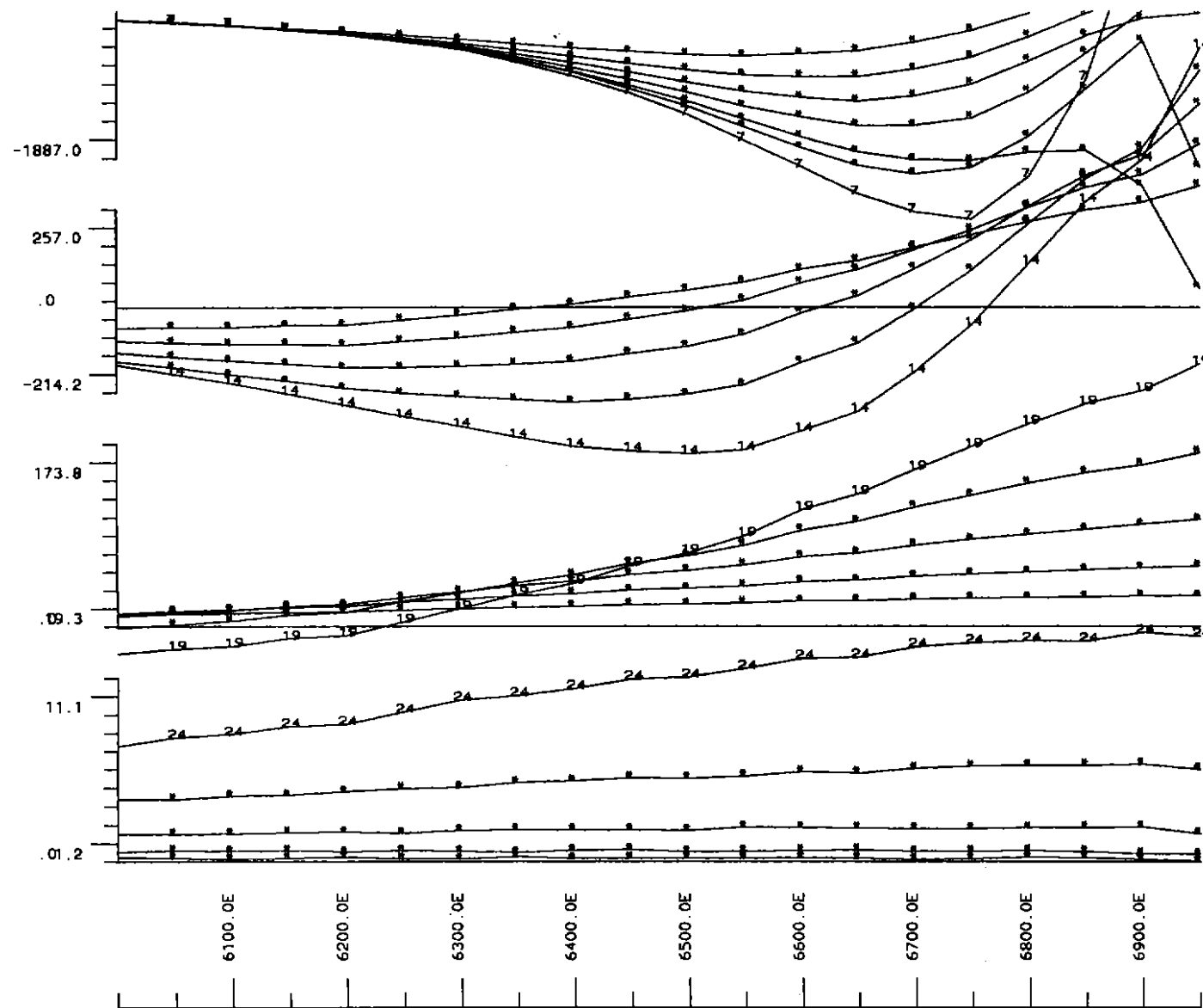
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720120



Datafile: s\mac_em2\loop21.av

LOOP: 21

LINE: 19600.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

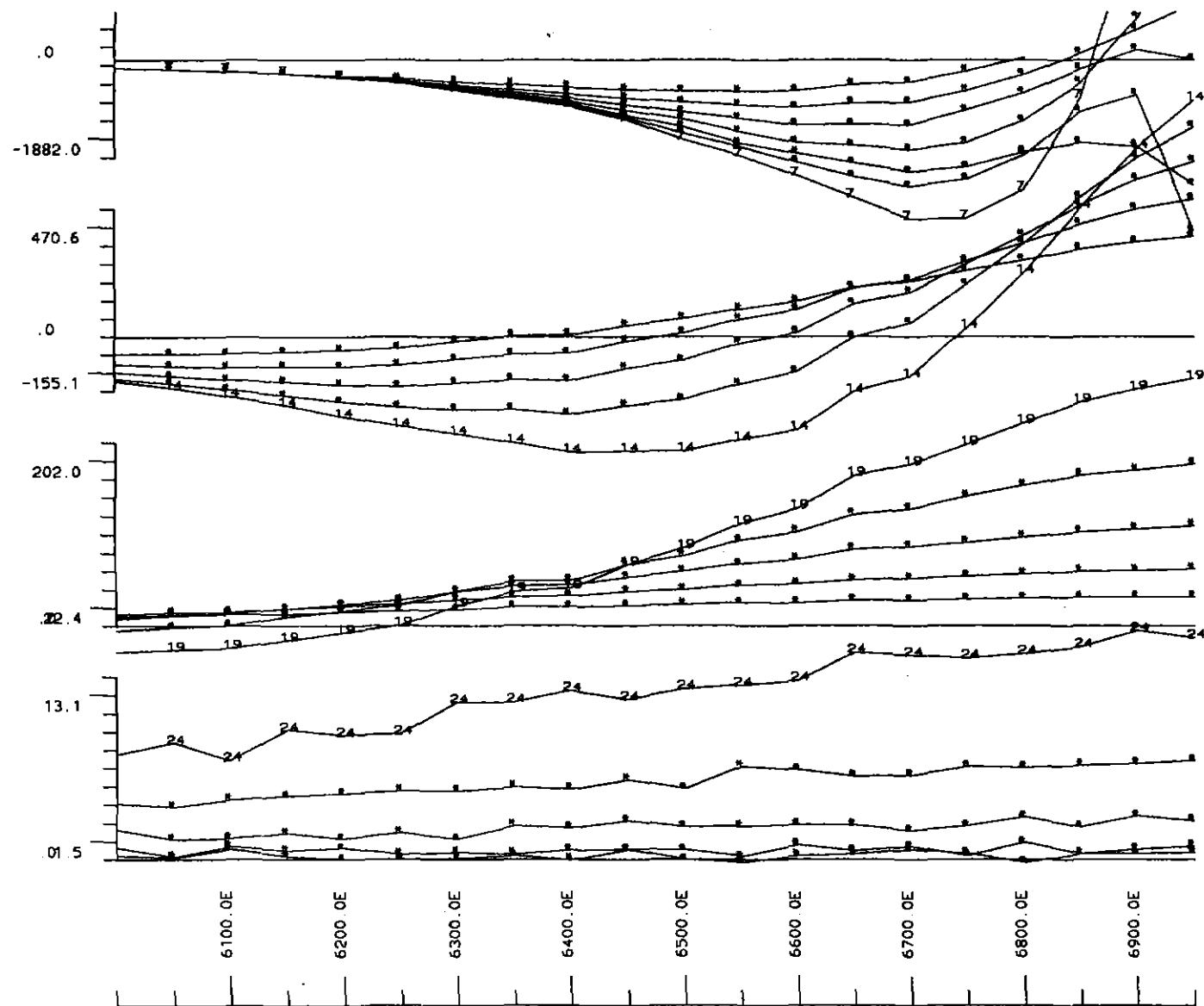
ZONGE GOP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

920101



Datafile: s\mac_em2\loop21 av

LOOP: 21

LINE: 19800.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

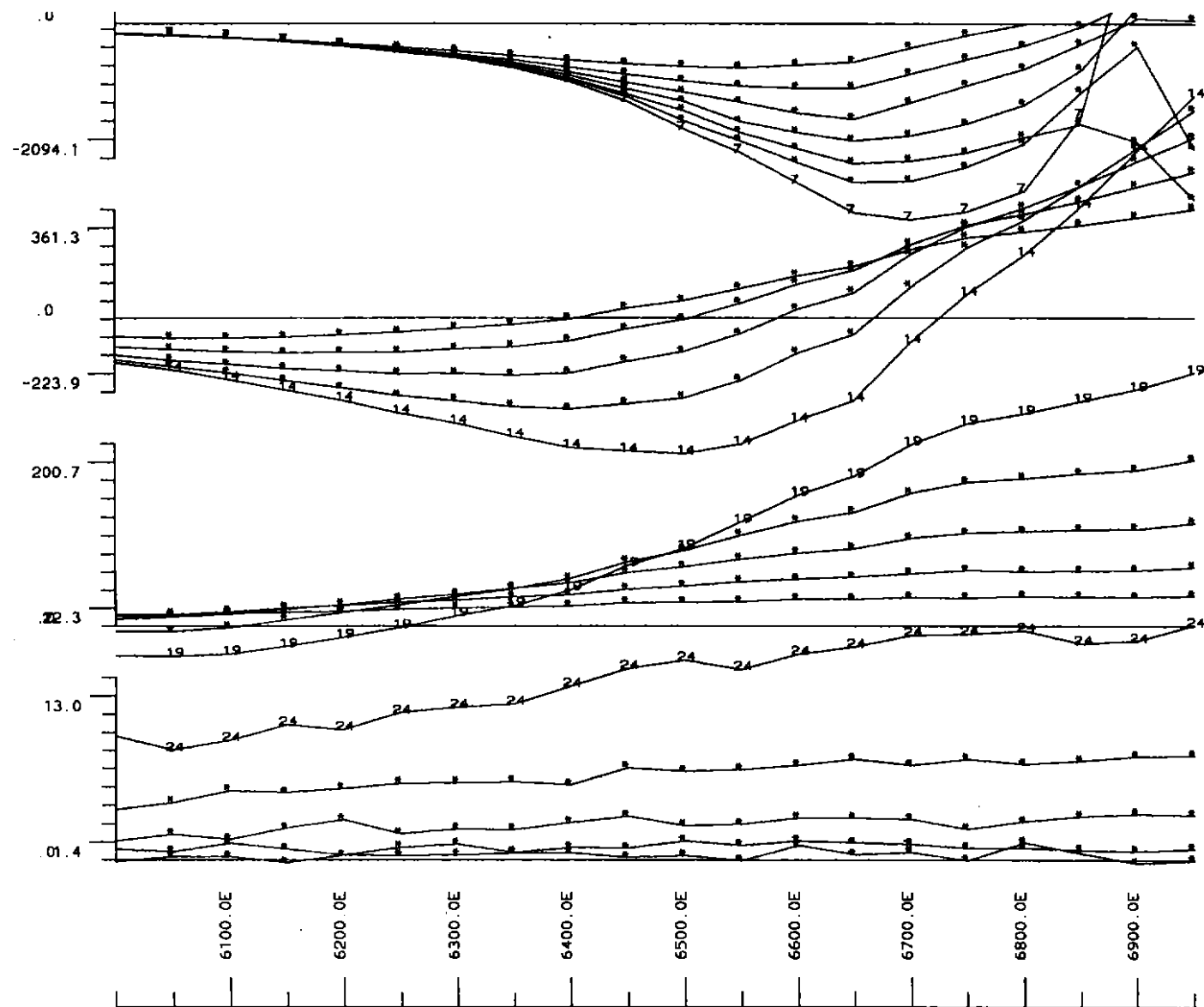
MAR 1995

READ BY MB TC

PLOTTED MB

720122

5 cm



Datafile: s\mac_em2\loop21 av

LOOP: 21

LINE: 20000.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

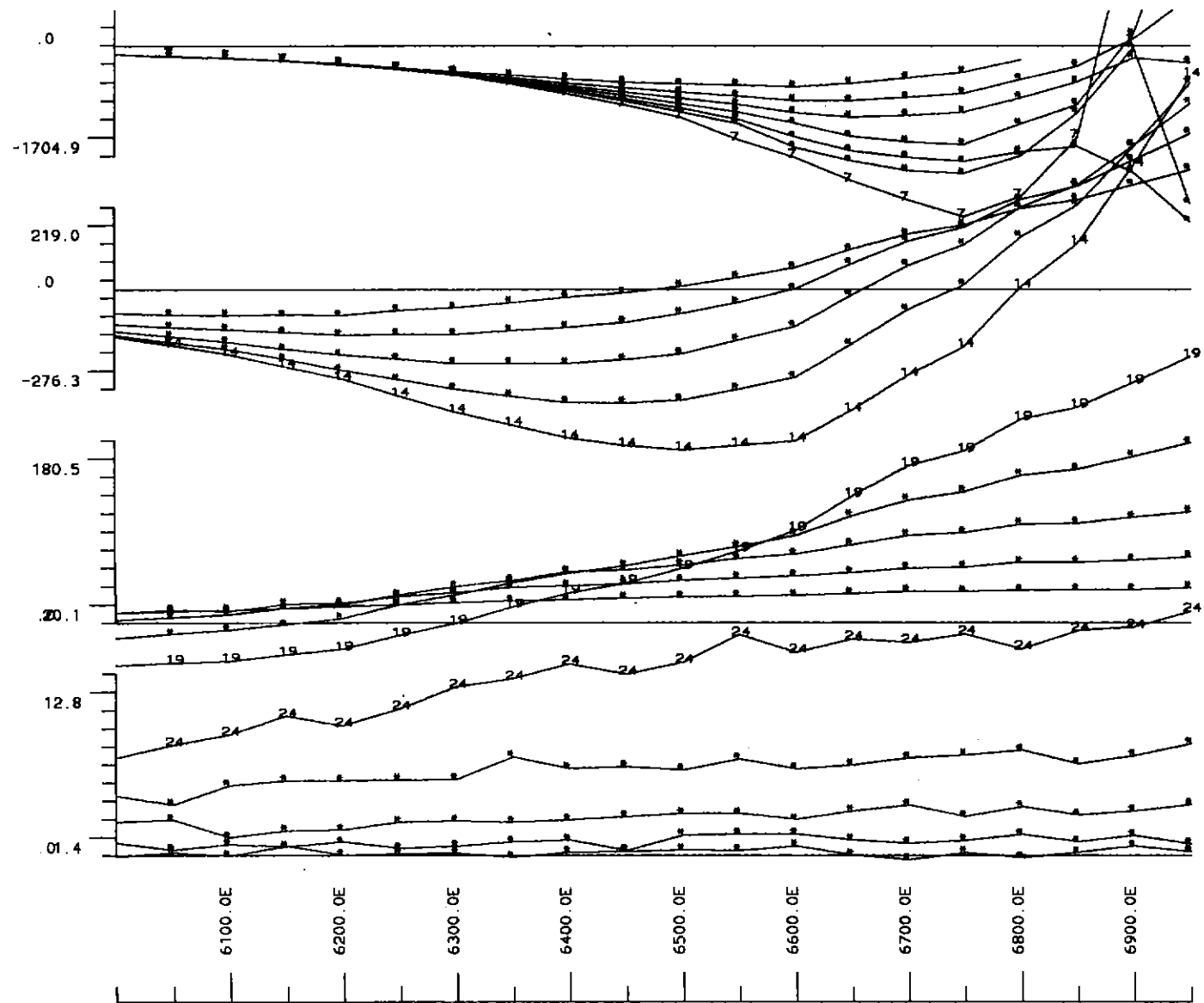
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720123



Datafile: s\mac_em2\loop21.av

LOOP: 21

LINE: 20200.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

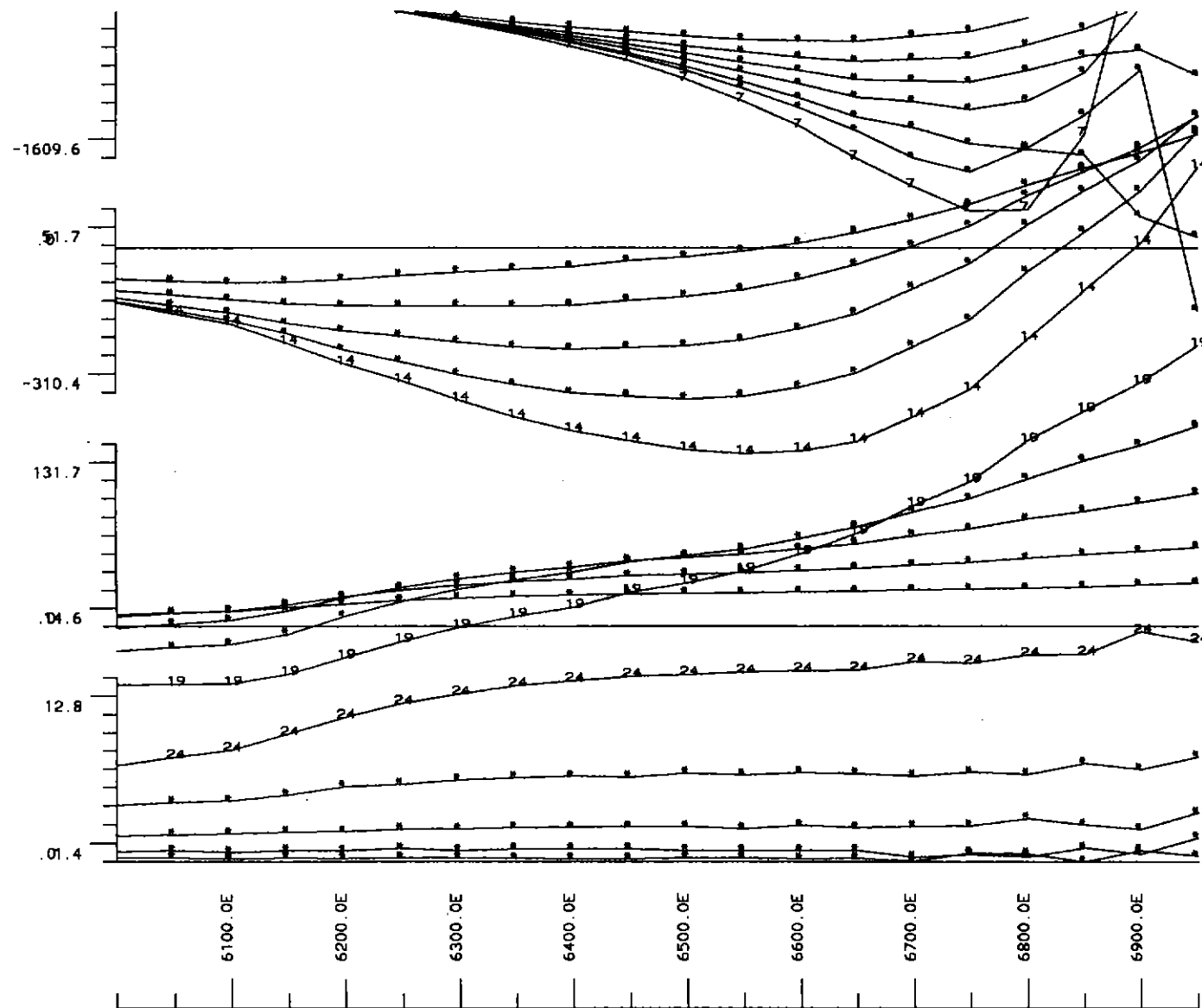
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

220124



Datafile: s\mac_em2\loop21.av

LOOP: 21

LINE: 20400.00N

Date Plotted: 17/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

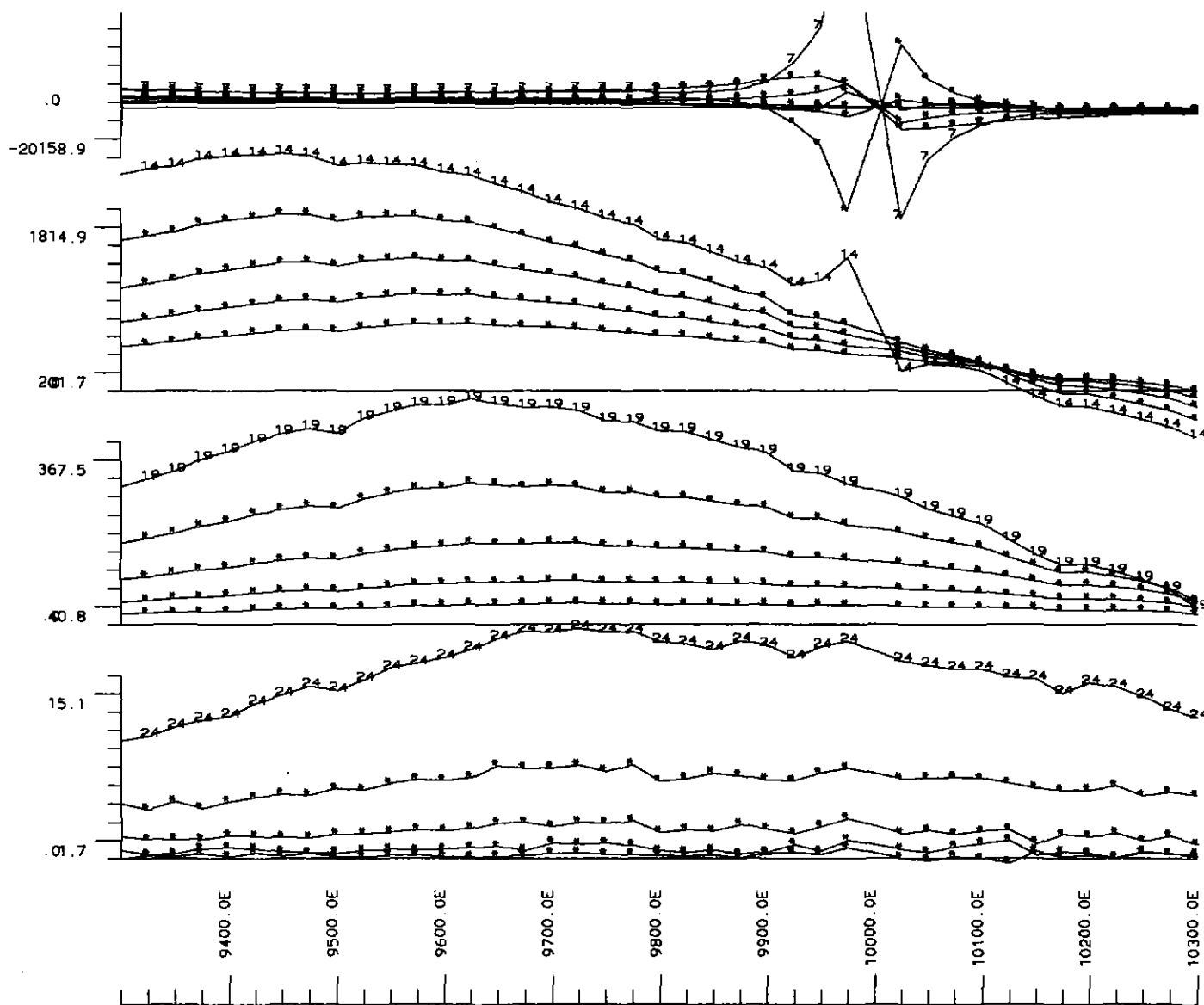
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720125



Datafile: loop22.avz

LOOP: 22

LINE: 17000.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

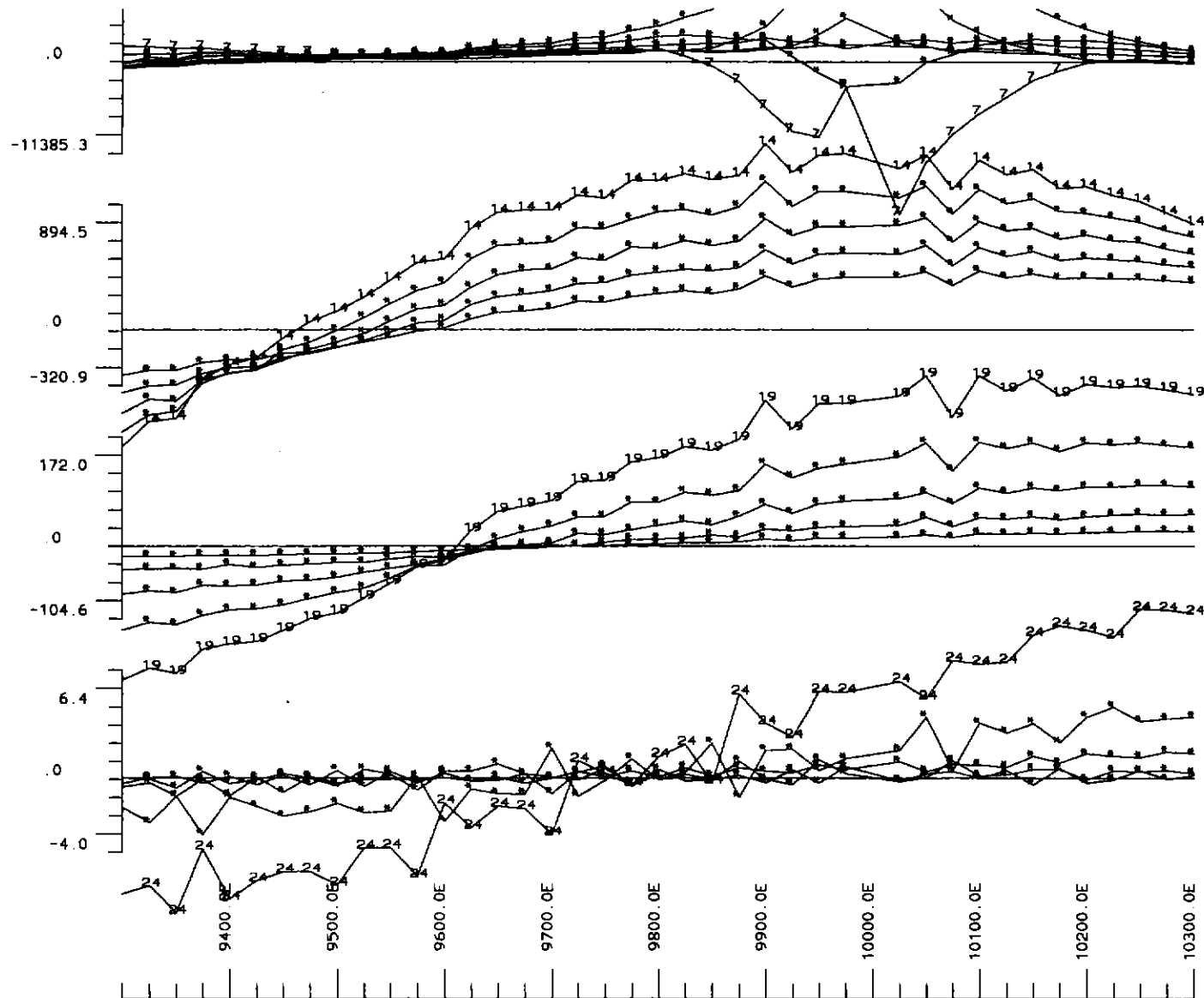
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

120106



Datafile: loop22.avx

LOOP: 22

LINE: 17000.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

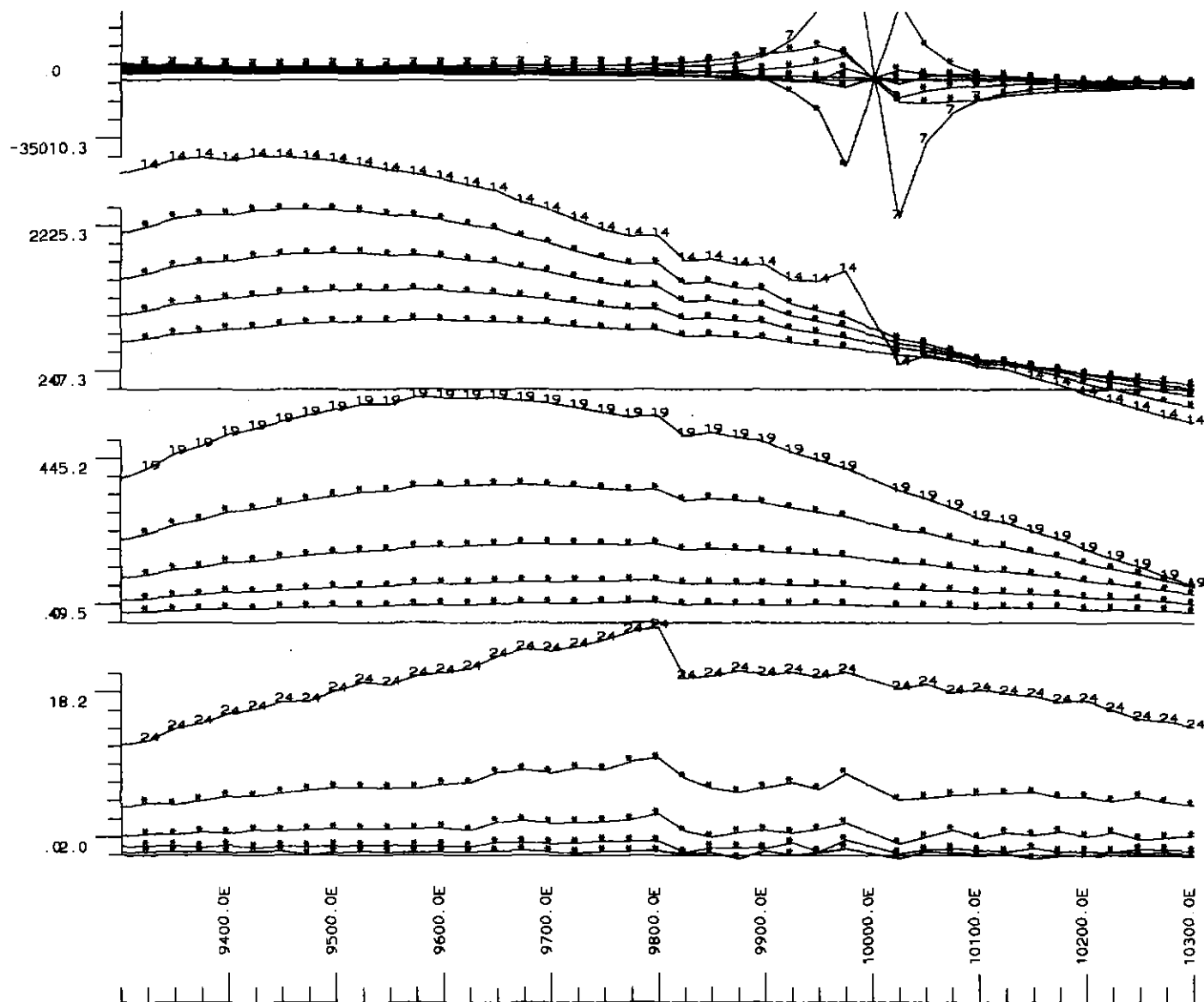
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

2201027



Datafile: grid22 avz

LOOP: 22

LINE: 17200.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

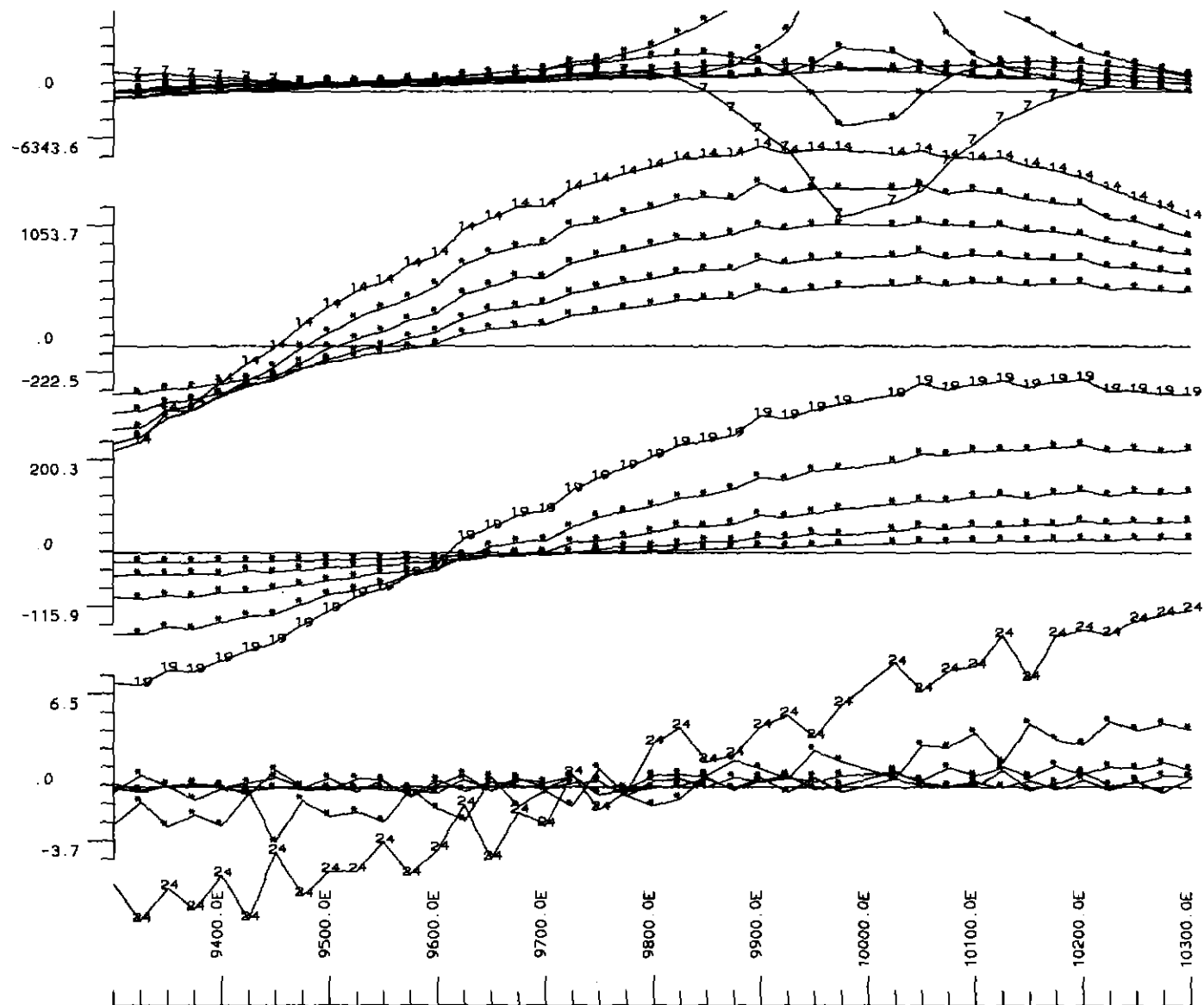
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720128



Datafile: grid22.avx

LOOP: 22

LINE: 17200.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

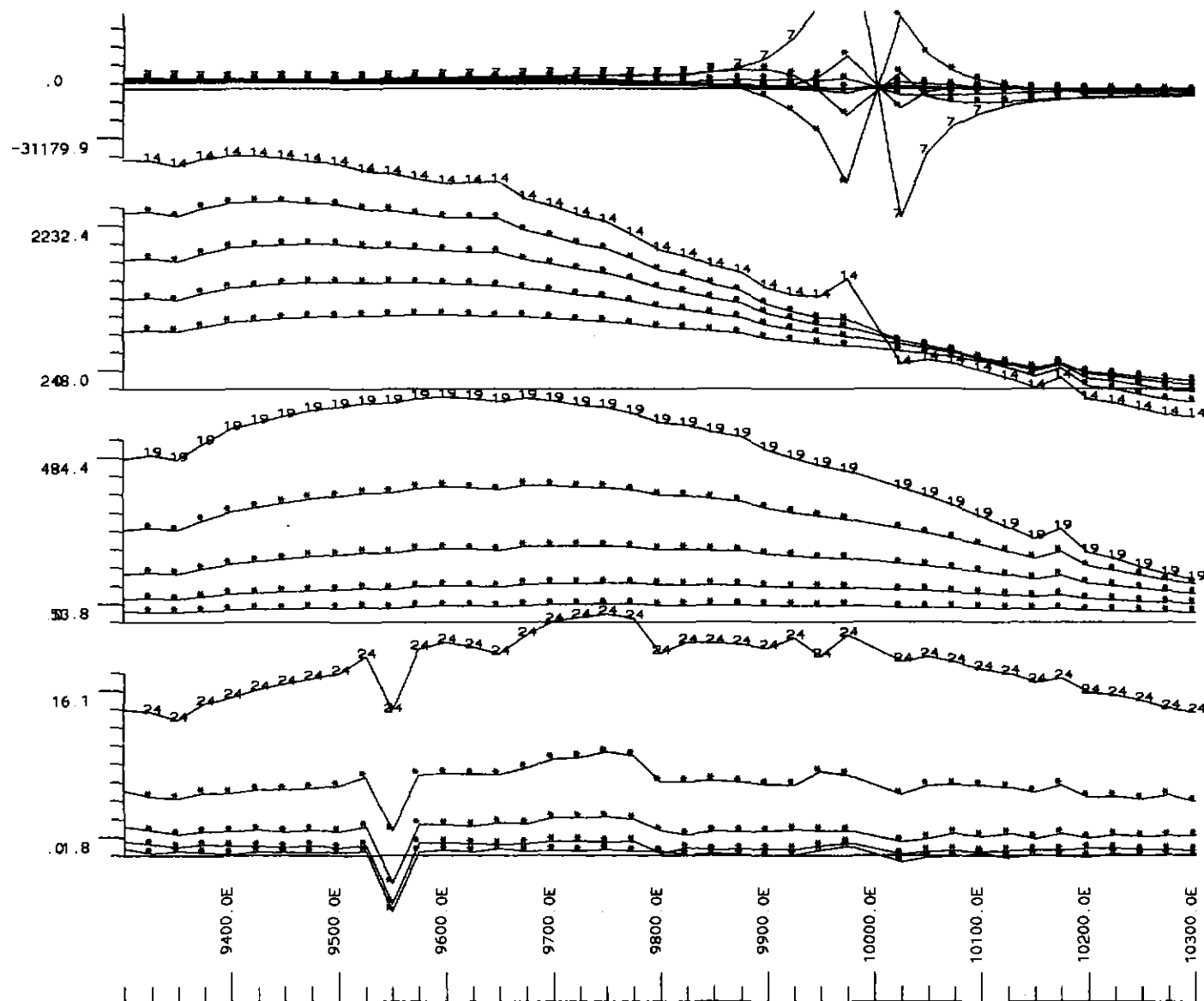
MAR 1995

READ BY MB TC

PLOTTED MB

720129

5 cm



Datafile: grid22.avz

LOOP: 22

LINE: 17400.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

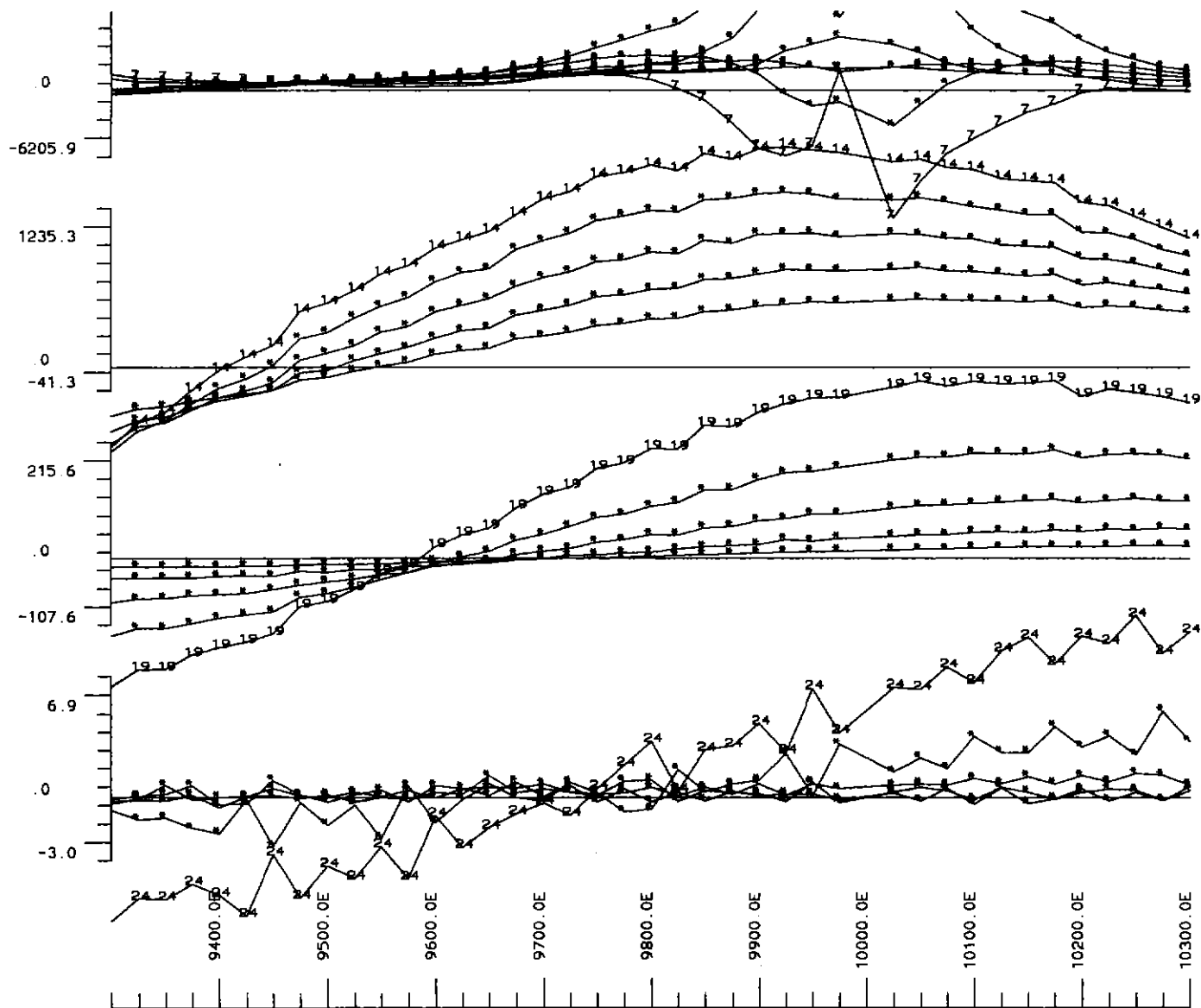
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

220130



Datafile: grid22.avx

LOOP: 22

LINE: 17400.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

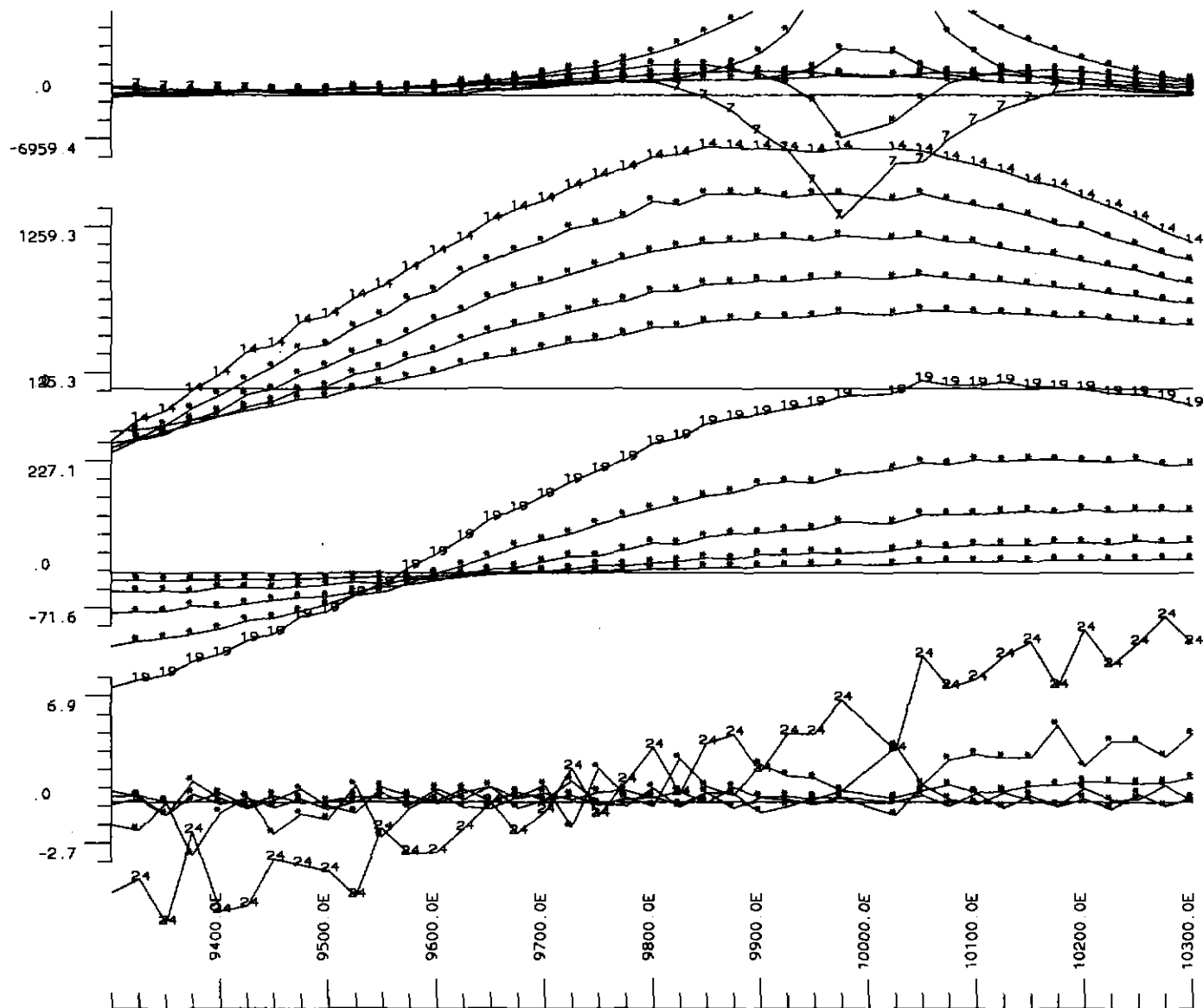
MAR 1995

READ BY MB TC

PLOTTED MB

720131

5 cm



Datafile: grid22.avx

LOOP: 22

LINE: 17600.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

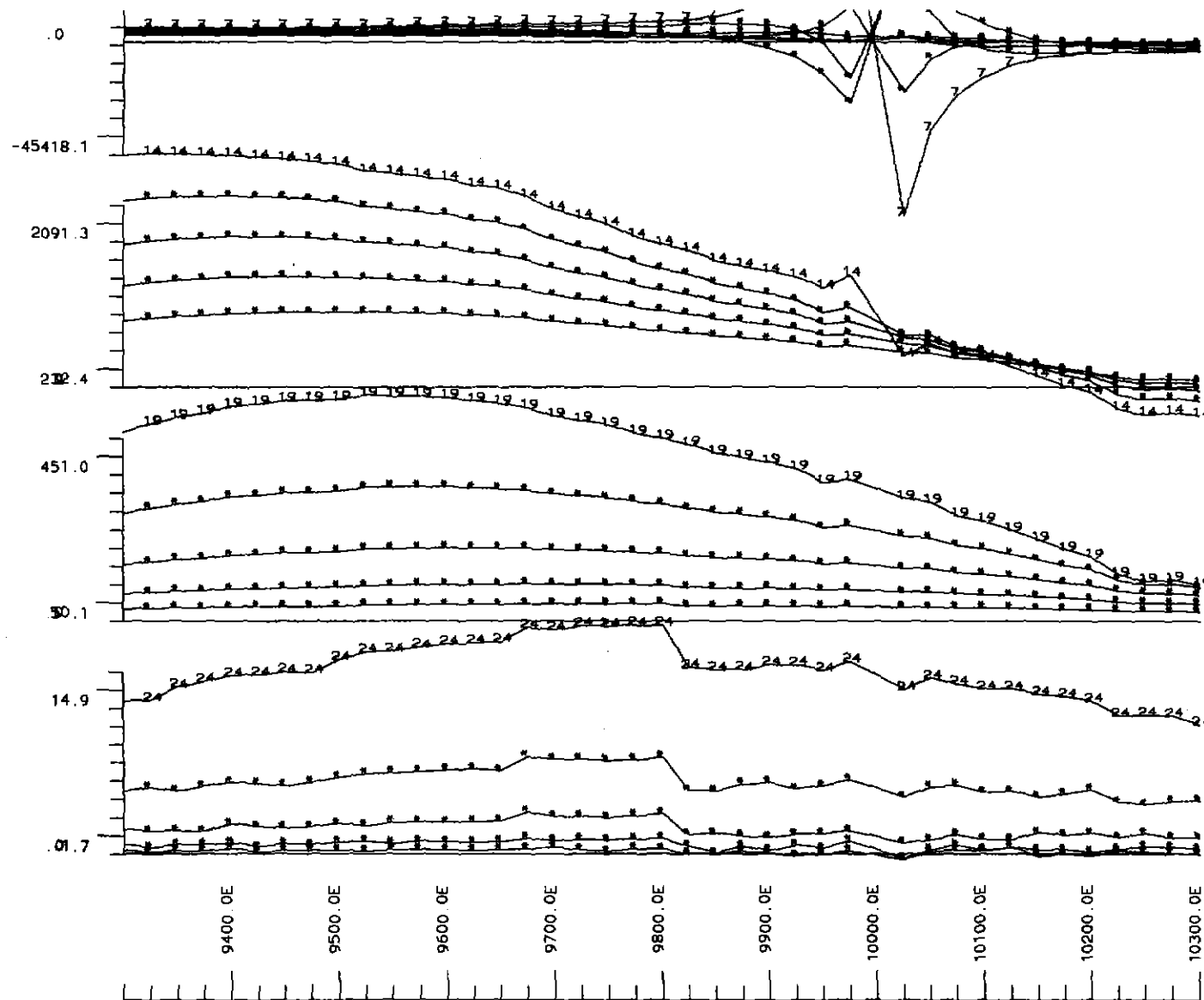
MAR 1995

READ BY MB TC

PLOTTED MB

220153

5 cm



Datafile: loop22.avz

LOOP: 22

LINE: 17800.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

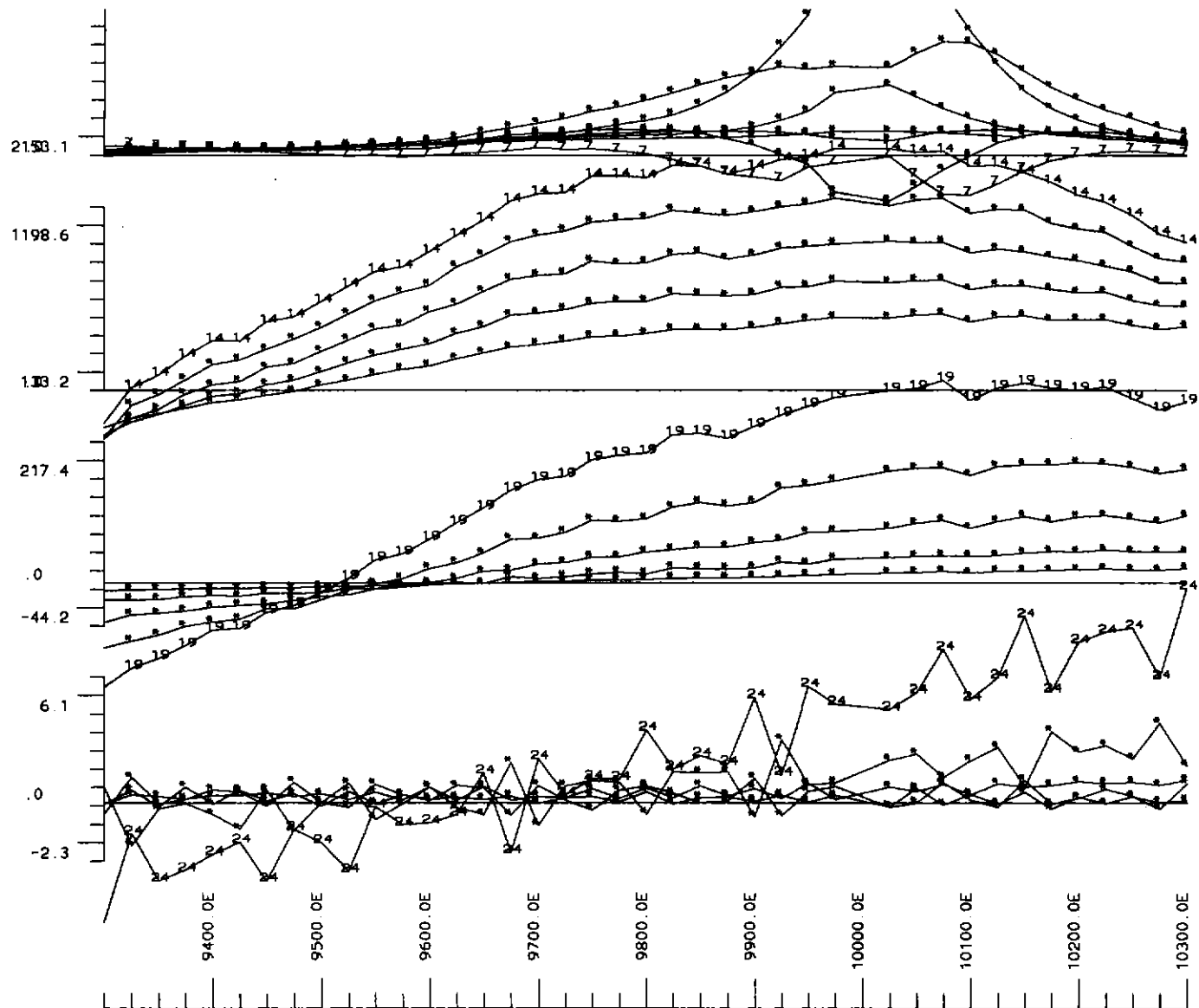
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720134



Datafile: loop22.avx

LOOP: 22

LINE: 17800.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

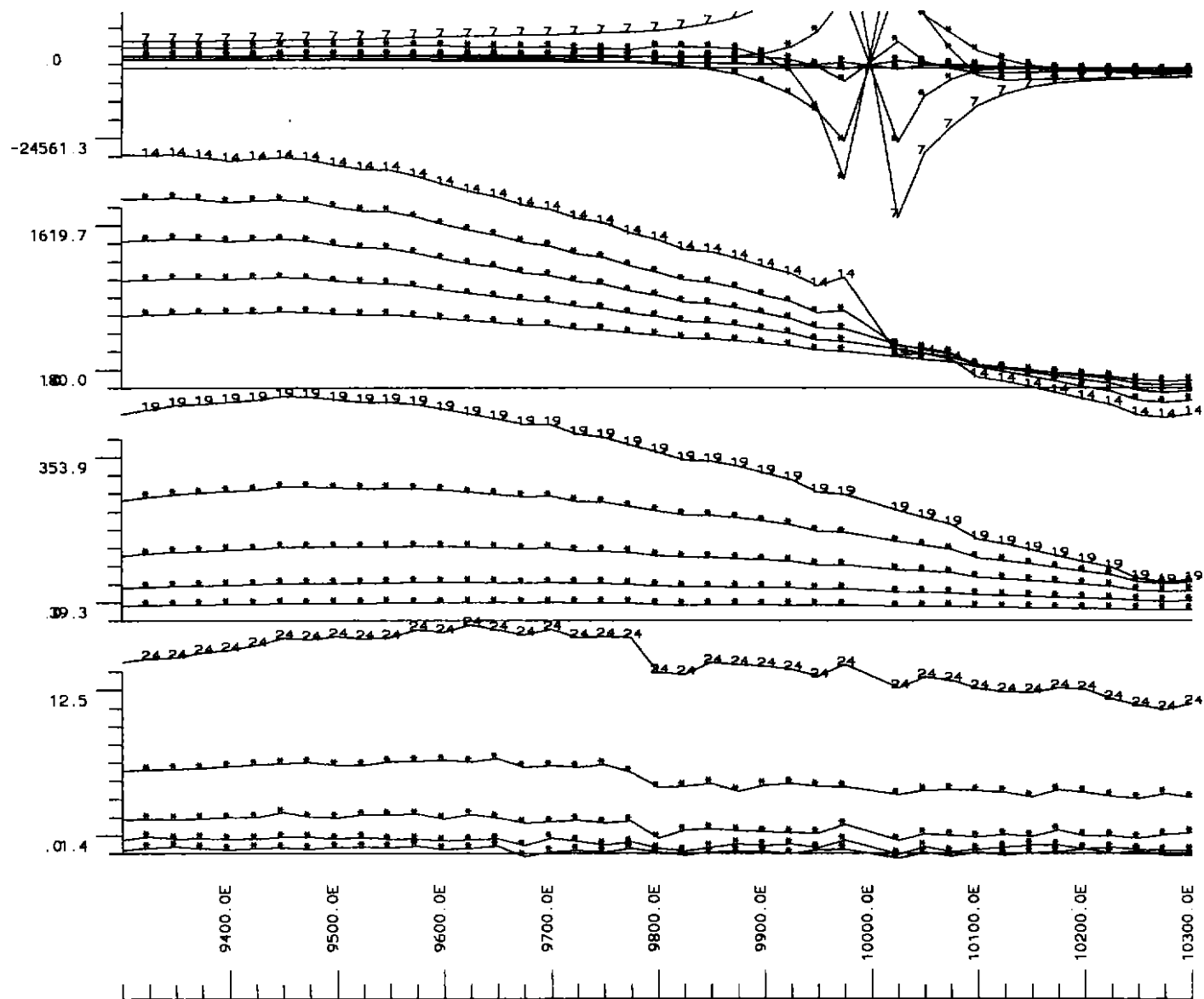
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

920135



Datafile: loop22.avz

LOOP: 22

LINE: 18000.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

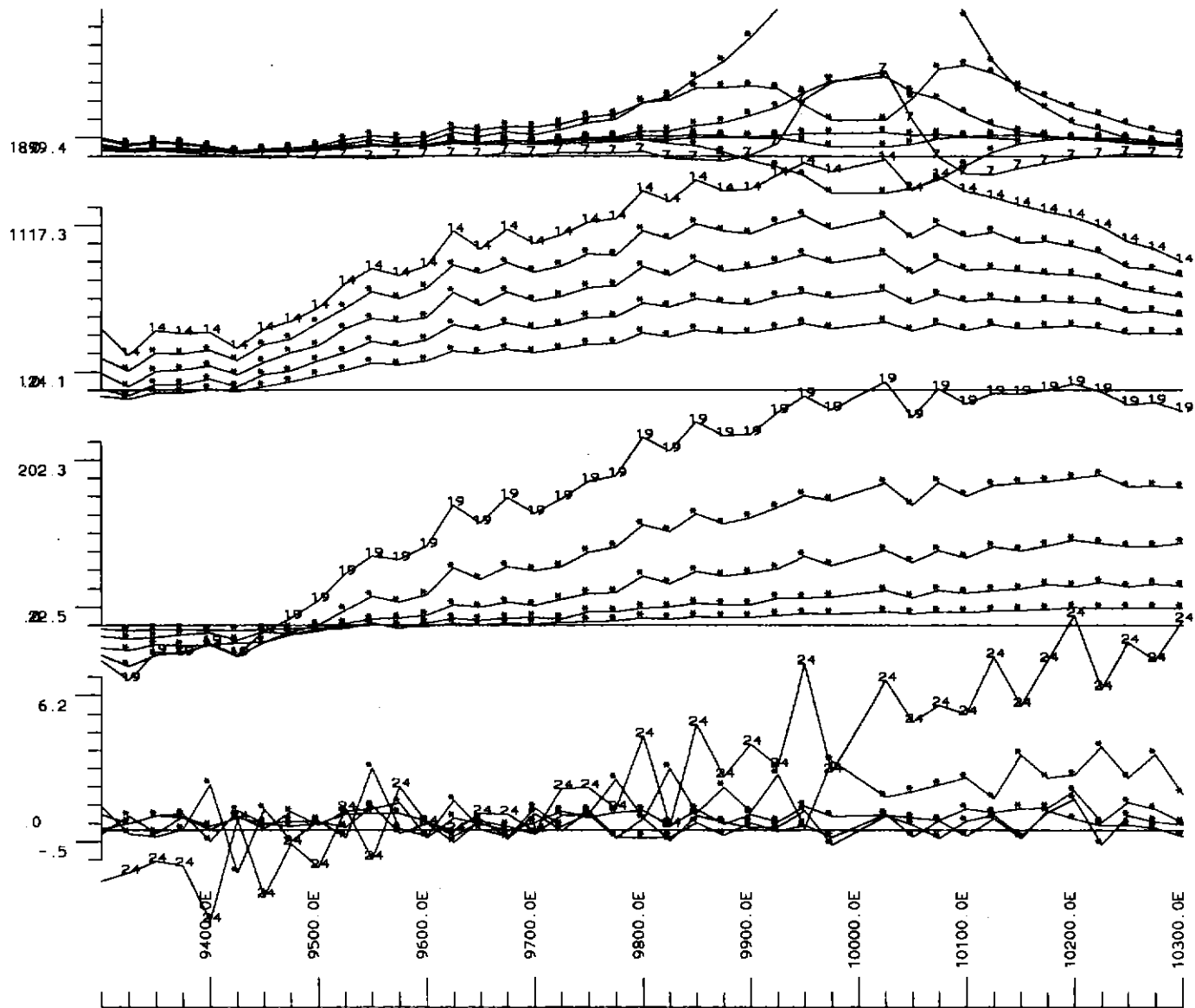
MAR 1995

READ BY MB TC

PLOTTED MB

720136

5 cm



Datafile: loop22 avx

LOOP: 22

LINE: 18000.00N

Date Plotted: 19/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

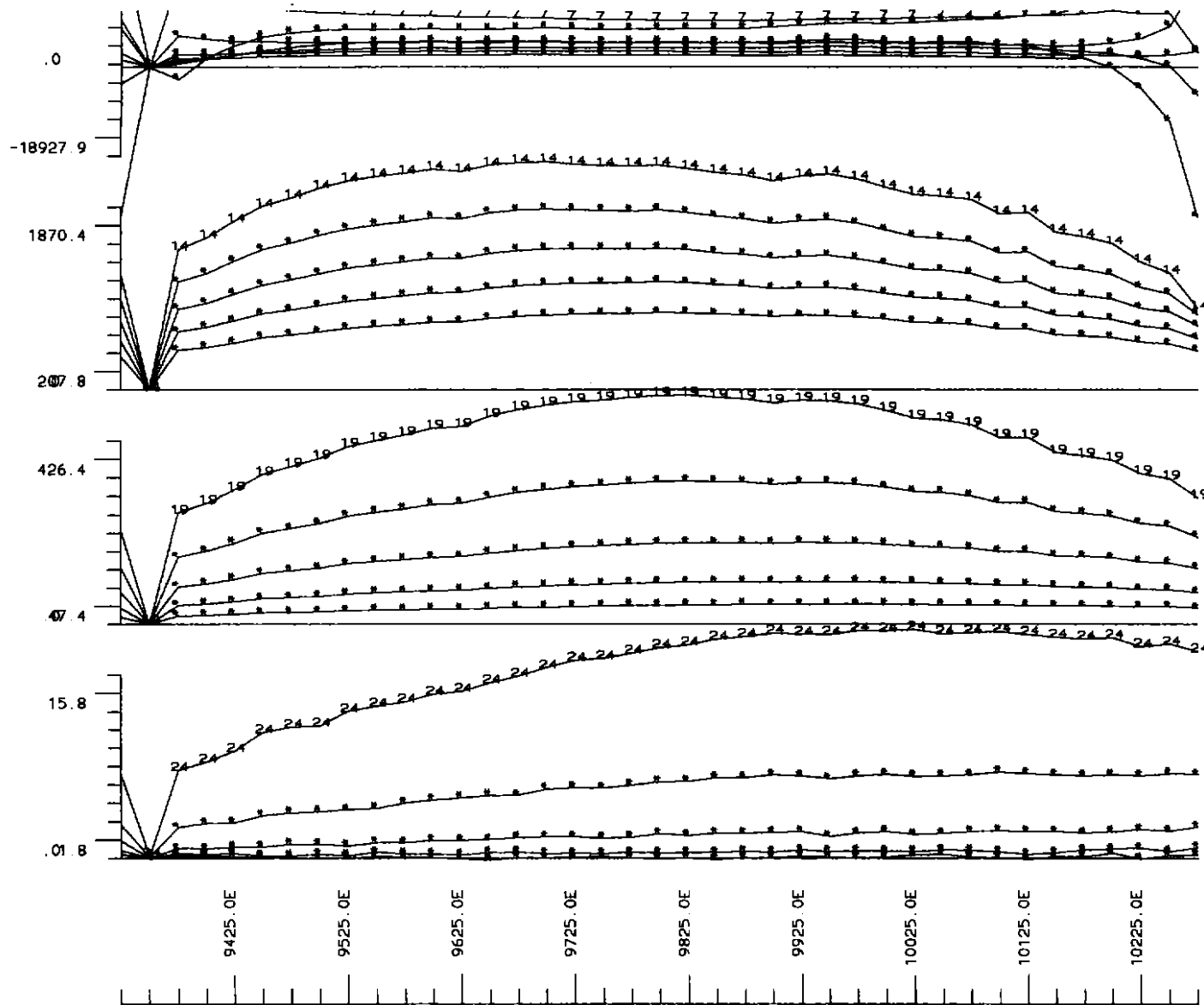
MAR 1995

READ BY MB TC

PLOTTED MB

120137

5 cm



Datafile: loop24.avz

LOOP: 24

LINE: 17200.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

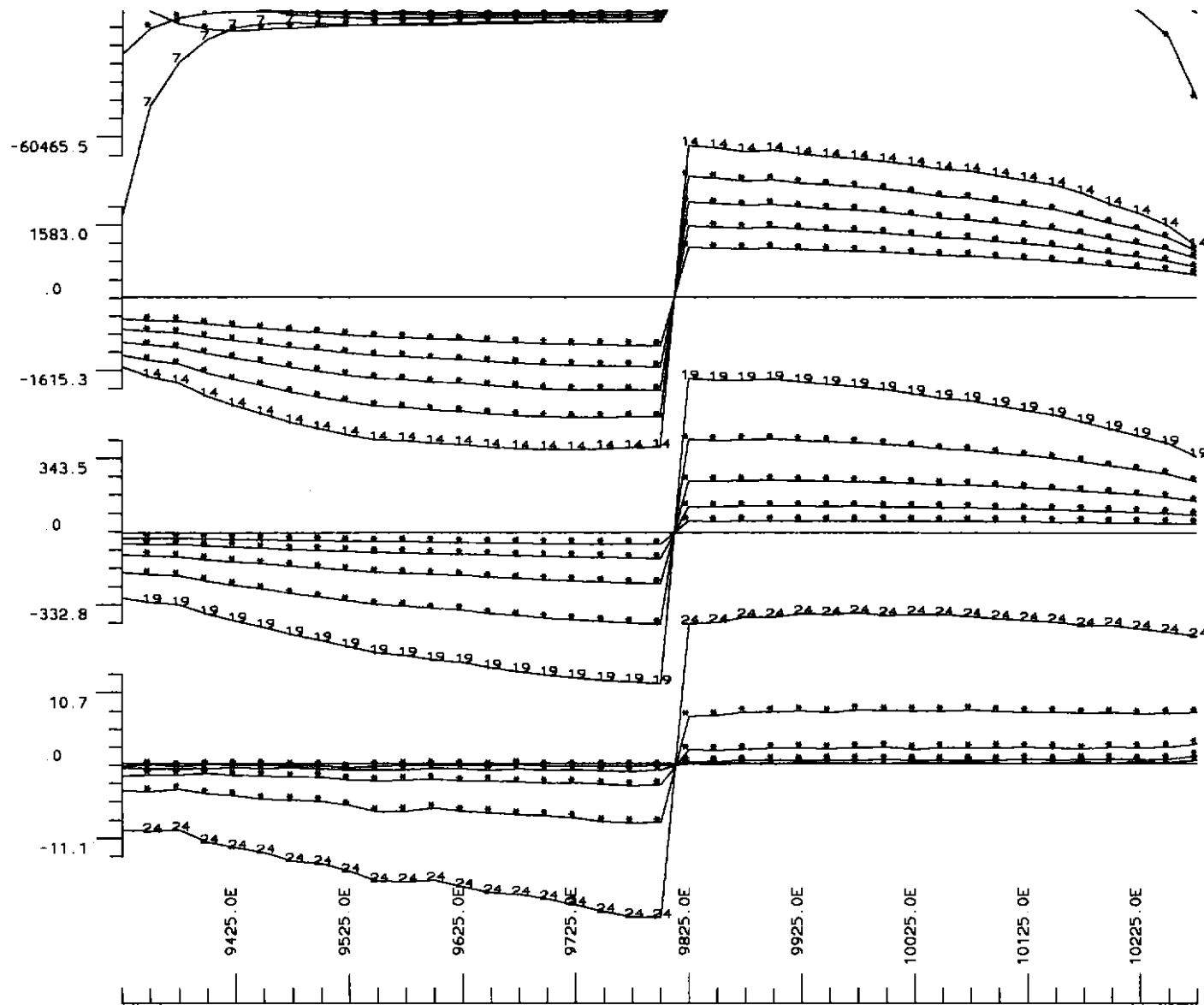
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

920138



Datafile: loop24.avz

LOOP: 24

LINE: 17400.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

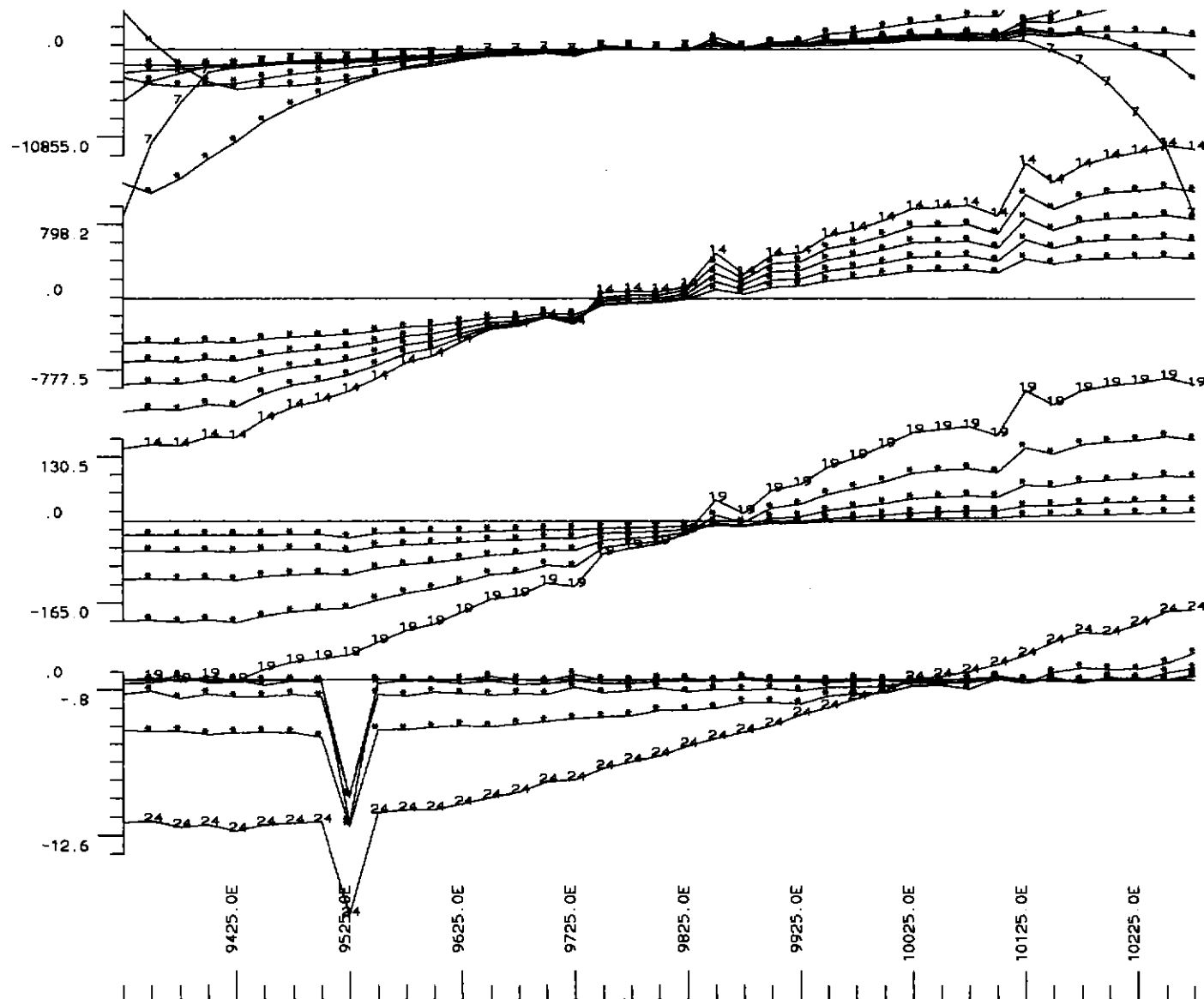
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

601024



Datafile: loop24.avx

LOOP: 24

LINE: 17200.00N

Date Plotted 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

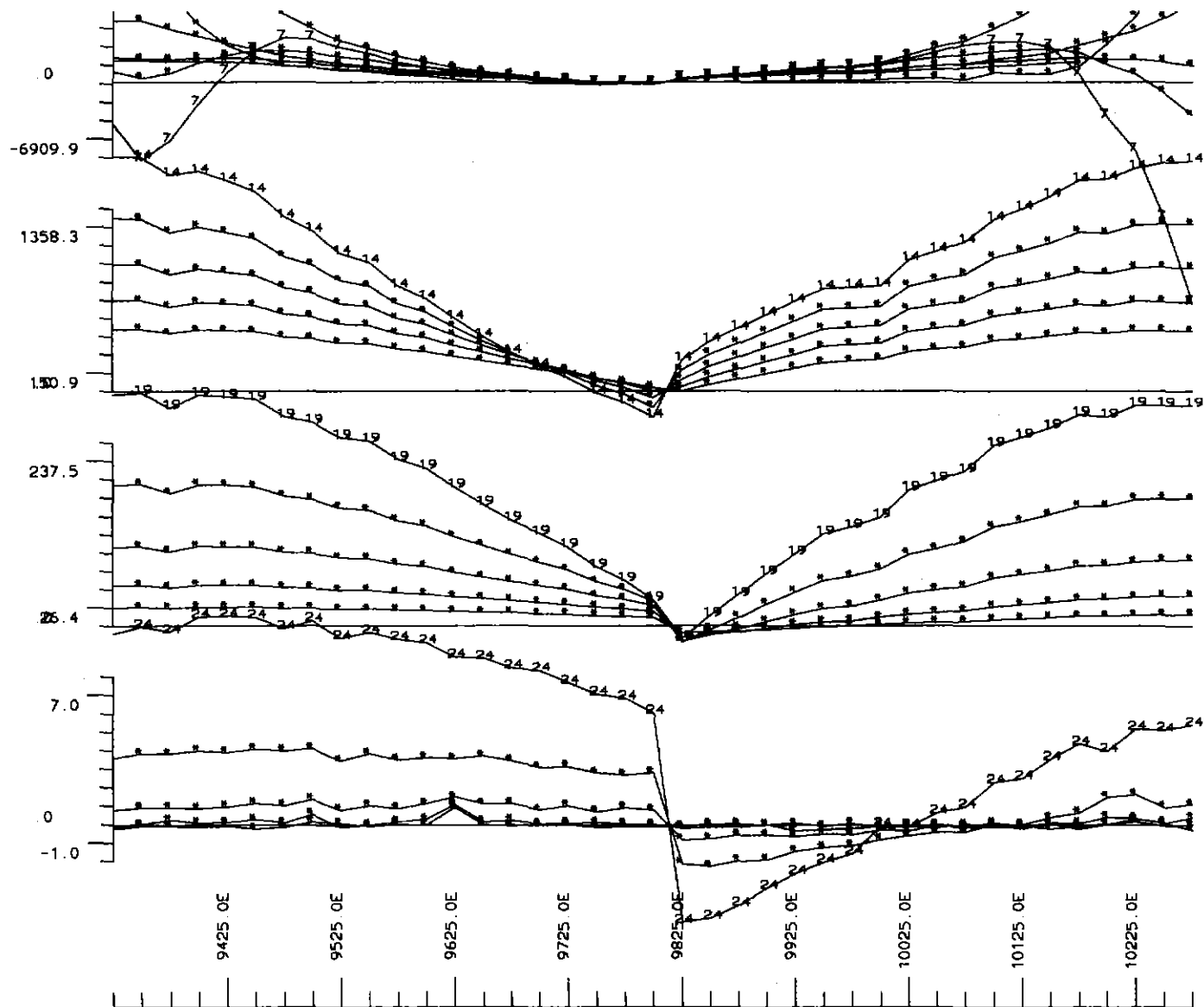
MAR 1995

READ BY MB TC

PLOTTED MB

720141

5 cm



Datafile: loop24.avx

LOOP: 24

LINE: 17400.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

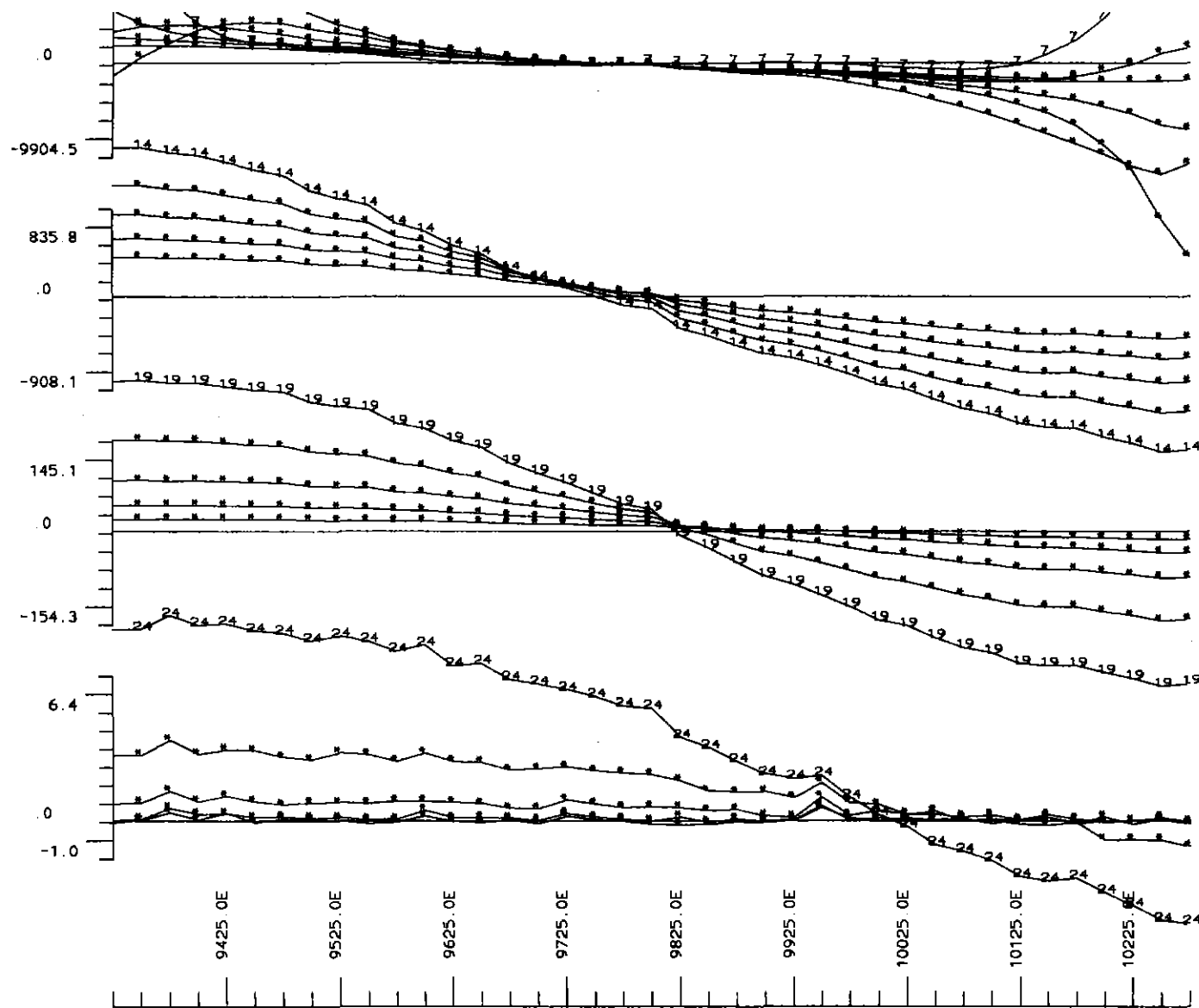
MAR 1995

READ BY MB TC

PLOTTED MB

720142

5 cm



Datafile: loop24.avx

LOOP: 24

LINE: 17600.00N

Date Plotted: 19/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HX COMPONENT

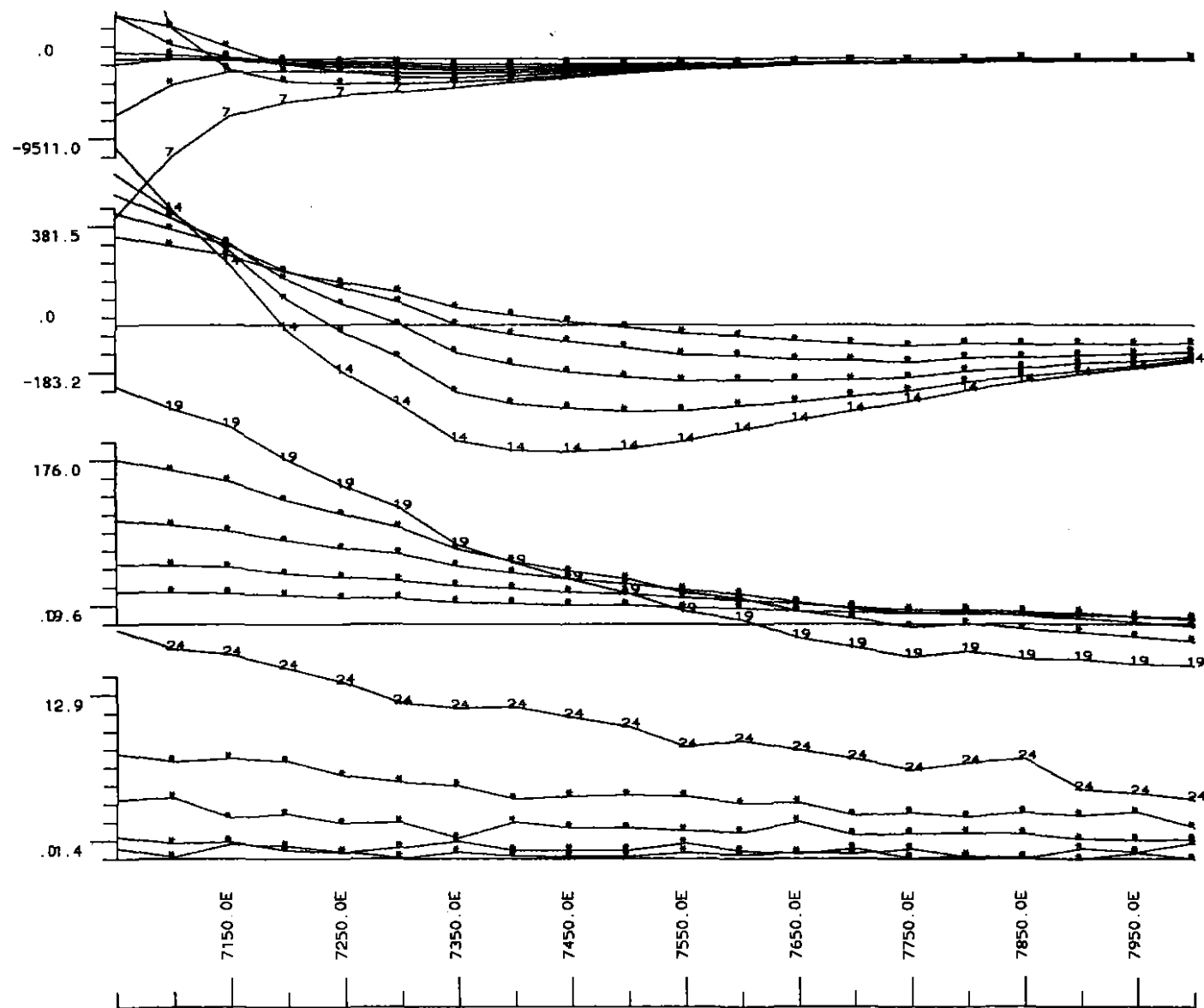
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720143



Datafile: s\mac_em2\loop25 av

LOOP: 25

LINE: 20600.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

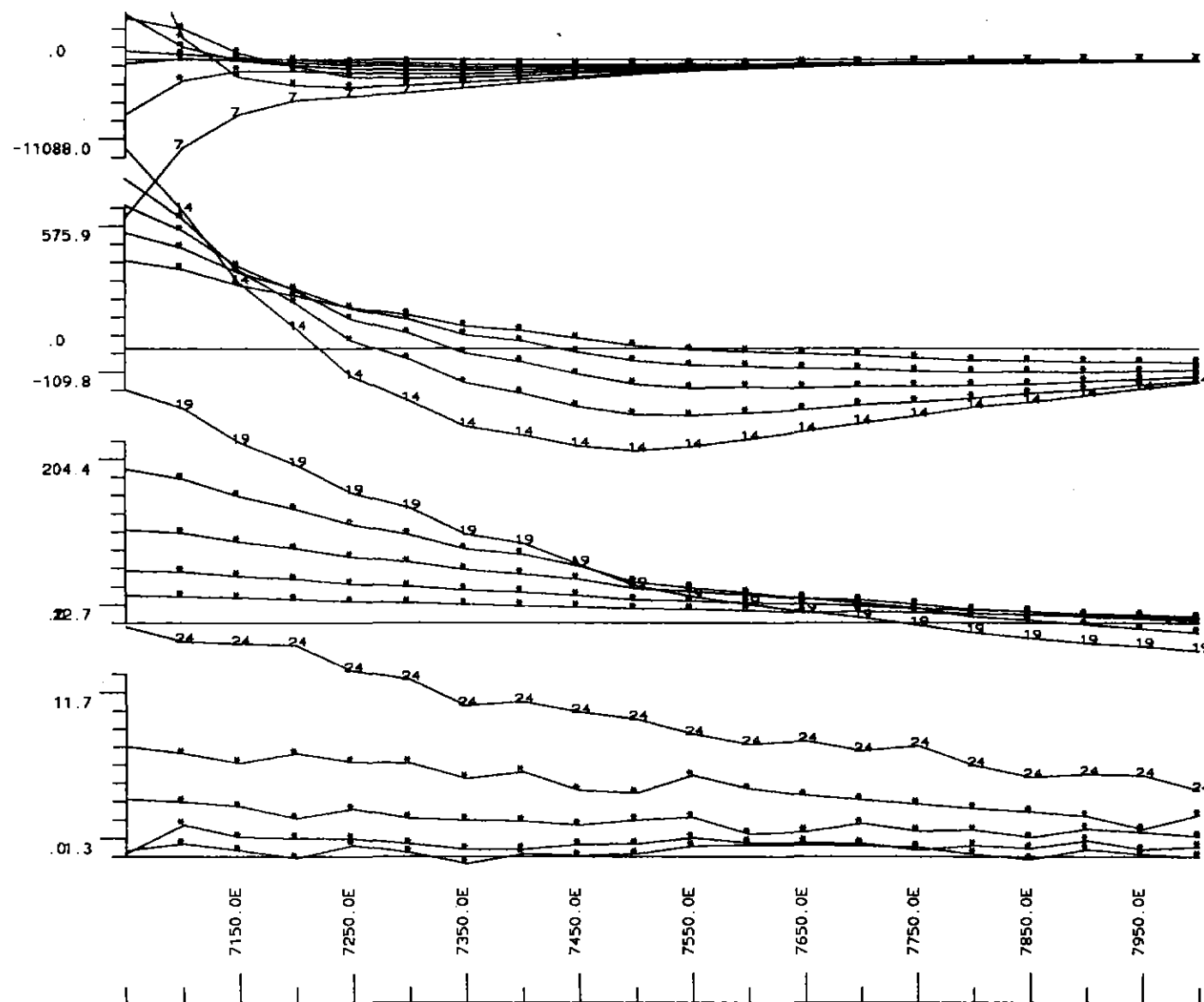
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720144



Datafile: s\mac_em2\loop25 av

LOOP: 25

LINE: 20800.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

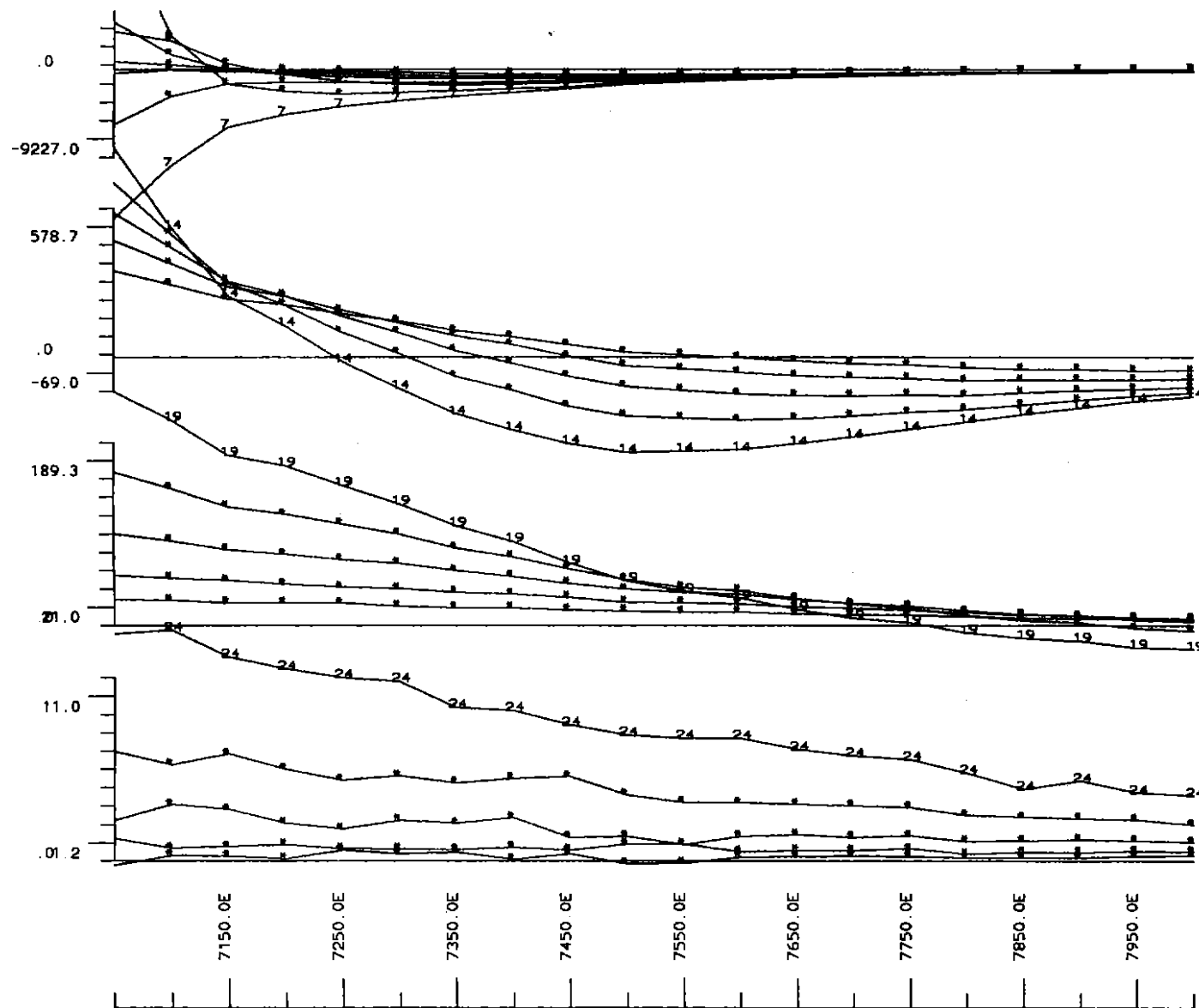
MAR 1995

READ BY MB TC

PLOTTED MB

720145

5 cm



Datafile: s\mac_em2\loop25.av

LOOP: 25

LINE: 21000.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

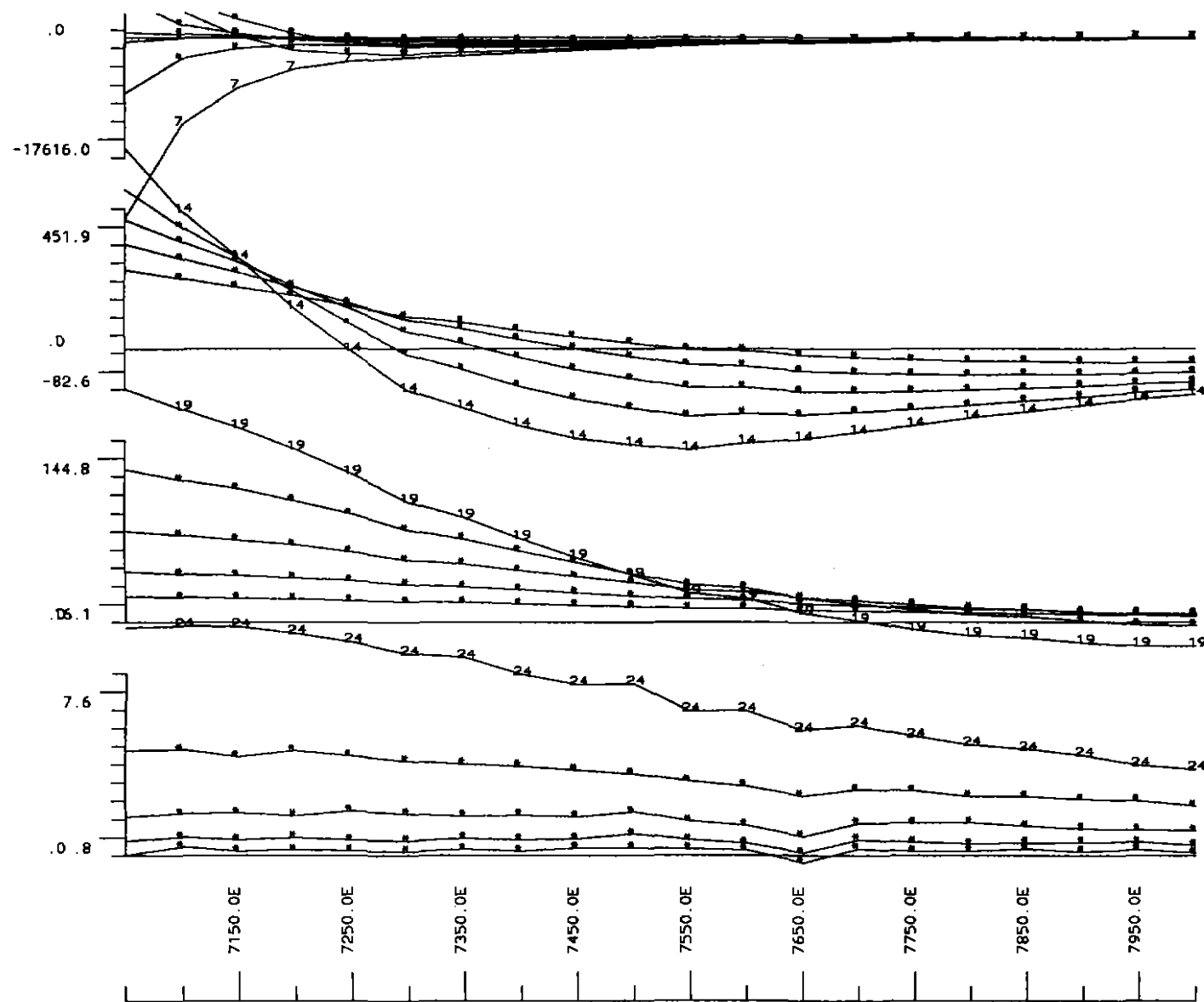
ZONGE GOP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720146



Datafile: s\mac_em2\loop25.av

LOOP: 25

LINE: 21200.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

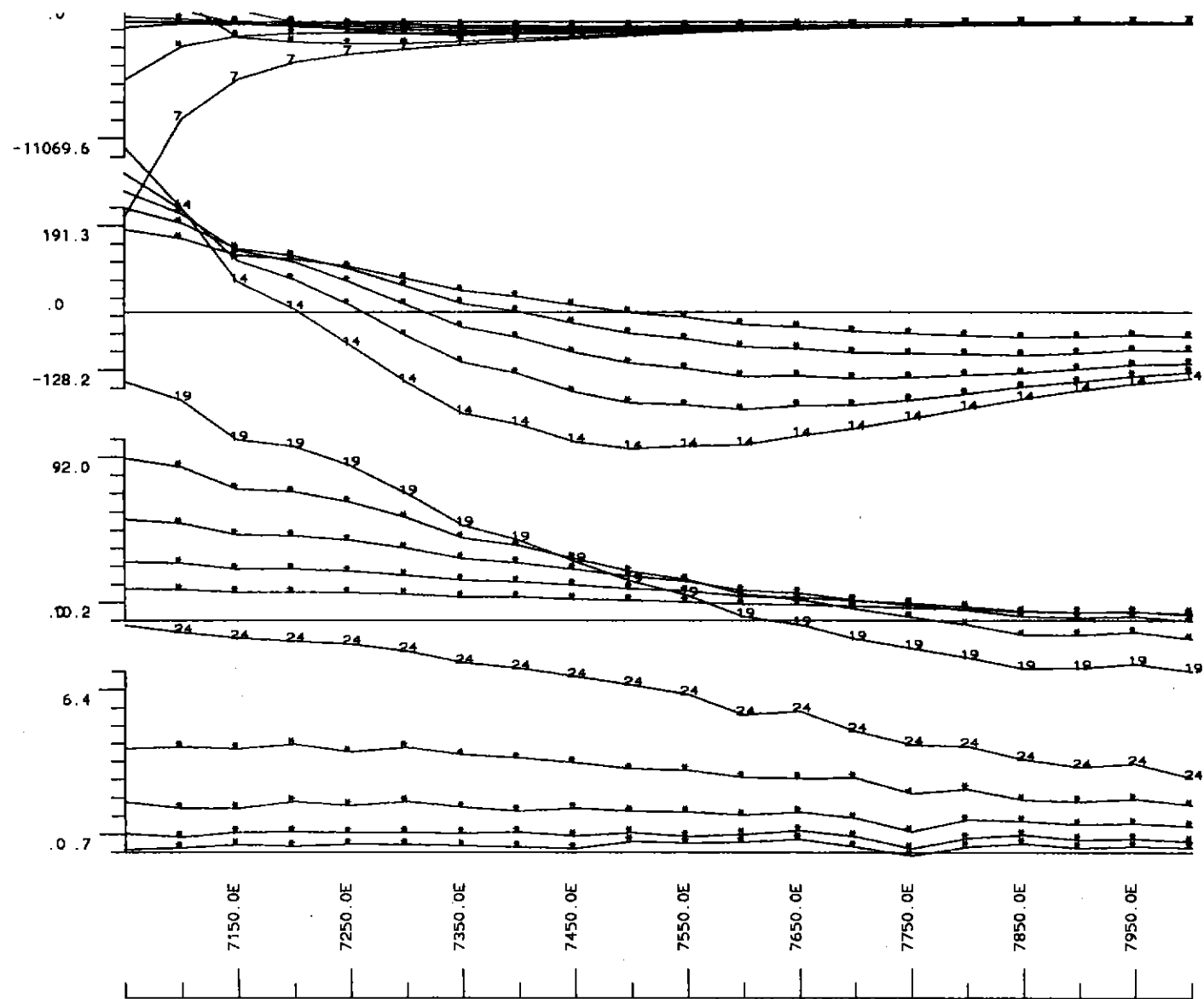
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720147



Datafile: s\mac_em2\loop25.av

LOOP: 25

LINE: 21400.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

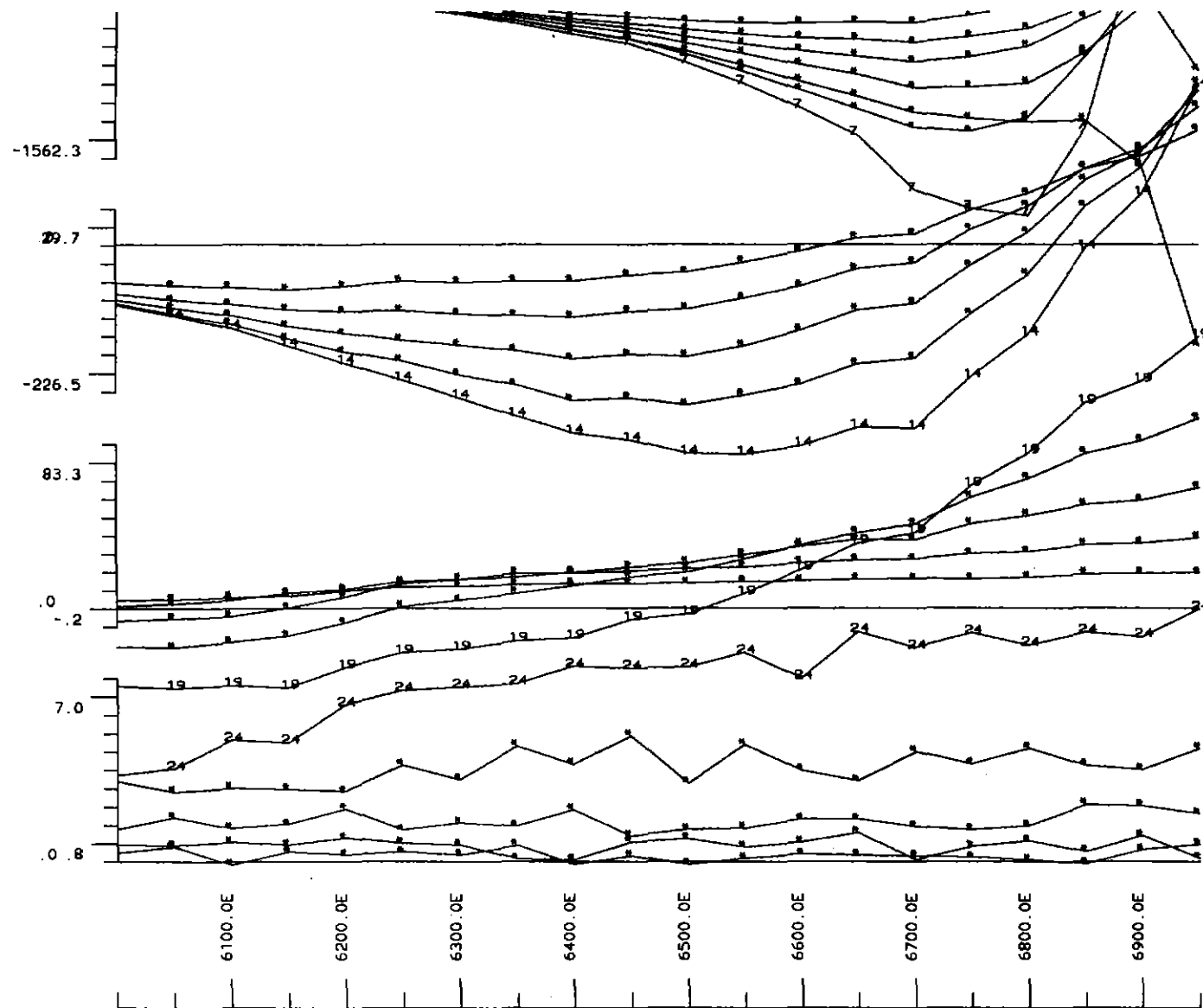
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720148



Datafile: s\mac_em2\loop26.av

LOOP: 26

LINE: 20400.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

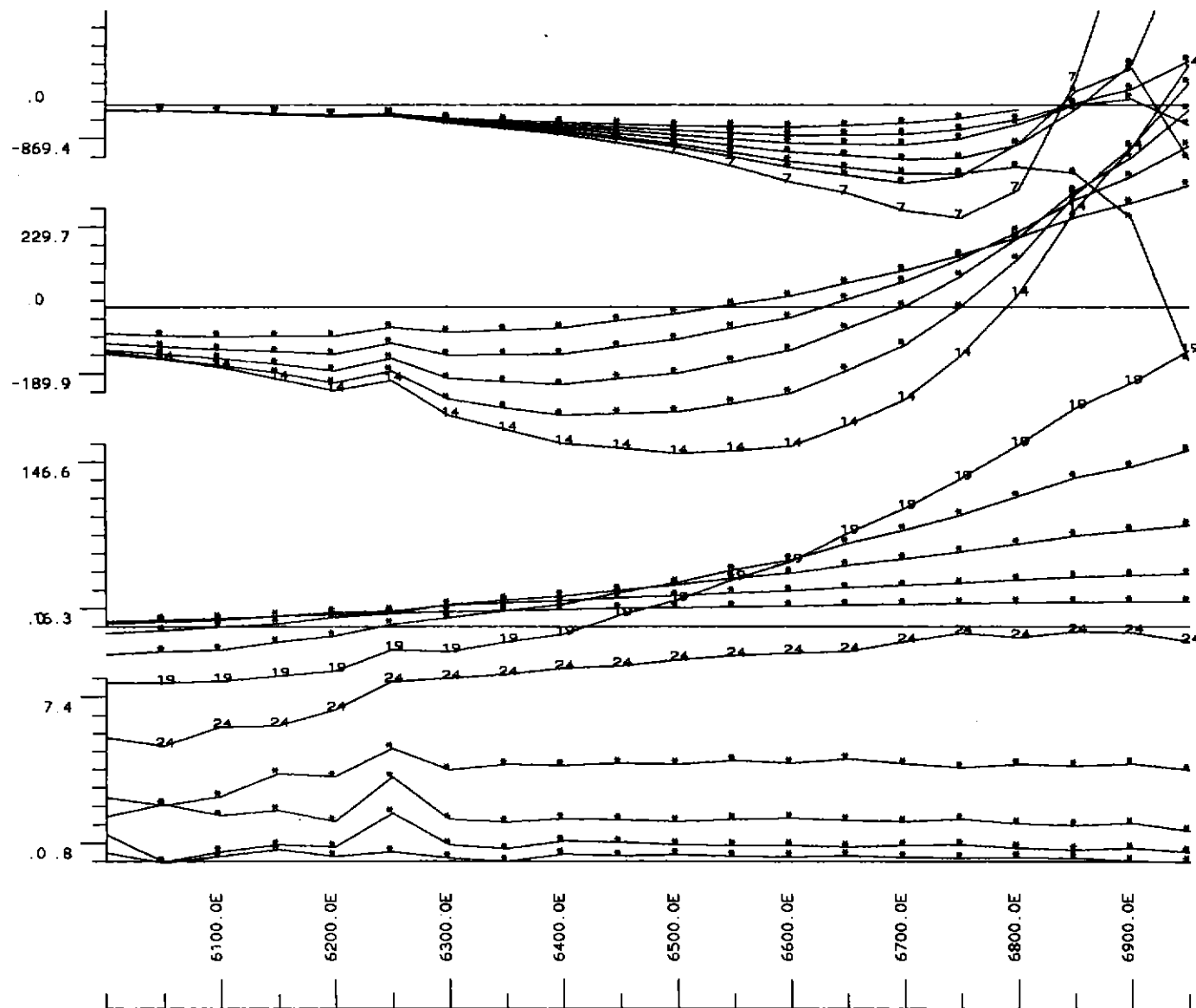
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720149



Datafile: s\mac_em2\loop26.av

LOOP: 26

LINE: 20600.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

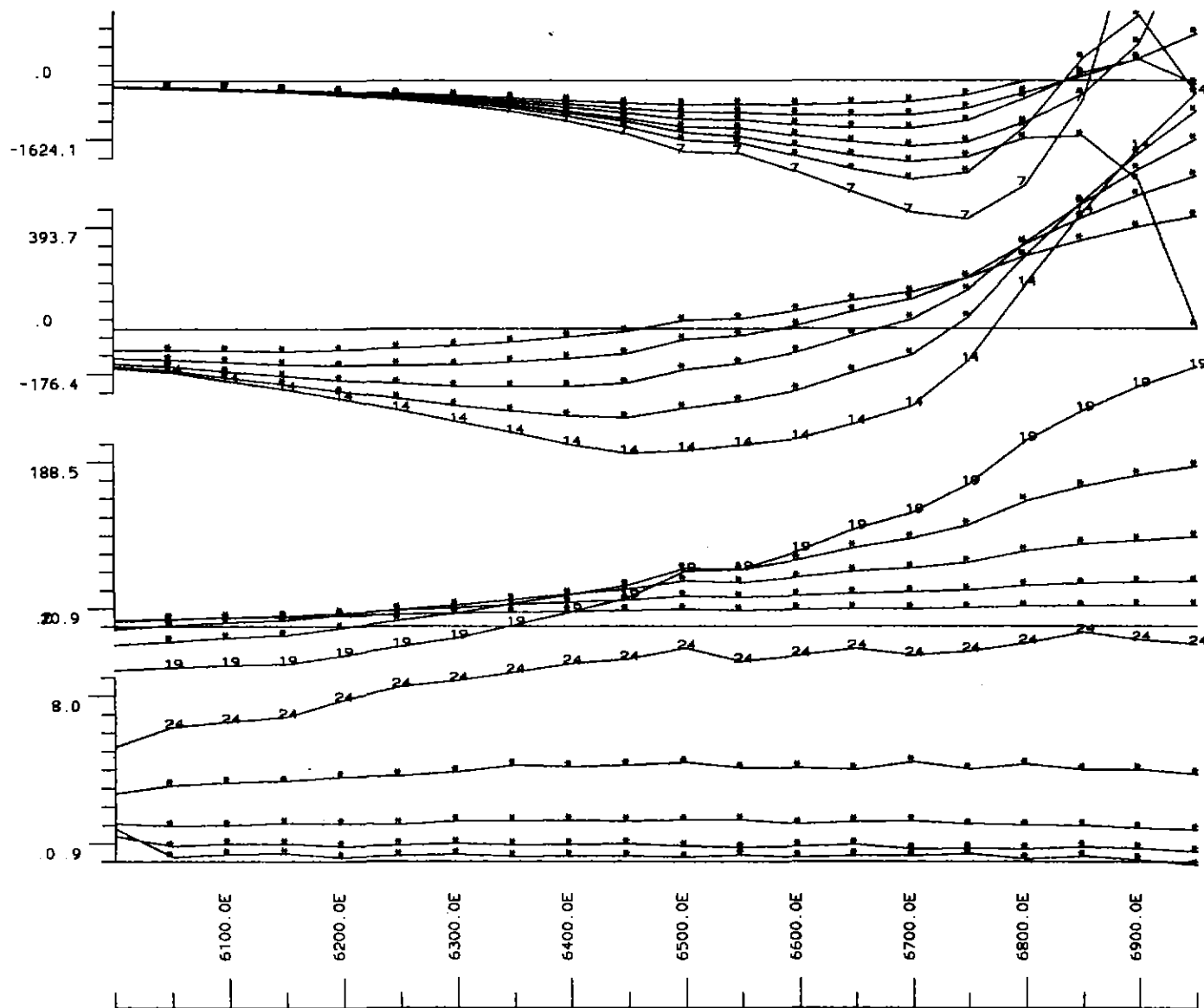
ZONGE GDP16 8HZ

MAR 1995

READ BY NB TC

PLOTTED NB

720150



Datafile: s\mac_em2\loop26.av

LOOP: 26

LINE: 20800.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

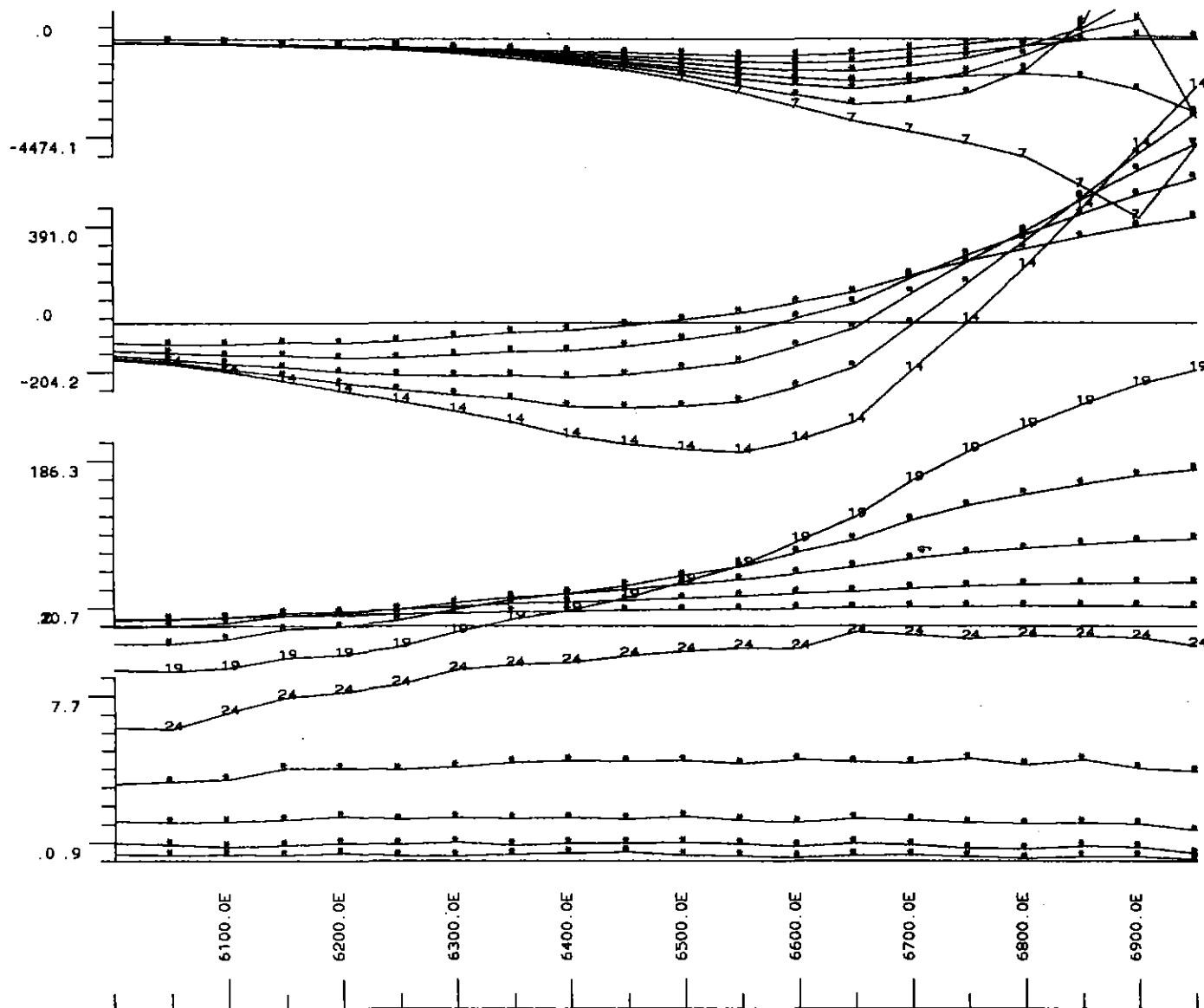
MAR 1995

READ BY MB TC

PLOTTED MB

720101

5 cm



Datafile: s\mac_em2\loop26.av

LOOP: 26

LINE: 21000.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GGP16 8HZ

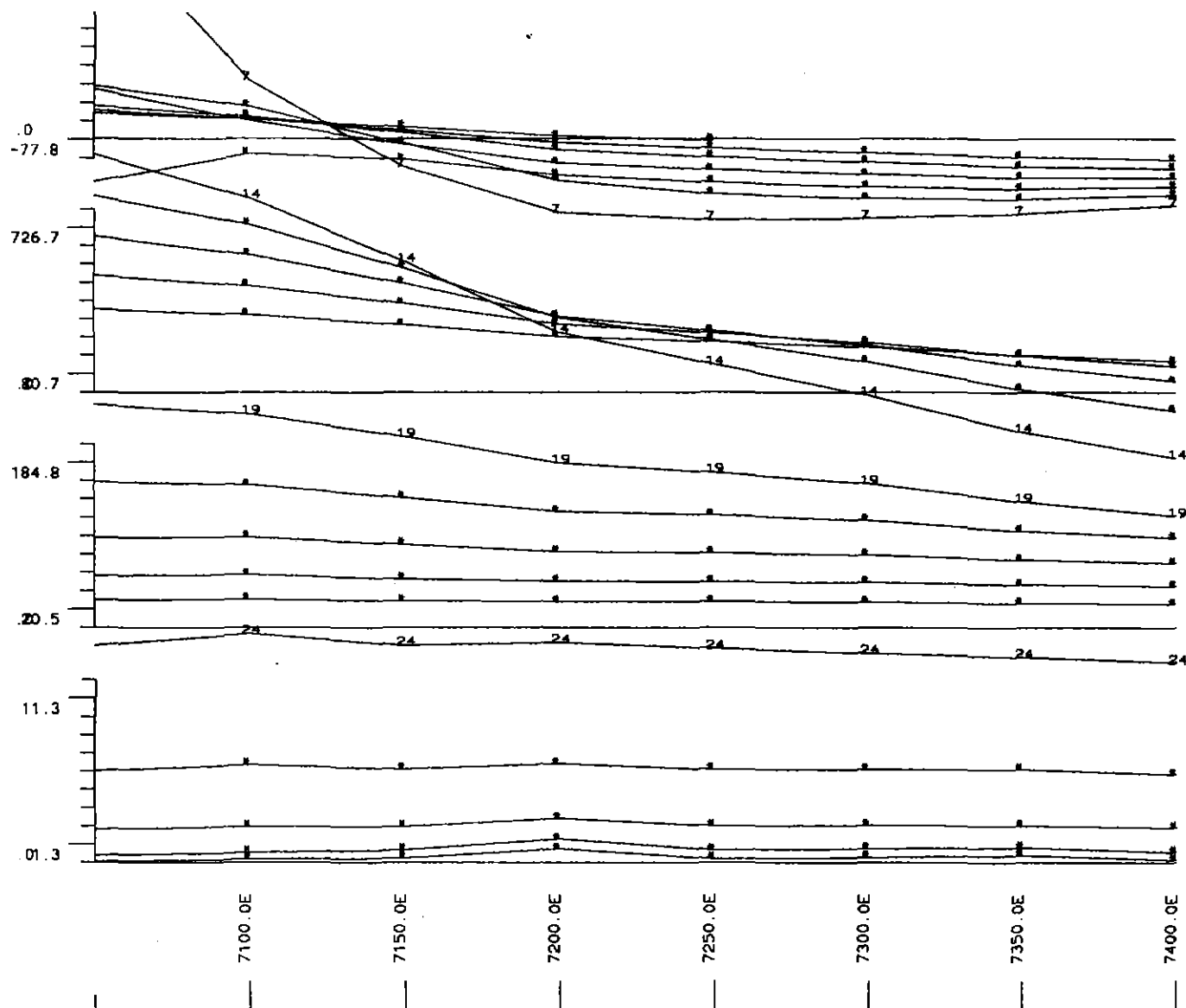
MAR 1995

READ BY MB TC

PLOTTED MB

720152

5 cm



Datafile: s\mac_em2\loop27.av

LOOP: 27

LINE: 19800.00N

Date Plotted: 18/03/95

Horiz scale 1: 2121.2

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

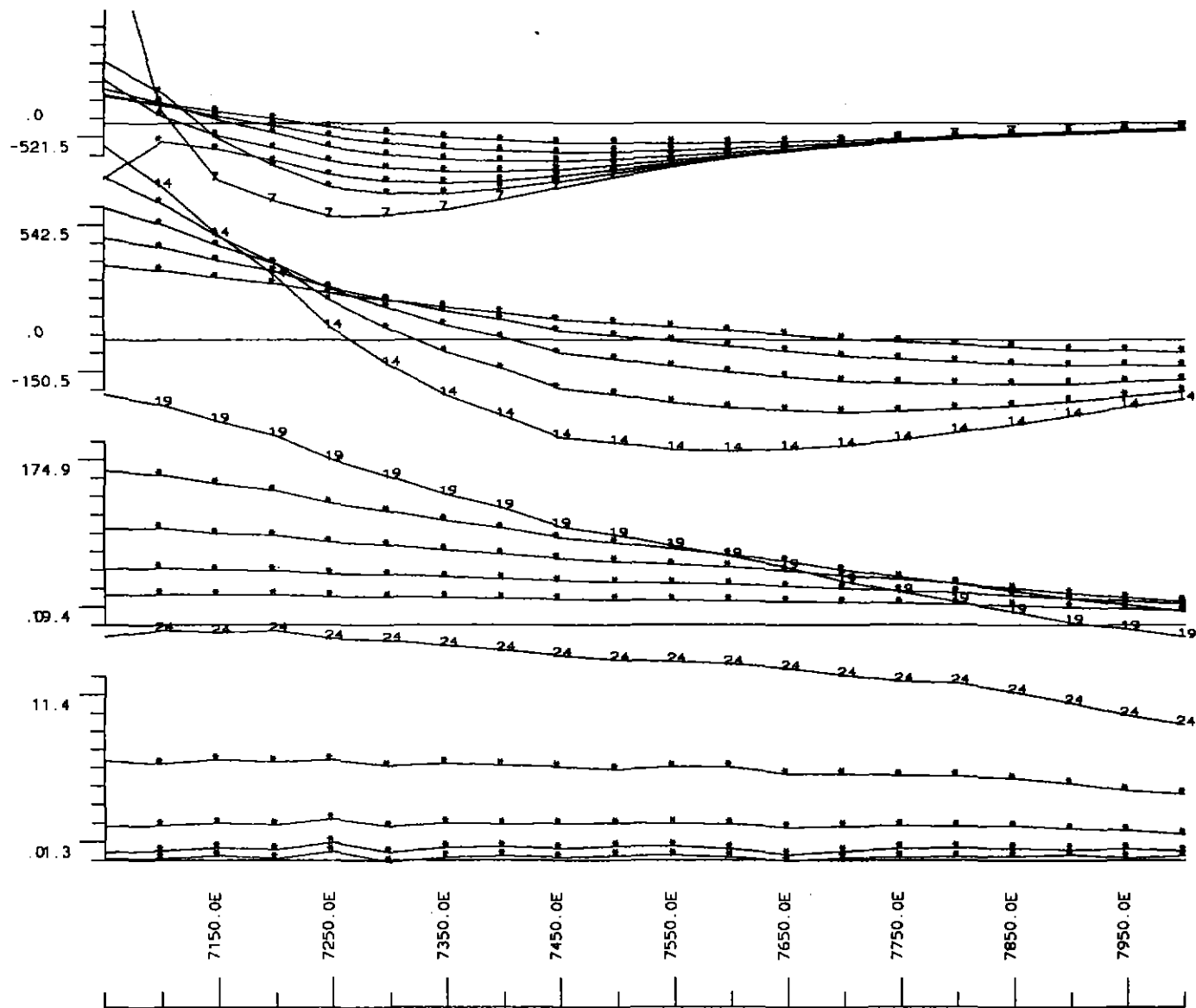
MAR 1995

READ BY MB TC

PLOTTED MB

920153

5 cm



Datafile: s\mac_em2\loop27.av

LOOP: 27

LINE: 20000.00N

Date Plotted: 18/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

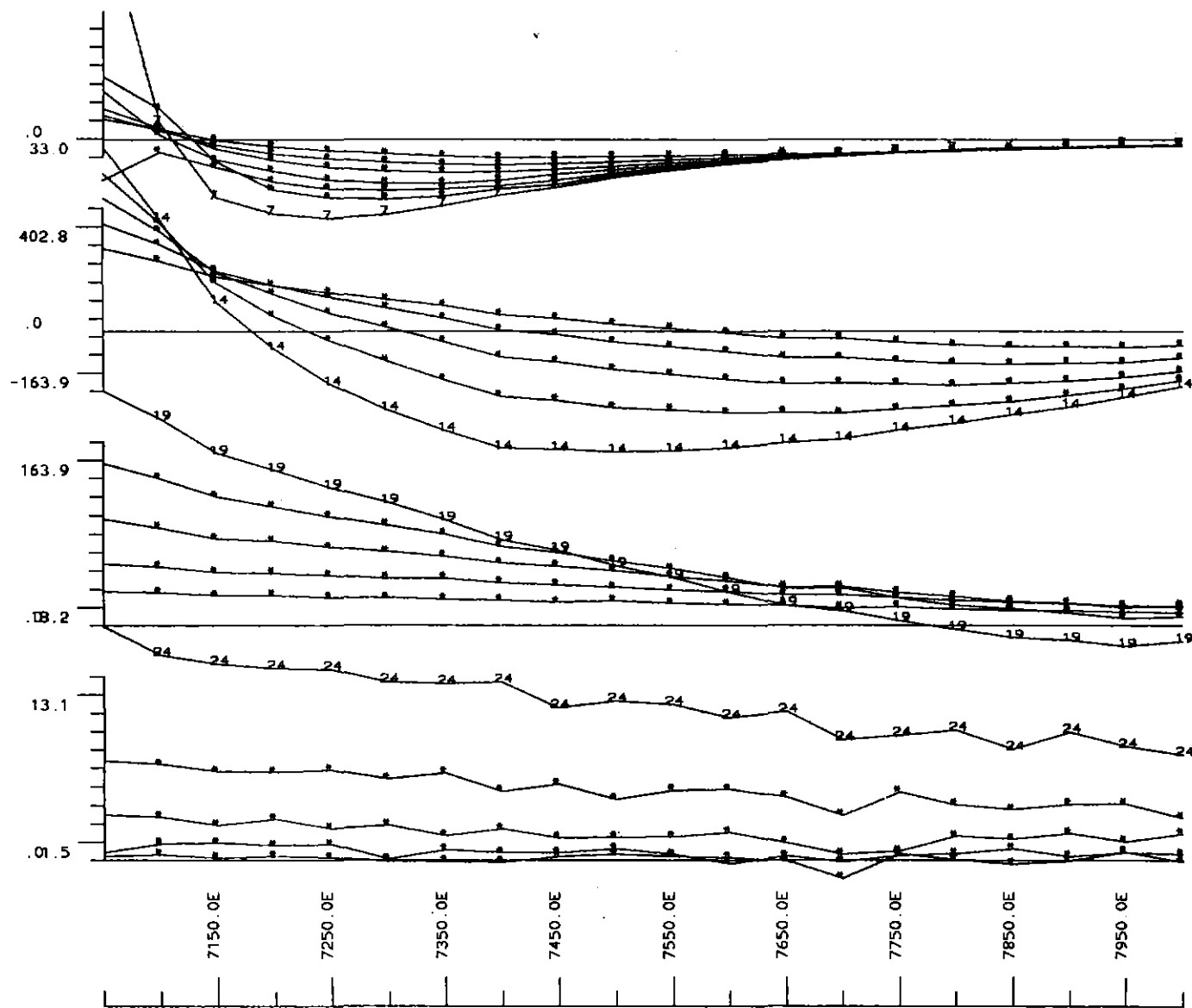
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720154



Datafile: s\mac_em2\loop27.av

LOOP: 27

LINE: 20200.00N

Date Plotted: 18/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

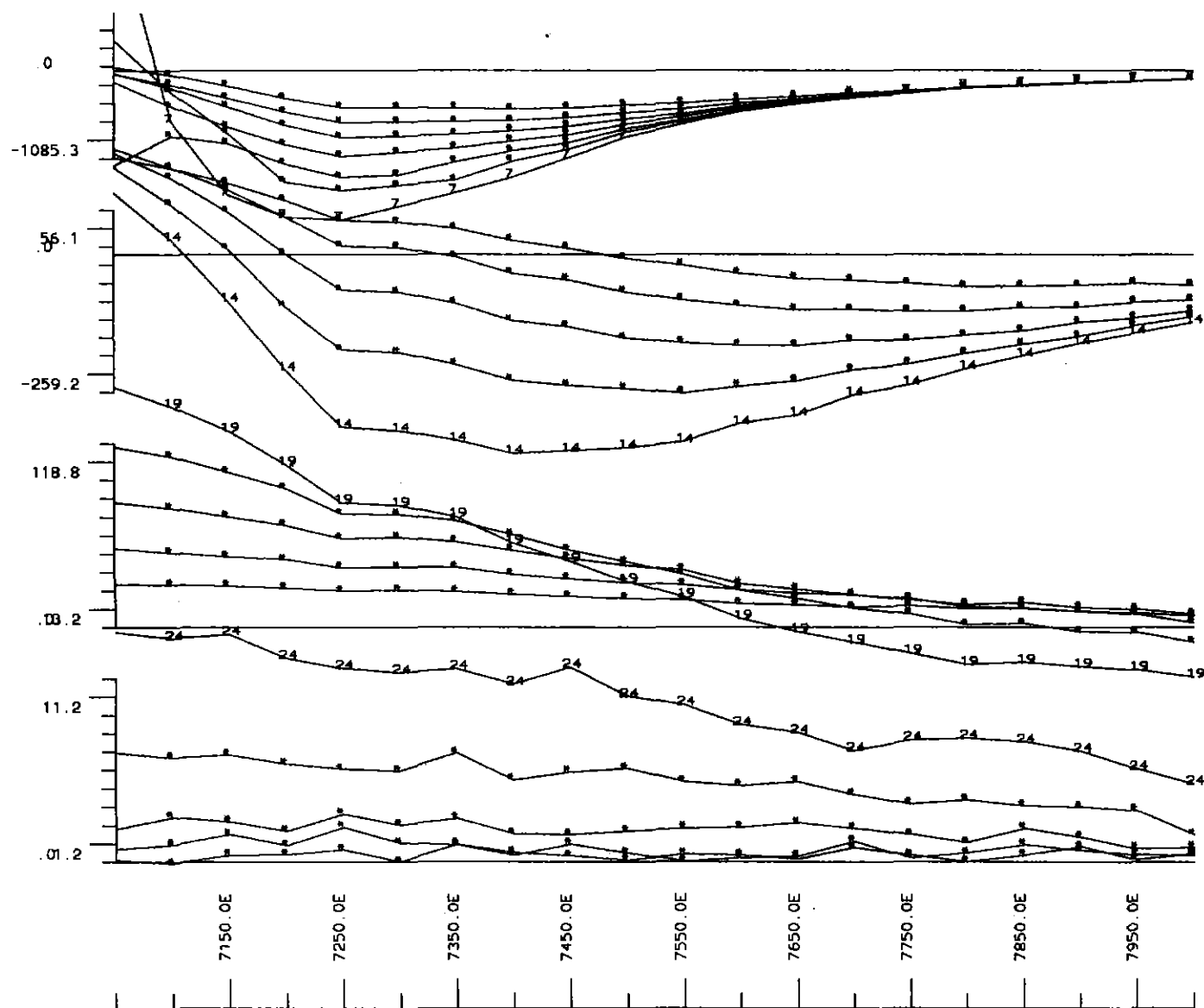
ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

920103



Datafile: s\mac_em2\loop27 av

LOOP: 27

LINE: 20400.00N

Date Plotted: 18/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

MAR 1995

READ BY MB TC

PLOTTED MB

720156

720157

APPENDIX II

ABERFOYLE

Memorandum

Date: 28 March 1995

Ref:

To: S Richardson

From: Jovan Silic

Copy to: DBW

Subject: HELLYER NORTH EM ANOMALY

It has been reported previously that an "anomalous" response lasting till "late" times (approx 12-20 ms), was observed on lines 17000 - 18000N, and extending to the south of 17000N for approximately 500-600 metres (Fig 1) although these southern lines were not long enough to cross the centre of the "anomalous" response.

The "anomalous" response was also reported to be unusual because the anomalous profile changed profoundly for different loops (i.e. an "obvious" cross-over type anomaly changed into a bell shaped peak profile). Because of the unusualness of this response which as yet has not been noted by Aberfoyle Resources careful interpretation aided by sophisticated numerical modelling was required to explain the observed effects. Because of some numerical instability problems noted when modelling the effects from some of the loops this work is as yet not complete although CSIRO scientists who wrote the software are looking into these "rare" numerical instability problems which give non-sensical results for some of the loops.

Nevertheless, at the stage following comments can be made.

- (1) The numerical modelling which takes into account both the currents generated by the conductor (i.e. vortex current flow) and those gathered from the surrounding host rocks (i.e. current gathering) appears to explain the profound difference in the profile shape from loop 19-24 (i.e. compare Fig 2, loop 19 which shows a cross over type anomaly in the vertical component with the "late" time peaking bell shaped profiles for other loops, Fig 3-5). A relatively flat - lying conductor at an approximate depth of about 250 meters centred on approximately 9800-9900E can explain these results when the current gathering effects are also taken into account. Fig 6, which displays the predicted response for this conductor from loop 19 (conductor outside the loop), shows "cross-over type anomalies, whereas, the predicted response for loop 22, (Fig 7) is characterised by peaking bell shaped profiles, and is qualitatively in agreement with the observed data set (i.e. Fig 2 and Fig 3).
- (2) Currently, the "background" response as measured by the effects from the surveyed loops cannot be explained by a "thick" (eg approximately 250 meters) basalt cover. In fact thickness of about 100 meters is predicted.

However this assertion is being currently checked by two in-loop surroundings using smaller loops (eg 200 x 200 meters) which are more suitable for determining basalt thickness.

- (3) As soon as the "numerical" modelling instabilities are resolved and numerical modelling results are reconciled with the observed data, it is highly likely that a drill test for a flat-lying target at about 9900E on line 176000N at a depth of 250 meters, will be recommended. At this stage it is also anticipated that any flat dipping target at these depths will need to be at least 200 meters wide.

Jovan

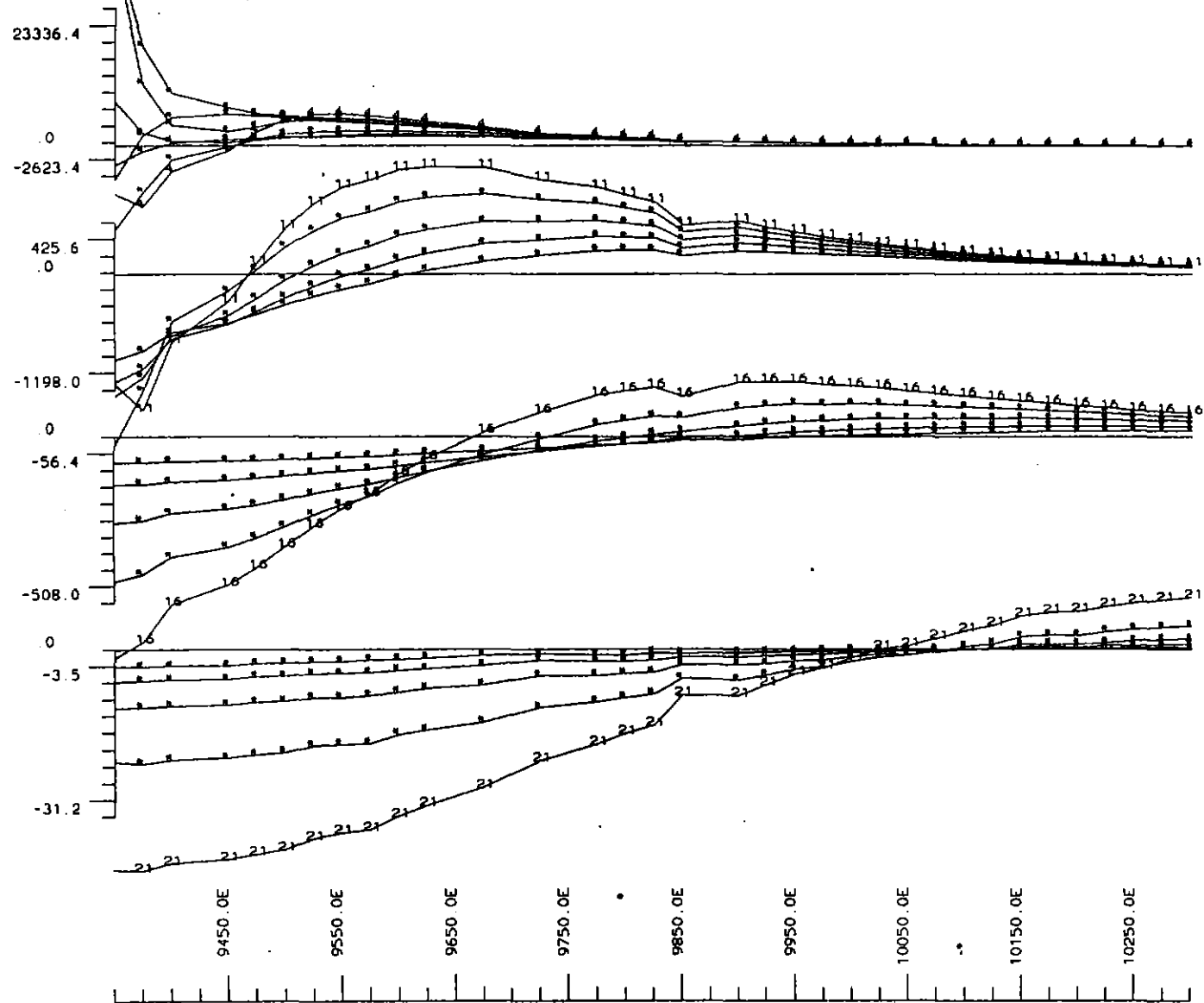
for

Jovan Silic

FIG 1

Topographic map showing a grid of numbered circles (1-27) overlaid on a terrain with contour lines and a river. The map includes a scale bar at the bottom indicating distances in miles and kilometers. A dashed line runs diagonally across the map. A label 'Cattle Road' is visible. A scale bar at the bottom indicates distances in miles and kilometers. The map is titled 'FIG 1'.

NOTE: DATA COLLECTED WITH COILS CONNED.)
 WITH WRONG POLARITY (IE: THE SIGN OF
 THE RESPONSE HAS BEEN REVERSED)



Program PLOTEN
 Aberfoyle Resources Ltd
 Datafile: loop23.avz
 LOOP: 139
 LINE: 17600.00N
 Date Plotted: 15/02/95
 Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

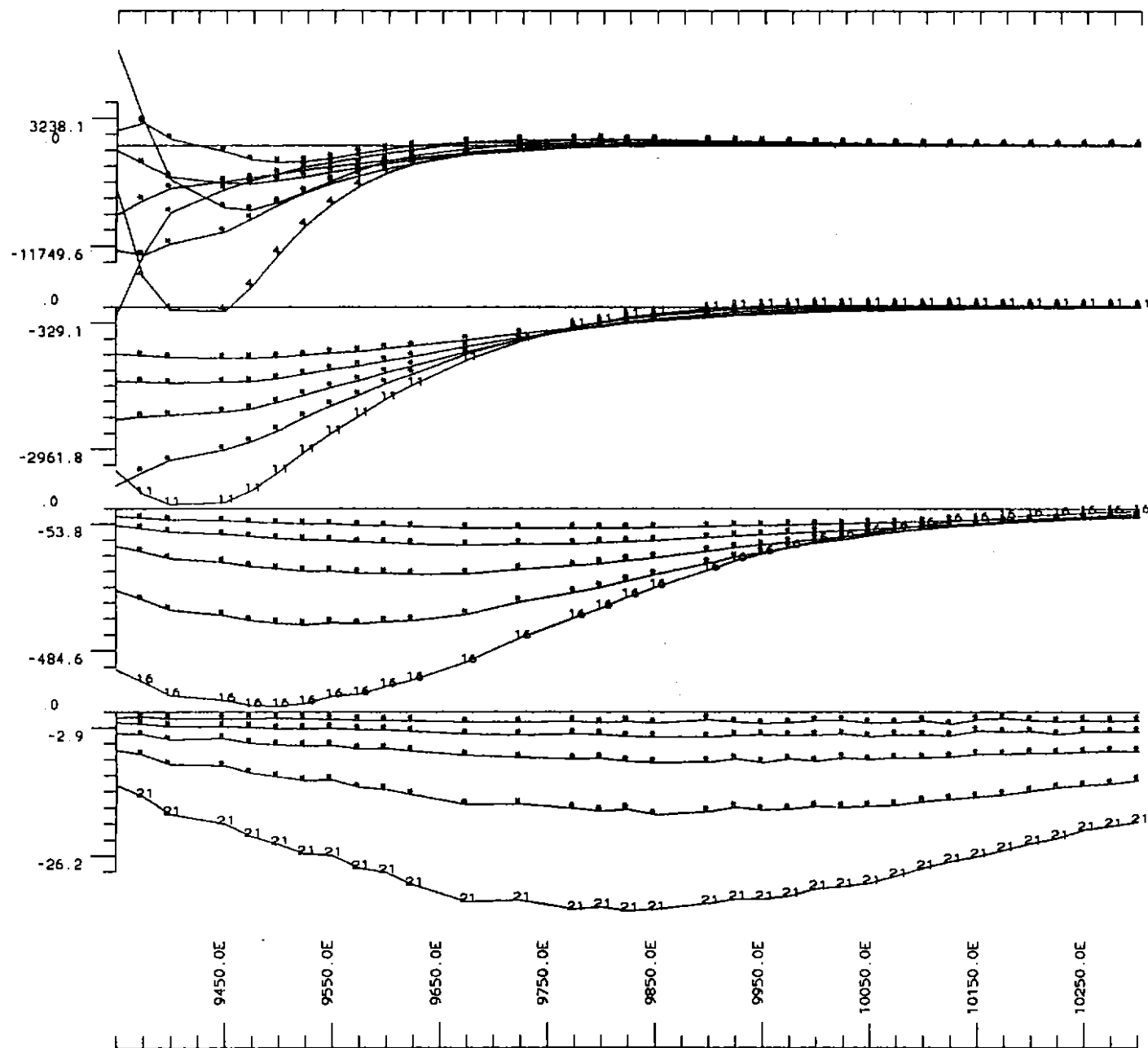
HZ COMPONENT
 ZONGE GDP16 16HZ

ABERFOYLE RESOURCES LTD

220161

FIG2

5 cm



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: loop23 avx

LOOP: **19**

LINE: 17600.00N

Date Plotted: 15/02/95

Horiz scale 1: 5757.6

MACKINTOSH SURFACE EM

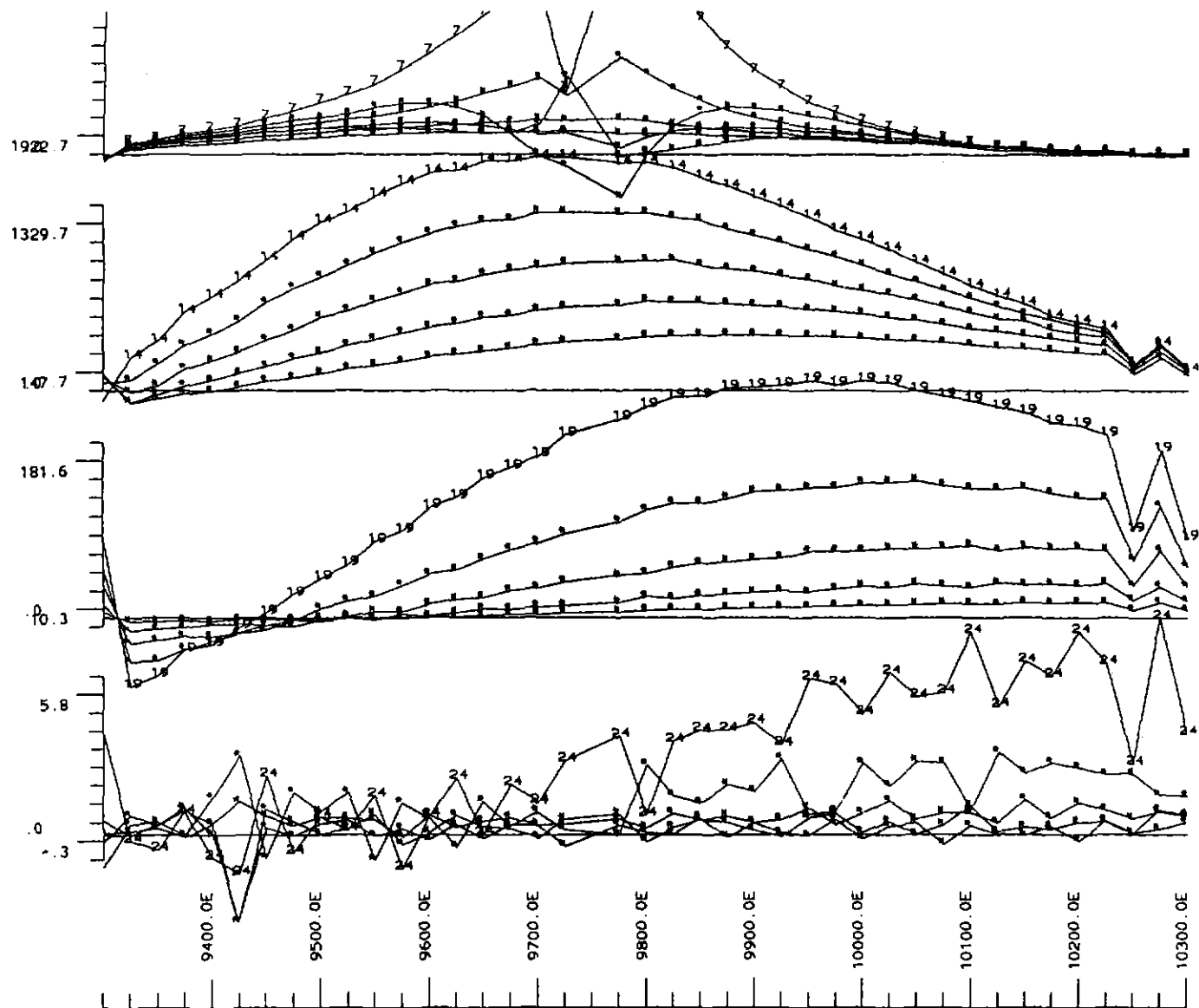
HX COMPONENT

ZONGE GGP16 16HZ

ABERFOYLE RESOURCES LTD

720102

FIG2A



Datafile: loop50 avx

LOOP: 21

LINE: 17600.00N

Date Plotted: 13/02/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

HX COMPONENT

ZONGE GDP16 8HZ

FEB 1995

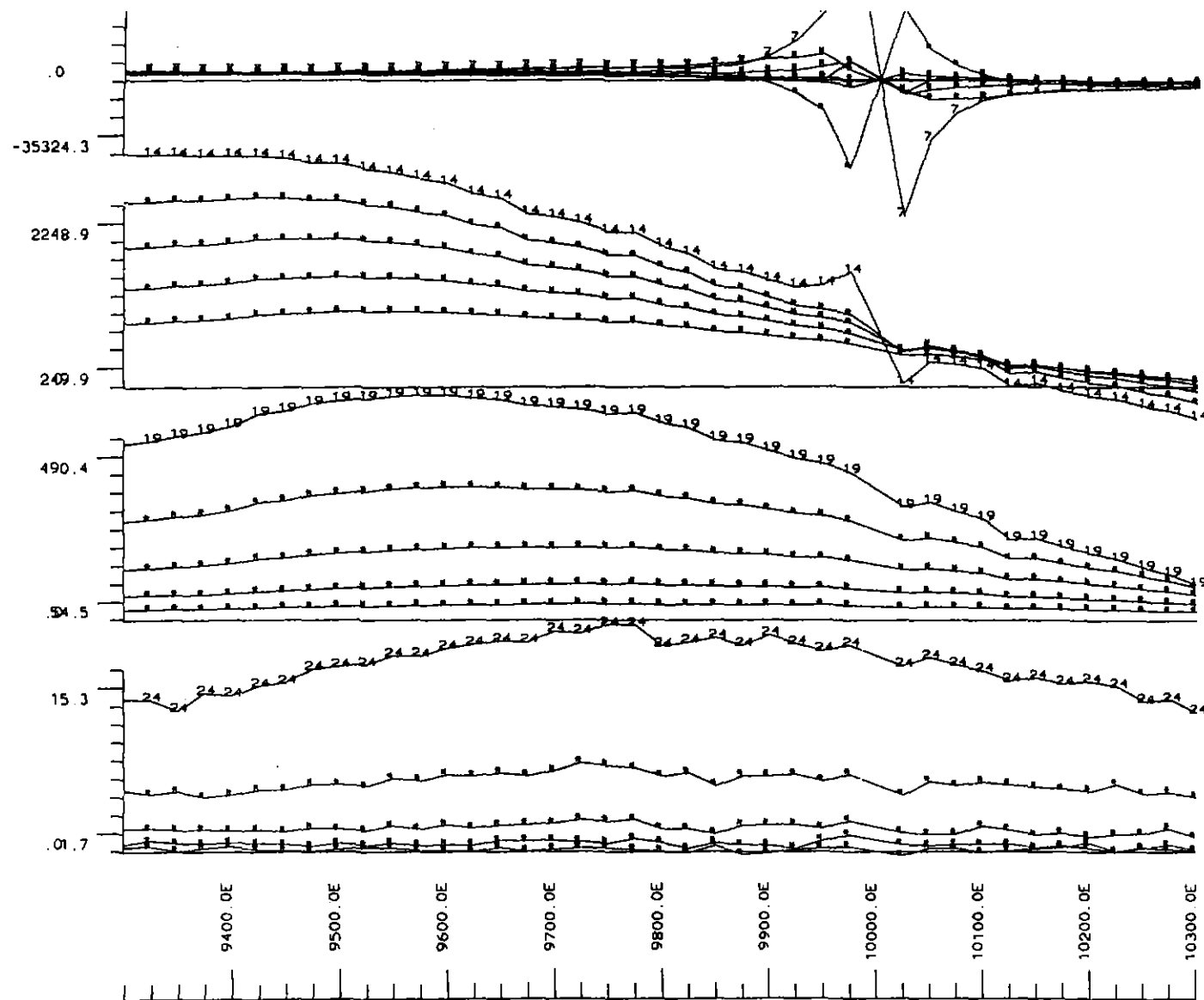
READ BY MB TC

PLOTTED MB

720104

FIG 3A

5 cm



Datafile: loop22.avz

LOOP: 22

LINE: 17600.00N

Date Plotted: 2/03/95

Horiz scale 1: 6060.6

MACKINTOSH

SURFACE EM

Hz COMPONENT

ZONGE GDP16 8HZ

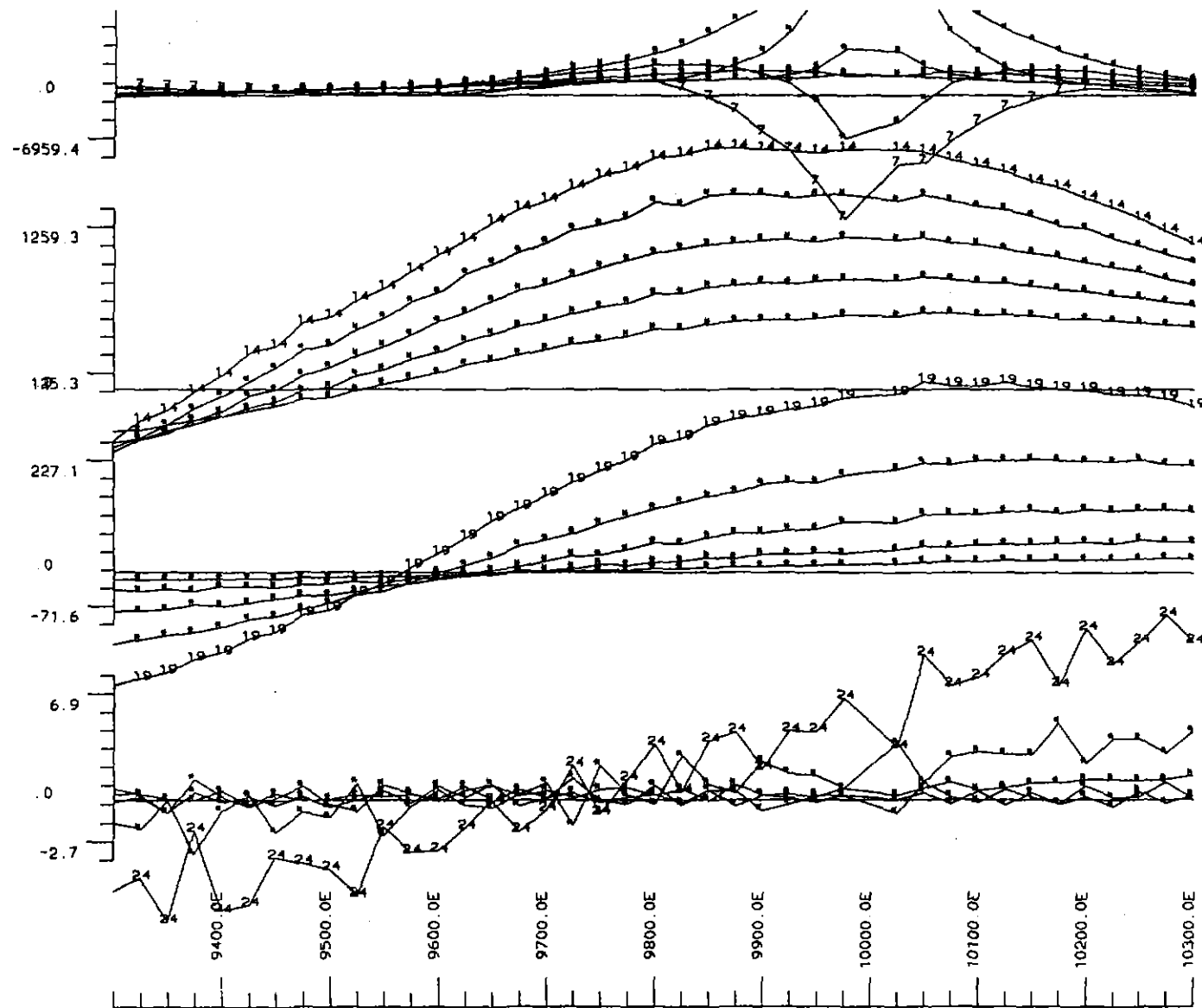
MAR 1995

READ BY MB TC

PLOTTED TC

720165

FIG 4

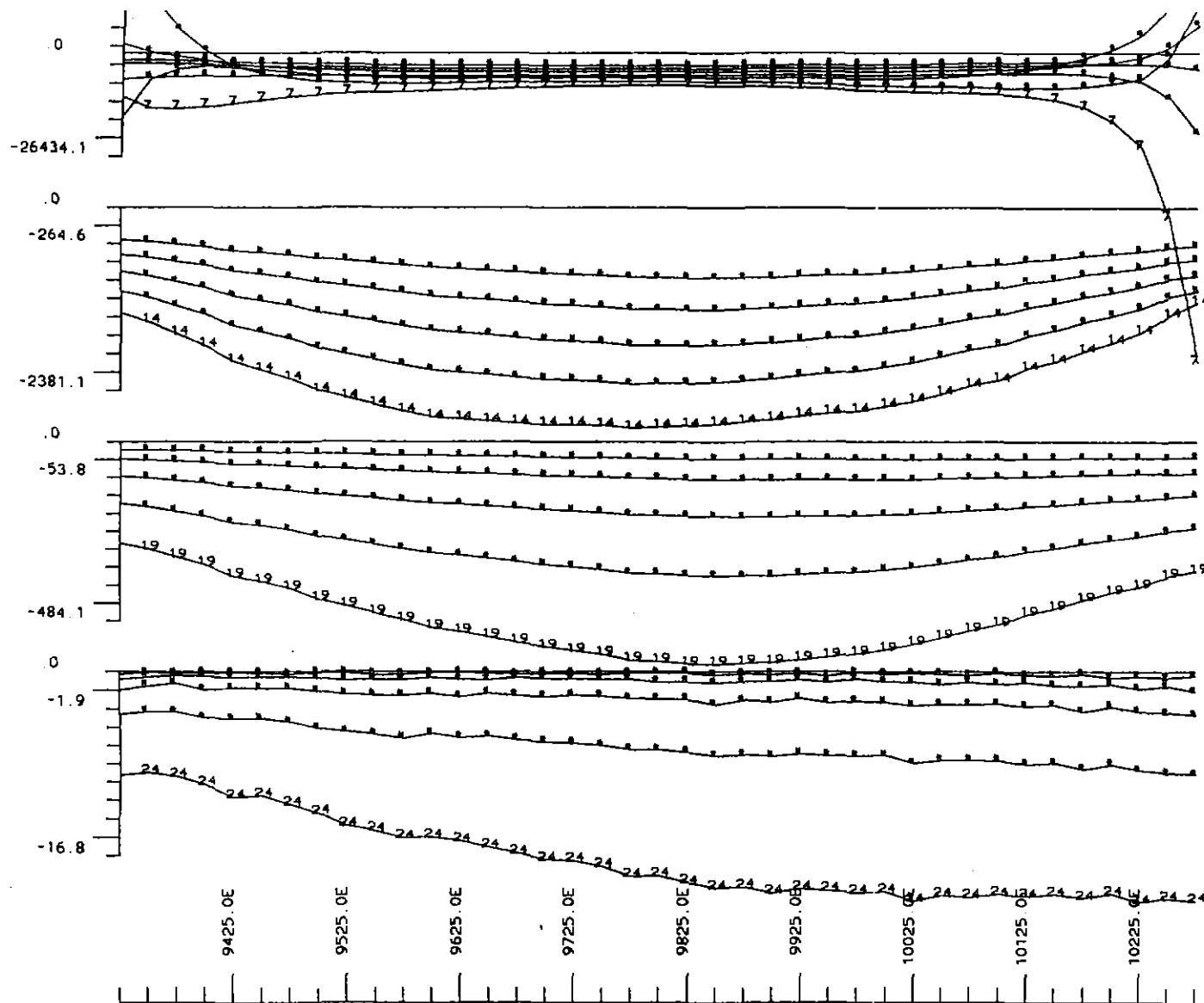


Datafile: loop22.avx
 LOOP: 22
 LINE: 17600.00N
 Date Plotted: 2/03/95
 Horiz scale 1: 6060.6

MACKINTOSH
 SURFACE EM
 HX COMPONENT
 ZONGE GDP16 8HZ
 MAR 1995
 READ BY MB TC
 PLOTTED TC

720100

FIG4A



Datafile: s\mac_em2\spike.savz

LOOP: 24

LINE: 17600.00N

Date Plotted: 15/02/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

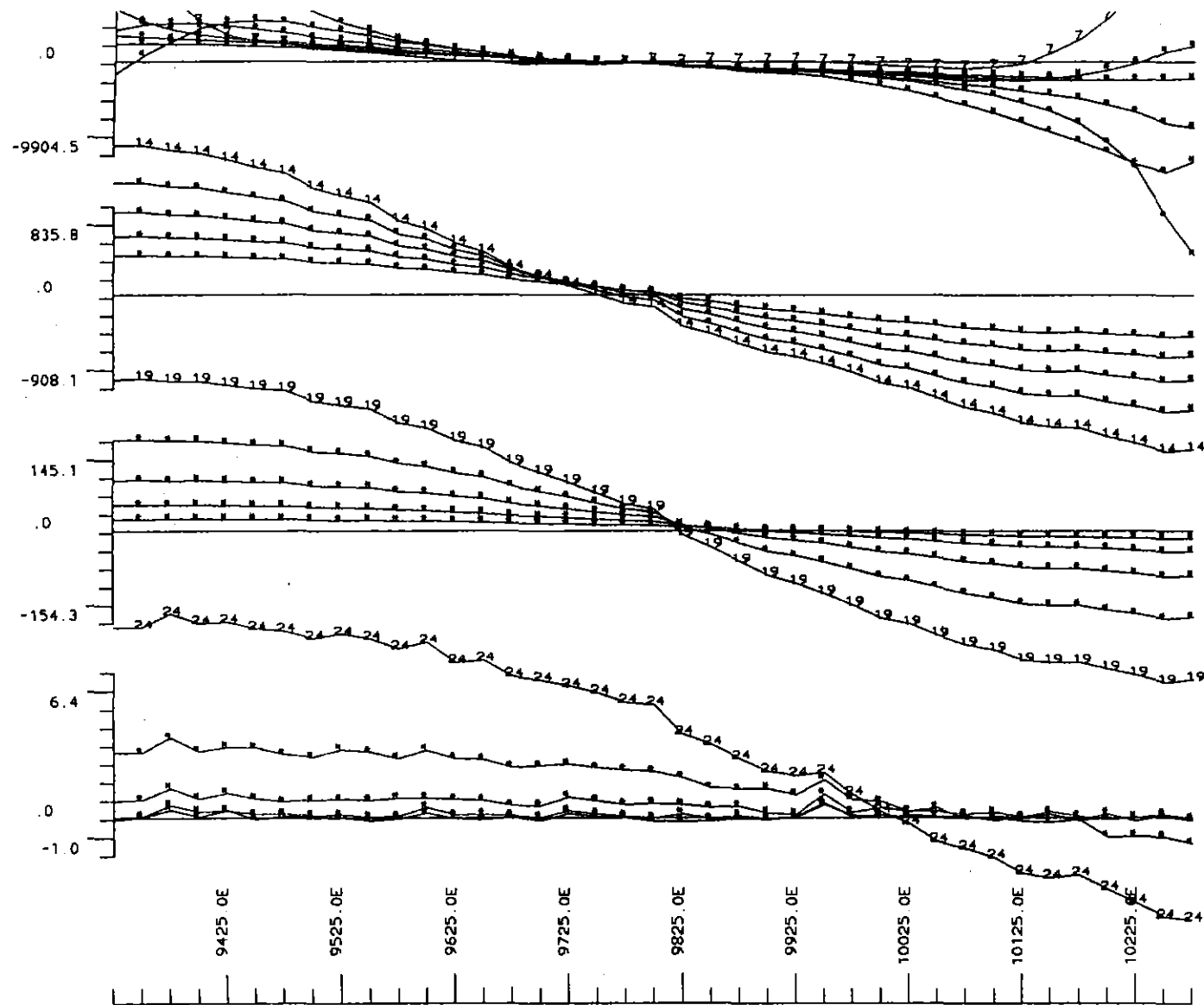
FEB 1995

READ BY MB TC

PLOTTED MB

FIG 5

20103



Datafile: s\mac_em2\spike.avx

LOOP: 24

LINE: 17600.00N

Date Plotted: 15/02/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HXCOMPONENT

ZONGE GDP16 8HZ

FEB 1995

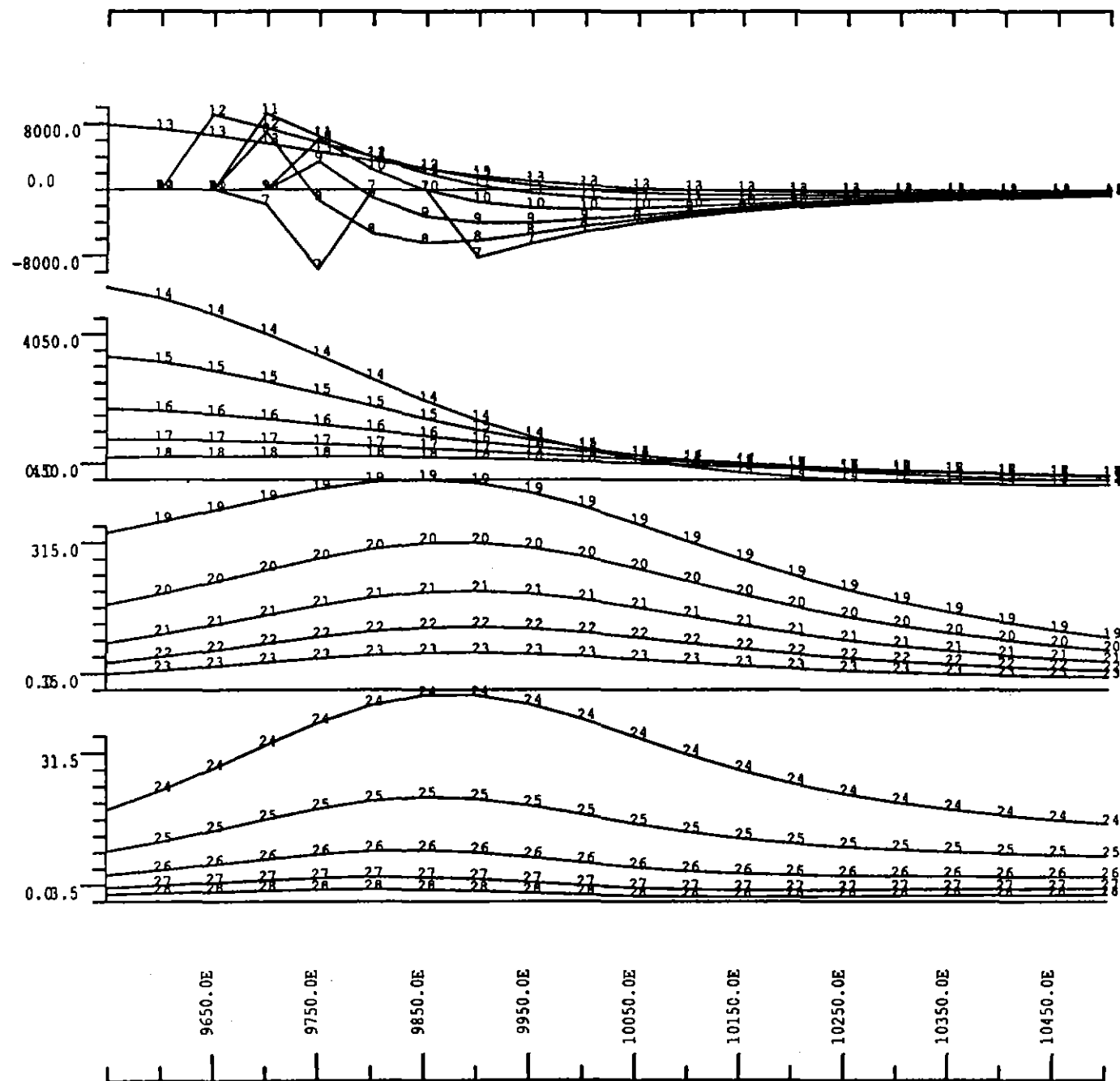
READ BY MB TC

PLOTTED MB

120108

FIG 5A

5 cm



Program PLOTTEM

Aberfoyle Resources Ltd

Datafile: odels/cattley_19.hx

LOOP: 1

LINE: 17600.00N

Date Plotted: 27/03/95

Horiz scale 1: 5757.6

NUMERICAL MODEL

Sheet 9800E 17400N @250m

Dip 0 Sigt 150S 200m Width

Overb 50m 50 Ohmm

Bnt 250 Ohmm

Loop 600 x 1200m

8 Hz

HX COMPONENT

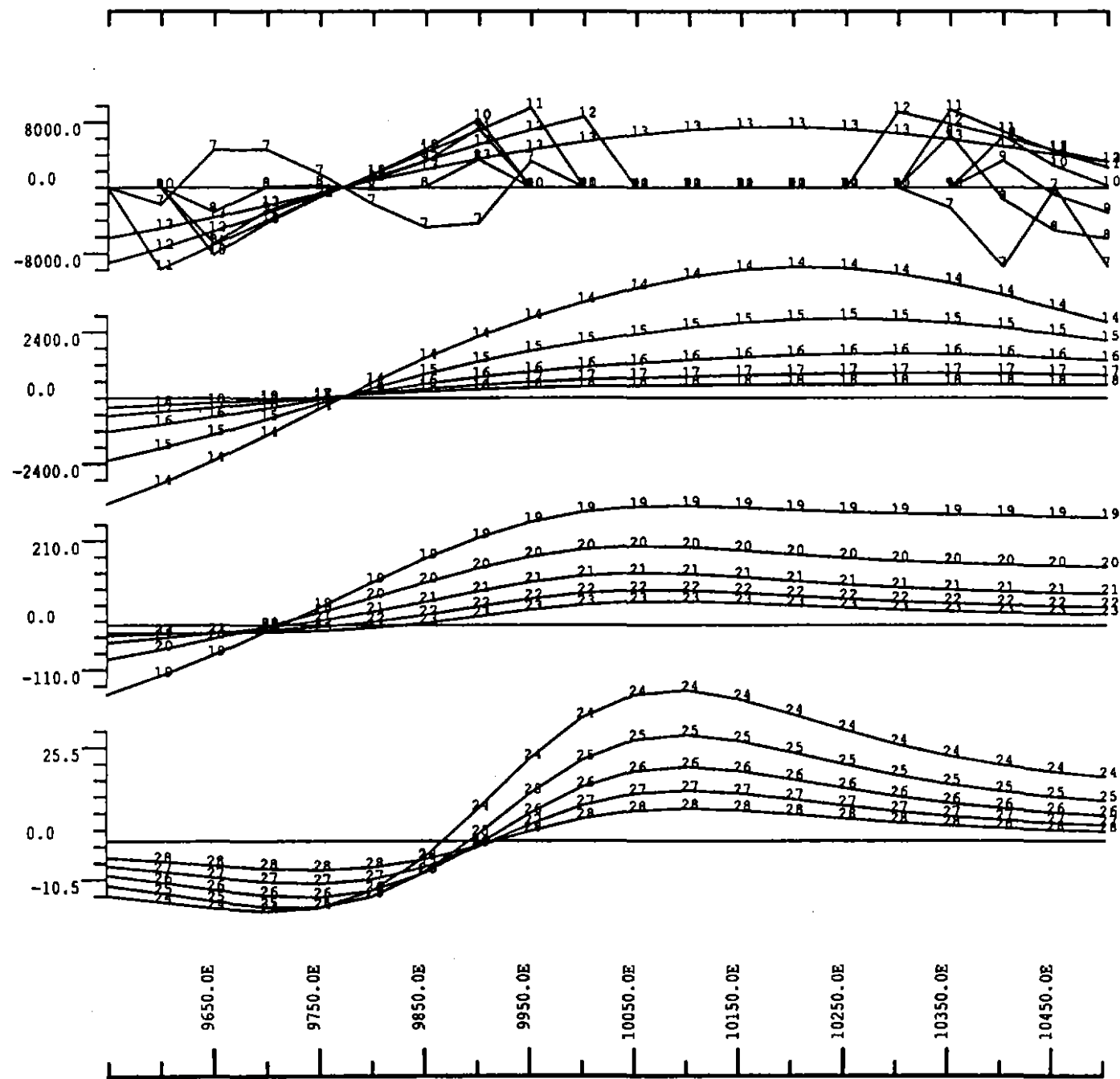
LINE 17600 N

LOOP 19

FIG 6 A

5 cm

220170



Program PLOTEM

Aberfoyle Resources Ltd

Datafile: odels/cattley_22.hx

LOOP: 1

LINE: 17600.00N

Date Plotted: 27/03/95

Horiz scale 1: 5757.6

NUMERICAL MODEL

Sheet 9800E 17400N @250m

Dip 0 Sigt 150S 200m Width

Overb 50m 50 Ohmm

Bmt 250 Ohmm

Loop 600 x 1200m

8 Hz

HX COMPONENT

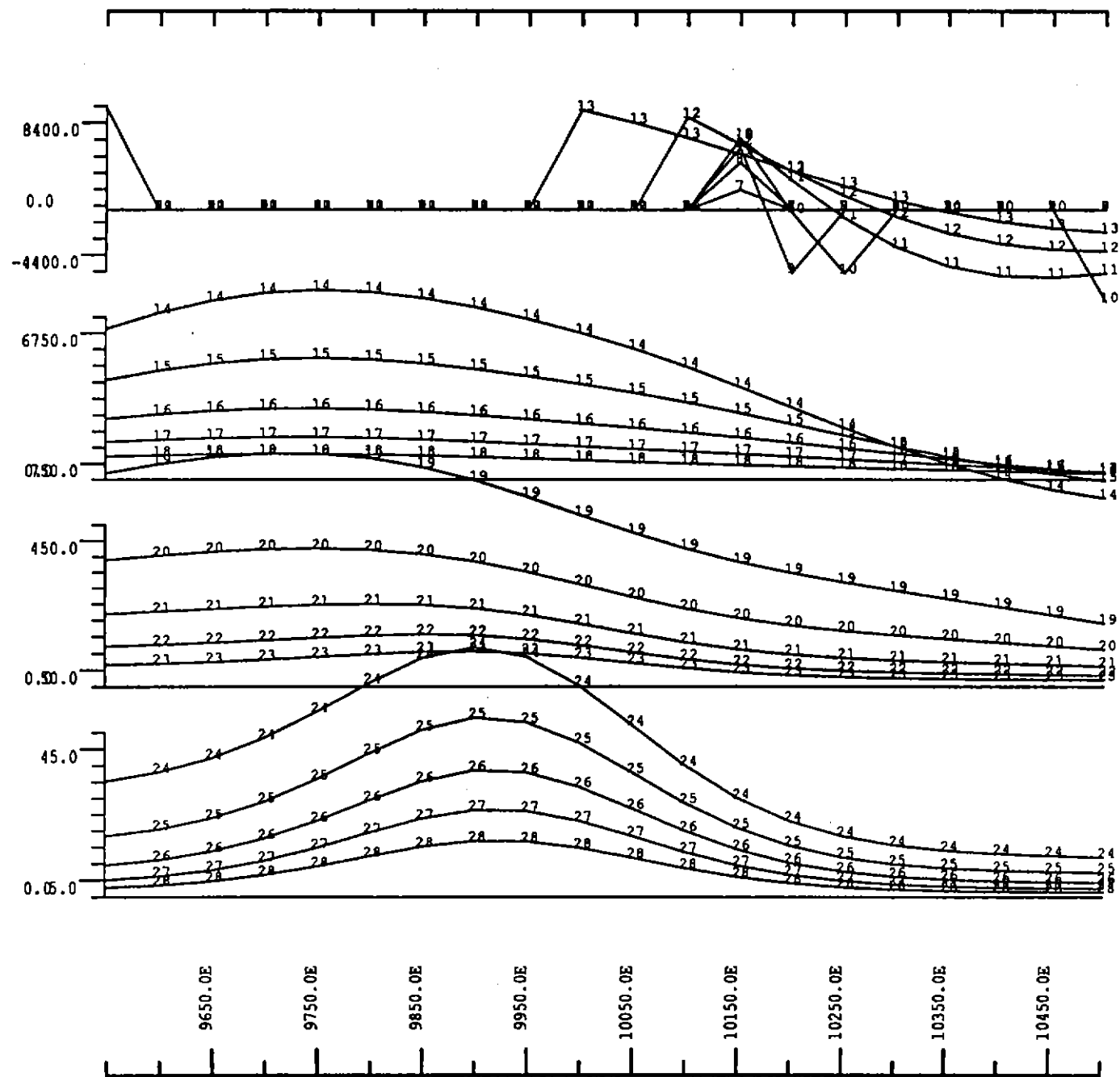
LINE 17600 N

LOOP 22

FIG 2A

5 cm

1110171



Program PLOTEN

Aberfoyle Resources Ltd

Datafile: odels/cattley_22.hz

LOOP: 1

LINE: 17600.00N

Date Plotted: 27/03/95

Horiz scale 1: 5757.6

NUMERICAL MODEL

Sheet 9800E 17400N @250m

Dip 0 Sigt 150S 200m Width

Overb 50m 50 Ohmm

Bmt 250 Ohmm

Loop 600 x 1200m

8 Hz

HZ COMPONENT

LINE 17600 N

Loop 22

FIG 7

5 cm

220172

ABERFOYLE

MEMORANDUM

Date:	19 May 1995	Ref:	JS:SDM
To:	S Richardson	From:	J Silic
At:	Burnie	At:	Melbourne
Copy:	D B Wallace	File:	

Subject: MACKINTOSH NORTH - EM ANOMALY

It was reported that a "late" time response (memo by J.S., 28/3/95) in the northern part of the Mackintosh E.L. is most likely due to a broad (width of at least 200 metres), conductive source at a depth of about 250 metres and most likely beneath the basalt cover. Also time constant analysis give a 5ms time constant for the source and is comparable to the Hellyer time constant of about 2 - 4ms.

However, there was some concern that the EM effects may have been due to a "gentle", broad (greater than 500 meters in width) thickening of the basalt cover. Therefore additional work consisting of seven in-loop soundings and scale model studies was carried out to ascertain whether the concerns were justified.

The scale model studies showed that it is unlikely that the anomalous response is being caused by a 'wide' thickening of the basalt cover, as such a model would produce profiles whose peaks over the "step" (Fig1), are shifting with time, and is unlike the observed data set which is characterised by "stationary" "late" time peaks (Fig 2 - 2a).

Nevertheless in loop sounding data was collected to "estimate" the possible thickening of the basalt cover in the vicinity of the anomalous response.

This data set confirmed the existence of a deep seated conductive source, which is not a "wide" (greater than 300 - 400 metres) thickening of the basalt cover, as the confined "late" time peak centred on station 9800E suggests (see Fig 3 - 3b). A "broad" thickening of the basalt cover would produce a much broader and flatter peak in the sounding data.

If we assume that the sounding data is only being influenced by the basalt cover, then interpreting this sounding data with horizontal layer models estimates a basalt "thickness" of 650 metres, at the anomalous station (9800 E), whereas away from this location basalt thickness is estimated to be approximately 200 metres.

However, if the anomalous response at 9800E was indeed due to the thickening of the basalt cover, then the thickening estimates obtained from horizontal layer models are an underestimate, as horizontal layer models invariably underestimate the thickness of a width limited thickness variation within an extensive relatively flat-lying conductive unit. Essentially, the thickness of the basalt cover at station 9800E would need to be greater than 700 metres, providing that the conductivity of the basalts at depth has not changed in the immediate vicinity of station 9800E.

However a 20 - 50 meter thickness variation in the basalt over, requires that the basalt resistivity at depths greater than 200 metres is decreased by about 50 times.

Considering that geologically we have no way of knowing this, we are left with the option of testing two hypothesis.

- (1) The anomaly is due to a flat-lying and at least 200 metres wide conductive source at a depth of about 250 metres and beneath conductive basalt cover.
- (2) The anomaly is due to a width limited thickening of the basalts. If the conductivity of the basalts has not increased in the immediate vicinity of 9800E, then the implications are that the basalt trough needs to be more than 700 metres thick.

Conclusion and Recommendations

Analysis of the data sets has shown that a target with a 5ms time constant should be drilled to a depth of at least 300 metres. The drilling should be aimed at a relatively flat lying conductor at a depth of about 250 metres to test whether the response is due to following

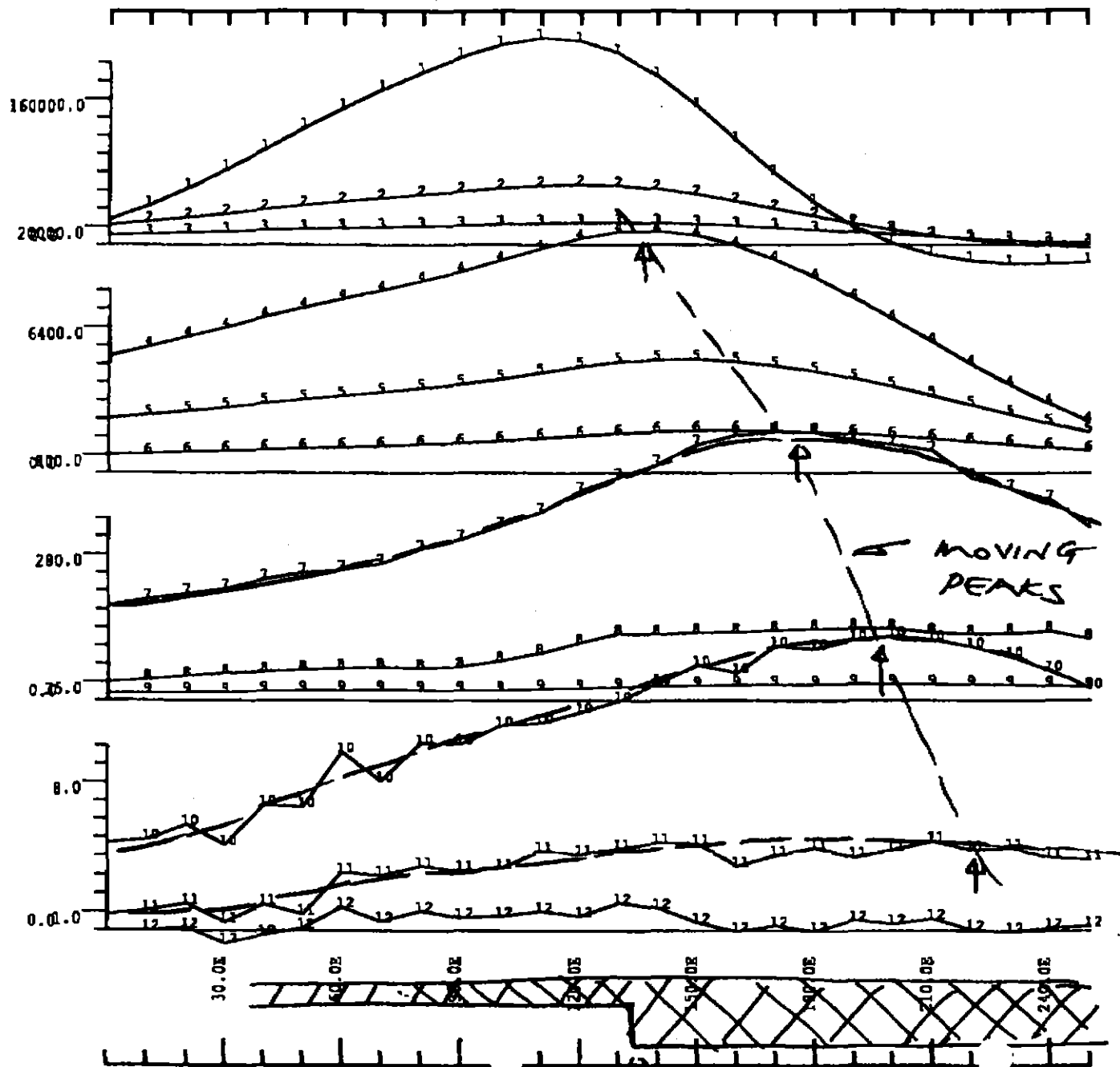
- (1) highly conductive, flat lying "thin" source
- (2) dramatic increase in the basalt cover (>700metres), without a corresponding decrease in the basalt resistivity.
- (3) a wide block conductor (e.g. relatively vertical block of Que River)

As reported earlier the drilling should be on 17600N, at about 9900E.



J Silic

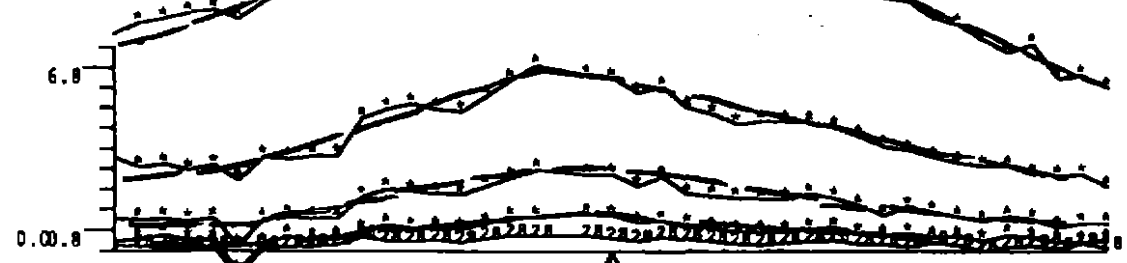
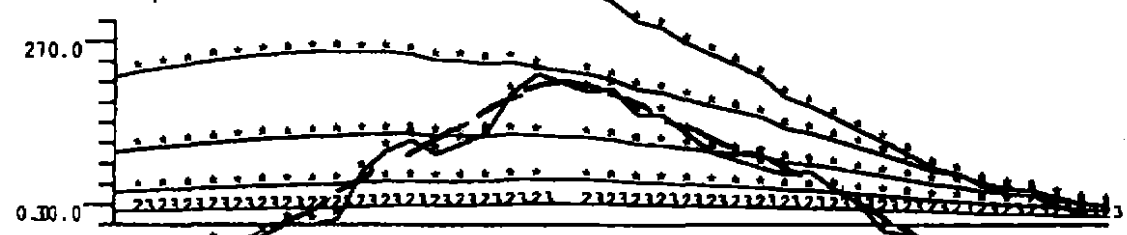
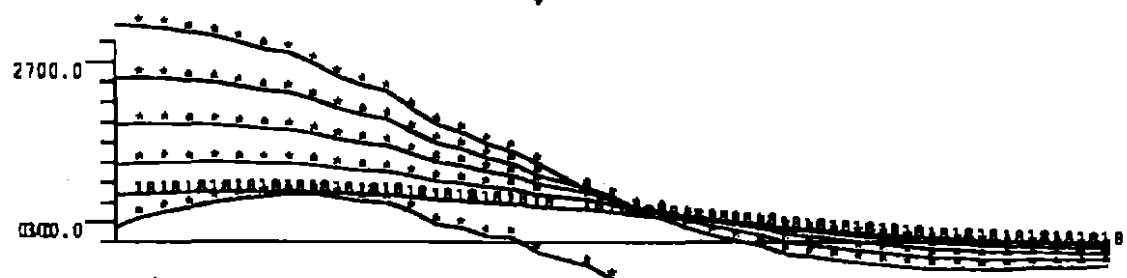
720173



Program PLOTX
 Aberfoyle Resources Ltd
 Datafile: _models/mod_1lav.hz
 LOOP: 1
 LINE: 1.00N
 Date Plotted: 15/05/95
 Horiz scale 1: 1515.2
 SCALE MODEL 11
 OVERBURDEN STEP
 700 M WIDE
 LOOP POSITION
 SIMILAR TO
 LOOP 21

FIG 3

5 cm



LATE TIME STATIONARY PEAK

9425.0E 9550.0E 9675.0E 9800.0E 9925.0E 10050.0E 10175.0E 10300.0E

Program PLOTEN
 Aberfoyle Resources Ltd
 Datafile: tley_em/loop21 1.hz
 LOOP: 21
 LINE: 17600.DON
 Date Plotted: 15/05/95
 Horiz scale 1: 7500.0

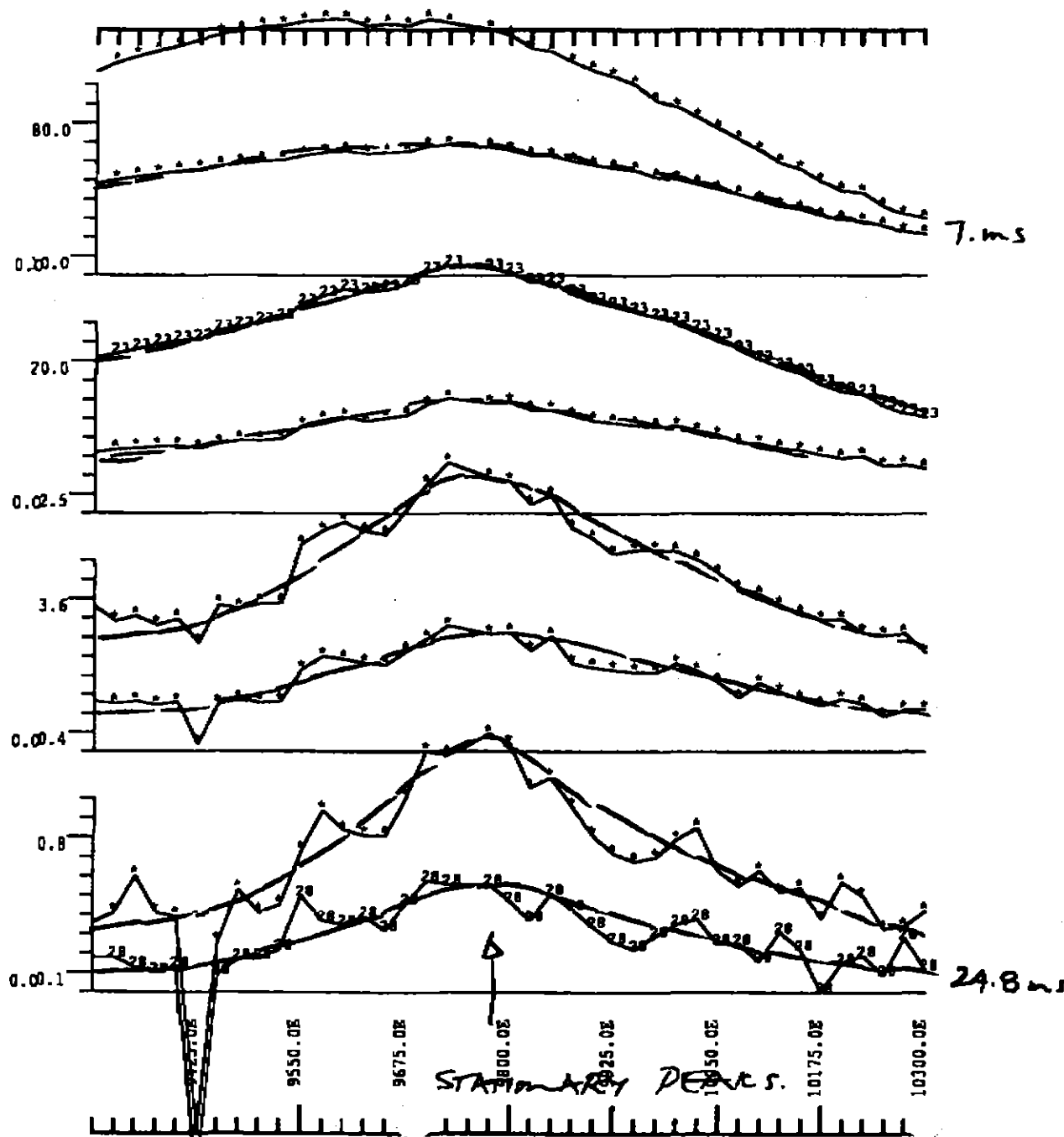
~~XXXXXXXXXX~~

 SURFACE EM
 LINE 17600 N LOOP 21
 ZONGE GDP-16 8 HZ
 VERTICAL COMPONENT
 TRANSIENT ELECTROMAGNETICS
 ABERFOYLE RESOURCES

FIG 2

5 cm

720176



Program PLOTEN
 Aberfoyle Resources Ltd
 Datafile: tley_en/loop21 1.hz
 LOOP: 21
 LINE: 17600.00N
 Date Plotted: 15/05/95
 Horiz scale 1: 7500.0

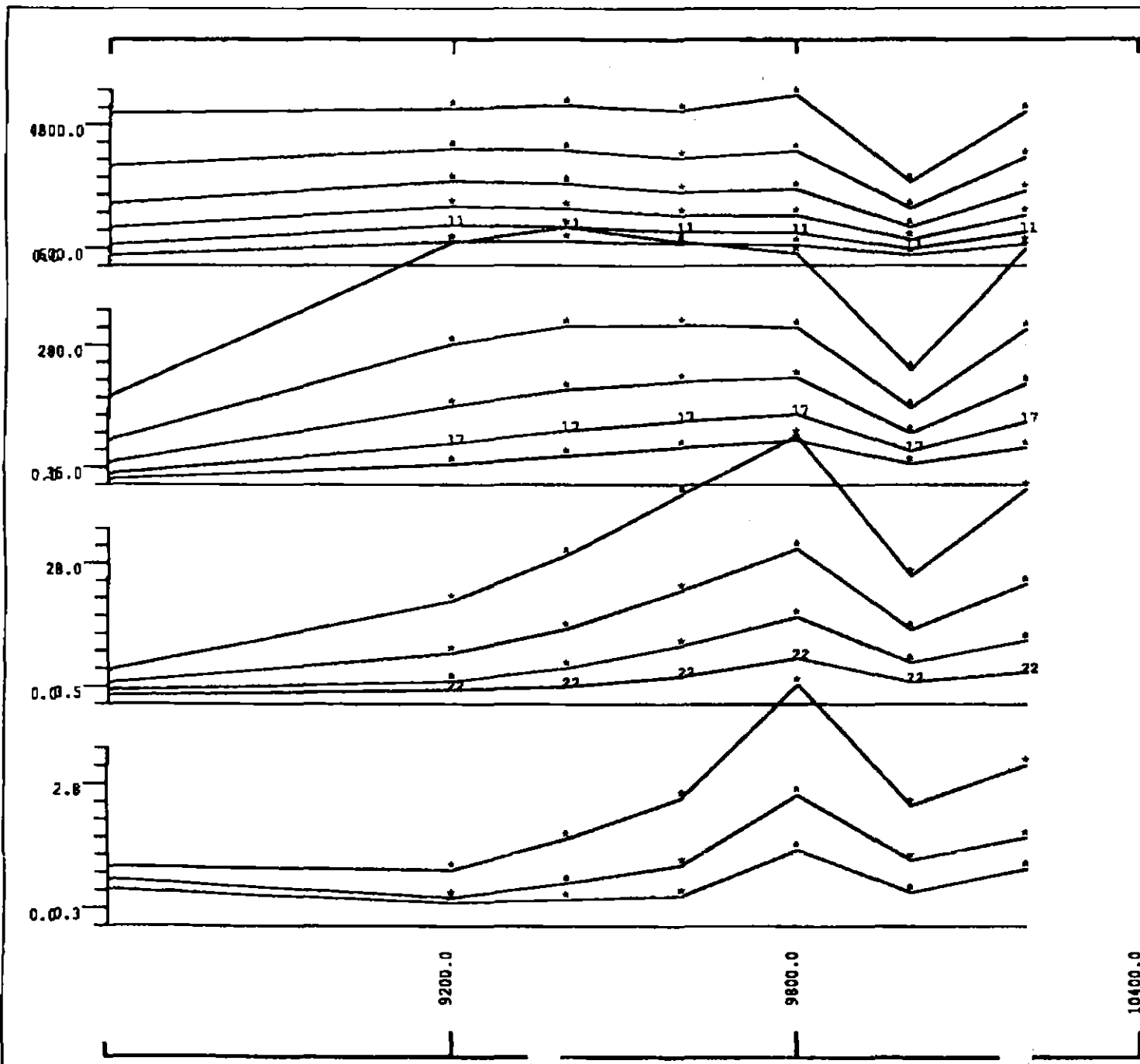
 SURFACE EM
 LINE 17600 N LOOP 21
 ZONE GRP-16 8 HZ
 VERTICAL COMPONENT
 TRANSIENT ELECTROMAGNETICS
 'LATE TIME'
 ABERFOYLE RESOURCES

FIG 2A

5 cm

720177

720178



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: sound_av.s
 LOOP: 1
 LINE: 17300.00
 Date Plotted: 12/05/95
 Horiz scale 1:10000.0

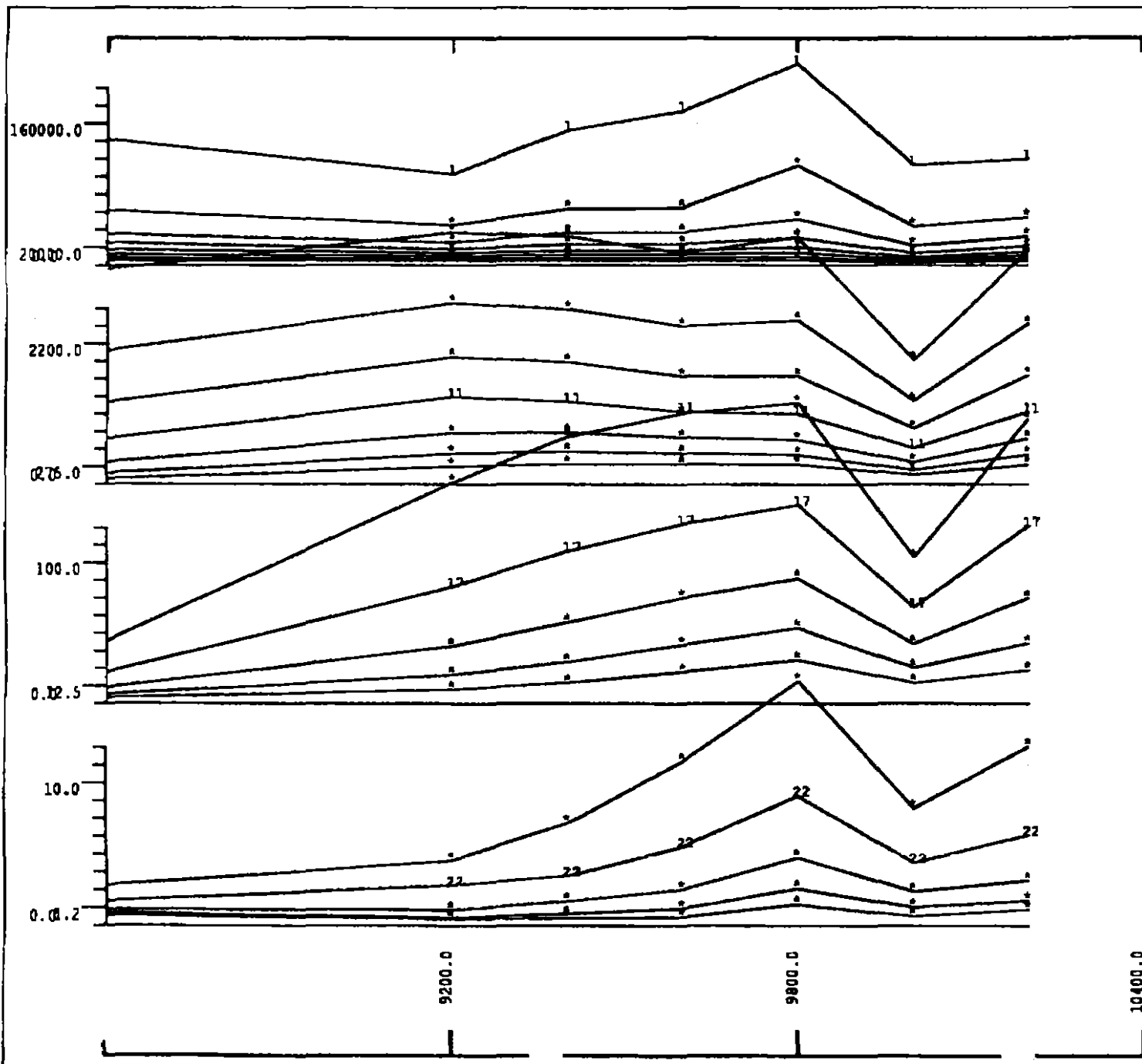
~~CORRECTION~~

 SURFACE EM
 LINE 17300.0
 LONGS GDP-16 14 HZ
 VERTICAL COMPONENT
 TRANSIENT ELECTROMAGNETICS
 IN LOOP SOUNDINGS
 ABERFOYLE RESOURCES

FIG 3

5 cm

720170



Program PLOTTEM
 Aberfoyle Resources Ltd
 Datafile: sound_av.s
 LOOP: 1
 LINE: 17300.00
 Date Plotted: 12/05/95
 Horiz scale 1:10000.0

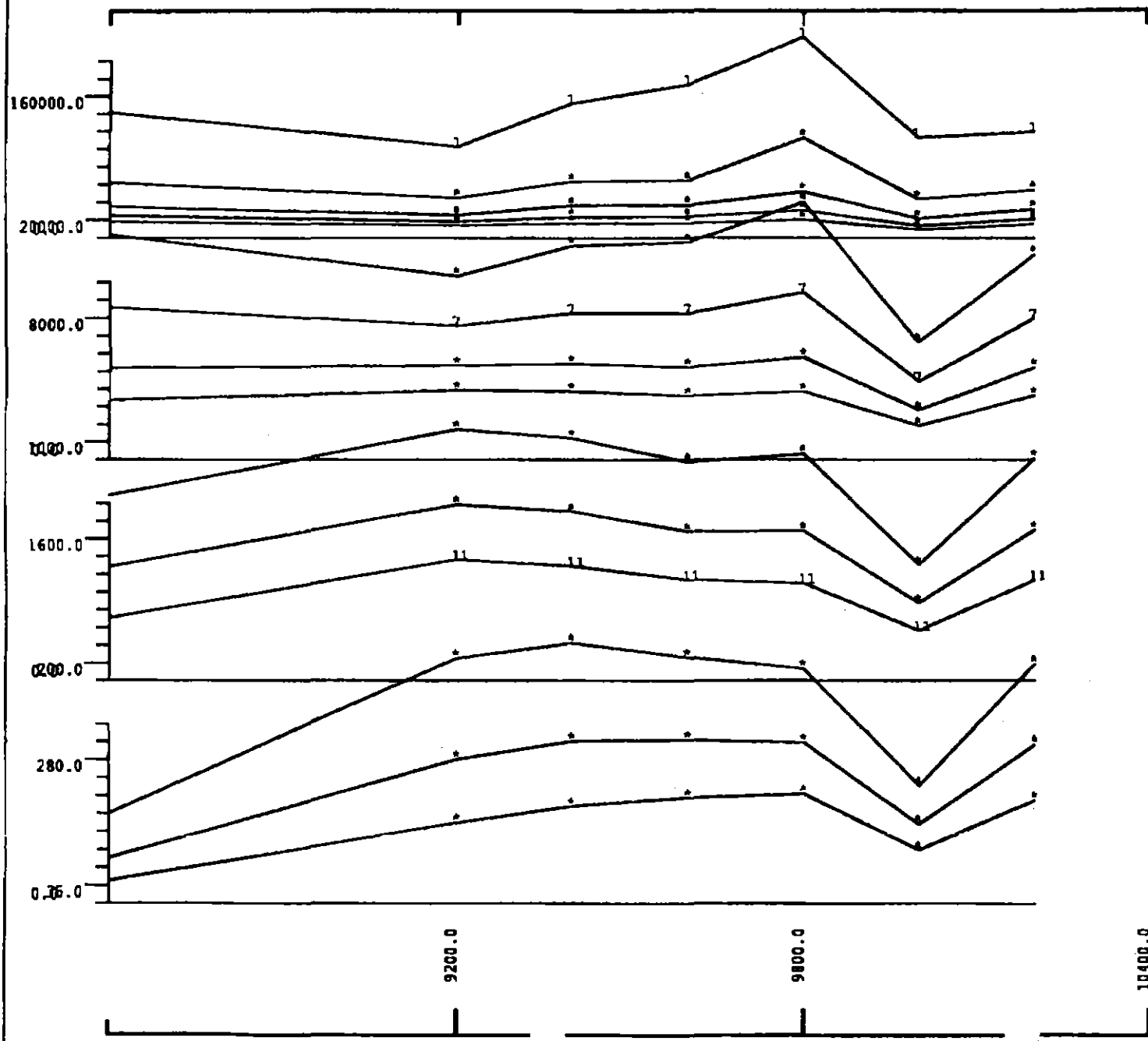
~~XXXXXXXXXX~~

 SURFACE EM
 LINE 17300.0
 ZONE GDP-16 14 HZ
 VERTICAL COMPONENT
 TRANSIENT ELECTROMAGNETICS
 IN LOOP SOUNDINGS
 ABERFOYLE RESOURCES

FIG 3

5 cm

720150



Program PLOT8M
 Aberfoyle Resources Ltd
 Datafile: sound_av.s
 LOOP: 1
 LINE: 17300.00
 Date Plotted: 12/05/95
 Horiz scale 1:10000.0

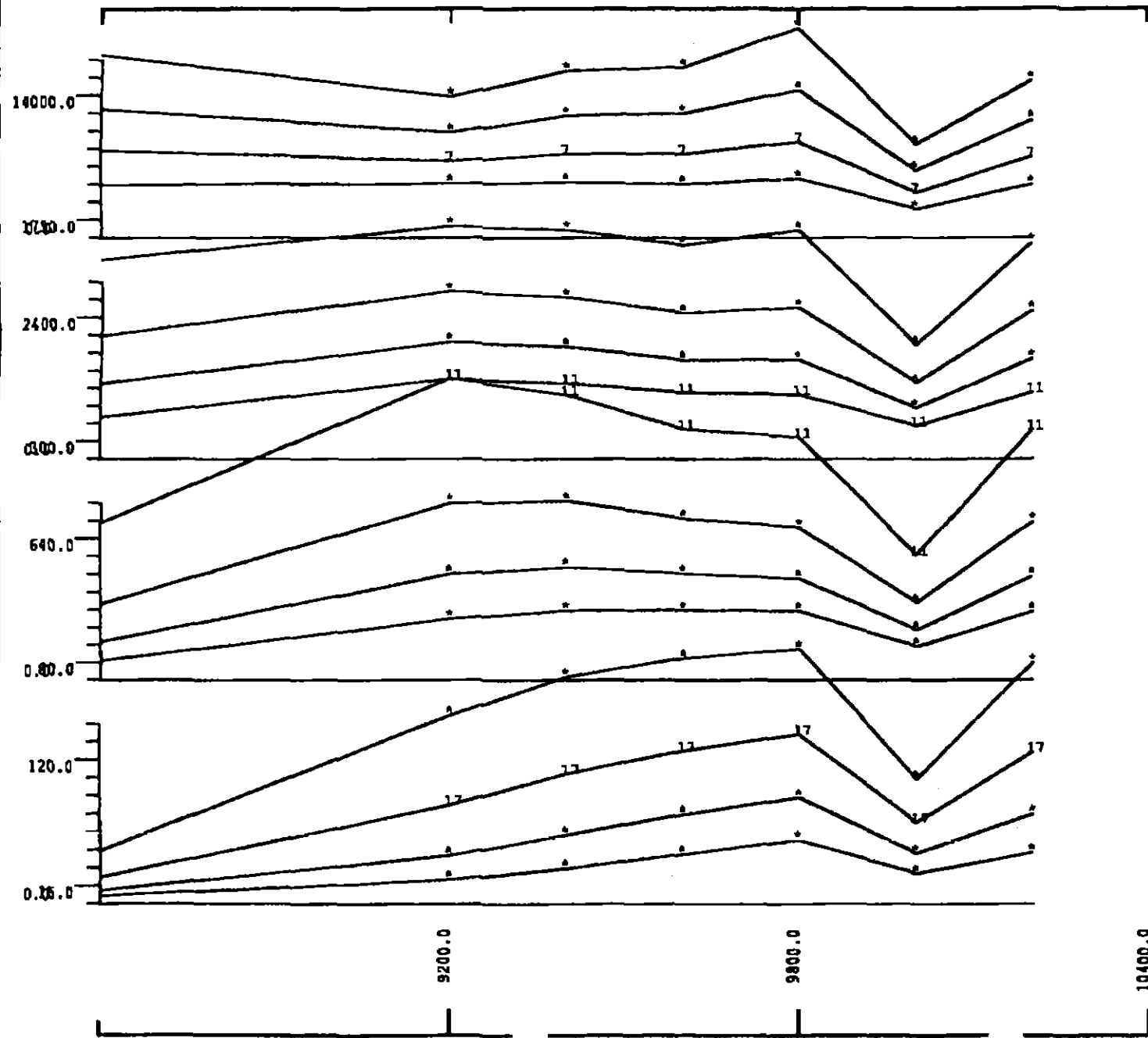
~~XXXXXXXXXX~~

 SURFACE EM
 LINE 17300.0
 ZONE GDP-16 14 HZ
 VERTICAL COMPONENT
 TRANSIENT ELECTROMAGNETICS
 IN LOOP SOUNDINGS
 ABERFOYLE RESOURCES

FIG3a

5 cm

720181



Program PLOTEN

Aberfoyle Resources Ltd

Datafile: sound_av.s

LOOP: 1

LINE: 17300.00

Date Plotted: 12/05/95

Horiz scale 1:10000.0

~~XXXXXXXXXX~~

SURFACE TM

LINE 17300.0

SONGE GGP-16 14 HZ

VERTICAL COMPONENT

TRANSIENT ELECTROMAGNETICS

IN LOOP SOUNDINGS

ABERFOYLE RESOURCES

FIG 3b

5 cm

720182

APPENDIX III

DIAMOND DRILL LOG

[illegible]

DIAMOND DRILL LOG

DATE 15/6/95

[illegible]

2018

100-91931-287

DATE 12/6/95

100-91931-nv

DIAMOND DRILL LOG

[illegible]








Aberfoyle Resources Limited

EXPLORATION DIVISION

HOLE No. MAC-40

PAGE 7 OF 30

GEO. AMN

DATE 1/7/99

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH	
DEPTH M	DRILLING LOSS	CORE TRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANOCLASTICS				LOWER CONTACT		CONCENTRATION	MAX SIZE (µm)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (µm)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNHOLE WIDTH (cm)	CORE AXIS ANGLE	GRADE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH			
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						COMPOSITION	MAX SIZE (µm)	SORTING																												
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EXPLORATION DIVISION

HOLE No.	122-40

PAGE 7 OF 30

GEO.	Army

DATE 1/7/91

DIAMOND DRILL LOG

DRI L L I N G										LITHOLOGY										VESICLES			ALTERATION			VEINING			MINERALISATION		FAULTS				FOLIATION			STANDARD COLOUR LOG	REMARKS	SAMPLE NO.
D E P T H										VOLCANICLASTICS										CONCENTRATION	ALTERATION			VEINING			MINERALISATION		FAULTS				FOLIATION			WEATHERING				
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CORE LOSS										MATRIX										MAX. SIZE (MM)	ALTERATION			VEINING			MINERALISATION		FAULTS				FOLIATION							
CORE TRAY NO.										COMPOSITION										MAX. SIZE (MM)	ALTERATION			VEINING			MINERALISATION		FAULTS				FOLIATION							
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EXPLORATION DIVISION

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GEO. AMN

DATE 2/7/91

[illegible]

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EXPLORATION DIVISION

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GEO.	AM-N

DATE	4/7/95

DIAMOND DRILL LOG

[illegible]

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EXPLORATION DIVISION

HOLE No. Mac-40

PAGE 4 OF 30

GEO.	477-N

DATE 4/7/9

DIAMOND DRILL LOG

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EXPLORATION DIVISION

PAGE 12 OF 30

GEO.	AMEN

DATE 4/7/95

DIAMOND DRILL LOG

[illegible]

Log 01931.mw

Aberfoyle Resources Limited

EXPLORATION DIVISION

DIAMOND DRILL LOG

HOLE No. M4-40

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GEO. MAN

DATE 6/7/97

DRILLING		LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH				
DEPTH	DRILLING RISE	CORE LOSS	CORE TAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANOCLASTICS			LOWER CONTACT	CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (MM)	MINERALOGY	TEXTURE	MINERALOGY	4 CONTENTS	POSITION OF BASE	CONTACT WIDTH (CM)	CORE AXIS ANGLE	CORE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH					
							COMPOSITION	FRAGMENTS																										MATRIX	COMPOSITION	VOLUME %	GRADATION	STYLE
								MAX SIZE (MM)	SORTING																													
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Aberfoyle Resources Limited

EXPLORATION DIVISION

HOLE No. 1740-40

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GEO. AMW

DATE 14/3/95

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES			ALTERATION			VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH				
DEPTH	DRILLING LOSS	CORE TRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS					LOWER CONTACT	CONCENTRATION	MAX. SIZE (mm)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX. WIDTH (mm)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNHOLE WIDTH (cm)	CORE AXIS ANGLE	CORE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH				
						COMPOSITION	FRAGMENTS			MATRIX																								COMPOSITION	VOLUME %	GRADATION	STYLE
							MAX. SIZE (mm)	SORTING	SHAPE																												
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EXPLORATION DIVISION

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DATE 14/7/95

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DATE: 11/7/95

DRILLING			LITHOLOGY										VESICLES			ALTERATION			VEINING			MINERALISATION			FAULTS				FOLIATION			STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH
DEPTH	DRILLING RUNS	CORE LOSS	CORE FRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS					LOWER CONTACT		CONCENTRATION	MAX. SIZE (µm)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX. WIDTH (µm)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNHOLE WIDTH (cm)	CORE AXIS ANGLE	GOLGE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH
							COMPOSITION	MAX. SIZE (µm)	SORTING	SHAPE	COMPOSITION	VOLUME %	GRADATION																						
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DATE 20/7/95

DIAMOND DRILL LOG

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DATE 29/7/95

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH			
DEPTH	DRILLING RUNS	CORE LOSS	STRATIGRAPHY	ROCK TYPE	COLOR	COMPOSITION	MAX SIZE (MM)	SORTING	SHAPE	COMPOSITION	VOLUME %	GRADATION	STYLE	CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNSIDE WIDTH (CM)	CORE AXIS ANGLE	COLOR	TYPE	CORE AXIS ANGLE	WEATHERING				STANDARD COLOUR LOG		
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DIAMOND DRILL LOG

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DIAMOND DRILL LOG

DRILLING		LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS		FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH			
DEPTH	DRILLING RUNS CORE LOSS	CORE TRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS			LONER CONTACT			CONCENTRATION	MAX. SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX. WIDTH (MM)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DIP	DIP	DIP	DIP	DIP	DIP	DIP	DIP	DIP	DIP	DIP	
						COMPOSITION	MAX. SIZE (MM)	SORTING	SHAPE	COMPOSITION	VOLUME %																								GRAIN
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DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH	
D E P T H	DRILLING RUNS	CORE LOSS	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANOCLASTICS				LOWER CONTACT		CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (MM)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNHOLE WIDTH (CM)	CORE AXIS ANGLE	GRADE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH			
						COMPOSITION		MAX SIZE (MM)	SORTING	SHAPE	MATRIX																							GRADATION	STYLE	
						COMPOSITION	MAX SIZE (MM)				COMPOSITION																									VOLUME %
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D R I L L I N G				L I T H O L O G Y										V E S I C L E S			A L T E R A T I O N			V E I N I N G			M I N E R A L I S A T I O N			F A U L T S			F O L I A T I O N			S T A N D A R D C O L O U R L O O			R E M A R K S			S A M P L E N O.			D E P T H																																																																																																																																																																																																																																																																																																																																				
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DATE 5/7/95

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES		ALTERATION			VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH	
DEPT H	DRILLING RUNS	CORE LOSS	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS				LOWER CONTACT		CONCENTRATION	MAX SIZE (mm)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (mm)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DONOR/LE WITH (cm)	CORE AXIS ANGLE	COLOUR	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH				
						COMPOSITION	MAX SIZE (mm)	SORTING	SHAPE	COMPOSITION	VOLUME %	GRANULATION	STYLE																								
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DIAMOND DRILL LOG

DATE 12/8/95

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DATE 12/8/95

DRI L L I N G			LITHOLOGY										VESICLES			ALTERATION			VEINING			MINERALISATION			FAULTS			FOLIATION			STANDARD COLOUR LOG			REMARKS			SAMPLE NO.			D E P T H		
DEPTH	DRILLING MILES	CORE LOSS	CORE TRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS				LOWER CONTACT		CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (MM)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	PORTION OF BASE	DOWNHOLE WIDTH (CM)	CORE AXIS ANGLE	CORE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	D E P T H								
							COMPOSITION	MAX SIZE (MM)	SORTING	SHAPE	COMPOSITION	VOLUME %																							GRADATION	STYLE						
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DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES		ALTERATION		VEINING		MINERALISATION		FAULTS				FOLIATION		WEATHERING		STANDARD COLOUR LOG		REMARKS		SAMPLE NO.		DEPTH	
DEPTH	DRILLING RUNS	CORE LOSS	STATIONARY	ROCK TYPE	COLOR	VOLCANICLASTICS			LOWER CONTACT		CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DIAMETER	WIDEN (CM)	CORE AXIS ANGLE	COUSE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH						
						COMPOSITION	MAX SIZE (MM)	SORTING	SHAPE	COMPOSITION	VOLUME %	ORIENTATION	STYLE																							
206				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
207				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
208				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
209				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
210				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
211				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
212				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
213				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
214				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
215				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
216				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
217				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
218				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
219				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
220				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
221				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
222				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
223				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
224				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				
225				Basaltic	Black	And	100	7	V	30% Fe	10-20			3	2	Sub	30%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				

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GEO. Ames

DATE 14/8/95

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Enquiries: R de Bomford
Phone: (004) 316333
Your Ref:
Our File:

A B E R F O Y L E

25 September 1995

Tony Crawford
University of Tasmania
PO Box 56
SANDY BAY Tas

Dear Tony,

Please find enclosed a suite of 14 core samples, numbered 626663 to 626675, and 629282 for petrographic description.

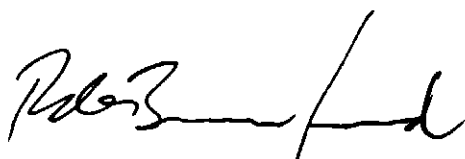
These samples form a representative sequence of lithologies from DDH MAC40 drilled near Mt. Charter, see attached sheet for depths and logged descriptions. The dolerite sample (626663) is from a 95 m thick intersection of the Mt. Charter dolerite, that passes through a fault into basaltic flows and volcanoclastics, sample 626664, that are interpreted to be equivalents of the Hellyer basalt. The basalts are faulted against a thick sequence of feldspar-phyric 'trachytic andesites' (samples 626665-667) also considered to be equivalents of the hangingwall in the Mt. Charter area.

Underlying the andesites are polymict volcanoclastics (626668) and an unusual andesitic? lithology (626669- is it a lava or volcanoclastic?) that have a conformable contact with typical pink Mount Charter dacite (626670-671). The dacite, only 85m thick, is underlain by a thick sequence of mixed feldspar-phyric basalt (626672-673), dacite (626674), and andesitic to dacitic lithologies (626675). Below approximately 1000m lithologies become more feldspar-phyric (629282) and are interpreted to correlate with the Hellyer footwall andesites.

Could you please compare this sequence with those in DDH's MAC33 and MAC35, also near Mt. Charter, and comment on any significant similarities or differences.

Please retain all offcuts and return to our Burnie office with the thin sections. If it would help I will send down the geochemistry for these samples.

Yours faithfully,



for Andrew McNeill

Geologist

Sample	Depth	Description
626663	87.7m	Dolerite
626664	115.6m	Basalt clast from coarse Lapilli vlcl.
626665	210.4m	Andesitic lapilli vlcl. (lava breccia).
626666	272.9m	Feldspar-phyric andesitic lava.
626667	326.9m	Feldspar-phyric andesitic lava.
626668	421.6m	Polymict andesitic volcanoclastic.
626669	474.0m	Andesitic-basaltic volcanic.
626670	481.8m	Dacite lava.
626671	544.6m	Dacitic vlcl. (pseudoclastic?)
626672	663.0m	Feldspar-phyric basalt.
626673	700.25m	Feldspar-phyric basalt.
626674	881.0m	Dacitic clast in lapilli vlcl.
626675	917.9m	Massive andesitic-dacitic lava.
629282	1020.95m	Feldspar-phyric andesitic lava.

720210

SAMPLE NUMBER: 626663 MAC 40 87.7m**SUMMARY DESCRIPTION:**

This sample is a mafic-crystal-rich dolerite with a most unusual texture. Large phenocrysts of augite, most with ophitic inclusions of altered plagioclase and some as much as 6mm long, are totally pseudomorphed by pale actinolite and minor chlorite. These large altered augites make up probably 40 modal% of the rock. The remainder is composed of much smaller, equant fresh augite crystals that occur in clusters of subhedral grains intergrown with less abundant plagioclase laths. The latter are altered to very fine-grained epidote. Oxides are volumetrically minor, and altered to leucogenitic material; many had rather acicular shapes suggestive of ilmenite rather than FeTi magnetite, which is surprising in rocks of this composition. Mesostasis between crystals is composed of messy chlorite-submicroscopic epidote and some prehnite. A few small deep brown to green zoned amphiboles are present in interstitial areas, and these probably record late stage reaction between late magmatic fluids and the pyroxenes. I have no idea why the large augite crystals are totally actinolite altered and the small augites are perfectly fresh. No doubt this is a Charter Dolerite, and the low greenschist facies of metamorphism is notable.

SAMPLE NUMBER: 626664 MAC 40 115.6m**SUMMARY DESCRIPTION:**

This sample is a moderately hydrothermally altered formerly augite+olivine-phyric metabasaltic lava in which occasional xenocrysts of rounded albitized plagioclase and resorbed quartz are notable. The olivine phenocrysts are entirely altered to fine-grained quartz, calcite and chlorite, and several larger (1-2mm-sized) phenocrysts contains small chromite inclusions. Augite occurs as small subhedral fresh phenocrysts that are mainly gathered in multicrystal clots of four or more crystals. The few quartz xenocrysts have rims rich in fine-grained augite, attesting to a primary origin and recording reaction of the xenocrysts with the melt. The rounded albite xenocrysts are moderately sericite altered. The groundmass of this lava is composed of small laths and microlites and albitized plagioclase and equant, granular augite, set in chlorite after glass. There are also abundant tiny leucogene globules after FeTi oxides. The alteration of this sample is a weak carbonate overprint on a regional low-grade burial metamorphic assemblage of albite-chlorite-leucogene.

SAMPLE NUMBER: 626665 MAC 40 210.4m

SUMMARY DESCRIPTION:

Despite the apparent lava breccia/volcaniclastic texture of this rock in hand specimen, this sample is a formerly coherent, moderately altered formerly glassy mafic andesite or evolved basaltic lava with a perlitic-textured groundmass. All phenocrysts are thoroughly altered, and most appear to have been originally plagioclase and augite. The former has altered mainly to sericite, the latter to chlorite and sericite. The groundmass was formerly glassy, and perlitic cracks are still abundantly preserved through the rock, being picked out by chlorite whereas the rest of the formerly glassy groundmass is composed of a extremely fine-grained intergrowth of sericite, quartz and chlorite. Small pencil-shaped crystals of apatite are quite abundant, and suggest that this samples falls at the shoshonitic end of the Hellyer Basalt spectrum. Abundant small messy patches of very fine-grained opaques, leucoxene, and chlorite represent common former FeTi oxide microphenocrysts. Scattered trails and spots of fine-grained pyrite are common in the groundmass and also in former phenocryst sites. The hydrothermal alteration in this sample is pyrite-sericite.

SAMPLE NUMBER: 626666 MAC 40 272.9m

SUMMARY DESCRIPTION:

This sample is a moderately hydrothermally altered plagioclase-phyric andesitic lava with around 5 modal% of small albitized plagioclase phenocrysts, a few chlorite-altered augite phenocrysts, and not uncommon leucoxene-altered FeTi oxide phenocrysts and microphenocrysts. Many plagioclase phenocrysts occur in multi-crystal clots of four or more mainly subhedral crystals, and clots are usually < mm across. The groundmass is a mottled intergrowth of tiny albite microlites showing strong flow alignment, set in a submicroscopic quartz-feldspar intergrowth after glass. Spotty chloritic groundmass patches, also hosting tiny plagioclase microlites, are less abundant. Patches of secondary quartz and calcite are common, and narrow quartz and calcite veinlets cut the sample; at least one fracture filling contains a core of deep yellow sphalerite and minor pyrite.

SAMPLE NUMBER: 626667 MAC 40 326.9m

SUMMARY DESCRIPTION:

This sample is a quite strongly altered but texturally well-preserved andesitic lava with common areas or preserved perlitic cracks throughout the groundmass. Plagioclase phenocrysts mainly 0.5-2mm long probably made up around 5 modal% of this sample, but all have been thoroughly replaced by epidote and minor chlorite and sericite. A few small augite phenocrysts are replaced by epidote and chlorite. Leucoxene-altered FeTi oxides are less abundant than in the previous sample. The groundmass varies texturally from paler, less altered areas in which perlitic textures are well-preserved in fine-grained quartzo-feldspathic intergrowths after glass, to darker domains with abundant chlorite and fine-grained epidote. An unusual feature of this sample is the presence of not uncommon anhedral spots of brown chalcedonic silica(?) growing in with secondary clear quartz and chlorite.

SAMPLE NUMBER: 626668 MAC 40 421.6m

SUMMARY DESCRIPTION:

This sample is a polymict andesitic to dacitic volcanoclastic in which matrix between clasts has been largely winnowed out. Most clasts are sparsely to moderately plagioclase-phyric dacitic lavas, the largest clast clearly banded, with devitrified and recrystallized formerly glassy groundmasses. Clasts/fragments reach at least 1.5cm across. An important and distinctive feature of most of these clasts is the presence of occasional small (<0.5mm) quartz phenocrysts, many partially resorbed. I am unaware of any quartz-phyric EXTRUSIVE rocks in the Que-Hellyer region that pre-date the Hellyer Basalt, and the quartz-phyric intrusive sheet that extends NE from the High Point area is usually more coarsely crystalline, with bigger phenocrysts of quartz. One of the clasts is composed almost entirely of epidote, but small plagioclase and a single quartz phenocryst are still evident. Clast margins fit snugly in against neighbouring clasts, and imply strong pressure solution during compaction and lithification. Alteration of this rock is typical of regional burial metamorphism rather than localized hydrothermal alteration.

SAMPLE NUMBER: 626669 MAC 40 474.0m

SUMMARY DESCRIPTION:

This sample is an unusual, strongly vesicular and brecciated olivine-phyric basaltic lava containing several inclusions of more evolved lava. Most of the rock consists of a highly vesicular, formerly glass basalt with the glass replaced either by chlorite, or by fine-grained quartzofeldspathic material heavily riddled by chlorite. Rapid changes in the abundance and alignment of vesicles indicate that the rock is a lava breccia rather than a coherent lava. Former olivine crystal sites are present, but not common, and are mainly replaced by fine-grained quartz and chlorite. A few small augite phenocrysts are replaced by epidote and minor chlorite, and quite large chromites are not uncommon. Vesicles are mainly filled by quartz and albite. This rock contains a 2cm diameter inclusions of a formerly glassy lava with a few modal % of both albitized plagioclase, and deep olive green primary hornblende phenocrysts set in murky devitrified glass. This inclusion is petrographically indistinguishable from the more evolved Anthony Rd (Type 2) hornblende andesites further south in the Mount Read Volcanics, and may provide a time line between the northern and southern parts of the belt. I am convinced that the hornblende andesites of the southern part of the belt fill the time gap between the Que Footwall Andesites and the Hellyer Basalts. The basalt and its dacite inclusion are only weakly regionally altered.

SAMPLE NUMBER: 626670 MAC 40 481.8m

SUMMARY DESCRIPTION:

This sample is a hydrothermally altered formerly glassy dacitic lava with around 5 modal% of small albitized plagioclase phenocrysts. There were no mafic silicate phenocrysts in this rock, and the few former FeTi oxide microphenocrysts are altered to messy leucoxene. The groundmass was undoubtedly glassy, but has devitrified, then recrystallized to a fine-grained even-textured quartzofeldspathic intergrowth with abundant coarser spots of secondary quartz. Disseminated fine-grained pyrite makes up perhaps 1 modal% or a bit less of this sample, and occurs as single grains <0.1mm across, occasionally organized into small, diffuse trails. The rock is transected by common veinlets composed of albite and quartz. Small rhombs of calcite overprint parts of the groundmass, but are not abundant. The hydrothermal assemblage of this sample is silica-pyrite.

SAMPLE NUMBER: 626671 MAC 40 544.6m

SUMMARY DESCRIPTION:

This is a polymict lava breccia of dominant dacitic composition, but containing at least one large basaltic clast more than 1 cm long. Most of the sample appears to be composed of a single, brecciated and quite altered dacitic lava carrying around 2 modal% of small, euhedral albitized plagioclase phenocrysts, with no sign of former mafic phenocrysts. The groundmass of this sample was glassy, and several less altered areas still preserve perlitic crack textures. Most of the groundmass is now composed of an exceptionally fine-grained quartzo-feldspathic material variably riddled with chlorite, to some domains that are composed of more than 60 modal% fine spotty chlorite. A very small amount of disseminated pyrite is present in the rock. The obvious basalt fragment included in this lava breccia is an evolved plagioclase+olivine+sparse augite-phyric Hellyer-type basalt with a microcrystalline groundmass composed entirely of chlorite after glass and augite, riddled by tiny albite laths. Quartz veins are present, but not common, and contain occasional crystals of well formed epidote and sphene.

SAMPLE NUMBER: 626672 MAC 40 663.0m

SUMMARY DESCRIPTION:

Although this sample does appear to be finely plagioclase-phyric in hand specimen, it is actually a strongly augite+olivine-phyric lava lacking any plagioclase phenocrysts. Calcite replacing some olivine phenocrysts probably appears in hand specimen to be plagioclase. Augite crystals are mainly <0.7m long, are entirely fresh, and make up at least 15 modal% of the rock. Most augites occur in multi-crystal clots, sometimes intergrown with altered olivine phenocrysts. The latter make up probably 2-3 modal% of the sample, and are always replaced by fine-grained silica, or by coarser calcite. Many olivines contain small chromite crystals. The groundmass of this sample is a formerly glass-rich intergrowth of tiny chloritized mafic laths (augite) and altered plagioclase set in brownish devitrified glass. A few veinlets composed of calcite and quartz cut the rock, and several en echelon shear fractures are filled by calcite, chlorite, bright yellow epidote, and strained quartz. This is quite clearly a typical Hellyer Basalt petrographically.

SAMPLE NUMBER: 626673 MAC 40 700.25m

SUMMARY DESCRIPTION:

The protolith of this sample was an augite+olivine-phyric basaltic lava almost identical to the previous sample. The only significant differences are that this rock shows more intense alteration and veining than 626672. Augite phenocrysts are abundant and fresh, and less abundant olivine is always altered to either fine-grained silica and chlorite, or calcite, or both. The groundmass is finer-grained than 626672, but otherwise mineralogically and texturally identical. The groundmass is strongly altered and bleached in cm-sized domains in which augite and chlorite are leached out and epidote and calcite are far more abundant than less altered areas of groundmass. Veining is mainly quartz-chlorite-epidote assemblages.

SAMPLE NUMBER: 626674 MAC 40 881.0m (clast in volcanoclastic)

SUMMARY DESCRIPTION:

This is a weakly hydrothermally altered, originally glassy plagioclase-phyric dacitic lava. Well-formed albitized plagioclase phenocrysts make up around 5 modal% of this rock, and are always replaced by very fine-grained sericite. A few small former augite phenocrysts are replaced by chlorite, and occasional former FeTi oxide microphenocrysts by leuc-xene. The glassy groundmass has recrystallized to a fine-grained sugary quartzo-feldspathic intergrowth in which all feldspar is replaced by sericite. Calcite is common in veinlets, and spots overprinting groundmass. A minor amount of disseminated pyrite is present in this sample.

SAMPLE NUMBER: 626675 MAC 40 917.9m

SUMMARY DESCRIPTION:

This sample is an almost aphyric, moderately hydrothermally altered acid andesite to dacite lava. A few small albitized and sericitized plagioclase phenocrysts are present, but there are no convincing relics of former mafic silicate phenocrysts. Occasional former FeTi oxide phenocrysts are replaced by fine-grained magnetite(?), chlorite and epidote-sphene. The groundmass of this rock was glassy to vitrophyric, and where least altered retains a texture suggestive of tiny plagioclase microlites set in very fine-grained quartz-feldspar-chlorite-sericite. Narrow quartz-pyrite veinlets are transected by calcite veinlets. The more abundant chlorite in the groundmass, and the presence of not uncommon small apatite crystals suggests that this dacite may be closer to the andesitic end of the dacite spectrum than rhyolite the end.

SAMPLE NUMBER: 626682 MAC 40 1020.95m

SUMMARY DESCRIPTION:

This sample is a plagioclase-phyric andesitic lava, typical of the Que Footwall Andesites, in which the 5-8 modal% of plagioclase phenocrysts have been albitized, then heavily replaced by sericite. Most crystals were 0.5-1mm long and subhedral to euhedral. There is no evidence for the former presence of augite phenocrysts in this sample, and former FeTi oxide phenocrysts are notably uncommon and replaced by leucoxene. The groundmass of this rock is a quartz-albite intergrowth mottled by trails and patches of chlorite, and clearly was originally glassy. Small patches of calcite overprint the groundmass, and disseminated very small pyrite crystals are present, but volumetrically insignificant. The weak hydrothermal alteration in this sample is sericite-pyrite.



Analabs

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14 Thirkell St. CODEE TAS 7320

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ANALYTICAL REPORT No.

100560.60.11180

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
BURNIE TAS 7320

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PROJECT

11589

DATE RECEIVED

RESULTS REQUIRED

16/08/95

ASAP

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REPORTEDNo.
OF COPIES

3

01/09/95

1

TOTAL No.
OF SAMPLES

14

SAMPLE NUMBERS

SAMPLE DESCRIPTION

ELEMENT/METHOD

526003-575.529282

30 Pcs : BP033 CHROME FREE BOWL

Cu,Pb,Zn,Ag/BA101

Ba,As,Cr,Zr/GX401 T1/GX408

WHOLE ROCK/GX408

RESULTS
TO

Mr R de Bonford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
BURNIE TAS 7320

RESULTS
TORESULTS
TO

REMARKS

Please note - Sulphur by method GX408 is not
suitable for samples containing sulphides.

MAC 40 PETROLOGY

AUTHORISED OFFICER



Analabs

Analabs Pty. Ltd.

A.C.N. 004 591 864

ANALYTICAL DATA

SAMPLE PREFIX

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REPORT DATE

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PAGE

100560.60.11160

01/09/95

11589

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	SAMPLE No.	Cu	Pb	Zn	Ag	Ba	As	Cr	Zr	Ti
METHOD		GA101	GA101	GA101	GA101	GX401	GX401	GX401	GX401	DX408
1	626663	19	30	52	<2	545	4	708	74	3058
2	626664	49	31	49	<2	399	0	731	113	2758
3	626665 -	64	74	2900	<2	995	12	13	^{11/2r} 176 180	3177
4	626666	16	248	381	<2	2429	14	8	^{16 70} 168	2818
5	626667	6	42	161	<2	1918	6	6	167	2878
6	626668	5	31	223	<2	1554	14	9	196	2878
7	626669	117	79	270	<2	3107	16	1628	106	2938
8	626670	19	138	92	<2	187	12	17	247	2578
9	626671	4	24	89	<2	233	<2	<5	185	1799
10	626672	131	32	123	<2	1069	7	234	135	3357
11	626673	83	35	244	<2	2138	23	678	187	3957
12	626674	26	34	26	<2	2638	42	47	193	1918
13	626675	15	27	14	<2	977	25	57	219	2638
14	629282	32	72	75	<2	754	12	36	198	3417
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	4	5	4	2	10	2	5	5	10
25	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

Results in ppm unless otherwise specified
 -- = element not determined

IS = insufficient sample
 SNR = sample not received

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SAMPLE PREFIX

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	SAMPLE No.	Al2O3	SiO2	TiO2	Fe2O3	MnO	CaO	K2O	MgO	P2O5
METHOD		OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408
1	626663	13.40	50.50	0.51	7.81	0.18	8.77	1.25	11.44	0.120
2	626664	15.00	47.40	0.46	8.20	0.26	9.53	0.57	8.66	0.217
3	626665	16.50	58.80	0.53	5.47	0.12	4.05	3.63	2.40	0.265
4	626666	14.80	67.20	0.47	3.49	0.06	2.08	3.58	0.55	0.248
5	626667	14.40	60.60	0.48	5.74	0.24	6.12	2.29	1.94	0.250
6	626668	15.60	63.10	0.48	6.02	0.22	2.39	2.30	2.05	0.203
7	626669	13.90	49.70	0.49	9.69	0.41	7.63	3.41	8.79	0.394
8	626670	16.70	68.60	0.43	3.20	0.01	0.43	0.41	0.32	0.091
9	626671	15.10	69.10	0.30	4.29	0.10	0.52	0.96	1.65	0.076
10	626672	15.60	51.80	0.56	8.44	0.27	8.73	1.80	6.42	0.410
11	626673	13.80	51.50	0.66	9.79	0.32	8.04	1.47	7.31	0.695
12	626674	13.60	70.40	0.32	1.89	0.20	1.77	7.27	0.30	0.067
13	626675	15.80	68.10	0.44	2.07	0.13	2.55	4.22	0.50	0.086
14	629282	16.80	62.50	0.57	6.45	0.17	2.25	3.76	1.27	0.153
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.005
25	UNITS	%	%	%	%	%	%	%	%	%

Results in ppm unless otherwise specified
 - = element not determined

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	SAMPLE No.	S	Na2O	LOI	TOTAL					
METHOD		OX408	OX408	OX408	OX408					
1	626663	<0.005	2.53	3.73	100.40					
2	626664	0.327	2.96	5.99	100.10					
3	626665	0.647	1.42	4.87	100.10					
4	626666	0.642	4.81	1.46	100.30					
5	626667	0.038	3.42	3.94	99.60					
6	626668	0.317	4.66	2.02	99.90					
7	626669	0.039	0.67	3.88	99.40					
8	626670	0.550	8.72	1.63	101.90					
9	626671	0.031	5.74	1.64	99.60					
10	626672	0.065	2.18	3.59	100.00					
11	626673	0.029	2.02	3.30	99.10					
12	626674	0.241	0.54	2.49	99.50					
13	626675	0.188	1.67	3.90	100.00					
14	629282	0.052	2.00	4.12	100.10					
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	0.005	0.05	0.01	0.01					
25	UNITS	%	%	%	%					

results in ppm unless otherwise specified
 -- element not determined

IS = insufficient sample
 SNR = sample not received

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Aberfoyle Resources Limited

EXPLORATION DIVISION

ACN 004 664 108

96-3839

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EXPLORATION LICENCE 106/87

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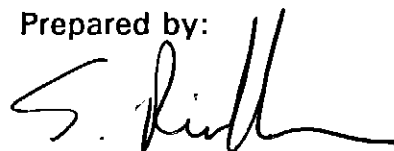
Progress Report for the Period

February 1995 to February 1996

VOLUME 2 OF 2

APPENDICIES IV - IX AND PLATES

Prepared by:



S. Richardson
SENIOR GEOLOGIST

Issued by:



A M Hespe
MANAGER - BASE METALS

Internal Report No. Mackintosh 61

EL106/87	
- 7 MAR 1996	
See folio 35	
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VOLUME 2 OF 2

ON

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ources Tas (4/4)

720228

APPENDIX IV

ABERFOYLE EXPLORATION

DRILL CORE DATA LEDGER INTERVAL SAMPLES

LICENCE: EL106/87

TOTAL: 129 samples

DRILLHOLE MAC-040

PROSPECT: MCH

FROM (m)	TO (m)	SAMPLE#	TYPE	COLLECTED	ORE SUITE							TRACE SUITE				CALCULATED		
					Cu	Pb	Zn	Ag	Au	Ba	As	Cr	Zr	Ti	P2O5	Ti/Zr	P2O5/TiO2	Al
					ppm GA101	ppm GA101	ppm GA101	ppm GA101	ppm GG309	ppm GX401	ppm GX401	ppm GX401	ppm GX401	ppm GX401	wt% OX408			
14.0	24.0	629046	CGI	SR: 23/08/95	59	23	172	-2	-0.008	591	9	890	107	3717	0.10	34.7	0.16	68.0
24.0	34.0	629047	CGI	SR: 23/08/95	46	13	98	-2	-0.008	526	12	662	89	3297	0.13	37.0	0.23	56.0
34.0	44.0	629048	CGI	SR: 23/08/95	27	73	176	-2	-0.008	471	8	646	86	2998	0.12	34.9	0.24	53.0
44.0	54.0	629049	CGI	SR: 23/08/95	38	52	118	-2	-0.008	478	20	742	79	2878	0.12	36.4	0.24	55.0
54.0	64.0	629050	CGI	SR: 23/08/95	32	-5	74	-2	-0.008	372	-2	805	73	2638	0.11	36.1	0.24	54.0
64.0	74.0	629051	CGI	SR: 23/08/95	33	5	75	-2	-0.008	380	5	804	66	2398	0.10	36.3	0.24	52.0
74.0	84.0	629052	CGI	SR: 23/08/95	31	-5	81	-2	-0.008	484	6	776	69	2518	0.10	36.5	0.24	51.0
84.0	95.0	629053	CGI	SR: 23/08/95	25	41	133	-2	-0.008	411	14	797	71	2578	0.11	36.3	0.25	47.0
95.0	105.0	629055	CGI	SR: 23/08/95	60	271	591	-2	-0.008	135	58	805	109	2398	0.20	22.0	0.50	42.0
105.0	115.0	629056	CGI	SR: 23/08/95	77	41	127	-2	-0.008	902	35	752	107	2458	0.21	23.0	0.51	39.0
115.0	122.9	629057	CGI	SR: 23/08/95	78	11	73	-2	-0.008	873	10	705	117	2518	0.18	21.5	0.43	34.0
122.9	132.9	629058	CGI	SR: 23/08/95	80	10	72	-2	-0.008	981	15	747	113	2578	0.20	22.8	0.47	37.0
132.9	142.9	629059	CGI	SR: 23/08/95	75	57	190	-2	-0.008	1545	11	692	123	2698	0.19	21.9	0.43	36.0
142.9	151.0	629060	CGI	SR: 23/08/95	73	116	438	-2	-0.008	1100	27	535	126	2698	0.20	21.4	0.45	36.0
151.0	159.6	629061	CGI	SR: 23/08/95	77	52	194	-2	-0.008	1610	19	387	144	2878	0.21	20.0	0.44	42.0
159.6	171.2	629062	CGI	SR: 23/08/95	84	55	138	-2	-0.008	1860	13	168	155	2998	0.23	19.3	0.46	39.0
171.2	182.9	629063	CGI	SR: 23/08/95	77	60	132	-2	-0.008	1910	9	135	147	2818	0.22	19.2	0.48	37.0
182.9	186.1	629064	CGI	SR: 23/08/95	105	39	223	-2	-0.008	2250	12	128	153	2938	0.22	19.2	0.44	41.0
186.1	192.1	629065	CGI	SR: 23/08/95	100	262	388	-2	-0.008	1440	19	123	142	2698	0.26	19.0	0.57	30.0
192.1	196.7	629066	CGI	SR: 23/08/95	92	49	496	-2	-0.008	1175	23	147	150	2818	0.20	18.8	0.42	45.0
196.7	205.7	629067	CGI	SR: 23/08/95	83	597	3405	-2	-0.008	1540	62	32	244	3957	0.38	16.2	0.57	68.0
205.7	215.7	629068	CGI	SR: 23/08/95	51	41	1838	-2	-0.008	14	23	25	214	3417	0.29	16.0	0.50	57.0
215.7	225.7	629069	CGI	SR: 23/08/95	36	17	936	-2	-0.008	1330	21	22	208	3177	0.26	15.3	0.49	60.0
225.7	235.7	629070	CGI	SR: 23/08/95	150	1087	4958	-2	-0.008	2305	219	21	192	3058	0.25	15.9	0.50	48.0
235.7	249.4	629071	CGI	SR: 23/08/95	51	65	2456	-2	-0.008	1705	25	23	196	3058	0.26	15.6	0.50	34.0
249.4	259.4	629072	CGI	SR: 23/08/95	68	648	1958	-2	-0.008	2320	26	-5	191	3058	0.25	16.0	0.49	28.0
259.4	270.1	629073	CGI	SR: 23/08/95	56	216	655	-2	-0.008	1875	17	25	187	2998	0.25	16.0	0.50	35.0
270.1	276.5	629074	CGI	SR: 23/08/95	75	780	1382	-2	-0.008	1180	6	19	164	2578	0.21	15.7	0.50	29.0

629074

720230

DRILLHOLE MAC-040

PROSPECT: MCH

WHOLEROCK

	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	S	LOI	TOTAL
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OM615	OX408
629046	50.50	0.62	15.20	9.73	0.27	6.08	1.81	1.67	1.18	0.01	12.89	100.20
629047	51.00	0.55	13.60	8.62	0.17	10.28	7.66	1.69	1.43	0.01	5.14	100.40
629048	49.70	0.50	13.00	8.74	0.19	10.95	8.78	1.92	1.12	0.01	4.72	100.00
629049	50.10	0.48	12.90	8.79	0.16	12.00	8.86	1.83	1.17	0.02	4.21	100.80
629050	49.10	0.44	12.60	8.68	0.15	12.33	9.36	1.82	0.84	0.01	4.81	100.30
629051	47.70	0.40	12.30	8.29	0.17	11.92	10.48	1.36	0.69	0.01	6.42	99.90
629052	48.90	0.42	12.40	8.40	0.20	11.61	9.90	1.87	0.81	0.01	5.87	100.60
629053	45.90	0.43	12.10	8.13	0.30	10.44	10.78	1.62	0.68	0.01	9.71	100.30
629055	45.10	0.40	13.00	9.93	0.42	7.14	9.61	1.38	0.79	0.69	10.23	100.10
629056	46.80	0.41	13.20	7.72	0.25	7.22	10.43	2.46	1.17	1.03	7.86	100.40
629057	47.20	0.42	12.50	7.63	0.24	6.67	12.97	1.99	1.13	0.65	6.77	99.50
629058	48.90	0.43	13.40	7.64	0.26	7.03	11.62	2.31	1.18	0.40	6.49	100.60
629059	47.60	0.45	13.50	7.50	0.27	6.81	12.40	2.15	1.41	0.20	7.08	100.00
629060	49.50	0.45	14.00	7.68	0.29	6.79	10.74	2.69	0.92	0.26	5.97	100.00
629061	52.20	0.48	15.00	7.90	0.29	6.83	8.73	2.61	1.24	0.22	4.40	100.50
629062	53.90	0.50	15.10	6.73	0.21	5.32	8.41	2.64	1.89	0.37	4.44	100.40
629063	54.40	0.47	14.60	6.09	0.20	4.93	8.90	2.76	1.92	0.41	4.84	100.40
629064	54.30	0.49	15.10	6.41	0.23	5.43	8.44	2.52	2.22	0.25	4.25	100.30
629065	51.50	0.45	14.60	5.92	0.24	4.79	11.53	2.91	1.44	0.43	5.81	100.50
629066	51.30	0.47	15.30	7.70	0.27	5.52	6.92	2.17	1.85	0.25	7.36	99.80
629067	49.60	0.66	19.60	7.71	0.57	1.63	3.11	0.44	5.78	0.86	7.13	99.10
629068	56.30	0.57	17.70	5.37	0.10	2.00	3.57	1.15	4.25	1.03	5.16	99.10
629069	60.80	0.53	16.90	6.07	0.11	2.13	1.93	1.76	3.35	0.73	3.89	99.60
629070	61.50	0.51	15.70	5.58	0.13	1.88	2.61	2.29	2.63	0.85	3.97	99.60
629071	57.60	0.51	15.60	6.02	0.19	2.10	4.72	3.29	2.10	0.69	4.88	99.10
629072	58.90	0.51	15.70	6.01	0.20	1.96	5.39	3.79	1.56	0.71	2.75	99.00
629073	60.90	0.50	15.50	6.25	0.20	2.05	5.46	2.49	2.18	0.32	3.74	100.40
629074	66.30	0.43	13.30	3.67	0.10	0.71	3.97	3.44	2.34	0.46	3.75	99.50

720231

DRILLHOLE MAC-040

PROSPECT: MCH

FROM (m)	TO (m)	SAMPLE#	TYPE	COLLECTED	ORE SUITE							TRACE SUITE				CALCULATED		
					Cu	Pb	Zn	Ag	Au	Ba	As	Cr	Zr	Ti	P2O5	Ti/Zr	P2O5/TiO2	Al
					ppm GA101	ppm GA101	ppm GA101	ppm GA101	ppm GG309	ppm GX401	ppm GX401	ppm GX401	ppm GX401	ppm GX401	wt% OX408			
276.5	285.6	629075	CGI	SR: 23/08/95	38	838	1644	-2	-0.008	1725	15	31	198	3118	0.25	15.8	0.48	37.0
285.6	295.6	629076	CGI	SR: 23/08/95	38	10	321	-2	-0.008	1380	21	18	177	2878	0.23	16.3	0.49	33.0
295.6	305.7	629077	CGI	SR: 23/08/95	62	21	338	-2	-0.008	808	14	18	183	2938	0.23	16.0	0.48	29.0
305.7	315.7	629078	CGI	SR: 23/08/95	20	21	210	-2	-0.008	1065	9	21	201	3237	0.26	16.1	0.49	32.0
315.7	322.0	629079	CGI	SR: 23/08/95	34	16	492	-2	-0.008	1555	11	16	190	2998	0.25	15.8	0.50	38.0
322.0	332.0	629080	CGI	SR: 23/08/95	71	21	545	-2	-0.008	2000	16	20	186	2878	0.24	15.5	0.50	31.0
332.0	342.0	629081	CGI	SR: 23/08/95	93	-5	310	-2	-0.008	1715	9	20	187	2938	0.24	15.7	0.49	33.0
342.0	352.0	629082	CGI	SR: 23/08/95	117	-5	164	-2	-0.008	1845	20	19	182	2998	0.24	16.5	0.48	36.0
352.0	362.0	629084	CGI	SR: 23/08/95	45	-5	142	-2	-0.008	1660	5	14	191	3058	0.24	16.0	0.47	45.0
362.0	372.0	629085	CGI	SR: 23/08/95	38	-5	172	-2	-0.008	985	8	27	190	3058	0.24	16.1	0.47	47.0
372.0	382.0	629086	CGI	SR: 23/08/95	62	-5	144	-2	-0.008	1430	9	21	191	3058	0.25	16.0	0.49	40.0
382.0	393.2	629087	CGI	SR: 23/08/95	37	-5	139	-2	-0.008	1765	178	21	193	3058	0.25	15.8	0.49	40.0
393.2	403.2	629088	CGI	SR: 23/08/95	95	5	212	-2	-0.008	1030	16	34	201	2878	0.20	14.3	0.42	34.0
403.2	413.2	629089	CGI	SR: 23/08/95	91	-5	225	-2	-0.008	251	24	31	207	2938	0.19	14.2	0.40	27.0
413.2	423.2	629090	CGI	SR: 23/08/95	96	-5	820	-2	-0.008	1095	16	34	207	2998	0.20	14.5	0.41	31.0
423.2	433.2	629091	CGI	SR: 23/08/95	60	36	1795	-2	-0.008	993	20	49	202	2938	0.19	14.5	0.40	29.0
433.2	442.0	629092	CGI	SR: 23/08/95	48	447	2121	-2	-0.008	956	27	123	170	3118	0.23	18.3	0.45	33.0
442.0	448.3	629093	CGI	SR: 23/08/95	68	163	247	-2	-0.008	1130	20	307	130	2818	0.20	21.7	0.43	34.0
448.3	451.3	629094	CGI	SR: 23/08/95	110	17	65	-2	-0.008	1580	37	950	45	1739	0.13	38.6	0.45	38.0
451.3	461.3	629095	CGI	SR: 23/08/95	110	196	332	-2	-0.008	1645	45	1505	108	2758	0.34	25.5	0.74	54.0
461.3	471.3	629096	CGI	SR: 23/08/95	152	74	214	-2	-0.008	1800	41	1430	101	2518	0.35	24.9	0.82	45.0
471.3	475.3	629097	CGI	SR: 23/08/95	109	19	171	-2	-0.008	2340	35	1315	99	2518	0.33	25.4	0.78	48.0
475.3	479.0	629098	CGI	SR: 23/08/95	108	114	542	-2	-0.008	2015	37	1450	110	2698	0.35	24.5	0.79	58.0
479.0	489.0	629099	CGI	SR: 23/08/95	107	50	535	-2	-0.008	293	16	40	218	2038	0.07	9.4	0.22	24.0
489.0	499.0	629100	CGI	SR: 23/08/95	103	11	136	-2	-0.008	574	14	14	235	2278	0.08	9.7	0.21	31.0
499.0	509.0	629101	CGI	SR: 23/08/95	65	93	70	-2	-0.008	451	162	21	200	1918	0.07	9.6	0.23	23.0
509.0	519.0	629102	CGI	SR: 23/08/95	59	-5	78	-2	-0.008	1245	10	18	186	1859	0.07	10.0	0.24	35.0
519.0	529.0	629103	CGI	SR: 23/08/95	74	8	97	9	-0.008	709	10	17	201	1859	0.07	9.3	0.23	29.0
529.0	537.0	629104	CGI	SR: 23/08/95	69	9	67	10	-0.008	853	8	29	195	1859	0.07	9.5	0.23	31.0
537.0	547.7	629105	CGI	SR: 23/08/95	47	-5	105	-2	-0.008	267	10	17	208	1918	0.07	9.2	0.22	27.0
547.7	559.6	629107	CGI	SR: 23/08/95	125	6	145	-2	0.01	247	5	17	201	1859	0.07	9.3	0.21	19.0
559.6	569.0	629108	CGI	SR: 23/08/95	123	-5	161	-2	-0.008	1225	-2	30	176	1619	0.05	9.2	0.20	26.0
569.0	579.0	629109	CGI	SR: 23/08/95	92	-5	136	-2	-0.008	1785	-2	32	192	1799	0.06	9.4	0.20	29.0

720232

DRILLHOLE MAC-040

PROSPECT: MCH

WHOLEROCK

	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	S	LOI	TOTAL
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OM615	OX408
629075	59.70	0.52	15.90	6.95	0.23	2.30	3.98	3.64	2.10	0.34	3.02	99.50
629076	54.30	0.48	16.20	7.42	0.23	2.01	6.26	2.87	2.41	0.14	6.65	99.50
629077	64.40	0.49	14.70	5.68	0.19	1.88	3.94	4.03	1.35	0.11	3.14	100.40
629078	59.10	0.54	16.30	5.64	0.19	1.85	4.51	3.99	2.11	0.04	4.46	99.10
629079	59.60	0.50	15.60	6.82	0.24	3.17	4.03	3.65	1.51	0.14	3.63	99.40
629080	60.50	0.48	15.10	5.90	0.22	1.97	5.99	3.17	2.15	0.06	3.38	99.30
629081	62.00	0.49	15.20	5.96	0.20	2.03	4.93	3.44	2.15	0.05	2.74	99.40
629082	62.60	0.50	15.10	6.12	0.20	2.19	4.21	3.49	2.11	0.04	2.76	99.70
629084	61.50	0.51	15.70	7.85	0.20	2.48	2.49	3.51	2.36	0.02	2.72	99.60
629085	61.10	0.51	15.30	7.34	0.20	3.79	2.31	3.77	1.57	0.06	3.08	99.30
629086	61.70	0.51	15.60	6.63	0.21	2.90	3.51	3.58	1.87	0.07	2.82	99.80
629087	59.90	0.51	16.00	6.93	0.21	2.65	4.14	3.30	2.28	0.06	3.26	99.50
629088	61.90	0.48	15.80	6.34	0.20	2.52	2.44	5.18	1.48	0.15	2.57	99.50
629089	63.00	0.49	15.80	5.78	0.20	2.74	1.60	6.39	0.29	0.26	2.74	99.90
629090	62.80	0.50	15.80	5.78	0.21	2.17	2.76	5.30	1.44	0.17	2.42	99.80
629091	59.40	0.49	16.20	6.47	0.28	2.55	4.33	4.57	1.14	0.23	3.34	99.70
629092	57.00	0.52	16.40	7.48	0.33	3.49	5.91	3.55	1.18	0.33	3.00	100.10
629093	53.80	0.47	14.70	7.47	0.27	4.92	8.62	3.14	1.23	0.12	4.30	99.60
629094	42.90	0.29	9.75	9.40	0.27	8.42	14.43	1.70	1.27	0.42	7.80	97.60
629095	47.20	0.46	13.00	9.28	0.29	10.60	9.50	1.00	1.61	0.17	5.63	99.60
629096	46.70	0.42	12.00	8.37	0.33	8.38	11.82	0.85	1.92	0.03	7.90	99.50
629097	50.50	0.42	12.30	8.35	0.36	7.62	10.93	0.78	2.27	0.03	5.82	100.00
629098	46.50	0.45	12.30	9.78	0.45	9.56	7.98	0.35	1.82	0.04	9.19	99.20
629099	63.50	0.34	16.30	4.18	0.11	1.77	2.18	6.23	0.85	0.28	3.65	99.90
629100	66.40	0.38	16.60	3.40	0.07	1.35	0.95	5.82	1.71	0.29	2.50	100.00
629101	71.30	0.32	14.50	1.76	0.06	0.81	1.53	5.69	1.38	0.16	2.70	100.50
629102	71.20	0.31	14.30	1.97	0.06	0.70	1.55	4.91	2.80	0.04	2.05	100.00
629103	70.30	0.31	14.80	2.47	0.06	1.13	1.01	5.95	1.69	0.10	1.67	99.80
629104	71.40	0.31	13.90	2.30	0.06	0.81	1.51	4.86	2.05	0.13	2.30	100.00
629105	69.30	0.32	14.60	3.91	0.09	1.56	0.76	5.75	0.88	0.07	1.80	99.30
629107	69.40	0.31	14.40	3.21	0.09	1.21	1.68	6.13	0.67	0.04	2.10	99.30
629108	70.10	0.27	13.10	3.12	0.11	0.88	2.37	4.88	1.62	0.03	2.57	99.10
629109	69.60	0.30	14.10	3.78	0.12	1.01	1.71	5.16	1.75	0.12	1.87	99.70

720233

DRILLHOLE MAC-040

PROSPECT: MCH

FROM (m)	TO (m)	SAMPLE#	TYPE	COLLECTED	ORE SUITE								TRACE SUITE				CALCULATED		
					Cu	Pb	Zn	Ag	Au	Ba	As		Cr	Zr	Ti	P2O5	Ti/Zr	P2O5/TiO2	Al
					ppm	ppm	ppm	ppm	ppm	ppm	ppm		ppm	ppm	ppm	wt%			
					GA101	GA101	GA101	GA101	GG309	GX401	GX401		GX401	GX401	GX401	OX408			
579.0	585.0	629110	CGI	SR: 23/08/95	70	21	172	-2	-0.008	2655	22		49	187	1859	0.06	9.9	0.19	40.0
585.0	596.2	629111	CGI	SR: 23/08/95	53	-5	176	-2	-0.008	1805	14		235	181	2518	0.16	13.9	0.38	43.0
596.2	609.8	629112	CGI	SR: 23/08/95	26	-5	115	-2	-0.008	1020	11		18	179	2158	0.09	12.1	0.25	40.0
609.8	618.8	629113	CGI	SR: 23/08/95	59	-5	530	-2	-0.008	993	18		59	124	2938	0.12	23.7	0.24	42.0
618.8	628.7	629114	CGI	SR: 23/08/95	95	48	783	-2	-0.008	1265	21		143	150	3118	0.22	20.8	0.43	36.0
628.7	639.1	629115	CGI	SR: 23/08/95	116	86	382	-2	-0.008	1425	23		240	145	3417	0.41	23.6	0.71	37.0
639.1	652.9	629116	CGI	SR: 23/08/95	133	55	205	-2	-0.008	1505	414		224	135	3118	0.34	23.1	0.66	35.0
652.9	660.2	629117	CGI	SR: 23/08/95	145	193	331	-2	-0.008	1385	17		237	140	3297	0.39	23.5	0.71	36.0
660.2	666.8	629118	CGI	SR: 23/08/95	126	-5	321	-2	-0.008	1075	14		266	143	3357	0.38	23.5	0.68	50.0
666.8	673.2	629119	CGI	SR: 23/08/95	223	133	236	-2	-0.008	240	5		251	124	2998	0.36	24.2	0.73	46.0
673.2	677.7	629120	CGI	SR: 23/08/95	65	-5	226	-2	-0.008	1145	19		293	148	3537	0.33	23.9	0.55	66.0
677.7	687.7	629121	CGI	SR: 23/08/95	123	-5	263	-2	-0.008	1050	16		599	171	3417	0.57	20.0	1.00	36.0
687.7	697.9	629122	CGI	SR: 23/08/95	147	-5	201	-2	-0.008	430	13		718	183	3597	0.58	19.7	0.97	45.0
697.9	707.2	629123	CGI	SR: 23/08/95	130	9	253	-2	-0.008	1400	28		453	137	3297	0.41	24.1	0.74	41.0
707.2	711.7	629124	CGI	SR: 23/08/95	36	11	126	-2	-0.008	1875	31		139	168	2818	0.16	16.8	0.34	55.0
711.7	721.7	629125	CGI	SR: 23/08/95	31	-5	159	-2	-0.008	253	-2		352	124	3118	0.21	25.1	0.41	42.0
721.7	726.0	629126	CGI	SR: 23/08/95	21	-5	118	-2	-0.008	636	12		238	167	2878	0.19	17.2	0.39	41.0
726.0	736.0	629127	CGI	SR: 23/08/95	13	-5	65	-2	-0.008	1045	9		63	253	2518	0.10	9.9	0.25	63.0
736.0	746.0	629128	CGI	SR: 23/08/95	18	-5	61	-2	-0.008	940	7		63	247	2398	0.10	9.7	0.25	50.0
746.0	756.0	629129	CGI	SR: 23/08/95	16	-5	55	-2	-0.008	949	28		40	237	2158	0.09	9.1	0.26	39.0
756.0	767.8	629130	CGI	SR: 23/08/95	20	5	49	-2	0.121	1175	72		44	252	2458	0.11	9.8	0.26	43.0
767.8	777.8	629131	CGI	SR: 23/08/95	28	7	46	-2	-0.008	1775	55		40	246	2338	0.10	9.5	0.27	51.0
777.8	787.8	629132	CGI	SR: 23/08/95	29	9	37	-2	-0.008	2395	51		31	214	1918	0.09	9.0	0.27	49.0
787.8	794.7	629133	CGI	SR: 23/08/95	24	6	38	-2	0.012	1855	73		35	205	1859	0.08	9.1	0.27	44.0
794.7	803.5	629134	CGI	SR: 23/08/95	23	-5	63	-2	-0.008	669	22		65	243	2458	0.10	10.1	0.23	55.0
803.5	814.0	629136	CGI	SR: 23/08/95	15	-5	55	-2	-0.008	660	17		88	241	2278	0.11	9.4	0.29	43.0
814.0	824.0	629137	CGI	SR: 23/08/95	23	-5	71	-2	-0.008	816	14		86	235	2338	0.11	9.9	0.28	45.0
824.0	834.0	629138	CGI	SR: 23/08/95	30	-5	72	-2	-0.008	593	86		63	222	2098	0.07	9.4	0.20	49.0
834.0	858.2	629139	CGI	SR: 23/08/95	17	-5	72	-2	-0.008	920	19		55	253	2218	0.07	8.8	0.19	66.0
858.2	869.8	629140	CGI	SR: 23/08/95	98	18	37	-2	0.012	1165	107		107	208	2278	0.08	10.9	0.21	47.0
869.8	879.4	629141	CGI	SR: 23/08/95	25	6	41	-2	0.074	2030	71		86	194	2158	0.08	11.1	0.23	75.0
879.4	892.1	629142	CGI	SR: 23/08/95	25	12	63	-2	-0.008	2030	56		63	200	2158	0.08	10.8	0.21	72.0
892.1	895.8	629143	CGI	SR: 23/08/95	24	-5	29	-2	0.064	2210	80		40	190	2218	0.07	11.7	0.18	68.0

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DRILLHOLE MAC-040

PROSPECT: MCH

WHOLEROCK

	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	S	LOI	TOTAL
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OM615	OX408
629110	68.70	0.31	14.00	4.73	0.15	1.20	1.40	4.07	2.41	0.33	1.85	99.70
629111	63.20	0.42	14.40	8.53	0.27	3.14	2.87	3.77	1.71	0.18	3.31	100.00
629112	67.20	0.36	14.40	4.80	0.17	2.22	1.74	4.09	1.67	0.06	2.58	99.50
629113	56.20	0.49	16.20	8.46	0.32	4.32	4.11	3.75	1.33	0.19	3.79	99.60
629114	56.40	0.52	15.50	7.77	0.31	3.84	5.86	3.46	1.34	0.11	3.82	99.40
629115	49.70	0.57	15.40	8.36	0.29	5.45	8.86	2.92	1.37	0.33	5.50	99.70
629116	50.80	0.52	14.70	8.06	0.21	5.31	9.55	2.61	1.38	0.26	5.89	100.10
629117	49.00	0.55	14.50	8.10	0.29	5.92	10.60	2.55	1.49	0.11	6.13	99.90
629118	49.60	0.56	15.10	10.69	0.33	7.43	6.17	2.40	1.17	0.18	5.41	99.90
629119	46.60	0.50	14.40	10.39	0.34	7.50	6.80	2.57	0.33	0.10	9.25	99.50
629120	51.20	0.59	15.10	10.56	0.32	8.91	3.13	2.04	1.34	0.27	5.86	100.20
629121	49.20	0.57	12.40	8.24	0.32	6.84	11.32	2.42	0.86	0.06	6.26	99.20
629122	46.10	0.60	13.00	10.84	0.36	8.44	9.07	1.89	0.40	0.10	7.96	99.60
629123	50.70	0.55	12.90	9.34	0.32	7.12	9.68	2.18	0.98	0.14	5.23	99.90
629124	59.50	0.47	14.70	8.04	0.19	4.49	3.10	2.28	2.16	0.51	4.08	100.50
629125	50.20	0.52	14.60	10.53	0.28	6.19	6.42	2.66	0.39	0.16	7.31	99.80
629126	51.20	0.48	15.20	8.35	0.23	4.46	6.82	2.30	1.94	0.13	7.99	99.50
629127	64.20	0.42	15.80	5.09	0.10	2.71	1.94	1.72	3.49	0.08	4.25	100.00
629128	64.80	0.40	15.10	4.49	0.10	1.97	2.95	2.15	3.10	0.06	4.20	99.50
629129	66.60	0.36	14.30	4.21	0.10	1.29	3.24	2.80	2.53	0.07	4.19	99.90
629130	64.00	0.41	15.50	4.31	0.08	1.48	2.87	3.16	3.10	0.49	3.76	100.00
629131	65.20	0.39	15.30	2.91	0.06	1.28	2.57	2.82	4.24	0.47	3.64	99.70
629132	70.30	0.32	13.30	2.08	0.05	0.71	2.33	2.70	4.13	0.36	2.69	99.60
629133	70.70	0.31	12.50	2.79	0.05	0.61	2.59	2.51	3.38	0.47	2.93	99.60
629134	65.60	0.41	15.30	4.46	0.08	2.04	1.97	2.36	3.20	0.26	3.72	99.90
629136	63.00	0.38	14.80	4.77	0.11	2.05	3.62	2.61	2.73	0.19	4.96	99.60
629137	64.00	0.39	14.30	4.32	0.11	1.69	3.99	1.86	3.17	0.06	5.12	99.20
629138	64.30	0.35	14.20	5.73	0.11	2.64	2.40	2.60	2.22	0.53	4.09	100.00
629139	62.80	0.37	15.90	6.56	0.13	2.72	1.70	1.40	3.21	0.23	4.30	99.70
629140	67.20	0.38	13.70	3.88	0.12	0.63	2.91	1.90	3.67	0.61	3.40	99.30
629141	70.50	0.36	13.20	3.10	0.16	0.44	1.63	0.65	6.35	0.31	2.49	99.70
629142	69.60	0.36	13.50	3.41	0.19	0.44	1.94	0.73	6.50	0.21	2.63	99.90
629143	69.40	0.37	13.00	2.99	0.24	0.29	1.87	1.22	6.13	0.49	2.39	99.20

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DRILLHOLE MAC-040

PROSPECT: MCH

FROM (m)	TO (m)	SAMPLE#	TYPE	COLLECTED	ORE SUITE							TRACE SUITE				CALCULATED		
					Cu	Pb	Zn	Ag	Au	Ba	As	Cr	Zr	Ti	P2O5	Ti/Zr	P2O5/TiO2	Al
					ppm GA101	ppm GA101	ppm GA101	ppm GA101	ppm GG309	ppm GX401	ppm GX401	ppm GX401	ppm GX401	ppm GX401	wt% OX408			
895.8	902.4	629144	CGI	SR: 23/08/95	35	20	36	-2	0.016	1465	176	40	207	2398	0.07	11.6	0.19	53.0
902.4	912.4	629145	CGI	SR: 23/08/95	26	19	42	-2	0.009	1380	66	65	228	2638	0.09	11.6	0.19	47.0
912.4	922.9	629247	CGI	SR: 23/08/95	15	9	40	-2	0.019	914	54	61	306	2458	0.07	8.0	0.18	38.0
922.9	934.1	629248	CGI	SR: 23/08/95	34	7	66	-2	0.009	1060	65	46	241	2578	0.10	10.7	0.23	68.0
934.1	941.2	629249	CGI	SR: 23/08/95	21	40	77	-2	-0.008	1090	181	10	211	2578	0.10	12.2	0.24	46.0
941.2	956.0	629250	CGI	SR: 23/08/95	22	-5	64	-2	-0.008	969	25	21	212	3058	0.13	14.4	0.25	42.0
956.0	966.2	629251	CGI	SR: 23/08/95	32	29	69	-2	-0.008	1015	331	34	185	2818	0.12	15.2	0.26	44.0
966.2	980.8	629252	CGI	SR: 23/08/95	56	29	204	-2	0.012	1035	406	33	212	3058	0.14	14.4	0.27	61.0
980.8	985.7	629253	CGI	SR: 23/08/95	60	13	76	-2	0.024	1140	231	20	199	2998	0.13	15.1	0.26	58.0
985.7	995.7	629254	CGI	SR: 23/08/95	40	15	71	-2	0.009	1295	113	23	201	3118	0.14	15.5	0.27	52.0
995.7	1007.3	629255	CGI	SR: 23/08/95	39	6	76	-2	-0.008	941	51	40	219	3417	0.16	15.6	0.28	47.0
1007.3	1022.0	629256	CGI	SR: 23/08/95	42	9	82	-2	-0.008	933	101	41	188	3177	0.14	16.9	0.26	39.0
1022.0	1028.0	629257	CGI	SR: 23/08/95	29	18	93	-2	-0.008	693	40	44	174	3417	0.15	19.6	0.26	45.0
1028.0	1037.6	629258	CGI	SR: 23/08/95	36	7	84	-2	-0.008	789	37	26	198	3897	0.18	19.7	0.28	51.0
1037.6	1039.1	629259	CGI	SR: 23/08/95	24	-5	48	-2	-0.008	769	50	25	177	3477	0.16	19.6	0.27	47.0
1039.1	1054.1	629261	CGI	SR: 23/08/95	34	8	102	-2	-0.008	735	32	61	185	3657	0.17	19.8	0.28	48.0
1054.1	1069.1	629262	CGI	SR: 23/08/95	33	-5	98	-2	-0.008	796	33	97	192	4017	0.27	20.9	0.40	54.0
1069.1	1079.0	629263	CGI	SR: 23/08/95	32	5	101	-2	-0.008	890	46	63	189	3897	0.22	20.6	0.33	52.0
1079.0	1081.8	629264	CGI	SR: 23/08/95	60	9	45	-2	0.026	783	60	49	171	3417	0.16	20.0	0.28	59.0
1081.8	1096.0	629265	CGI	SR: 23/08/95	30	-5	87	-2	0.013	868	40	42	185	3777	0.20	20.4	0.31	60.0
1096.0	1108.8	629266	CGI	SR: 23/08/95	53	8	109	-2	0.012	957	18	80	185	4137	0.34	22.4	0.49	52.0
1108.8	1117.7	629267	CGI	SR: 23/08/95	46	-5	94	-2	0.011	917	20	96	186	4137	0.34	22.2	0.49	51.0
1117.7	1132.7	629268	CGI	SR: 23/08/95	33	-5	80	-2	0.016	929	26	42	182	3897	0.19	21.4	0.30	55.0
1132.7	1147.7	629269	CGI	SR: 23/08/95	36	-5	78	-2	0.01	805	23	51	174	3477	0.16	20.0	0.28	53.0
1147.7	1157.7	629270	CGI	SR: 23/08/95	60	-5	90	-2	0.03	910	32	26	175	3597	0.16	20.5	0.27	68.0
1157.7	1168.7	629271	CGI	SR: 23/08/95	68	12	161	-2	0.049	1060	58	21	162	3297	0.16	20.4	0.29	68.0

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DRILLHOLE MAC-040

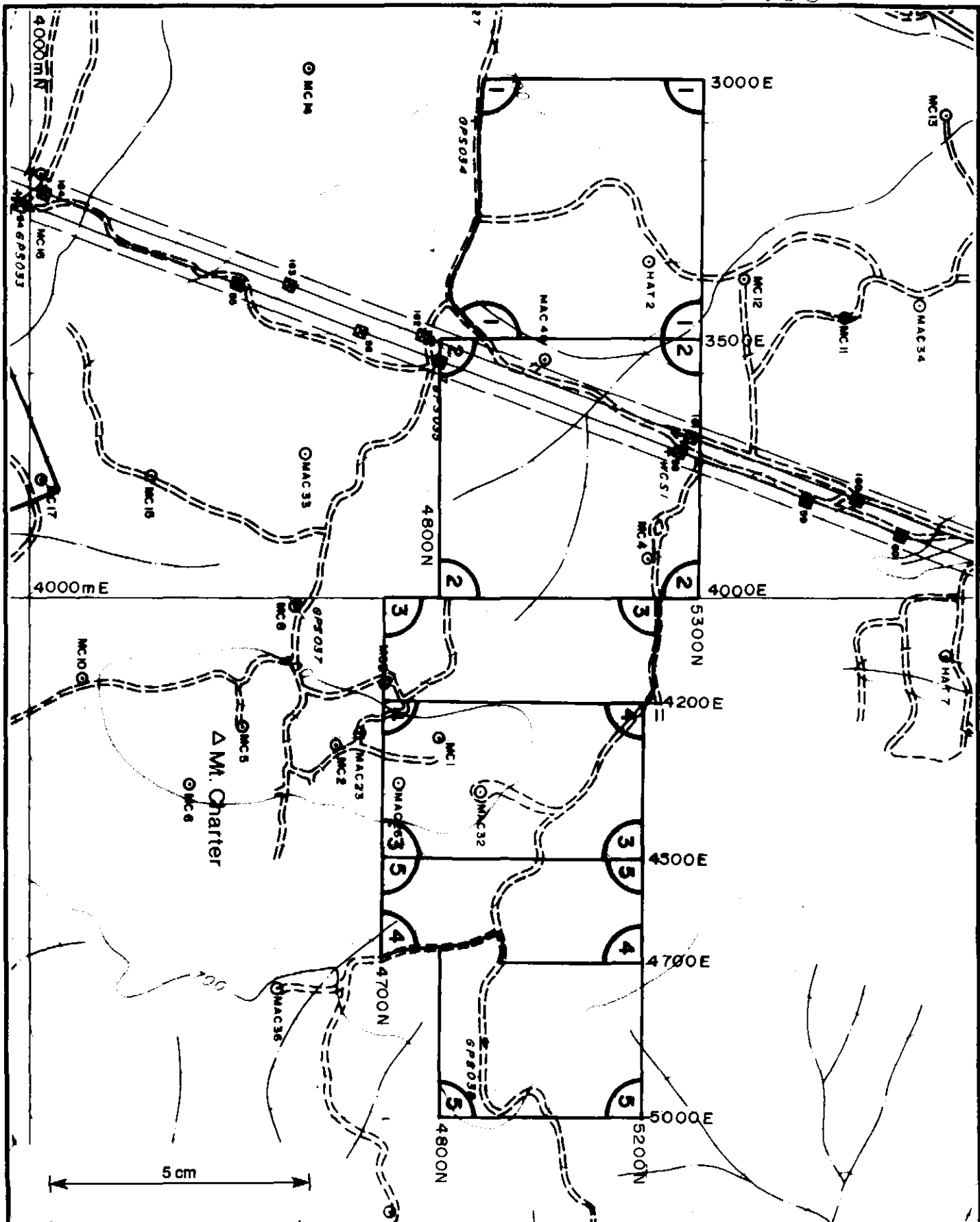
PROSPECT: MCH

WHOLEROCK

	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	S	LOI	TOTAL
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OX408	OM615	OX408
629144	64.10	0.40	14.40	4.24	0.25	0.34	3.25	1.77	5.32	0.83	2.91	99.10
629145	61.70	0.44	15.80	4.24	0.33	0.50	3.65	2.27	4.78	0.57	4.08	99.30
629247	64.90	0.41	14.20	4.16	0.38	0.60	4.35	1.98	3.30	0.17	4.95	99.70
629248	64.80	0.43	16.00	5.11	0.16	1.46	1.89	0.81	4.24	0.50	4.16	100.40
629249	64.90	0.43	14.20	5.30	0.11	0.74	2.61	2.15	3.30	0.70	3.43	99.00
629250	62.60	0.51	15.50	5.60	0.19	1.23	3.81	2.34	3.25	0.17	4.77	100.30
629251	62.80	0.47	14.20	6.46	0.20	0.71	3.13	2.14	3.36	0.93	3.60	99.50
629252	62.00	0.51	16.10	5.04	0.09	0.80	2.57	1.06	4.93	0.76	4.21	99.30
629253	63.40	0.50	15.20	4.91	0.10	0.73	2.69	1.40	4.81	0.59	3.60	99.00
629254	64.40	0.52	15.10	4.61	0.19	0.79	2.79	2.14	4.53	0.67	3.58	100.50
629255	61.30	0.57	16.50	5.20	0.29	1.06	3.31	2.30	3.97	0.27	4.64	100.00
629256	60.70	0.53	14.80	5.28	0.27	0.79	4.59	2.13	3.56	0.81	4.87	99.70
629257	61.10	0.57	14.80	5.71	0.20	1.37	4.70	1.27	3.54	0.35	5.74	100.00
629258	59.40	0.65	16.20	5.87	0.19	1.45	4.01	1.33	4.04	0.42	5.44	99.90
629259	61.60	0.58	14.60	6.28	0.22	1.19	4.17	1.20	3.64	0.51	5.21	100.10
629261	61.30	0.61	15.50	6.19	0.21	1.60	3.37	2.06	3.44	0.31	4.81	100.00
629262	62.20	0.67	15.10	6.76	0.18	1.86	2.69	1.79	3.42	0.18	4.39	99.80
629263	62.10	0.65	14.80	6.36	0.17	1.87	3.24	1.68	3.47	0.21	4.76	99.80
629264	61.10	0.57	13.80	5.51	0.17	1.89	4.19	0.11	4.40	0.45	6.34	99.30
629265	59.80	0.63	15.00	6.44	0.17	2.37	3.87	0.50	4.09	0.39	5.74	99.80
629266	56.80	0.69	14.40	7.32	0.20	3.42	5.32	0.94	3.41	0.13	6.96	100.10
629267	57.20	0.69	14.40	7.13	0.19	2.97	5.32	0.96	3.45	0.17	6.77	99.80
629268	60.40	0.65	14.80	6.03	0.18	2.44	4.43	0.85	4.03	0.21	6.03	100.50
629269	60.90	0.58	14.60	5.98	0.17	2.28	3.95	1.24	3.57	0.17	5.62	99.50
629270	62.40	0.60	15.00	6.58	0.14	2.82	2.12	0.92	3.79	0.35	4.52	100.00
629271	63.50	0.55	13.90	6.21	0.22	2.66	2.30	0.78	3.83	0.59	4.28	99.90

720237

APPENDIX V



Aberfoyle Resources Limited EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

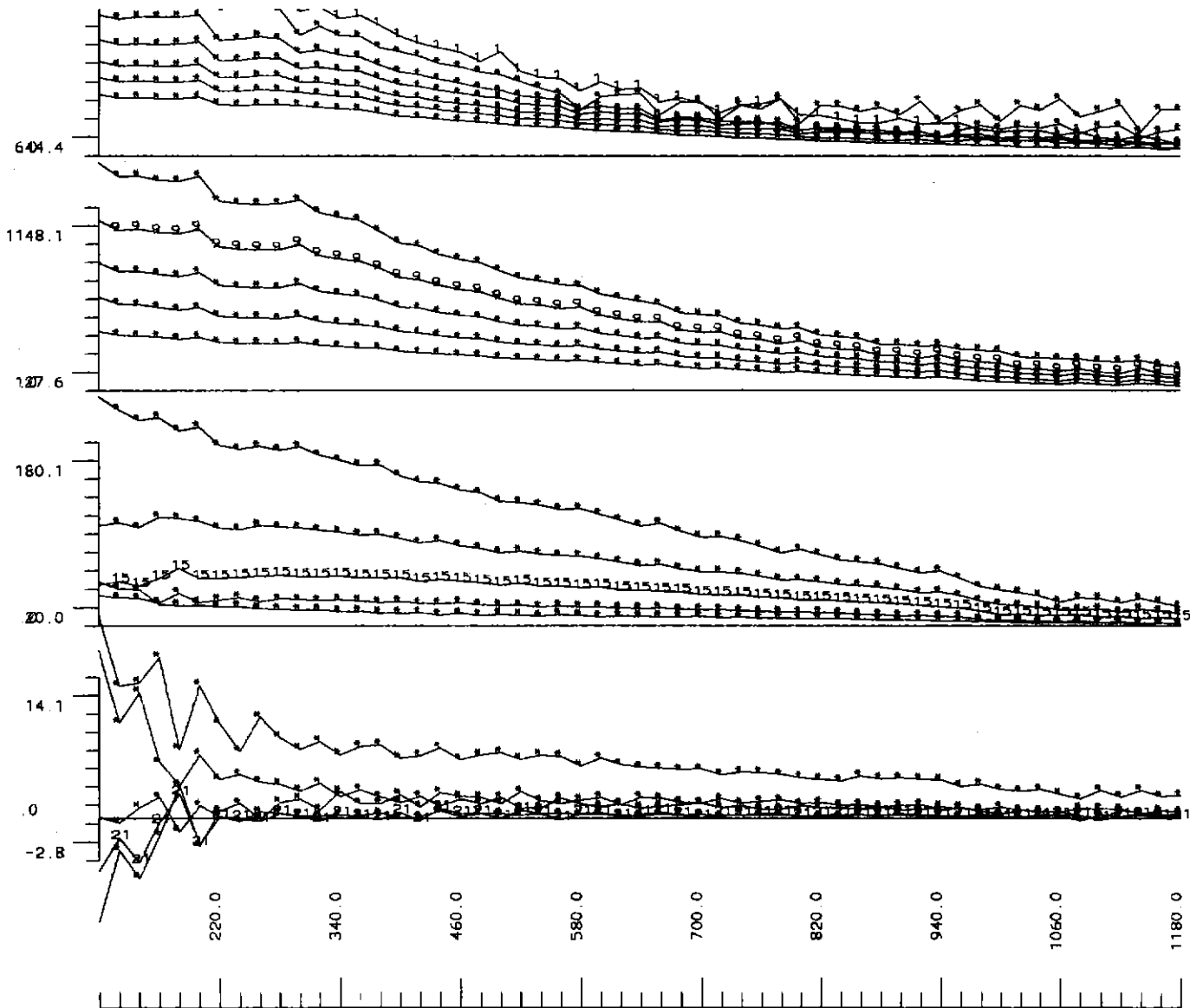
NORTH WEST TASMANIA
MACKINTOSH E.L. 106/87
DHEM LOOPS DDH MAC40

Compiled : RdeB
Drawn :
Traced : JLR
Checked :
Plate No. : MAC451

Location Code :

Scale : 1:10000

Date : January 1996



Datafile: mac40.av

LOOP: 1

LINE: 40.00

Date Plotted: 27/10/95

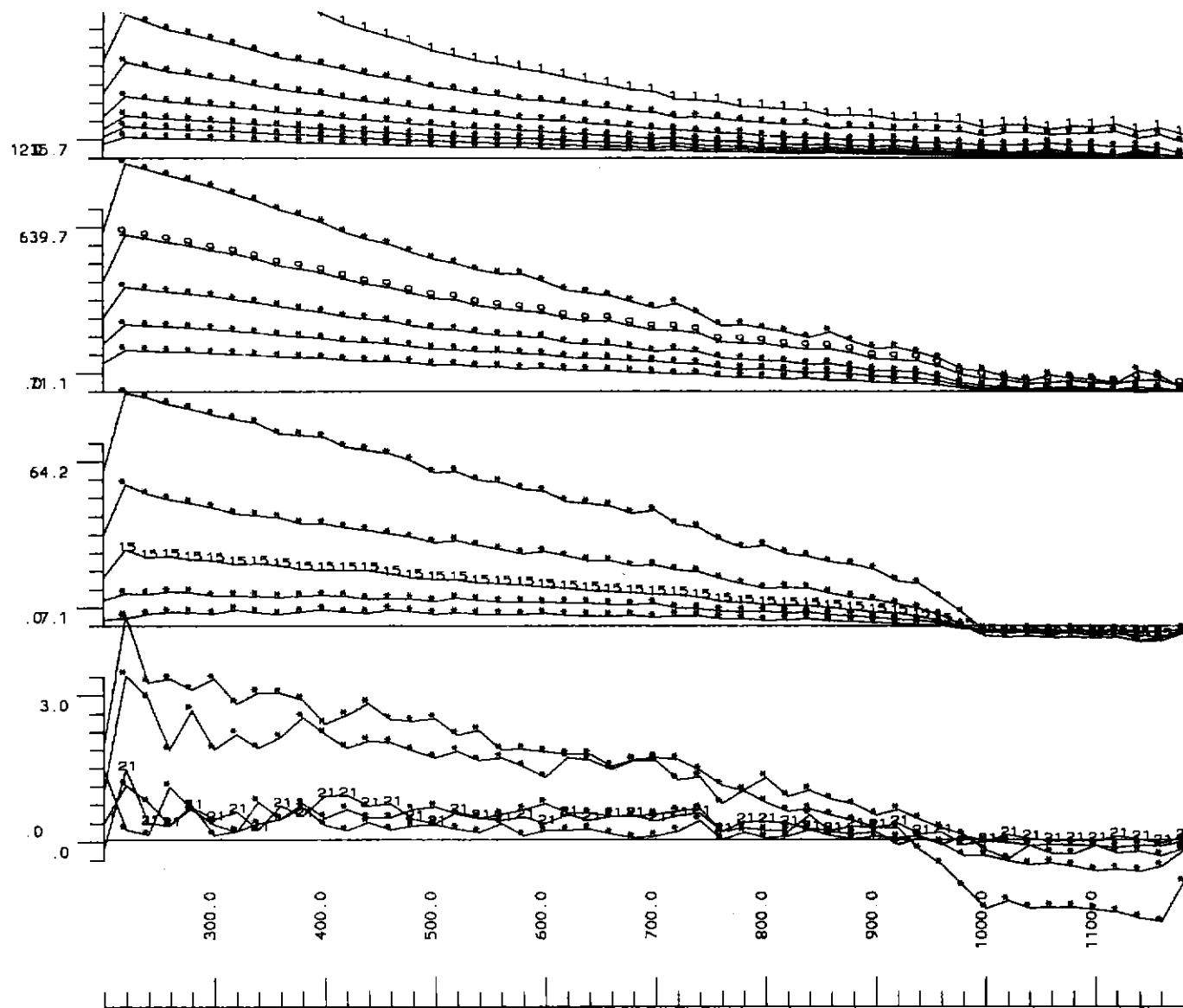
Horiz scale 1: 6545.5

MAC 40 DHEM LOOP 1

ABERFOYLE RESOURCES LTD

5 cm

000000



Datafile: s\macdhem\mac402 av

LOOP: 2

LINE: 40.00

Date Plotted: 28/10/95

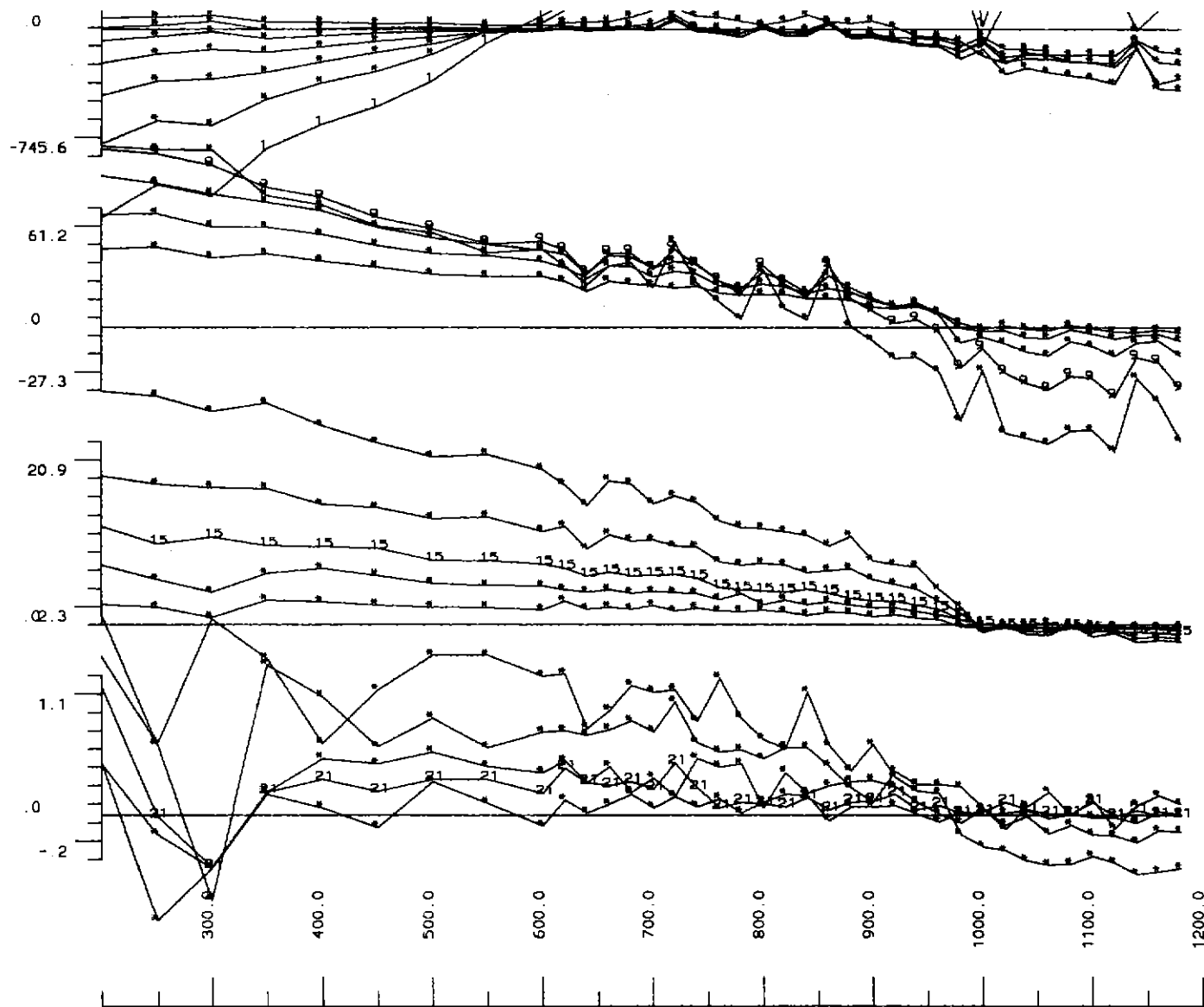
Horiz scale 1: 5939.4

MAC 40 DHEM LOOP 2

ABERFOYLE RESOURCES LTD

720240

5 cm



Datafile: s\macdhem\mac404.av

LOOP: 4

LINE: 40.00

Date Plotted: 4/11/95

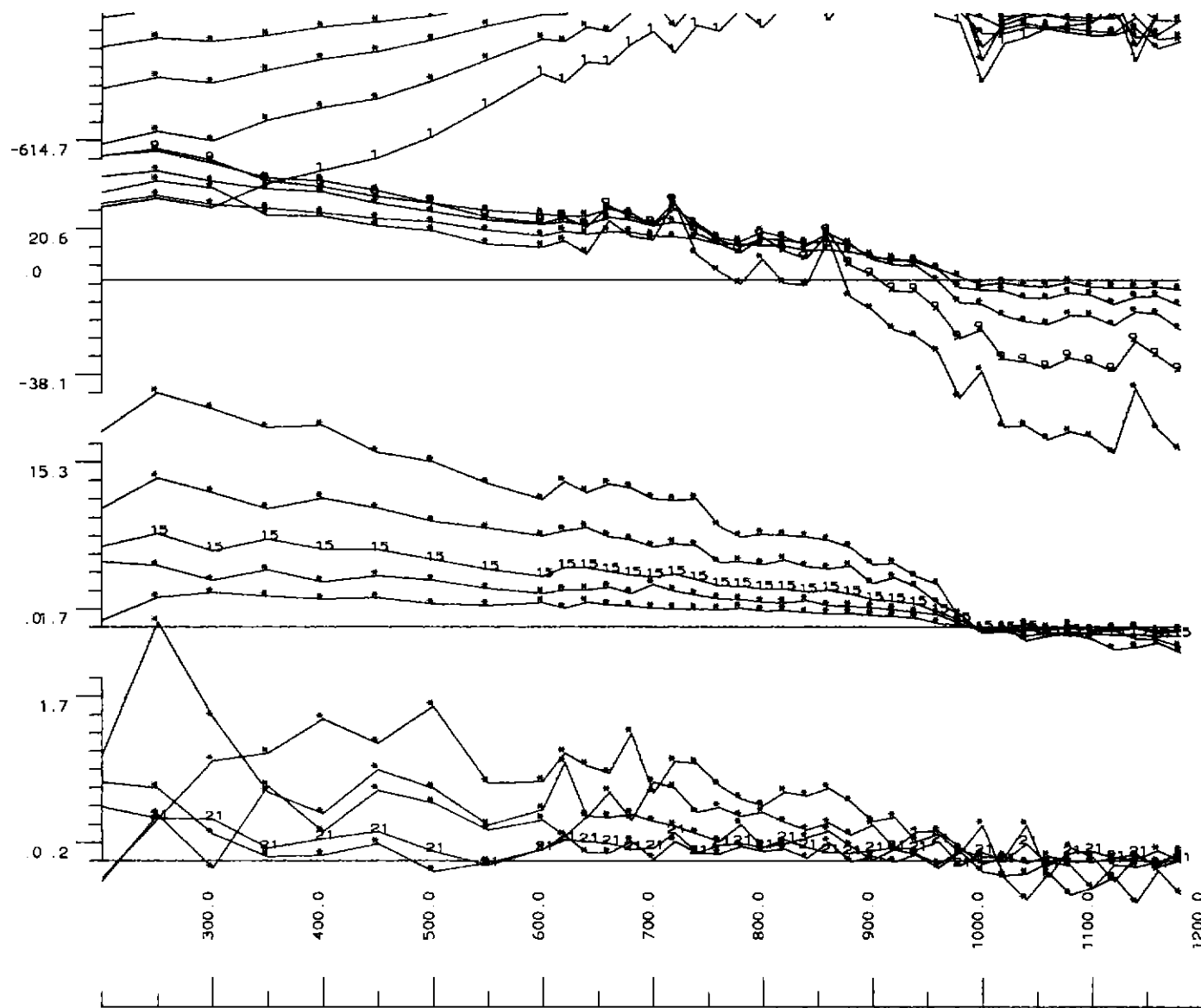
Horiz scale 1: 5939.4

MAC 40 DHEM LOOP 4

ABERFOYLE RESOURCES LTD

720242

5 cm



Datafile: s\macdhem\mac405 av

LOOP: 5

LINE: 40.00

Date Plotted: 7/11/95

Horiz scale 1: 5939.4

MAC 40 DHEM LOOP 5

ABERFOYLE RESOURCES LTD

720243

5 cm

APPENDIX VI

OUTER-RIM EXPLORATION SERVICES

ACN 059 220 192

Geophysical Services Operating Crone PEM Systems

35 Fleming Street
AITKENVALE, QLD. 4814
AUSTRALIA.

P.O. Box 1754
AITKENVALE, QLD. 4814
AUSTRALIA.

Tel: (077) 25 3544
Fax: (077) 25 4805
Mobile: 018 18 8466

OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM Systems

Volume 1 of 1

Client : Aberfoyle Resources Limited.

Prospect : Mackintosh

Area : Tullah, Tasmania

Survey : Borehole PEM Survey

Survey Period : 25th to 30th November 1995.

Operator : Kent Honner.

DAILY LOGS: Aberfoyle Resources Ltd. - November 1995

DATE	COMMENT	CHARGES

25.11.95	Drove to Cradle Mountain turn-off and met Scott and Gary (fieldies). Drove to the Mackintosh prospect and dummied hole 40 to 1170m. The hole is making sulphur-rich water and powerlines run across the grid, 30m away from hole. Laid out Loop #2, set up and read the Z component to 900m. Recovered the probe, packed up and return to Burnie by 7.00pm.	

SURVEY PARAMETERS:

Loop #2 :500 x 500m
 3500E, 4800N; 4000E, 4800N
 4000E, 5300N; 3500E, 5300N

Current :9 Amps

Time Base :20 ms

Ramp Time :0.5ms

Sync :Cable

Hole No. :DDH MAC-40
 3545E, 4997N

Depth :0-900m

Channels :20

Components :Z

1 Survey day \$1190.00
 1 Field Assist. day \$ 150.00

26.11.95	Drove to site, set up and completed reading the Z component for hole 40. Anomaly starts ~970m. Read the X-Y components from 200m, at the client's request, and read to 750m. Packed up and returned to Burnie by 6.00pm. Processed data until 10.00pm.	

SURVEY PARAMETERS:

Loop #2 :500 x 500m
 3500E, 4800N; 4000E, 4800N
 4000E, 5300N; 3500E, 5300N

Current :9 Amps

Time Base :20 ms

Ramp Time :0.5ms

Sync :Cable

Hole No. :DDH MAC-40
 3545E, 4997N

Depth :900-1167m Z, 200-750m X-Y

Channels :20

Components :Z,X,Y

1 Survey day \$1190.00
1 Field Assist. day \$ 150.00

27.11.95 Drove to site. Loop #3 was completed while I read the remainder of the X-Y component readings. John Hiscock visited the site. Changed over to Loop #3, and commenced reading the Z component from 200m down to 500m. Packed up and returned to Burnie by 6.00pm.

SURVEY PARAMETERS:

Loop #2 :500 x 500m
3500E, 4800N; 4000E, 4800N
4000E, 5300N; 3500E, 5300N
Current :9 Amps
Time Base :20 ms
Ramp Time :0.5ms
Sync :Cable

Hole No. :DDH MAC40
3545E, 4997N
Depth :750-1167m
Channels :20
Components :X-Y

Loop #3 :500 x 500m
4000E, 4700N; 4500E, 4700N
4500E, 5200N; 4000E, 5200N
Current :10 Amps
Time Base :20 ms
Ramp Time :0.5ms
Sync :Cable

Hole No. :DDH MAC-40
3545E, 4997N
Depth :200-500m
Channels :20
Components :Z

1 Survey day \$1190.00
1 Field Assist. day \$ 150.00

28.11.95 Drove to site, set up and completed reading the Z component for Loop #3. Read the X-Y components from 200-400m, packed up and returned to Burnie by 5.20pm and purchased oil, fuel etc. Processing data until 9.00pm.

SURVEY PARAMETERS:

Loop #3 :500 x 500m
 4000E, 4700N; 4500E, 4700N
 4500E, 5200N; 4000E, 5200N
Current :10 Amps
Time Base :20 ms
Ramp Time :0.5ms
Sync :Cable

Hole No. :DDH MAC-40
 3545E, 4997N
Depth :500-1167m Z, 200-400m X-Y.
Channels :20
Components :Z,X,Y

1 Survey day \$1190.00
 1 Field Assist. day \$ 150.00

29.11.95 Drove to site, set up and read the X-Y components to 1160m. John, Scott and Gary all out during the day. John has requested the data in AMIRA format. Packed up all the equipment and returned to Burnie by 6.00pm.

SURVEY PARAMETERS:

Loop #3 :500 x 500m
 4000E, 4700N; 4500E, 4700N
 4500E, 5200N; 4000E, 5200N
Current :10 Amps
Time Base :20 ms
Ramp Time :0.5ms
Sync :Cable

Hole No. :DDH MAC-40
 3545E, 4997N
Depth :420-1160m
Channels :20
Components :X,Y

1 Survey day \$1190.00
 1 Field Assist. day \$ 150.00

30.11.95 Recovered Loop #3 by 1.00pm, packed the trailer and drove back to Burnie. Reformatted the Aberfoyle data, packed the rest of the equipment and got cleaned up. Took the disk to John and drove to Devonport, arriving at 5.30pm.

1/2 Survey day \$ 595.00
 1/2 Field Assist. day \$ 75.00
 1/2 Office/Mob. day \$ 215.00

720249

1.12.95

In Tasmania waiting for Ferry. Travelled to

4.12.95

Melbourne.

3 Standby/Mob. days \$ 215.00

APPENDIX

CRONE PULSE EM SYSTEM

SYSTEM DESCRIPTION

The Crone Pulse EM system is a time domain electromagnetic method (TDEM) that utilizes an alternating pulsed primary current with a controlled shut-off and measures the rate of decay of the induced secondary field across a series of time windows during the off-time. The system uses a transmit loop of any size or shape. A portable power source feeds a transmitter which provides a precise current waveform through the loop. The receiver apparatus is moved along surface lines or down boreholes.

The transmitter cycle consists of slowly increasing the current over a few milliseconds, a constant current, abrupt linear termination of the current, and finally zero current for a selected length of time in milliseconds. The EMF created by the shutting-off of the current induces eddy currents in nearby conductive material thus setting-up a secondary magnetic field. When the primary field is terminated, this magnetic field will decay with time. The amplitude of the secondary field and the decay rate are dependent on the quality and size of the conductor. The receiver, which is synchronized to the off-time of the transmitter, measures this transient magnetic field where it cuts the surface coil or borehole probe. These readings are across fixed time windows or "channels".

SYSTEM TERMINOLOGY

Ramp Time

"Ramp time" refers to the controlled shut-off of the transmitter current. Three ramp times are selectable by the operator; 0.5ms, 1.0ms, and 1.5ms. By controlling the shut-off rather than having it depend on the loop size and current ensures that the same waveform is maintained for different loops so data can be properly compared.

The 1.5ms ramp is the normally used setting for good conductors. It keeps the early channel responses on scale and decreases the chance of overload. The faster ramp times of 1.0ms and 0.5ms will enhance the early time responses. This can be useful for weak conductors when data from the higher end of the frequency spectrum is desired.

Time Base

Time base is the length of time the transmitter current is off (it includes the ramp time). This also equals the on time of the current. Eight time bases are selectable by the operator. They include the original time bases used in the analog system as well as time bases to eliminate the effects of powerline interference. The eight time bases are as follows: compatible to analog Rx: 10.89ms, 21.79ms; 60hz powerline noise reduction: 8.33ms, 16.66ms, & 33.33ms; 50hz powerline noise reduction: 10.00ms, 20.00ms, & 40.00ms

Since readings are taken during the off cycles, the time base will have an effect on the receiver channels. Normally, a standard time base is selected for the type of system and survey being used, but this can be changed to suit a particular situation. A longer time base is preferred for conductors of greater time constants, and in surveys such as resistive soundings where more channels are desired.

Zero Time Set

The term "zero time set" or "ZTS" refers to the starting point for the receiver channel measurements. It is manually set on the receiver by the operator thus allowing adjustments for the ramp times and fine tuning for any fluctuations in the transmitter signal.

Receiver Channels

The rate of decay of the secondary field is measured across fixed time windows which occupy most of the off-time of the transmitter. These time windows are referred to as "channels". These channels are numbered in sequence with "1" being the earliest. The analog and datalogger receivers measured eight fixed channels. The digital receiver, being under software control, offers more flexibility in the channel positioning, channel width, and number of channels.

PP Channel

The PEM system monitors the primary field by taking a measurement during the current ramp and storing this information in a "PP channel". This means that data can be presented in either normalized or unnormalized formats, and additional information is available during interpretation. The PP channel data can provide useful diagnostic information and helps avoid critical errors in field polarity.

Synchronization

Since the PEM system measures the secondary field in the absence of the primary field, the receiver must be in "sync" with the transmitter to read during the off-time. There are three synchronization methods available: cable connection, radio telemetry, and crystal clock. This flexibility enhances the operational capabilities of the system.

SURVEY METHODS

The wide frequency spectrum of data produced by a Pulse EM survey can be used to provide structural geological information as well as the direct detection of conductive or conductive associated ore deposits. The various types of survey methods, from surface and borehole, have greatly improved the chances of success in deep exploration programs. There are eight basic profiling methods as well as a resistivity sounding mode.

Moving Coil

A small, multi-turn transmitter loop (13.7m diameter) is moved for each reading while the receiver remains a fixed distance away. This method is ideal for quick reconnaissance in areas of high background conductivity.

Moving Loop

Same as Moving Coil method, but with a larger transmit loop (100 to 300 meters square). This method provides deeper penetration in areas of high background conductivity, and works best for near-vertical conductors. This method can be used in conjunction with the Moving In-loop survey for increased sensitivity to horizontal conductors.

Moving In-Loop

A transmit loop of size 100 to 300 meters square is moved for each reading while the receiver remains at the center of the loop. This method provides deep penetration in areas of very high background conductivity, and works best for near-horizontal conductors. It can be used in conjunction with the Moving Loop survey.

Large In-Loop

A very large, stationary transmit loop (800m square or more) is used, and survey lines are run inside the loop. This mode provides very deep penetration (700m or more) and couples best with shallow dip conductors (<45 deg.) under the loop.

Deepem

A large, stationary transmit loop is used, and survey lines are run outside the loop. This mode provides very deep penetration, and couples best with steeply dipping conductors (>45 deg.) outside the loop.

Borehole (Z Component only)

Isolated Borehole: A drill hole is surveyed by lowering a probe down a hole and surveying it with a number of transmit loops laid out on surface. The data from multiple loops gives directional information on the conductors.

Multiple Boreholes: One large transmit loop is used to survey a number of closely spaced holes. The change in anomaly from hole to hole provides directional information.

These methods have detected conductors to depths of 2500m from surface and up to 200m from the hole.

3-D Borehole

Drill holes are surveyed with both the Z and the XY borehole probes. The X and Y components provide accurate direction information using just one transmit loop.

Since the probe rotates as it moves down the hole a correction is required for the X-Y data. This is accomplished in one of two ways. The standard approach is to use the measurement of the primary field from the "PP" channel, apply a "cleaning" algorithm to remove most of the secondary field contamination, and compare this to theoretical values. The amount of probe rotation is then calculated, and the correction can be made. The second method involves the use of an optional orientation device for the X-Y probe which is produced in cooperation with IFG Corp. This attachment uses dipmeters to calculate the probe rotation.

Underground Borehole

Underground drill holes can be surveyed in any of the above mentioned borehole methods with one or more transmit loops on the surface. Near-horizontal holes can be surveyed using a push-rod system.

Resistivity Soundings

By reading a large number of channels in the centre of a transmit loop it is possible to perform a decay curve analysis giving a best-fit layer earth model using programs such as ARRTI or TEMIX.

EQUIPMENT

Transmit Loops

The PEM system can operate with practically any size of transmit loop, from a multi-turn circular loop 13.7m in diameter, to a 1 or 2 turn loop of any shape up to 1 or 2 kilometers square using standard insulated copper wire of 10 or 12 gauge. The multi-turn loop is made in two sections with screw connectors. The 10 or 12 gauge loop wire comes on spools in either 300m or 400m lengths.

Power Supply

The PEM system normally operates with an input voltage from 24v to 120v. The maximum current is 20 amps in a single loop but the effective current can be increased by doubling the loop wire in series. For low power surveys a 20amp/hr 24v battery can be used. The power supply requires a motor generator and a voltage regulator to control and filter the input voltage to the transmitter.

Specifications: PEM Motor Generator

- 4.5 hp Wisconsin, (2 kw)
- belt drive to D.C. alternator
- cable output to regulator
- maximum output: 120v, 20amp (2 kw);
- fuse type overload protection
- steel frame
- external gas tank
- unit weight: 33kg (2 kw); 52kg (4 kw)

Specifications: PEM Variable Voltage Regulator

- selectable voltage between 24v and 120v or 48v and 240v
- 20amp maximum current
- fuse and internal circuit breaker protection

Transmitter

The transmitter controls the bi-polar on-off waveform and linear current shut-off ramp. The latest 2000w PEM Transmitter has the following specifications:

Specifications: PEM Transmitter

- time bases: 10.89ms, 21.79ms, 8.88ms, 16.66ms, 33.33ms, 10ms, 20ms, 30ms
- ramp times: 0.5ms, 1.0ms, 1.5ms
- operating voltage: 24v to 120v (2 kw); 48v to 240v (4 kw)
- output current: 5amp to 20amp
- monitors for input voltage, output current, shut-off ramp, tx loop continuity, instrument temperature, and overload output current
- automatic shut-off for open loop, high instrument temperature, and overload
- fuse and circuit breaker overload protection
- three sync modes: 1) built-in radio and antenna
- 2) cable sync output for direct wire link to receiver or remote radio
- 3) connectors for the crystal clock

Receiver

The receivers measure the rate of decay of the secondary field across several time channels. Three types of receivers are available with the PEM system: Analog Rx, Datalogger Rx, and Digital Rx. The Analog Rx and Datalogger Rx read eight fixed time channels while the Digital Rx, under software control, offers a variety of channel configurations. The Digital Rx has been used in the field for contract surveys since 1987.

Specifications: Digital PEM Receiver

- operating temperature -40°C to 50°C
- unit weight 15kg; shipping weight 25.5kg
- Hardware:
 - 24v rechargeable gel cell battery supply

- two CMOS microprocessors (NSC800)
- alphanumeric keyboard
- 2 x 16 character cold weather display
- 16 x 40 character (256 x 128 pixels graphic) display
- 64k byte solid state memory storage
- cable, radio or crystal clock synchronization
- RS-232 serial I/O

Sampling process features:

- 16 bit A/D conversion
- digital recording of data in nano-tesla/sec
- rejection of atmospheric noise samples based on digital threshold detection
- automatic gain control to optimize receiver signal to noise ratio

Menu driven operating software system offering the following functions:

- controls channel positions, channel widths, and number of channels using a basic slice of 4.5µsec
- time bases: 10.89ms, 21.79ms, 8.88ms, 16.66ms, 33.33ms, 10ms, 20ms, and 30ms
- ramp time selectable in 4.5µsec steps
- sample stacking from 512 to 65536
- scrolling routines for viewing data
- graphic display of decay curve and profile with various plotting options
- routines for memory management
- control of data transmission
- provides information on instrument and operating status

Sync Equipment

There are three modes of synchronization available; radio, cable, and crystal clock. The radio sync signal can be transmitted through a booster antenna from either the PEM Transmitter internal radio or through a Remote Radio.

Specifications: Sync Cable

- 2 conductor, 24awg, teflon coated
- approx. 900m per aluminum spool with connectors

Specifications: Remote Radio

- operating frequency 27.12mhz
- 12v rechargeable gel cell battery supply
- fuse protection
- sync wire link to transmitter
- coaxial link to booster antenna

Specifications: Booster Antenna

- 8m, 4 section aluminum mast
- guide rope support
- ¼ wave CB fiberglass antenna
- range up to 2km
- coaxial connection to transmitter or remote radio

Specification: Crystal Clocks

- heat stabilized crystals
- 24v rechargeable gel cell battery supply
- rx unit can be separate or housed in the receiver
- outlet for external supplementary battery supply

Surface PEM Receive Coil

The Surface PEM Receive Coil picks up the EM field to be measured by the receiver. The coil is mounted on a tripod that can be positioned to take readings of any component of the field.

Specifications: Surface PEM Receive Coil

- ferrite core antenna
- built-in preamplifier
- VLF filter
- 10khz bandwidth
- 23:1 amplifier gain
- two 9v transistor battery supply
- tripod adjustable to all planes

Borehole PEM Z Component Probe

The Z component probe measures the axial component of the EM field. The Z component data is not

affected by probe rotation so no correction are required.

Specifications: Borehole PEM Z Component Probe

- ferrite core
- built-in preamplifier
- dimensions: length - 1.6m; dia - 3.02cm (3.15cm for high pressure tested probes)
- internal rechargeable ni-cad battery supply
- replaceable heat shrink tubing for abrasion protection
- pressure tested for depths 2800m

Borehole PEM XY Component Probe

The XY probe measures two orthogonal components of the EM field perpendicular to the axis of the hole. Correction for probe rotation can be achieved by two methods. The standard approach is to use the measurement of the primary field from the "PP" channel, apply a "cleaning" algorithm to remove most of the secondary field contamination, and compare this to theoretical values. The amount of probe rotation is then calculated, and the correction can be made. The second method involves the use of an optional orientation device for the X-Y probe that uses dipmeters to calculate the probe rotation.

Specifications: Borehole PEM XY Component Probe

- ferrite core
- built-in preamplifier
- dimensions: length - 2.01m; dia - 3.02cm
- internal rechargeable ni-cad battery supply
- selection of X or Y coils by means of a switch box on surface or automatic switching with Digital receiver
- replaceable heat shrink tubing for abrasion protection
- pressure tested for depths to 2800m

Orientation Device

The orientation device is an optional attachment for the XY probe which measures the rotation of the probe using two dipmeters.

Specifications: Orientation Device

- 2 axis tilt sensors
- sensitivity +/- 0.1 deg.
- operating range -89.5 to -10 deg.
- dimensions: length - 0.94m; dia - 28.5cm

Borehole Equipment

To lower the probe down a drill hole requires a cable and spool, winch assembly frame and cable counter. Borehole surveys also require equipment to "dummy probe" the hole before doing the survey.

Specifications: Borehole Cable

- two conductor shielded cable
- kevlar strengthened
- currently 1500m but will shortly have capability of surveying to depths of 3000m.

Specifications: Slip Ring

- attaches to side of borehole cable spool providing a connection to the receiver while allowing the spool to turn.
- VLF filter
- pure silver contacts

Specifications: Borehole Counter

- attaches to the drill hole casing
- calibrated in meters

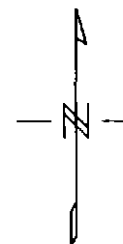
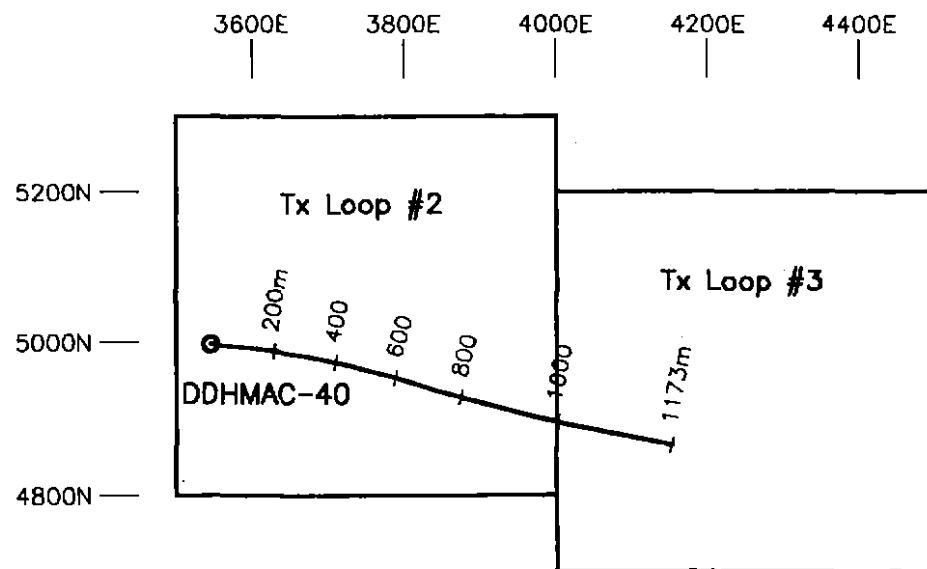
Specifications: Dummy Probe and Cable

- solid steel or steel pipe
- same dimensions as borehole probe
- shear pin connection to dummy cable

PLOTS

CONTENTS

Plan No.	Plan Type	ID.	Description	Scale
1	Plan	DDHMAC-40	Hole location plan	1:10000
2	Section		Primary Field plot	1:10000
3			Primary Field plot	1:10000
4	Header	DDHMAC-40	Header information	N/A
5	Profile	(#2)	Z - Log plot	1:6000
6			- Linear, Ch1-10, 1:500	1:6000
7			- Linear, Ch10-15, 1:10	1:6000
8			- Linear, Ch15-20, 1:2	1:6000
9		X	- Log plot	1:6000
10			- Linear, Ch1-10, 1:500	1:6000
11			- Linear, Ch10-15, 1:10	1:6000
12			- Linear, Ch15-20, 1:2	1:6000
13		Y	- Log plot	1:6000
14			- Linear, Ch1-10, 1:500	1:6000
15			- Linear, Ch10-15, 1:10	1:6000
16			- Linear, Ch15-20, 1:2	1:6000
17			Total Field plot	1:6000
18	Header	DDHMAC-40	Header information	N/A
19	Profile	(#3)	Z - Log plot	1:6000
20			- Linear, Ch1-10, 1:500	1:6000
21			- Linear, Ch10-15, 1:10	1:6000
22			- Linear, Ch15-20, 1:2	1:6000
23		X	- Log plot	1:6000
24			- Linear, Ch1-10, 1:500	1:6000
25			- Linear, Ch10-15, 1:10	1:6000
26			- Linear, Ch15-20, 1:2	1:6000
27		Y	- Log plot	1:6000
28			- Linear, Ch1-10, 1:500	1:6000
29			- Linear, Ch10-15, 1:10	1:6000
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31			Total Field plot	1:6000



5 cm

Scale 1:10000
100 0 100 200
(meters)

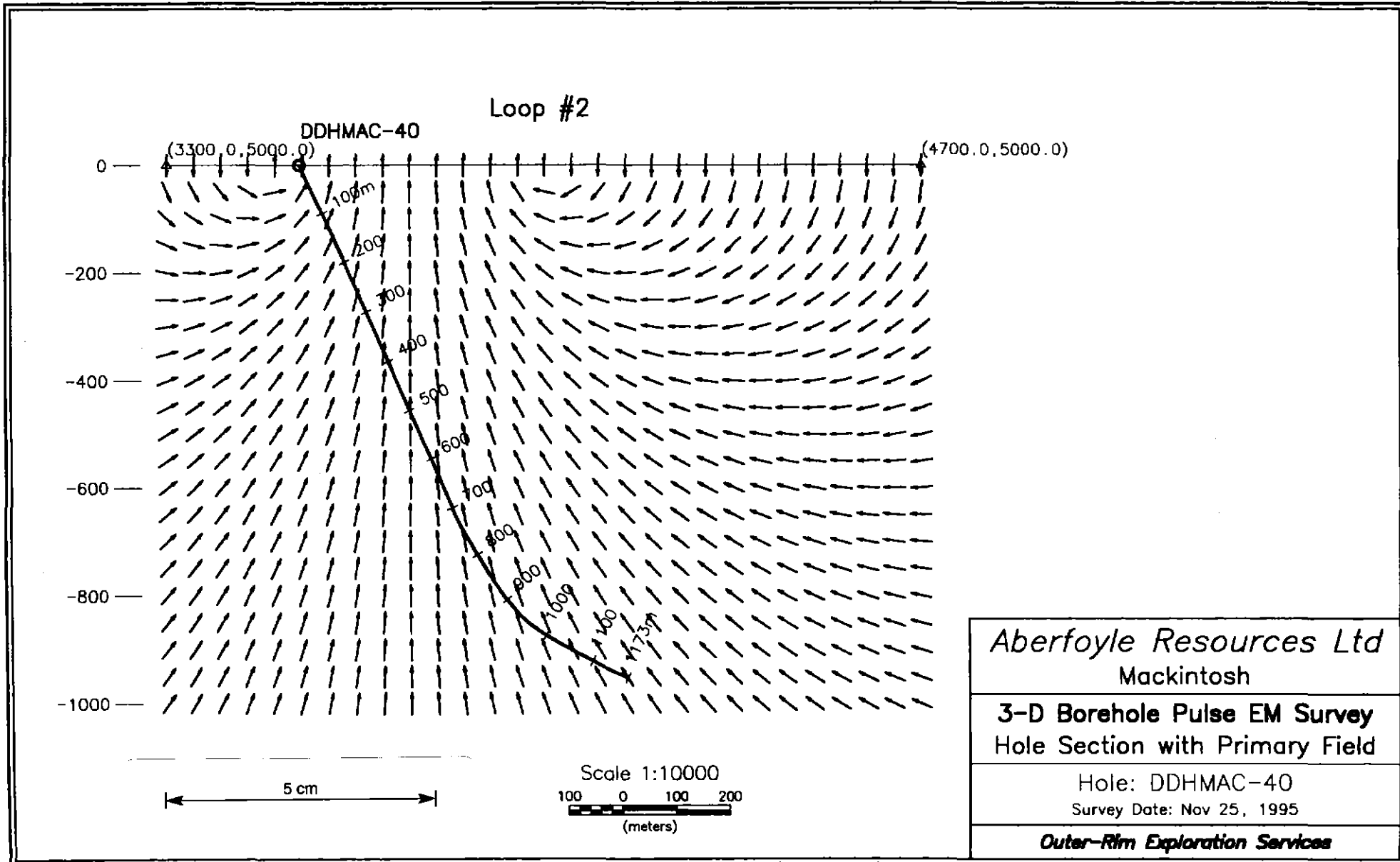
Aberfoyle Resources Ltd
Mackintosh

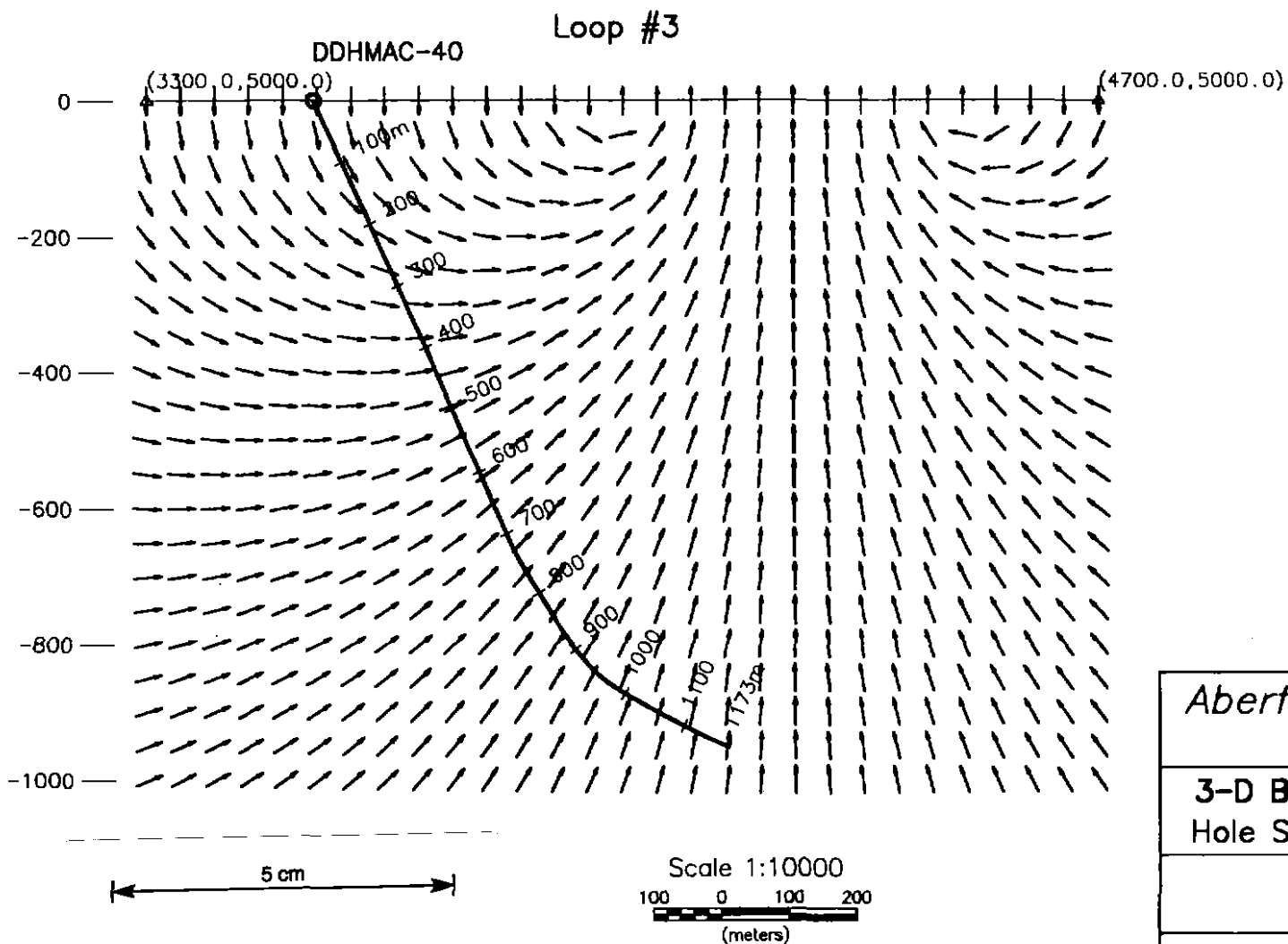
3-D Borehole Pulse EM Survey
Borehole & Loop Location Map

Hole: DDHMAC-40
Survey Date: Nov 25/28, 1995

Outer-Rim Exploration Services

120268





Aberfoyle Resources Ltd
Mackintosh

3-D Borehole Pulse EM Survey
Hole Section with Primary Field

Hole: DDHMAC-40

Survey Date: Nov 27, 1995

Outer-Rim Exploration Services

720200

OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720201

Client : Aberfoyle Resources Ltd	Hole : DDHMAC-40
Grid : Mackintosh	Tx Loop : #2
Date : Nov 25, 1995	File name : M40Z.PEM
Time Base : 20.00 ms	# Readings: 137
Ramp Time : 0.50 ms	Stn Units : Metric
# Channels: 20	Coil Area : 6500 sq m
Sync Type : Cable	Polarity : +
Loop Size : 500m X 500m	Receiver : Digital #108
Current : 9 Amps	Operator : Kent Honner

Loop Coordinates (X,Y,Z)

1. 3500m, 4800m, 0m	2. 4000m, 4800m, 0m
3. 4000m, 5300m, 0m	4. 3500m, 5300m, 0m

Hole Coordinates (X,Y,Z) or (Azimuth,Dip,Length)

1. 3545m, 4997m, 0m	2. 95.8deg, 66.7deg, 13m
3. 95.7deg, 64.7deg, 25m	4. 95.5deg, 65deg, 100m
5. 97.5deg, 65deg, 25m	6. 98deg, 65.5deg, 25m
7. 99.1deg, 66deg, 75m	8. 99.7deg, 66deg, 25m
9. 100.2deg, 66deg, 75m	10. 101deg, 66deg, 25m
11. 102.2deg, 66deg, 25m	12. 103.7deg, 66deg, 25m
13. 104.4deg, 66deg, 100m	14. 105deg, 66deg, 25m
15. 105.5deg, 65.7deg, 25m	16. 106deg, 65.5deg, 25m
17. 107.7deg, 65.2deg, 100m	18. 106.5deg, 63.5deg, 25m
19. 105deg, 61deg, 25m	20. 105deg, 59deg, 25m
21. 105deg, 57.7deg, 25m	22. 105deg, 57.5deg, 25m
23. 105deg, 56.5deg, 25m	24. 104.7deg, 54deg, 25m
25. 105deg, 51deg, 25m	26. 105deg, 47.5deg, 25m
27. 104.5deg, 42.2deg, 25m	28. 102.2deg, 34deg, 25m
29. 101deg, 30.5deg, 25m	30. 101.2deg, 29.7deg, 25m
31. 101.5deg, 28.5deg, 25m	32. 101.5deg, 28deg, 25m
33. 101deg, 27deg, 25m	34. 101deg, 25.7deg, 25m
35. 101.2deg, 24.5deg, 35m	

Channel Times (usec)

Ch	Start	End	Center	Ch	Start	End	Center	Ch	Start	End	Center
PP	-198	-99	-149	1	76	104	90	2	104	131	117
3	131	171	151	4	171	225	198	5	225	292	259
6	292	378	335	7	378	490	434	8	490	639	565
9	639	828	733	10	828	1075	952	11	1075	1395	1235
12	1395	1809	1602	13	1809	2348	2078	14	2348	3046	2697
15	3046	3951	3498	16	3951	5121	4536	17	5121	6646	5884
18	6646	8617	7632	19	8617	11170	9894	20	11170	14490	12830

General Comments

Two large powerlines run NNE through Loop #2, approx 30m from hol

The hole is making sulphur rich water.

OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

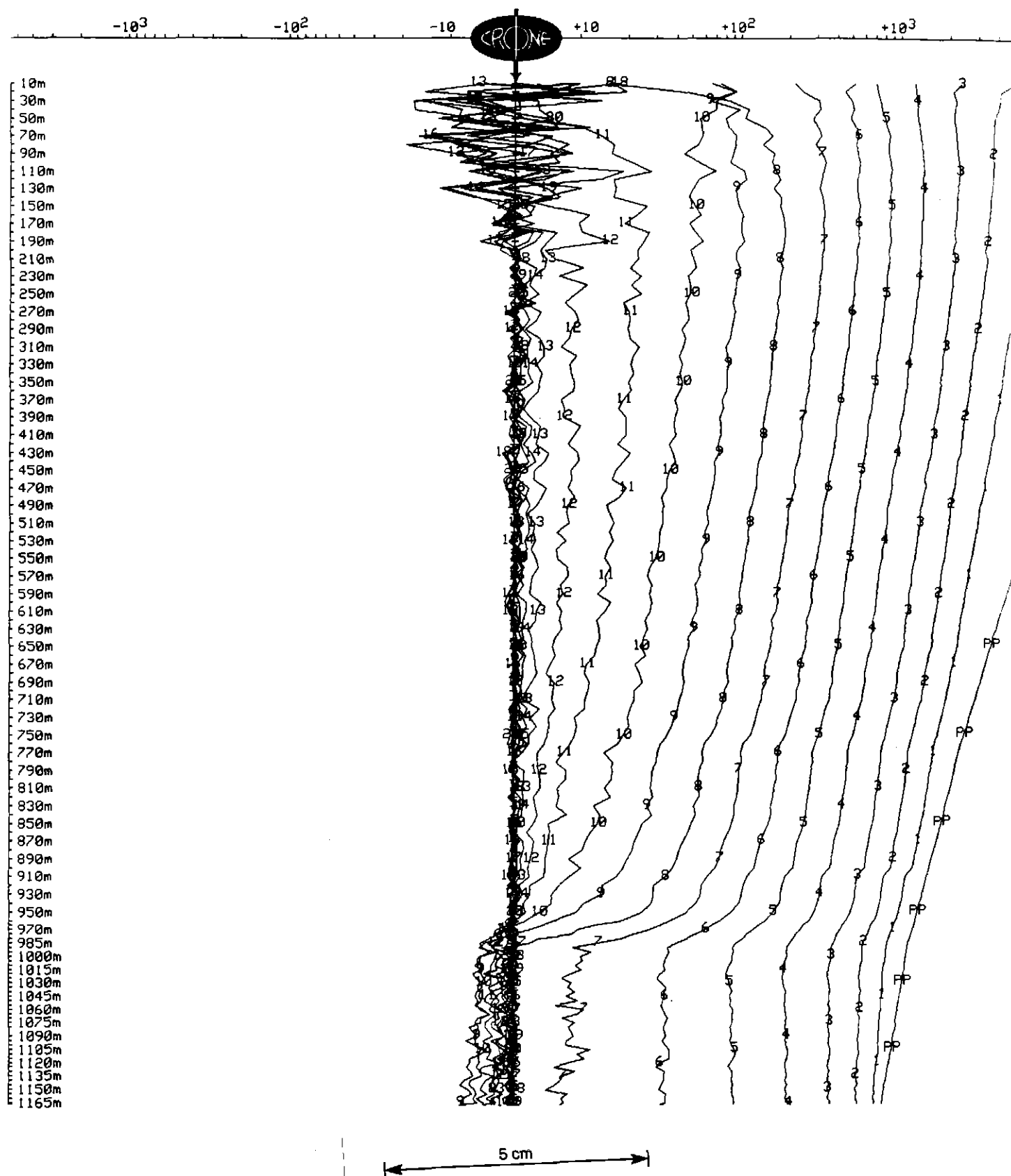
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 Grid : Mackintosh
 Date : Nov 25, 1995

Hole : DDHMAC-40
 Tx Loop : #2
 File name : M40Z.PEM

720262

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720263

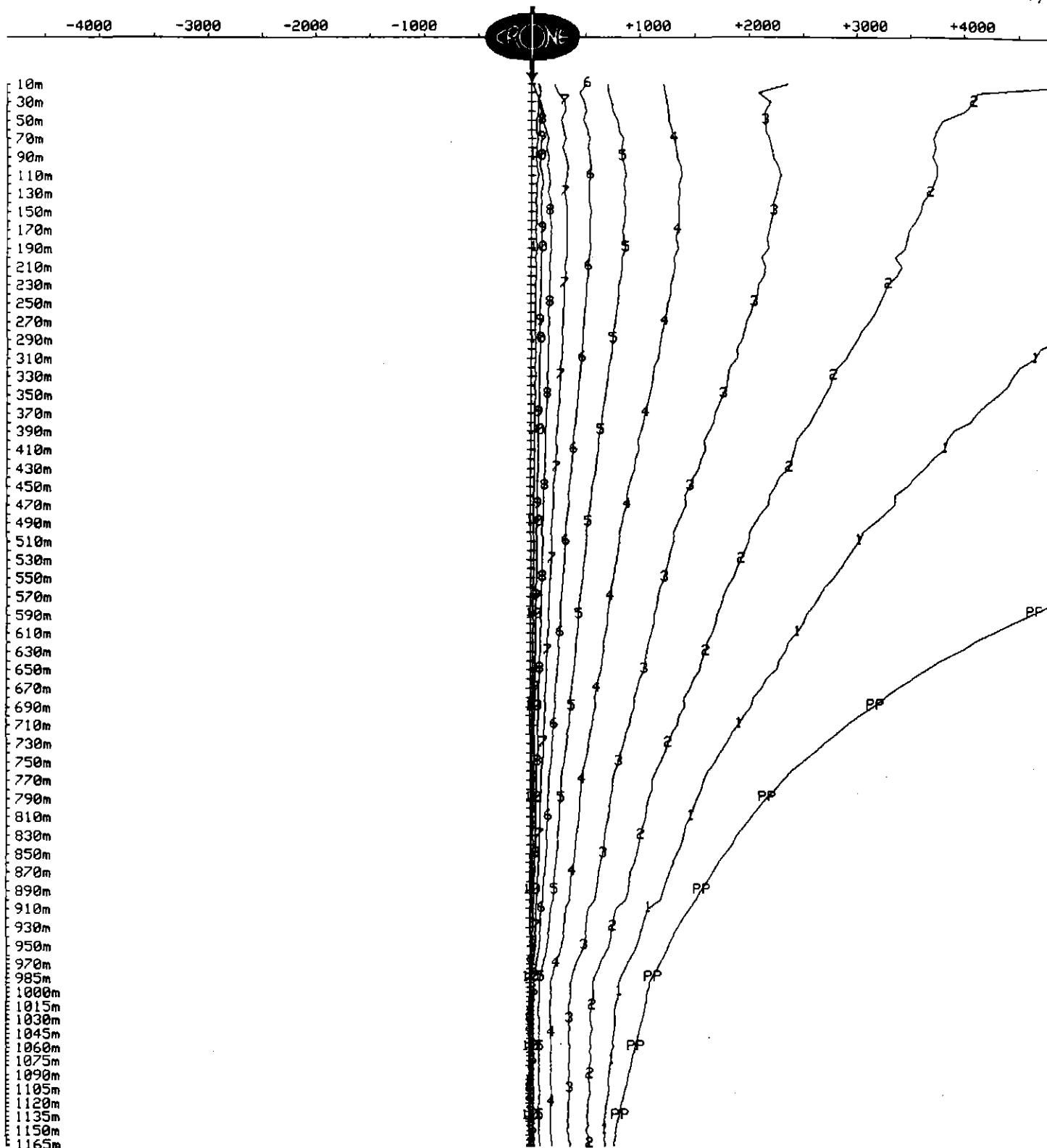
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 Date : Nov 25, 1995

Hole : DDHMAC-40
 Tx Loop : #2
 File name : M40Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720264

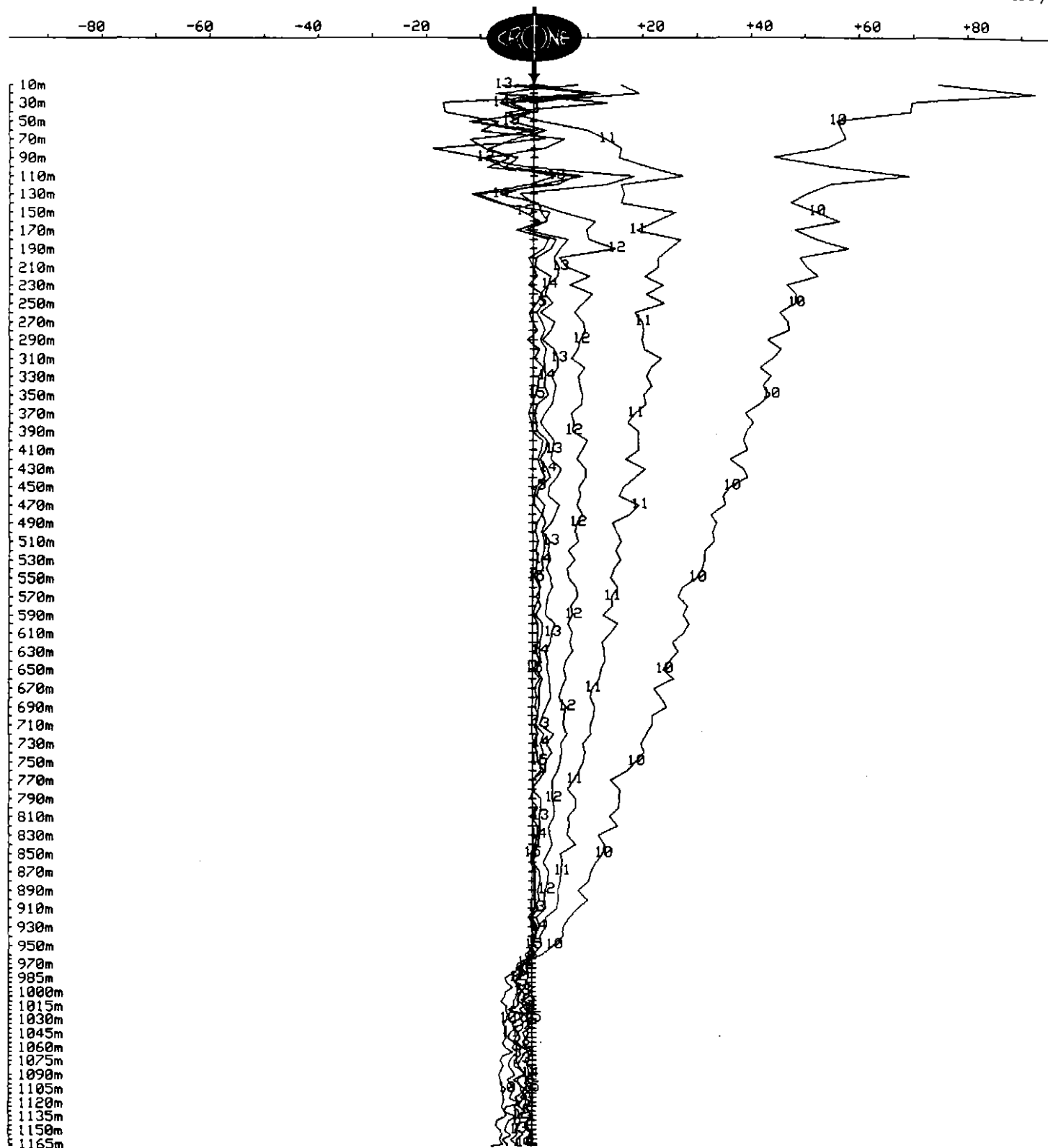
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 Date : Nov 25, 1995

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 Tx Loop : #2
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Z COMPONENT dBz/dt nanoTesla/sec - 20 channels

Scale: 1:6000

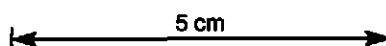
Unit Scale: 1cm = 10 nT/



720265

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Hole      : DDHMAC-40
Tx Loop   : #2
File name : M40Z.PEM
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Unit Scale: 1cm = 2 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

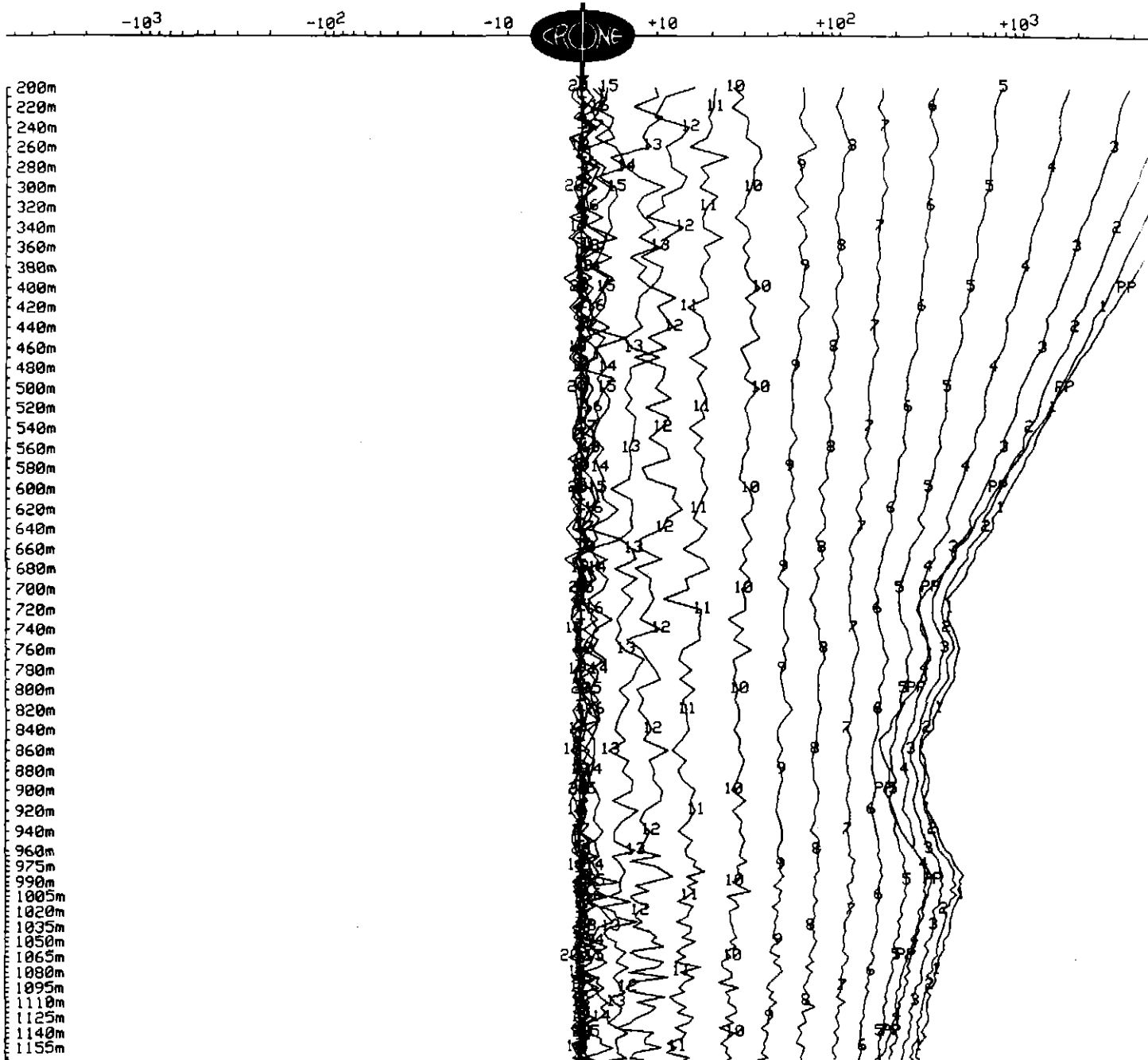
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Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720267

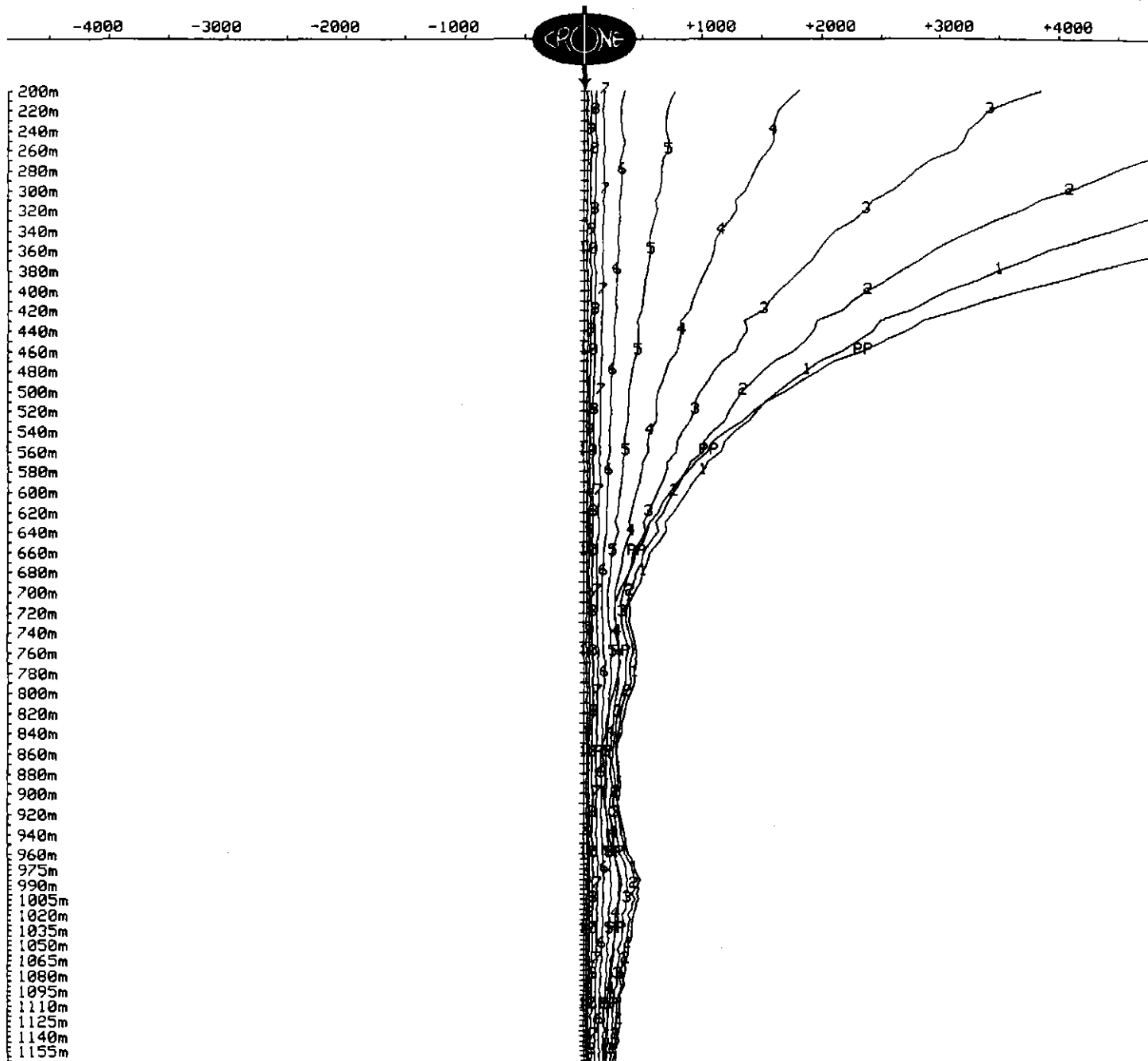
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Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

72026S

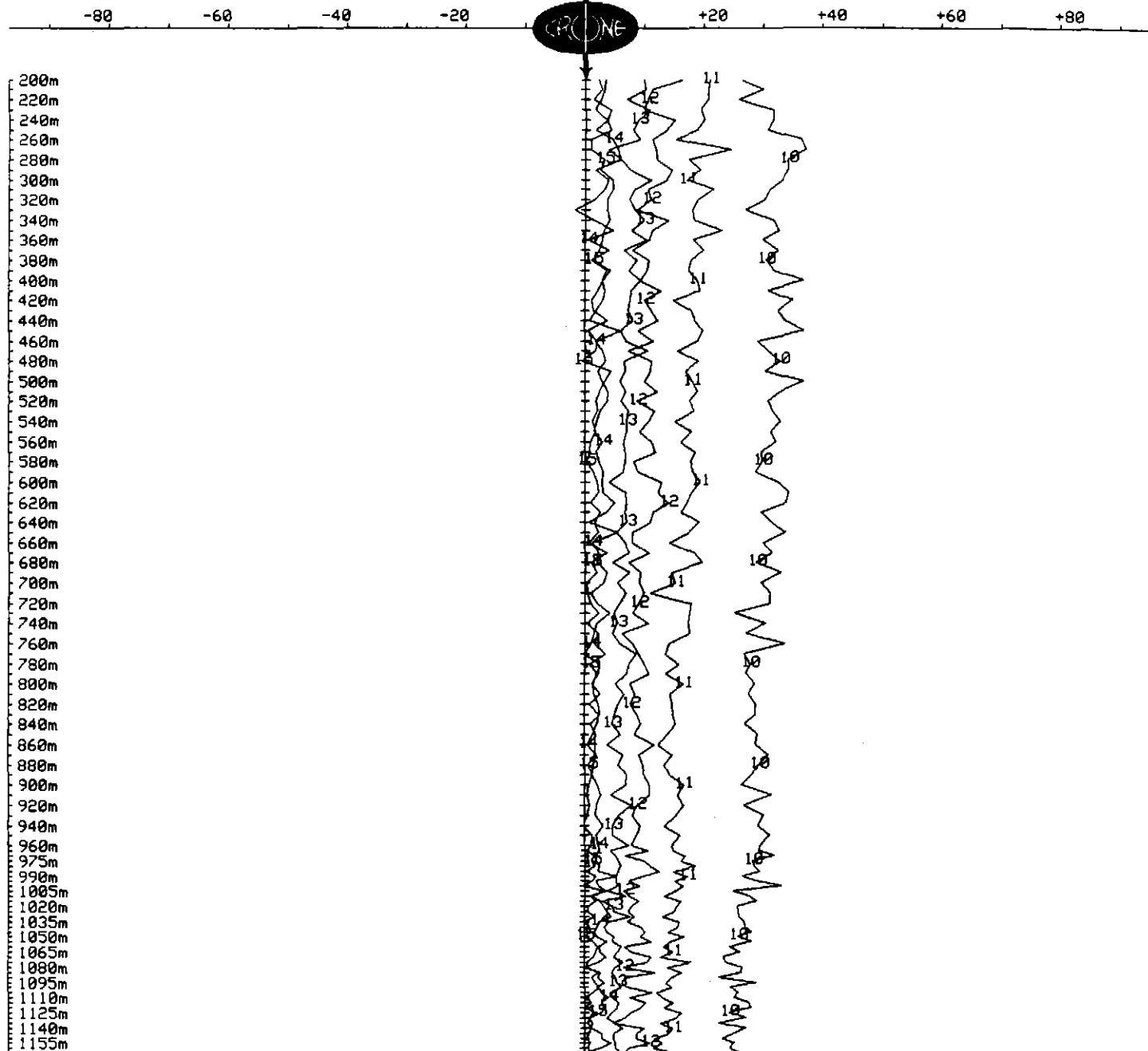
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Date : Nov 26, 1995

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Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 10 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720269

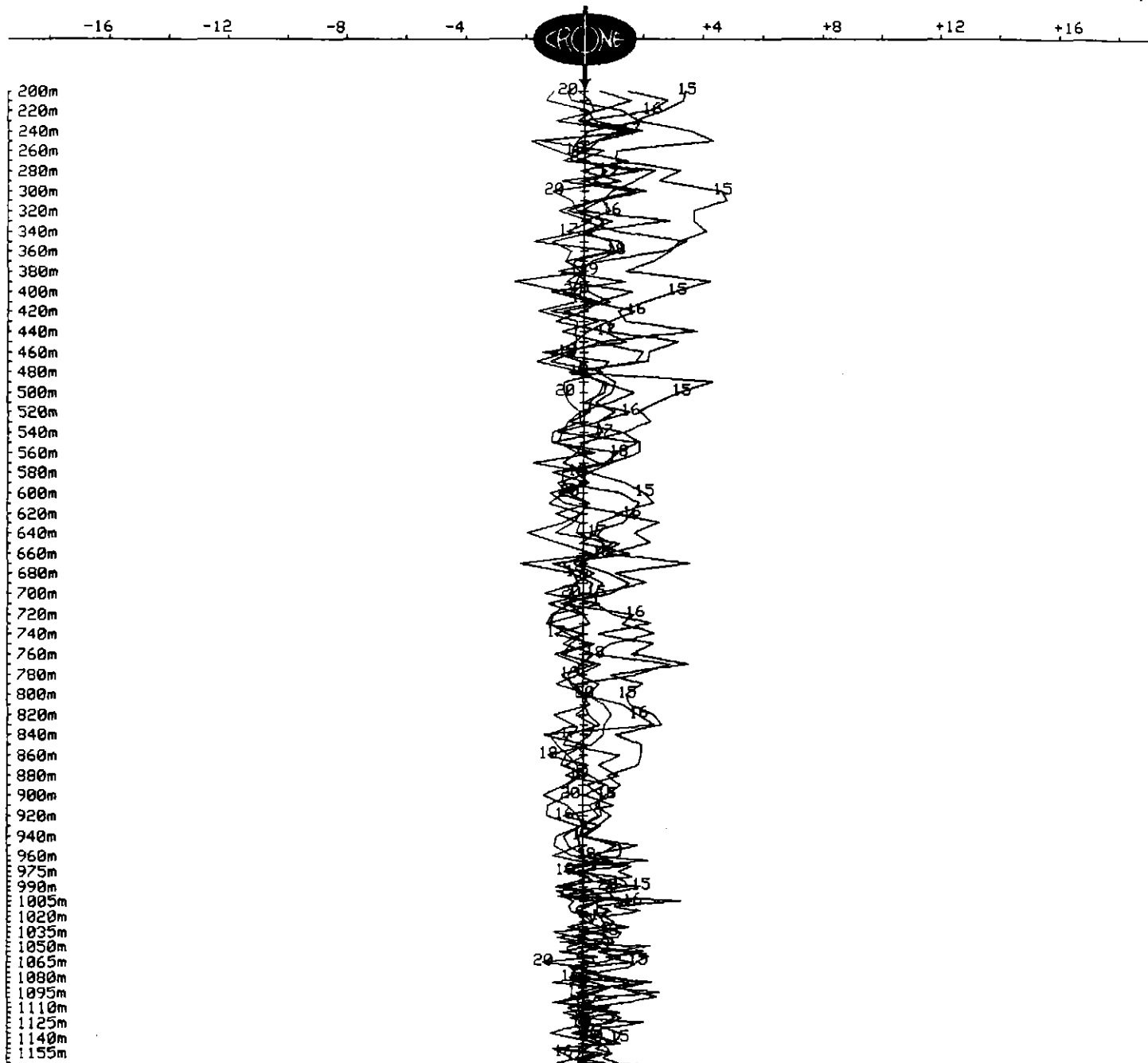
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Date : Nov 26, 1995

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Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 2 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

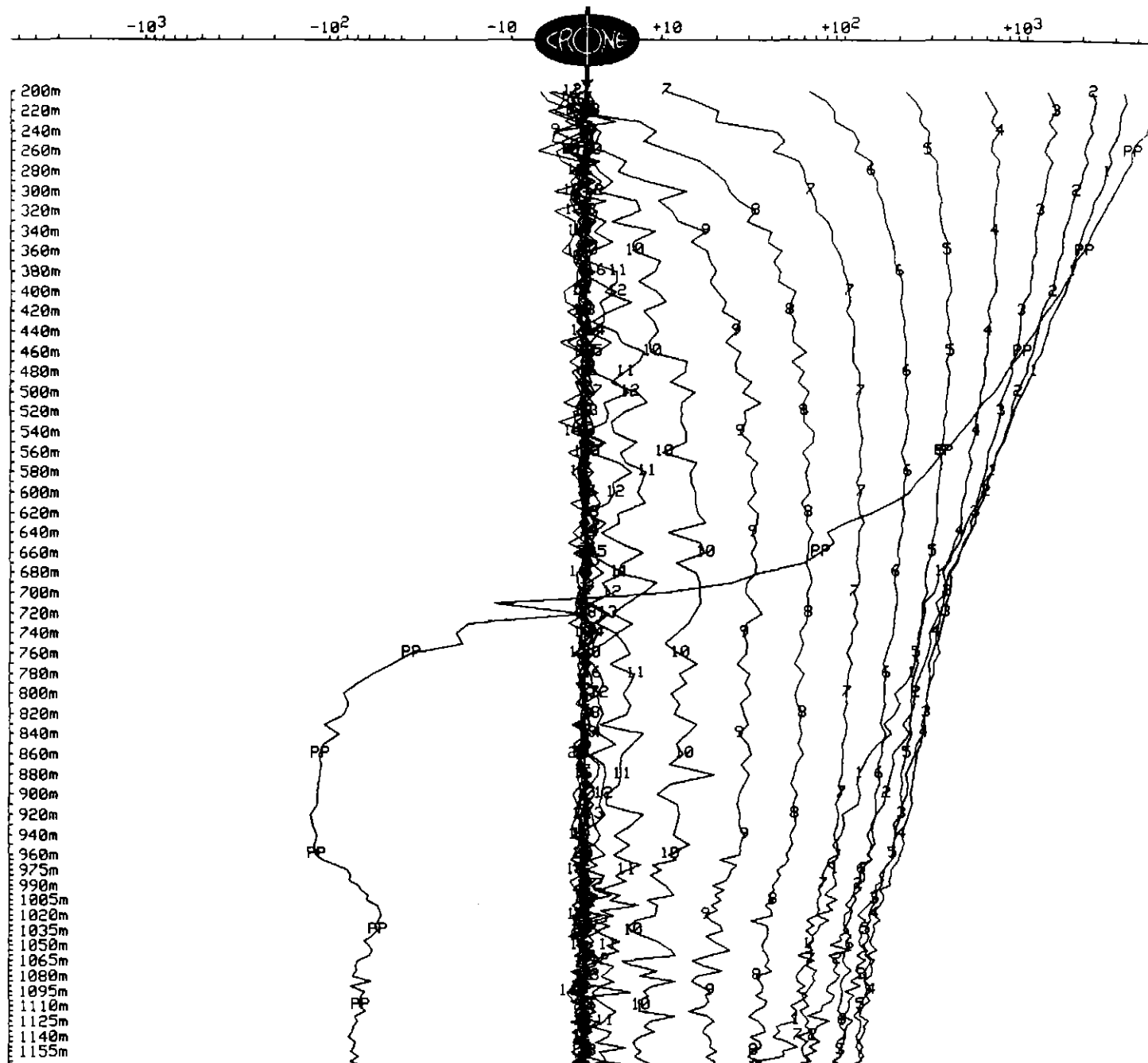
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Grid : Mackintosh
Date : Nov 26, 1995

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Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720271

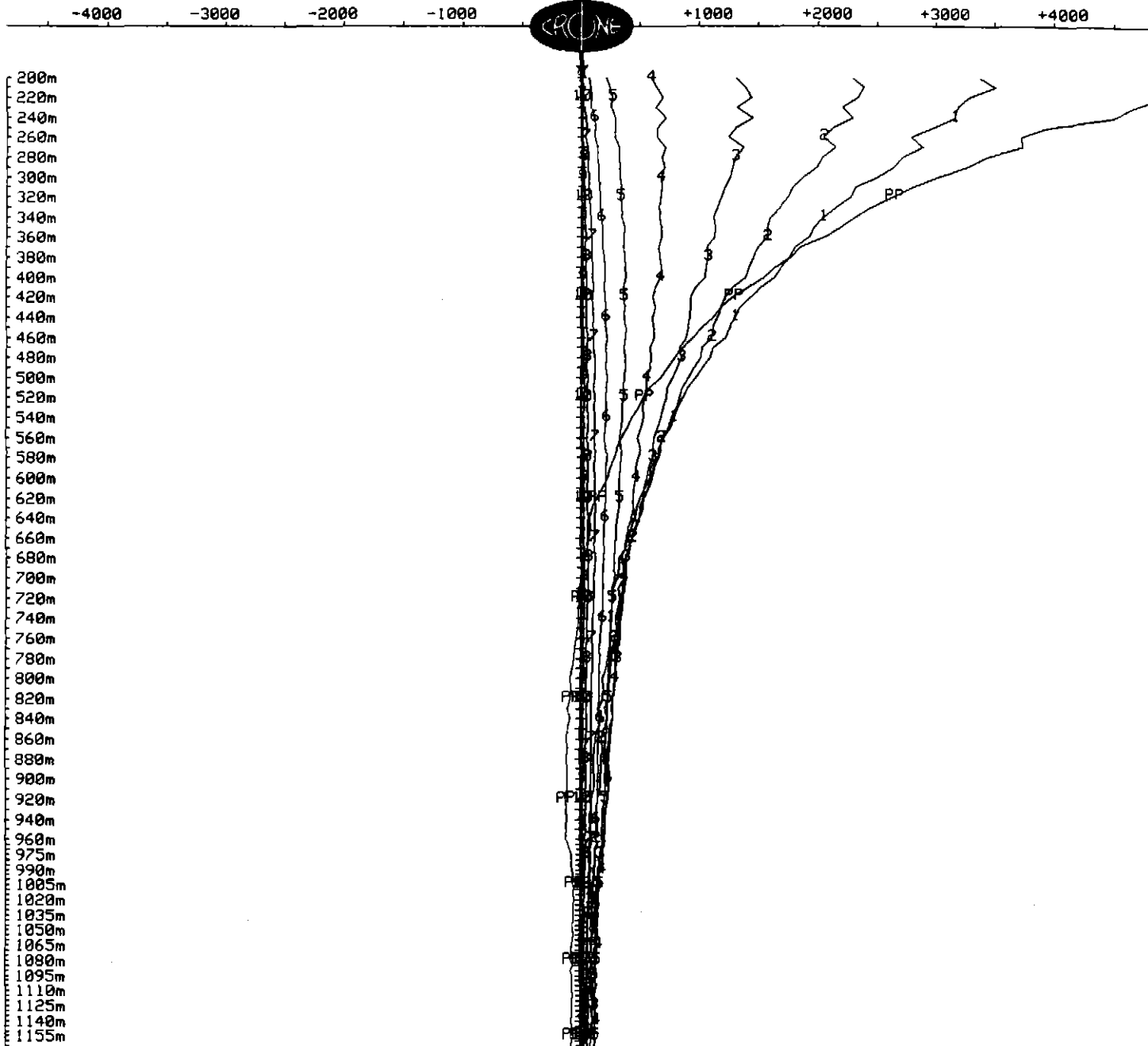
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720272

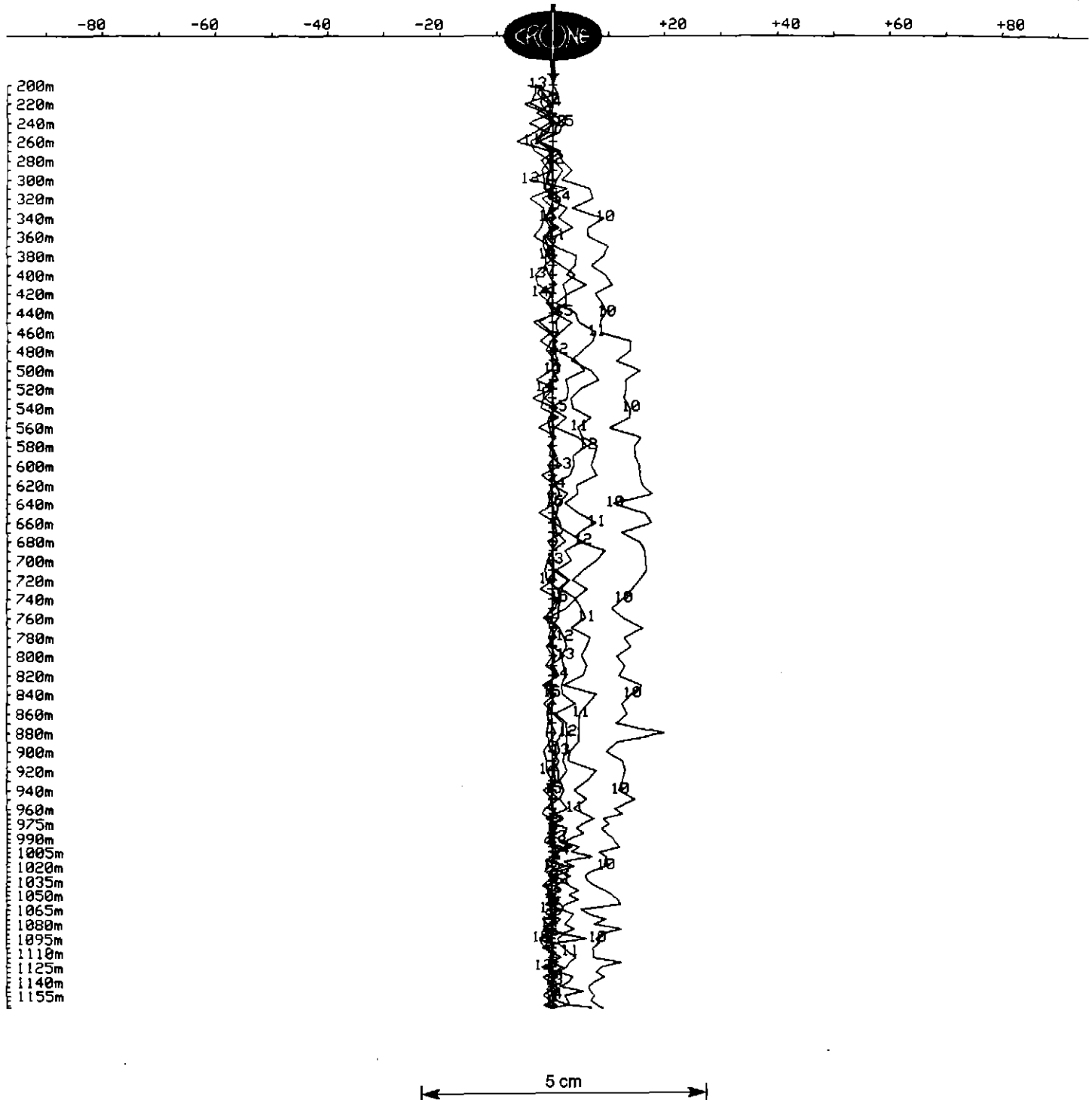
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 10 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720273

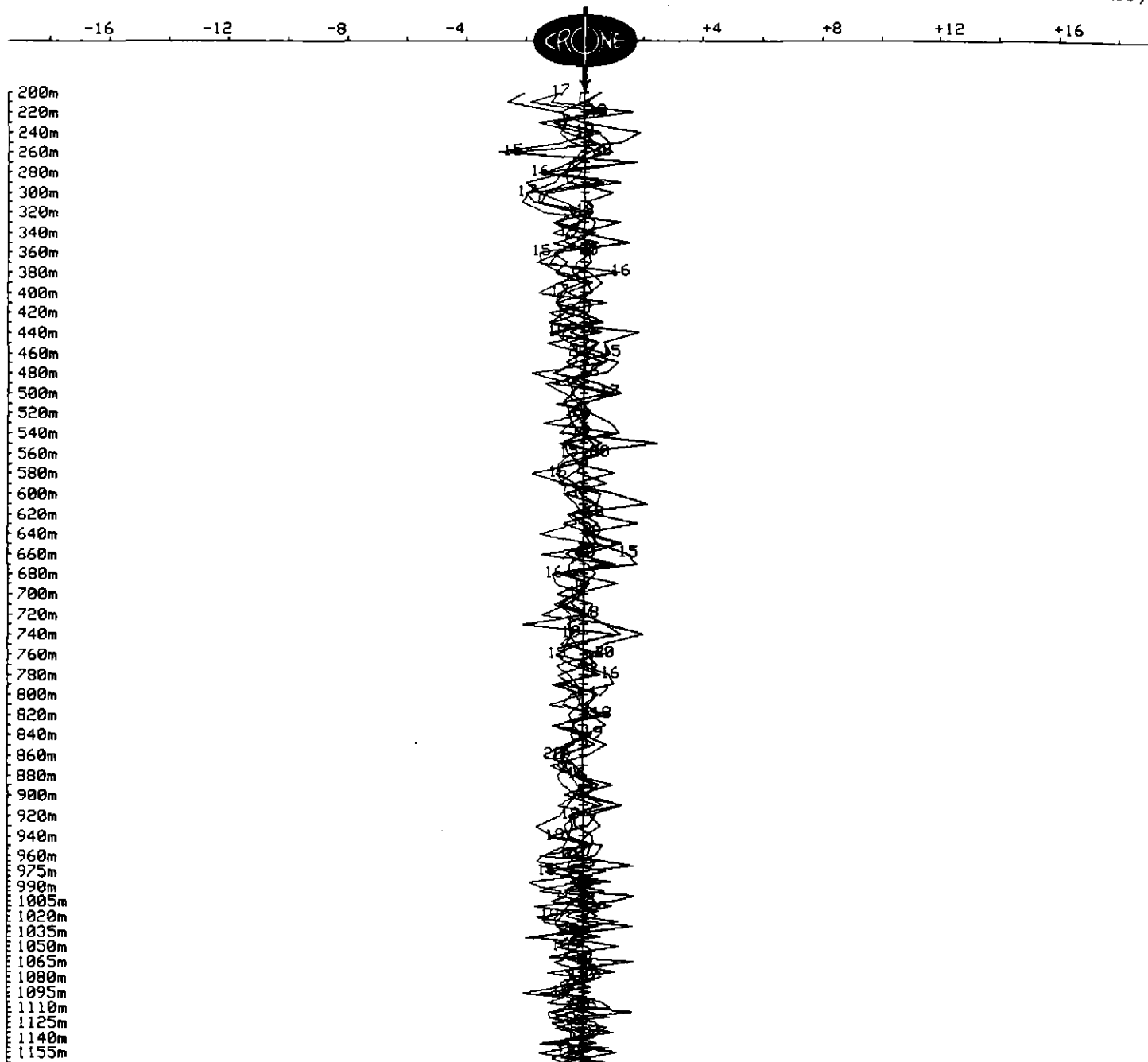
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 2 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

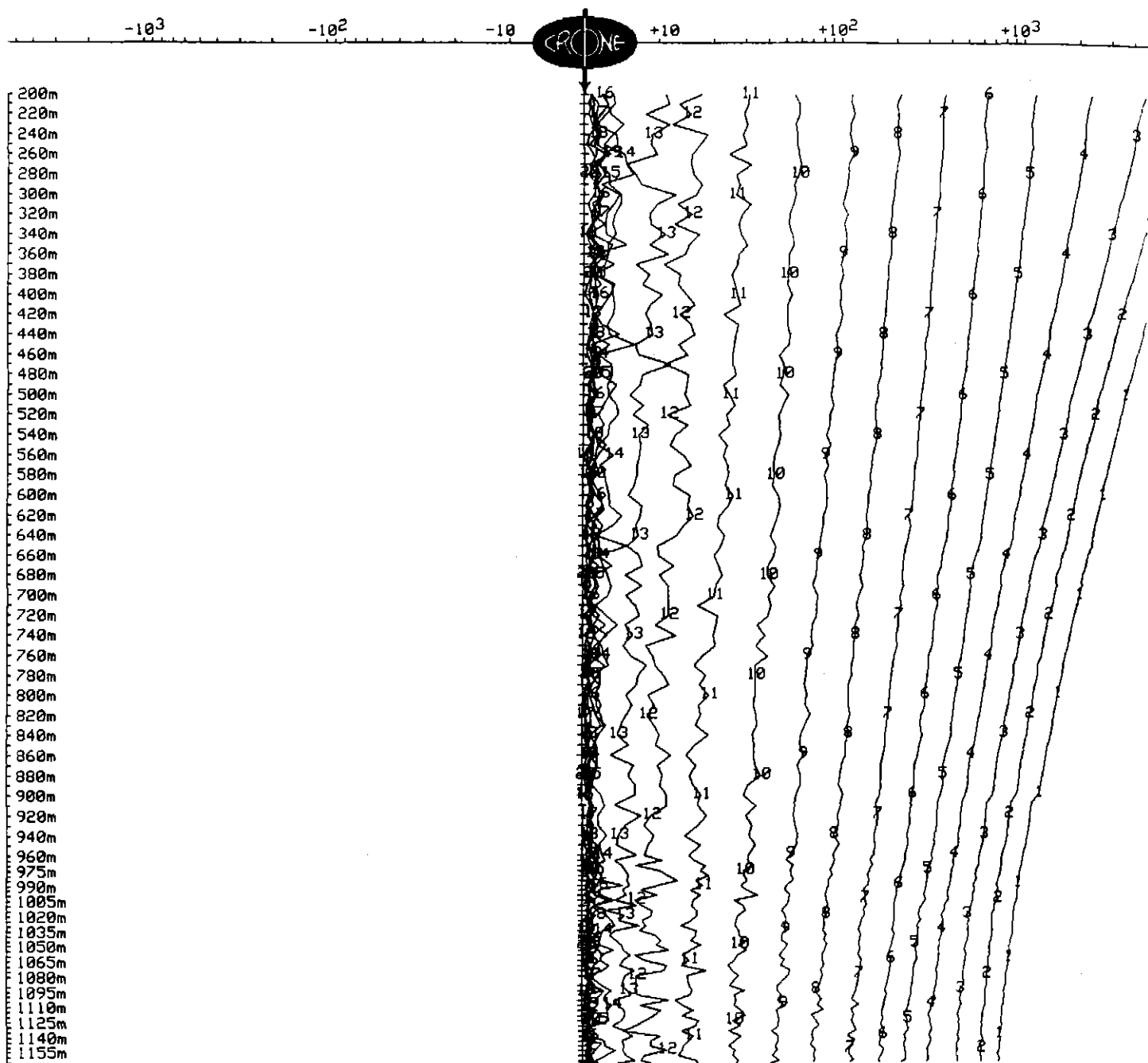
720274

Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 26, 1995

Hole : DDHMAC-40
Tx Loop : #2
File name : M40XYZ.PEM

TOTAL FIELD dBxyz/dt nanoTesla/sec - 20 channels

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720275

Client : Aberfoyle Resources Ltd	Hole : DDHMAC-40
Grid : Mackintosh	Tx Loop : #3
Date : Nov 27, 1995	File name : M40Z3.PEM
Time Base : 20.00 ms	# Readings: 104
Ramp Time : 0.50 ms	Stn Units : Metric
# Channels: 20	Coil Area : 6500 sq m
Sync Type : Cable	Polarity : +
Loop Size : 500m X 500m	Receiver : Digital #108
Current : 10 Amps	Operator : Kent Honner

Loop Coordinates (X,Y,Z)

1. 4000m, 4700m, 0m	2. 4500m, 4700m, 0m
3. 4500m, 5200m, 0m	4. 4000m, 5200m, 0m

Hole Coordinates (X,Y,Z) or (Azimuth,Dip,Length)

1. 3545m, 4997m, 0m	2. 95.8deg, 66.7deg, 13m
3. 95.7deg, 64.7deg, 25m	4. 95.5deg, 65deg, 100m
5. 97.5deg, 65deg, 25m	6. 98deg, 65.5deg, 25m
7. 99.1deg, 66deg, 75m	8. 99.7deg, 66deg, 25m
9. 100.2deg, 66deg, 75m	10. 101deg, 66deg, 25m
11. 102.2deg, 66deg, 25m	12. 103.7deg, 66deg, 25m
13. 104.4deg, 66deg, 100m	14. 105deg, 66deg, 25m
15. 105.5deg, 65.7deg, 25m	16. 106deg, 65.5deg, 25m
17. 107.7deg, 65.2deg, 100m	18. 106.5deg, 63.5deg, 25m
19. 105deg, 61deg, 25m	20. 105deg, 59deg, 25m
21. 105deg, 57.7deg, 25m	22. 105deg, 57.5deg, 25m
23. 105deg, 56.5deg, 25m	24. 104.7deg, 54deg, 25m
25. 105deg, 51deg, 25m	26. 105deg, 47.5deg, 25m
27. 104.5deg, 42.2deg, 25m	28. 102.2deg, 34deg, 25m
29. 101deg, 30.5deg, 25m	30. 101.2deg, 29.7deg, 25m
31. 101.5deg, 28.5deg, 25m	32. 101.5deg, 28deg, 25m
33. 101deg, 27deg, 25m	34. 101deg, 25.7deg, 25m
35. 101.2deg, 24.5deg, 35m	

Channel Times (usec)

Ch	Start	End	Center	Ch	Start	End	Center	Ch	Start	End	Center
PP	-198	-99	-149	1	76	104	90	2	104	131	117
3	131	171	151	4	171	225	198	5	225	292	259
6	292	378	335	7	378	490	434	8	490	639	565
9	639	828	733	10	828	1075	952	11	1075	1395	1235
12	1395	1809	1602	13	1809	2348	2078	14	2348	3046	2697
15	3046	3951	3498	16	3951	5121	4536	17	5121	6646	5884
18	6646	8617	7632	19	8617	11170	9894	20	11170	14490	12830

General Comments

Two large powerlines run NNE through Loop #2, approx 30m from hole

The hole is making sulphur rich water.

OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

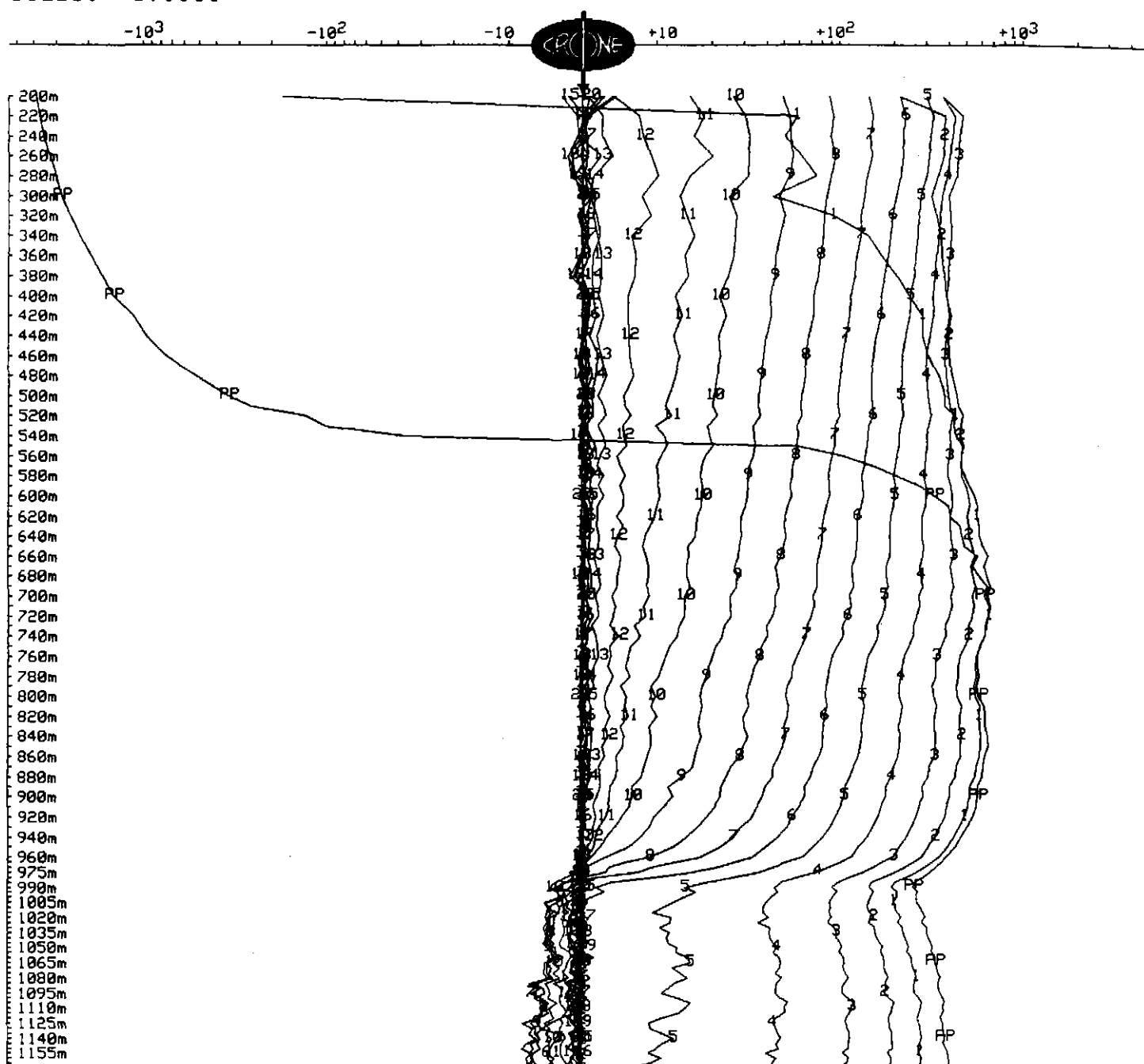
720276

Client : Aberfoyle Resources Ltd
 Grid : Mackintosh
 Date : Nov 27, 1995

Hole : DDHMAC-40
 Tx Loop : #3
 File name : M40Z3.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720277

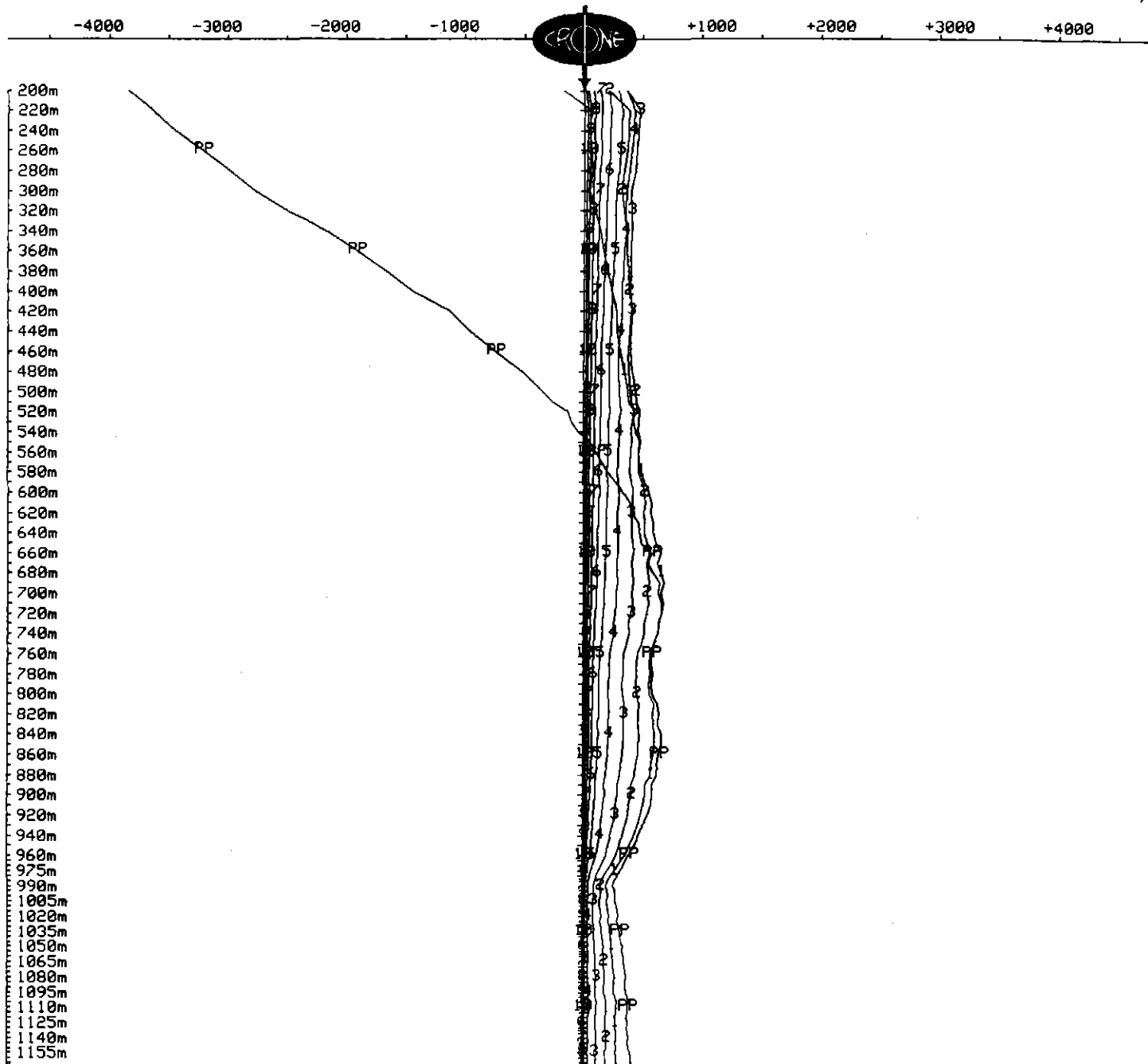
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 27, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40Z3.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720278

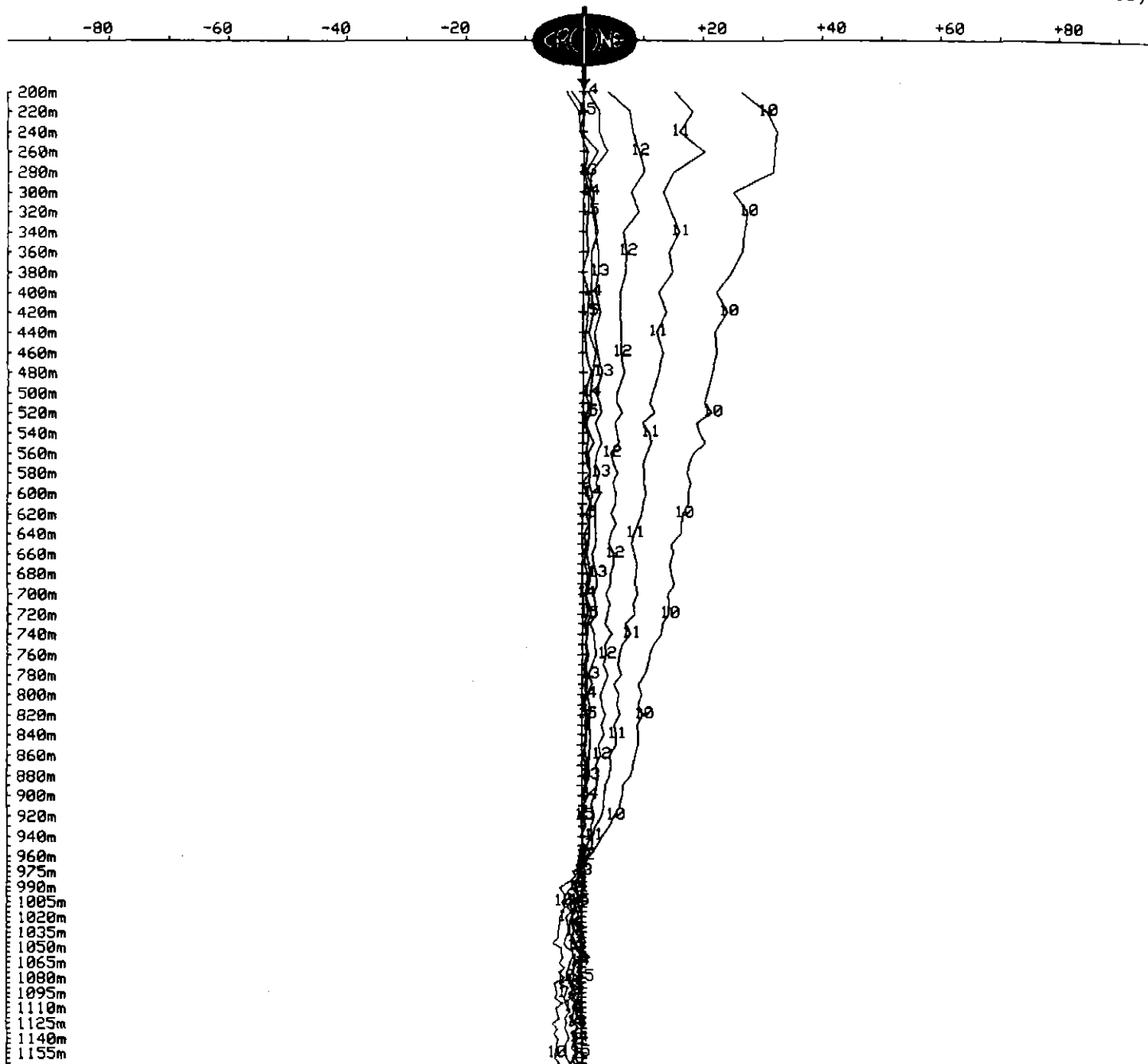
Client : Aberfoyle Resources Ltd
 Grid : Mackintosh
 Date : Nov 27, 1995

Hole : DDHMAC-40
 Tx Loop : #3
 File name : M40Z3.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 10 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720279

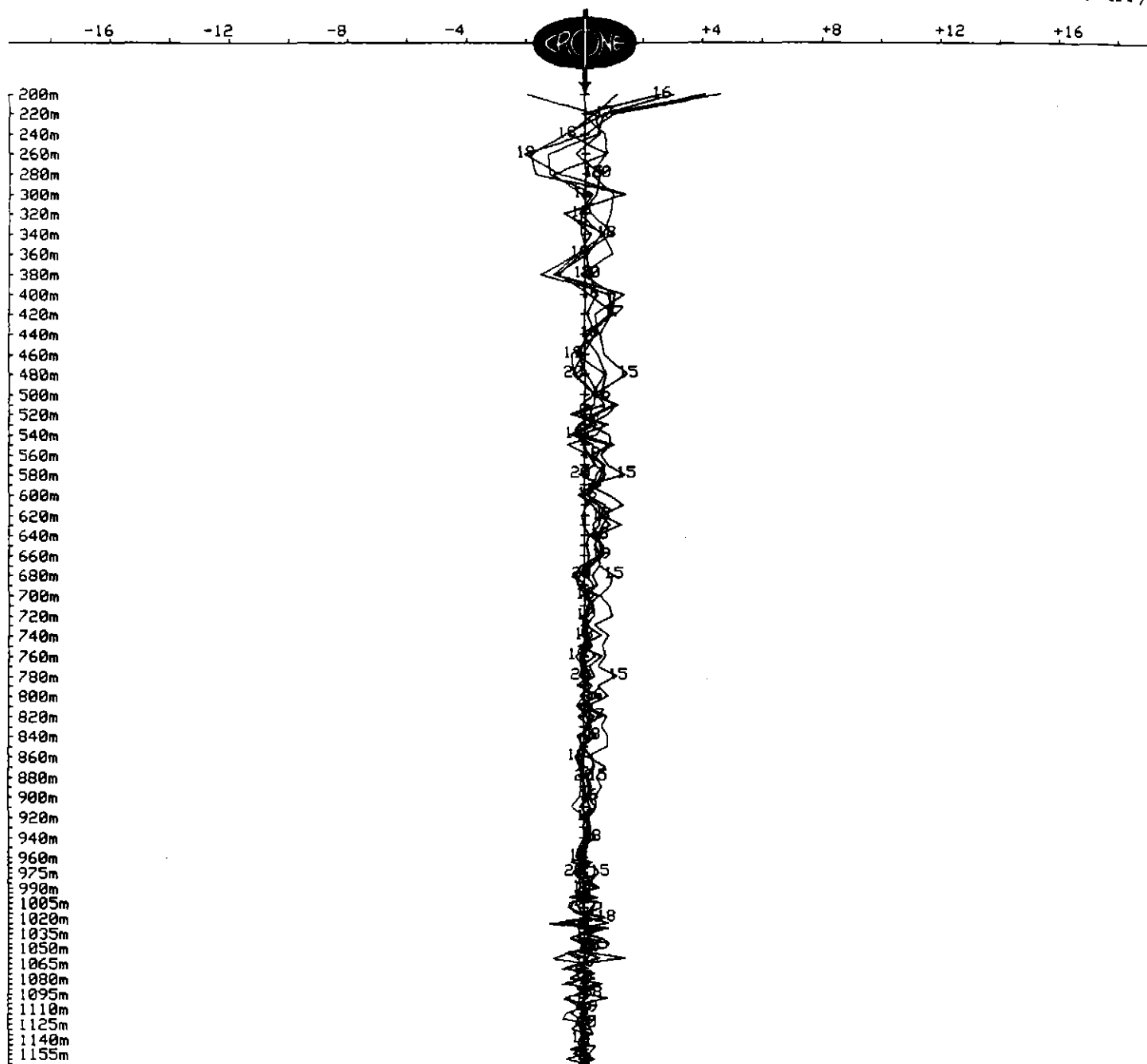
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 27, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40Z3.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 2 nT/

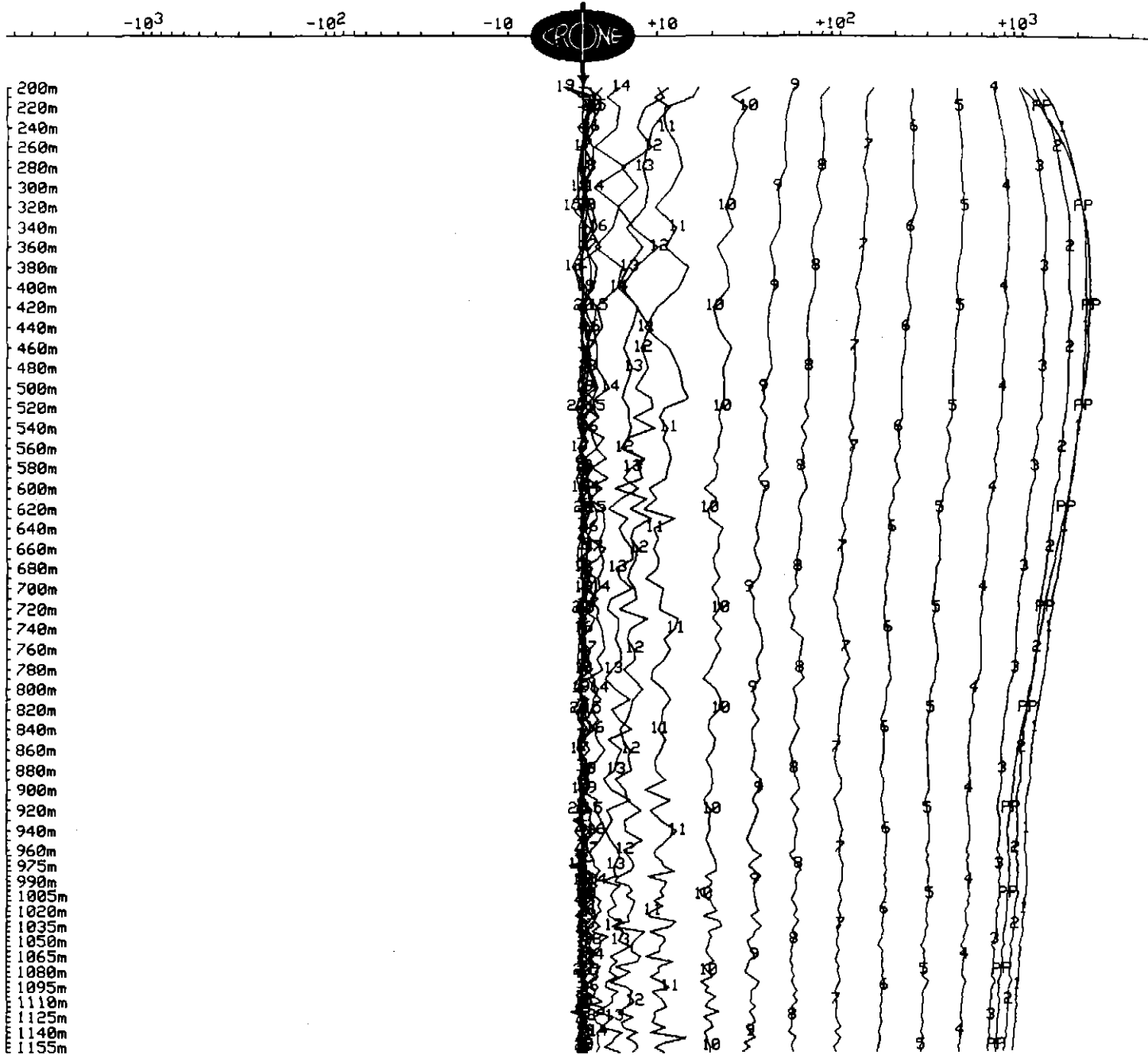


OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM 720280

Client : Aberfoyle Resources Ltd Hole : DDHMAC-40
Grid : Mackintosh Tx Loop : #3
Date : Nov 28, 1995 File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES

Operating Crone PEM System

BOREHOLE PEM

720281

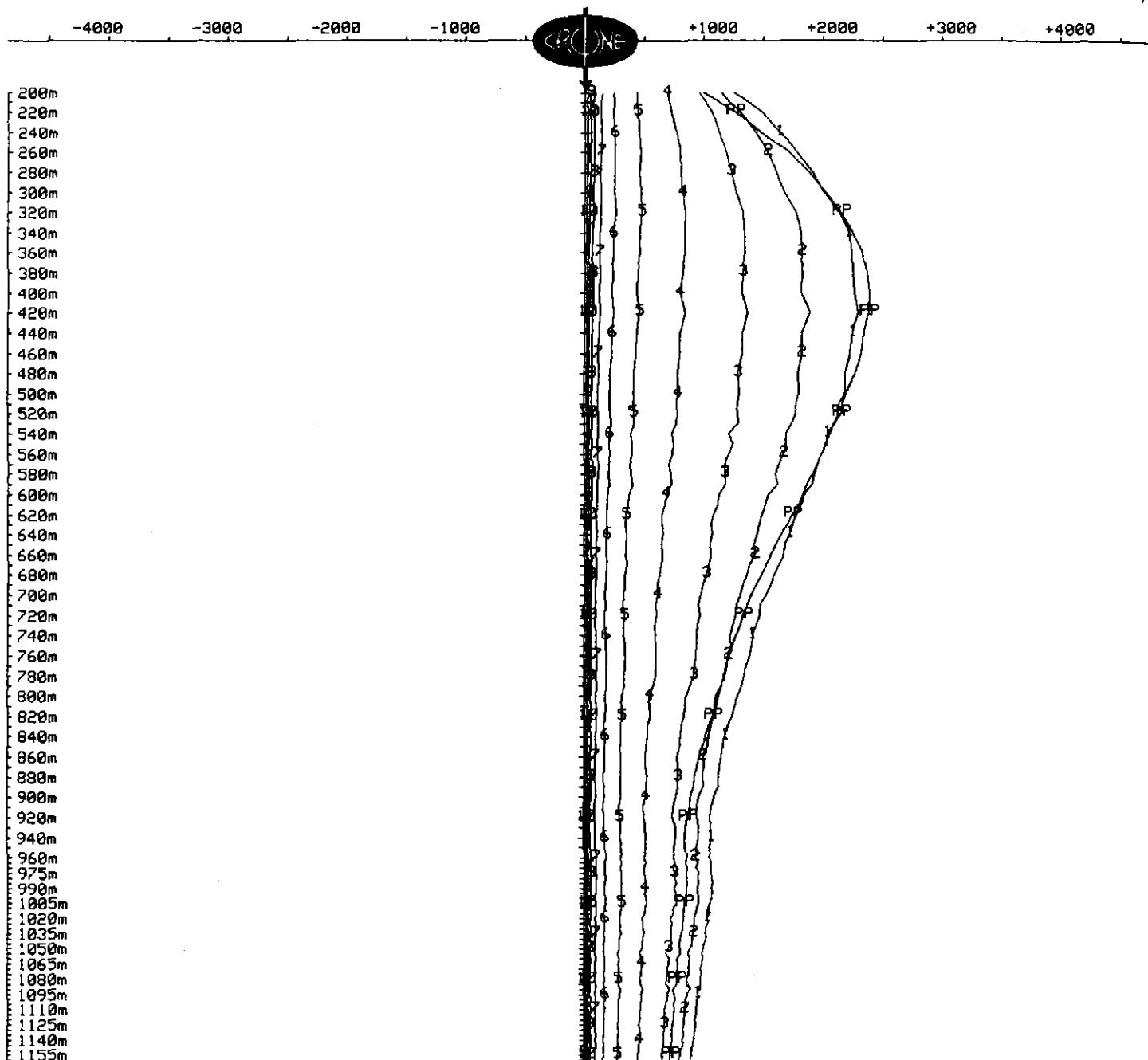
Client : Aberfoyle Resources Ltd
 Grid : Mackintosh
 Date : Nov 28, 1995

Hole : DDHMAC-40
 Tx Loop : #3
 File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
 X COMPONENT dBx/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BORRHOLE PEM

720282

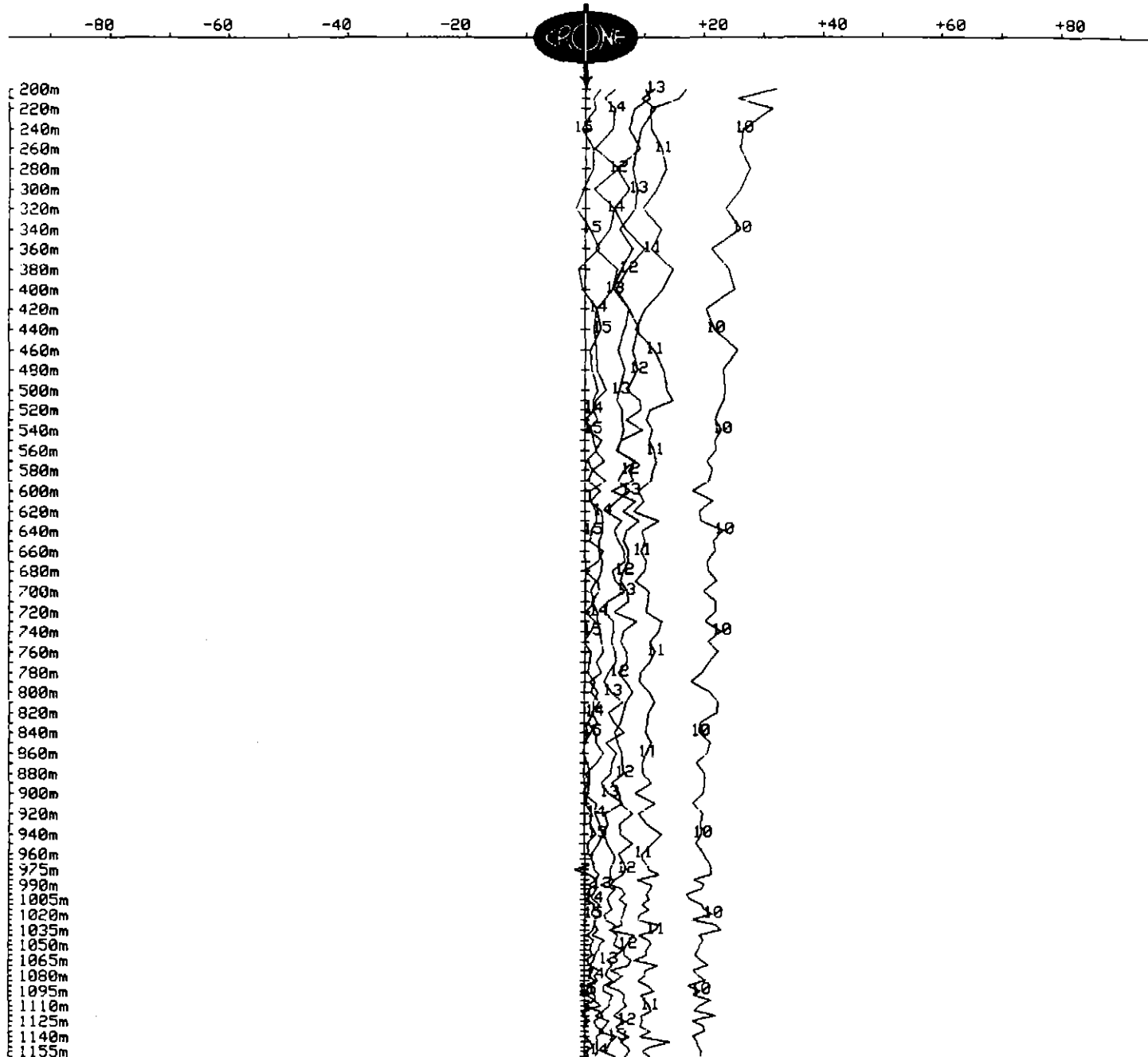
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 10 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720283

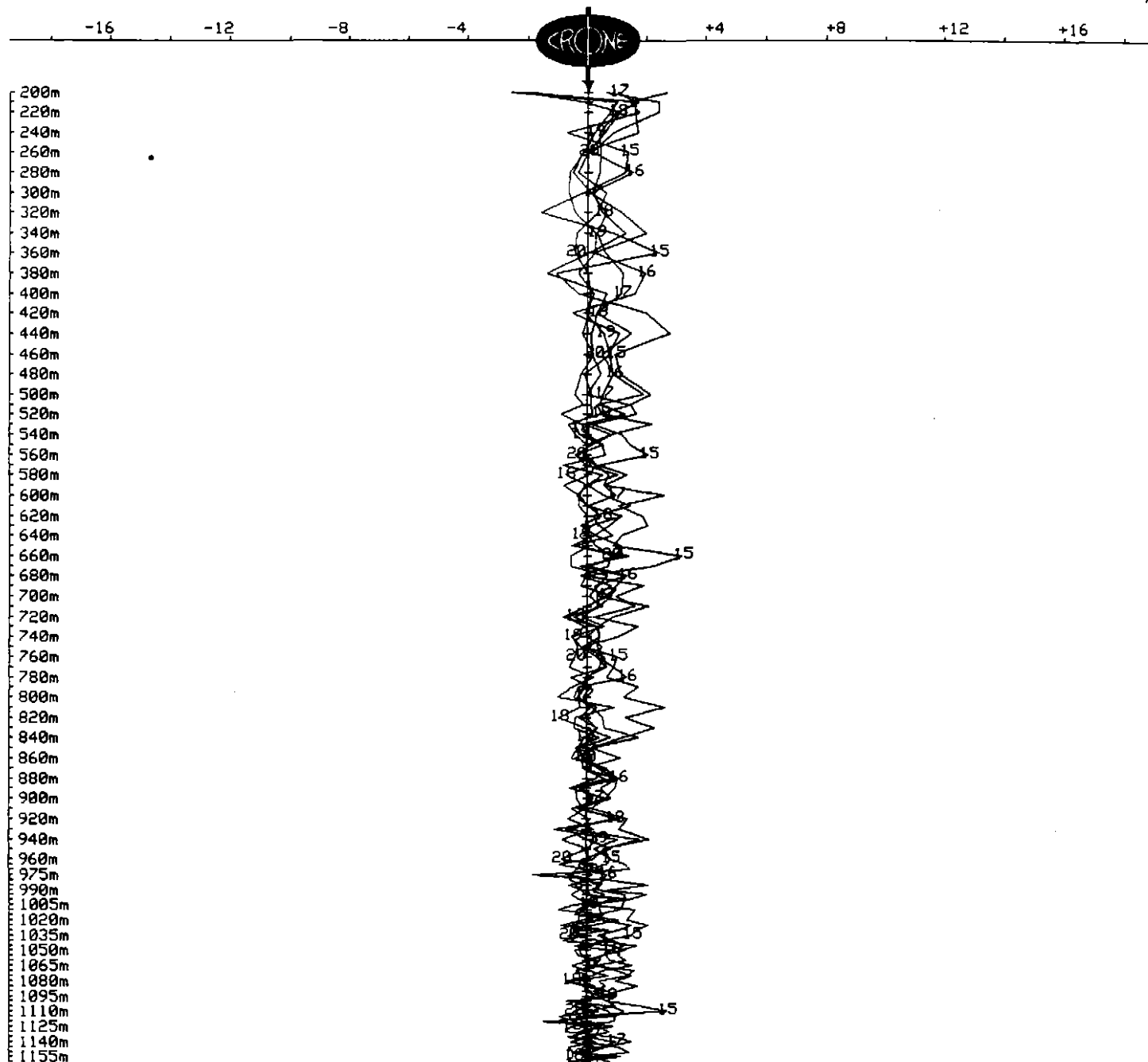
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
X COMPONENT dBx/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 2 nT,



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

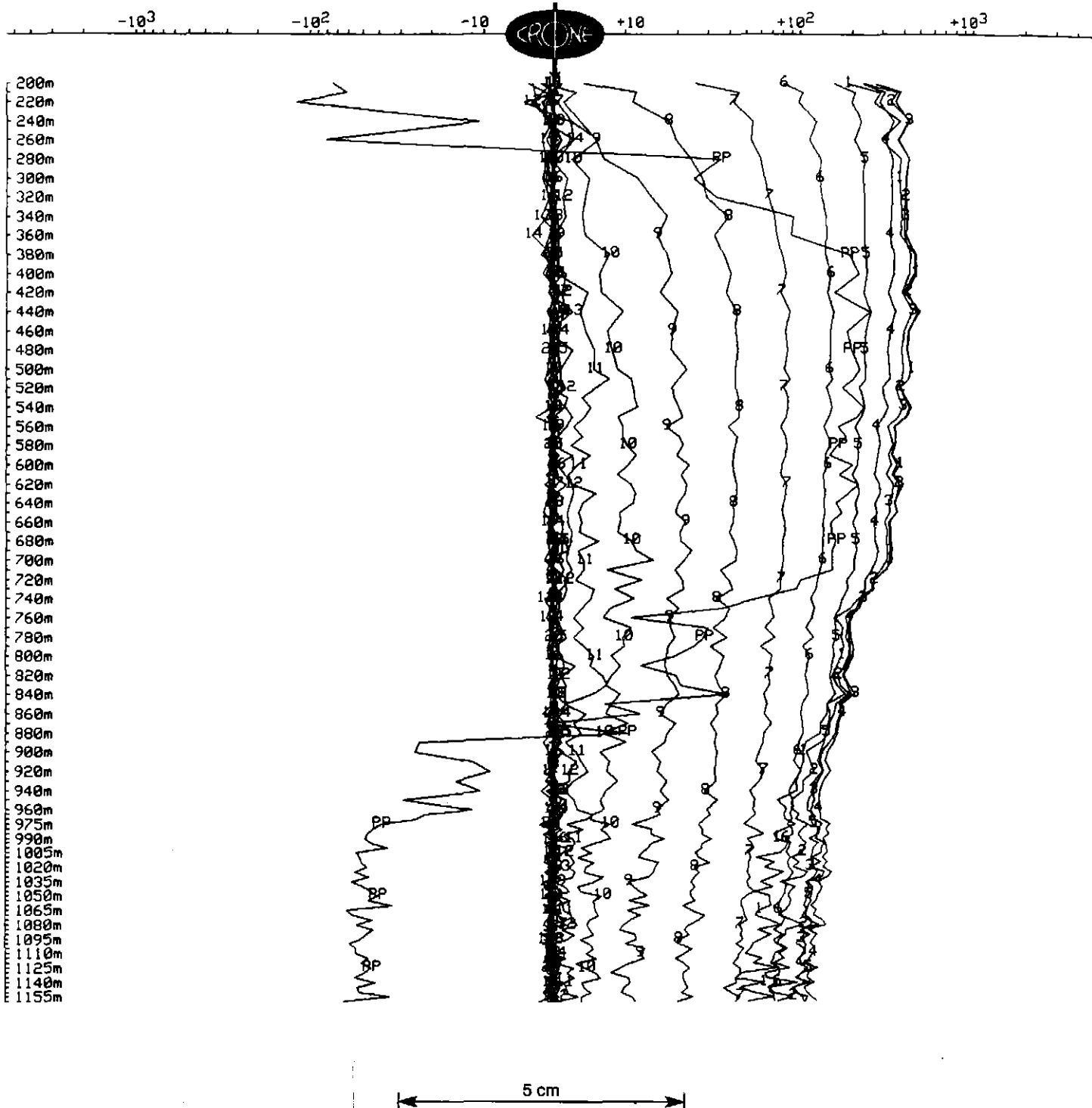
720284

Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720285

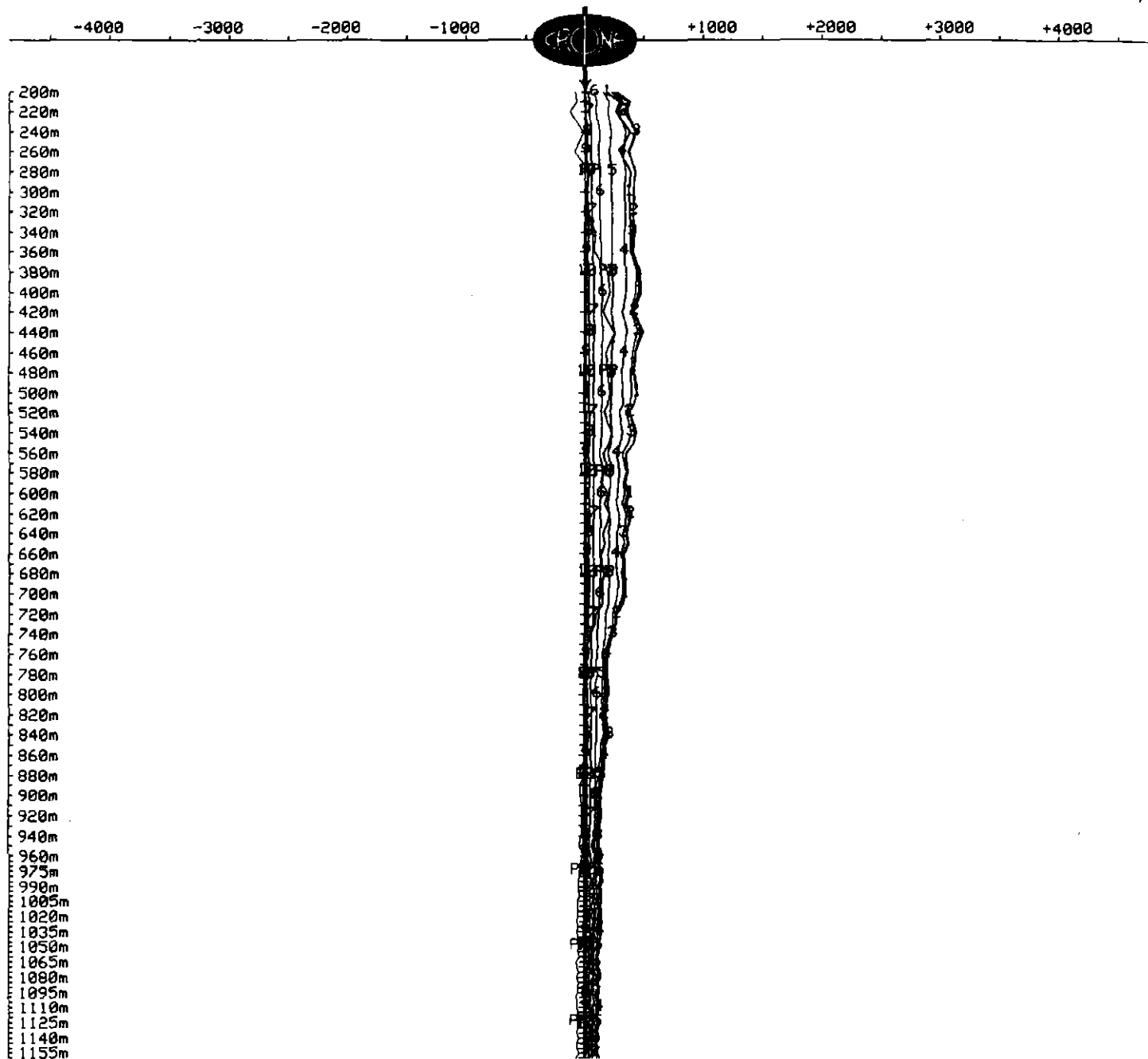
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels and PP

Scale: 1:6000

Unit Scale: 1cm = 500 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720286

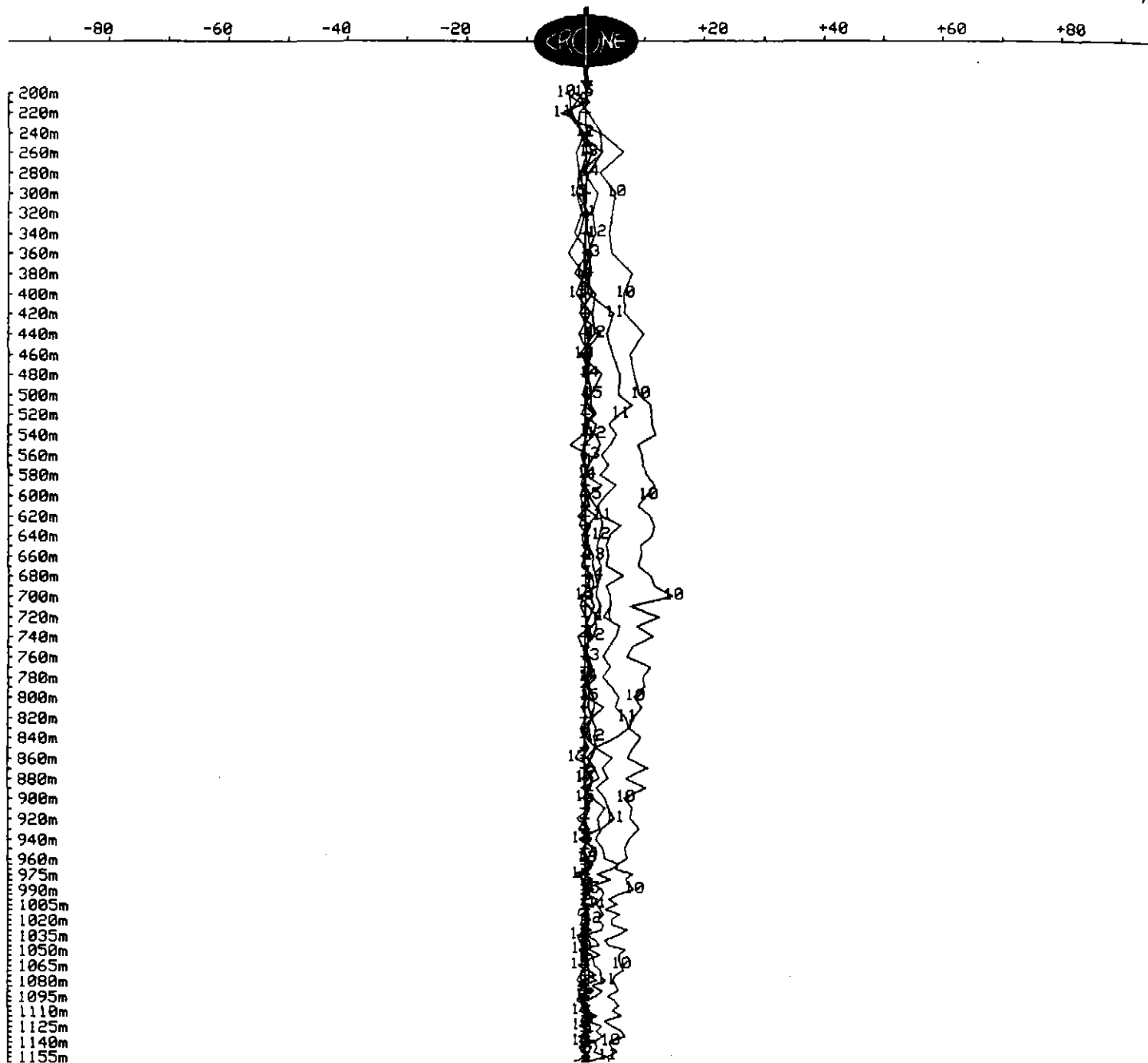
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 10 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

720287

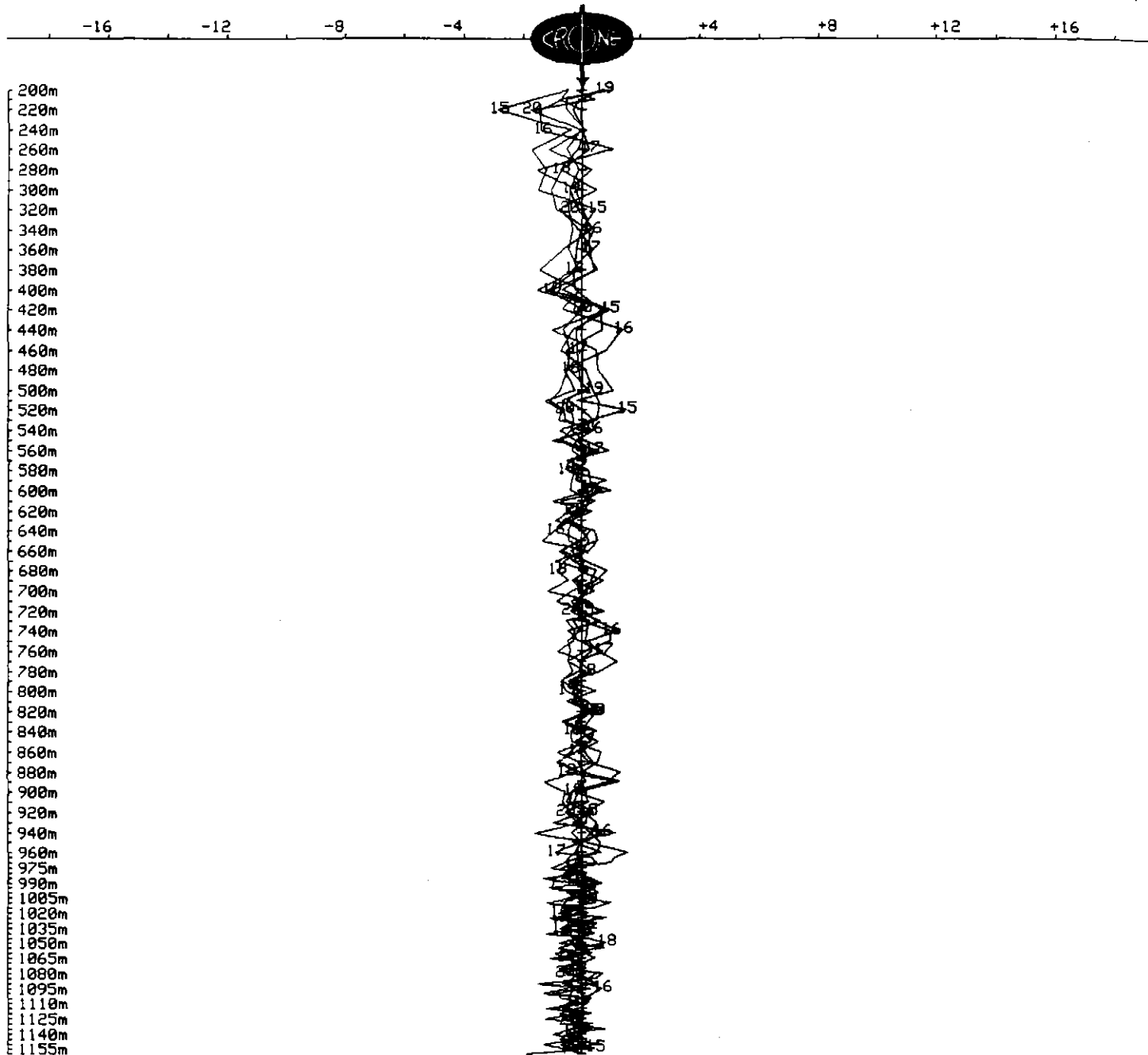
Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XY3.PEM

Data Corrected for Probe Rotation using Orientation Tool #2
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels

Scale: 1:6000

Unit Scale: 1cm = 2 nT/



OUTER-RIM EXPLORATION SERVICES
Operating Crone PEM System
BOREHOLE PEM

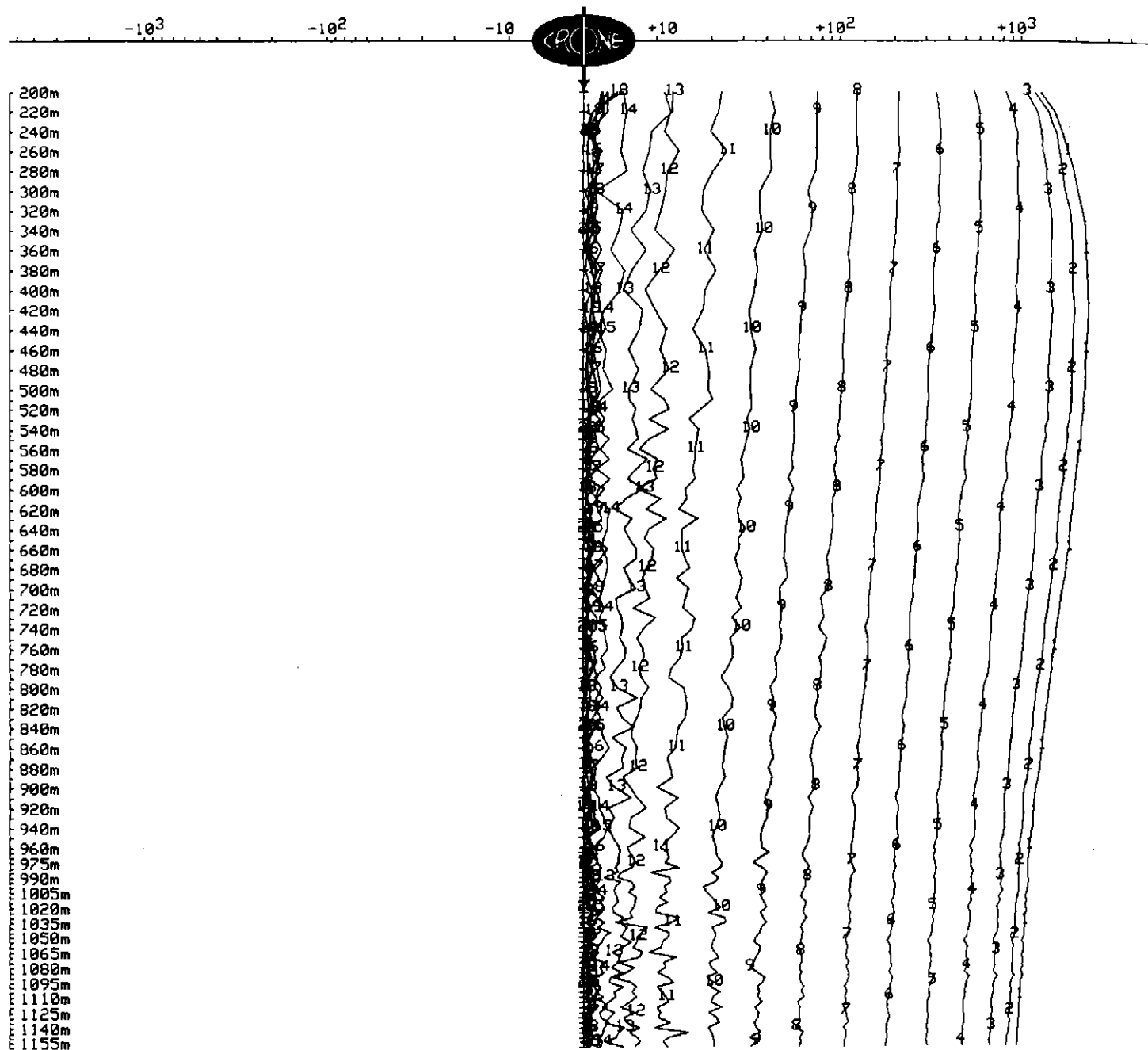
720288

Client : Aberfoyle Resources Ltd
Grid : Mackintosh
Date : Nov 28, 1995

Hole : DDHMAC-40
Tx Loop : #3
File name : M40XYZ3.PEM

TOTAL FIELD dBxyz/dt nanoTesla/sec - 20 channels

Scale: 1:6000



720239

APPENDIX VII

DIAMOND DRILL LOG

[illegible]

DIAMOND DRILL LOG

[illegible]

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2
3
4
5
6

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES			ALTERATION			VEINING			MINERALISATION		FAULTS				FOLIATION		WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH	
DEPTH M	DRILLING RUNS CORE LOSS	CORE TRAY NO.	STRATIGRAPHY	ROCK TYPE	COLOUR	VOLCANICLASTICS				LOWER CONTACT		CONCENTRATION	MAX. SIZE (µm)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX. WIDTH (µm)	MINERALOGY	TEXTURE	MINERALOGY & CONTENTS	POSITION OF BASE	DOWNHOLE WIDTH (cm)	CORE AXIS ANGLE	COLLGE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH		
						FRAGMENTS		MATRIX		GRADATION	STYLE																							COMPOSITION	VOLUME %
						MAX. SIZE (µm)	SORTING	SHAPE	COMPOSITION																										
0																																			
10																																			
20																																			
30																																			
40																																			
50																																			
60																																			
70																																			
80																																			
90																																			
100																																			
110																																			
120																																			
130																																			
140																																			
150																																			
160																																			
170																																			
180																																			
190																																			
200																																			

DIAMOND DRILL LOG

[illegible]

DIAMOND DRILL LOG

[illegible]

DIAMOND DRILL LOG

D R I L L I N G				L I T H O L O G Y										V E S I C L E S			A L T E R A T I O N			V E I N I N G			M I N E R A L I S A T I O N		F A U L T S				F O L I A T I O N		W E A T H E R I N G	S T A N D A R D C O L O U R L O G	R E M A R K S	S A M P L E N O.																																																																	
D E P T H		D R I L L I N G R U N S		C O R E L O S S		C O R E T R A Y N O.		S T R A T I G R A P H Y	R O C K T Y P E	C O L O U R	V O L C A N I C L A S T I C S					L O W E R C O N T A C T		C O N C E N T R A T I O N	M A X S I Z E (μ m)		S H A P E	T E X T U R E	I N T E N S I T Y	M I N E R A L O G Y	I N T E N S I T Y	M A X W I D T H (μ m)	M I N E R A L O G Y	T E X T U R E	M I N E R A L O G Y	% C O N T E N T S	P O S I T I O N O F B A S E	D O M E H I L E W I D T H (c m)	C O R E A X I S A N G L E	G O U D E	T Y P E	C O R E A X I S A N G L E	W E A T H E R I N G	S T A N D A R D C O L O U R L O G	R E M A R K S	S A M P L E N O.																																																											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1	2	3	4	5	6	7	8	9																																																																																											

DIAMOND DRILL LOG

DRILLING			LITHOLOGY										VESICLES			ALTERATION			VEINING			MINERALISATION			FAULTS				FOLIATION		WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH		
DEPTH	DRILLING RUNS	CORE LOSS	CORE TRAY NO.	STRAT (GRAPHY)	ROCK TYPE	COLOUR	VOLCANICLASTICS					LOWER CONTACT		CONCENTRATION	MAX SIZE (MM)	SHAPE	TEXTURE	INTENSITY	MINERALOGY	INTENSITY	MAX WIDTH (MM)	MINERALOGY	TEXTURE	MINERALOGY	% CONTENTS	POSITION OF BASE	DIP/SLOPE	WIDTH (CM)	CORE AXIS ANGLE	GOLGE	TYPE	CORE AXIS ANGLE	WEATHERING	STANDARD COLOUR LOG	REMARKS	SAMPLE NO.	DEPTH
							COMPOSITION	MAX SIZE (MM)	SORTING	SHAPE	COMPOSITION	VOLUME %	GRADATION																								
1.2																																					
1.4																																					
1.6																																					
1.8																																					
2.0																																					
2.2																																					
2.4																																					
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4.6																																					
4.8																																					
5.0																																					
5.2																																					
5.4																																					
5.6																																					
5.8																																					
6.0																																					

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DIAMOND DRILL LOG

[illegible]

APPENDIX VIII

DRILLHOLE MAC-041

PROSPECT: MAN

FROM (m)	TO (m)	SAMPLE#	TYPE	COLLECTED
280.8	281.4	626978	CGI	SR: 24/10/95
281.9	286.1	626979	CGI	SR: 24/10/95
286.1	289.1	626980	CGI	SR: 24/10/95
289.1	295.2	626981	CGI	SR: 24/10/95
298.3	304.3	626982	CGI	SR: 24/10/95
304.3	310.3	626983	CGI	SR: 24/10/95
310.3	315.9	626984	CGI	SR: 24/10/95
315.9	321.0	626985	CGI	SR: 24/10/95
321.0	321.5	626986	CGI	SR: 24/10/95

ORE SUITE

Cu	Pb	Zn	Ag	Au	Ba	As
ppm	ppm	ppm	ppm	ppm	ppm	ppm
GA101	GA101	GA101	GA101	GG309	GX401	GX401

TRACE SUITE

Cr	Zr	Tl	P2O5
ppm	ppm	ppm	wt%
GX401	GX401	GX401	OX408

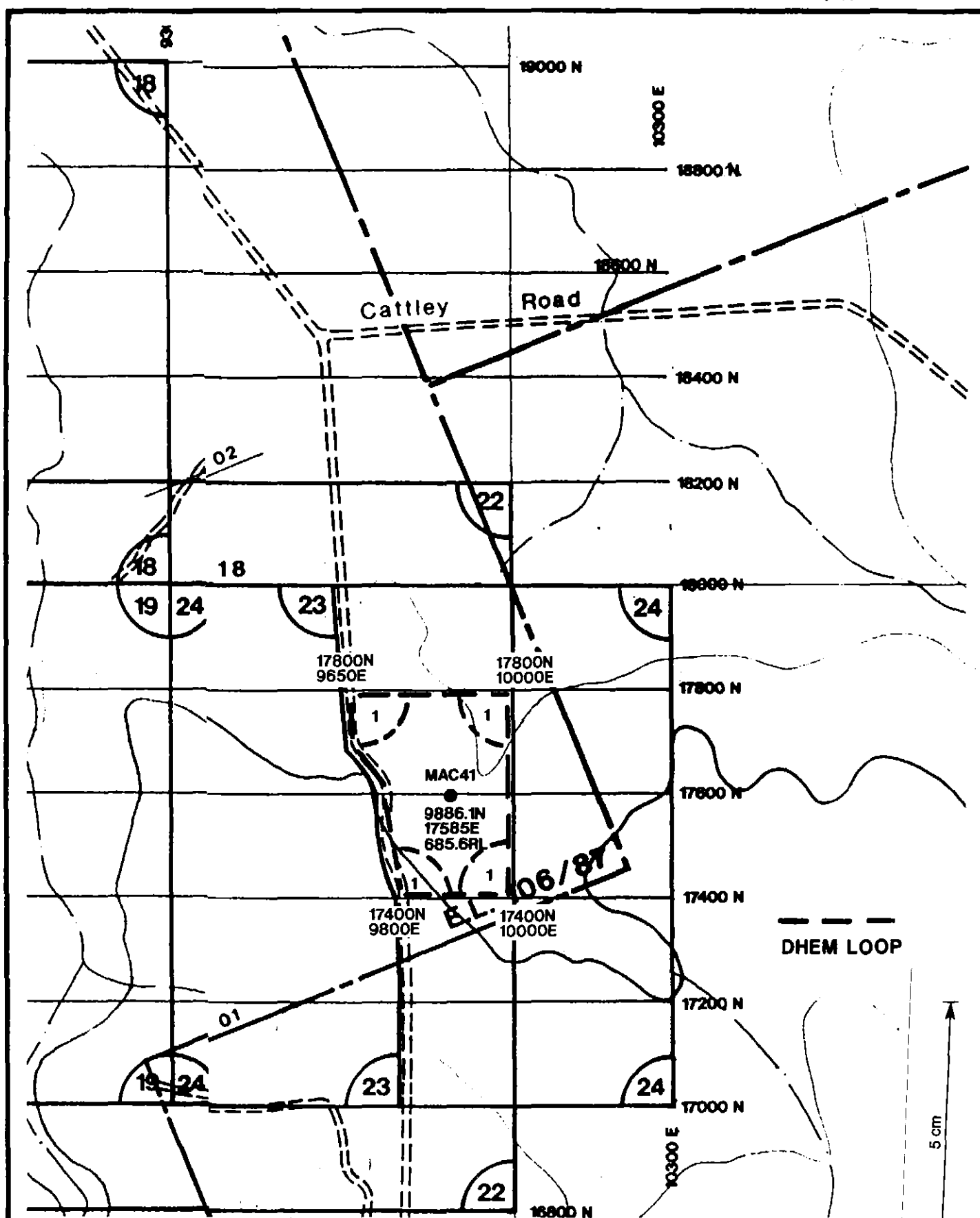
CALCULATED

Ti/Zr	P2O5/TiO2	Al

000000

720201

APPENDIX IX



Aberfoyle Resources Limited EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

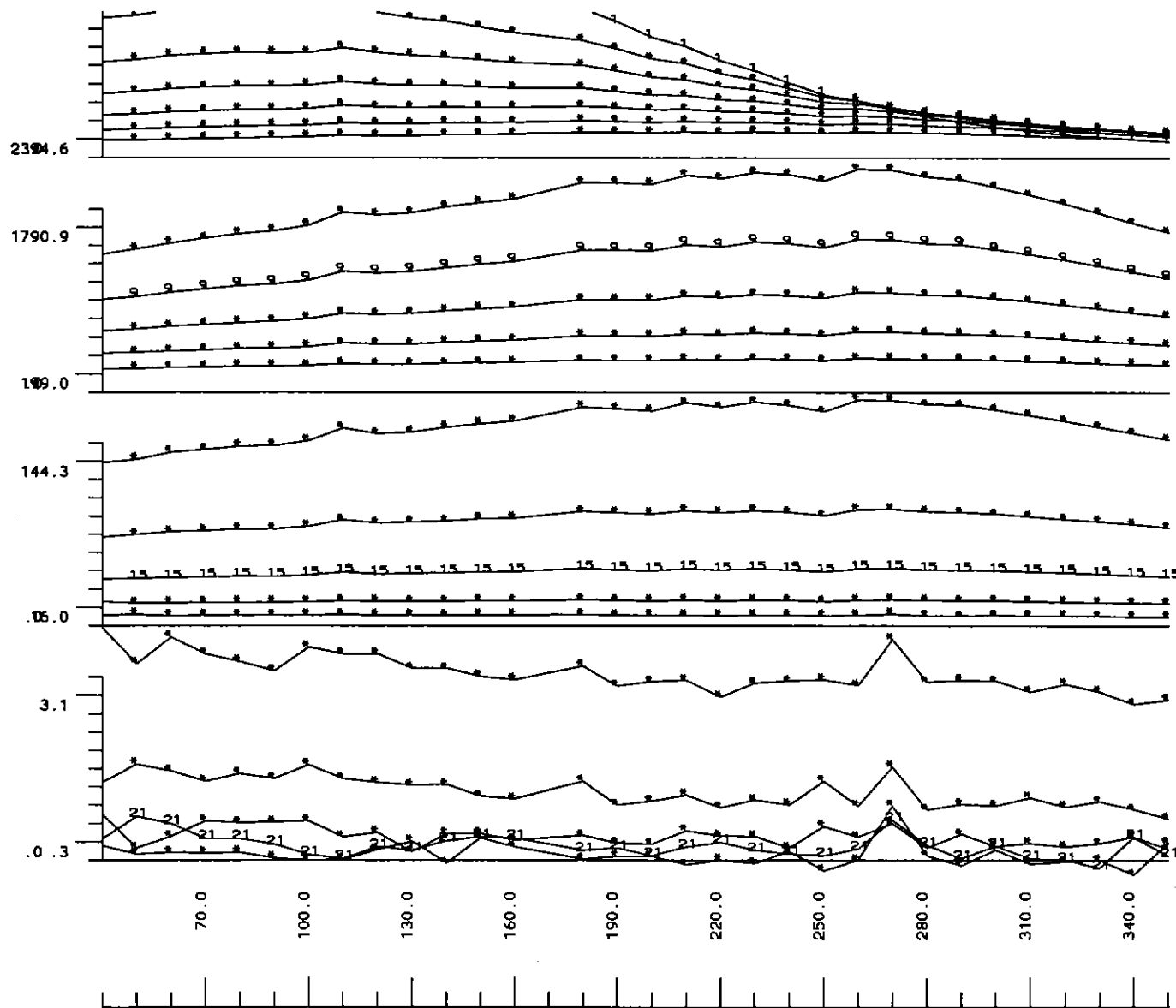
NORTHWESTERN TASMANIA
MACKINTOSH E.L.106/87
DHEM LOOPS DDH MAC41

Compiled :
Drawn : **RdeB**
Traced : **RdeB**
Checked : **RdeB**
Plate No. : **MAC441**

Location Code :

Scale : 1:10000

Date : JUNE 95



Datafile: mac41.av

LOOP: 1

LINE: 41.00

Date Plotted: 7/02/96

Horiz scale 1: 1878.8

MAC 41 DHEM LOOP1

READ/PLOTTED JWH

ABERFOYLE RESOURCES LTD

200021



96-3839

LAKE MACINTOSH EL. 106/87 PROGRESS REPORT 1994/95 -
ABERFOYLE RESOURCES LTD - RICHARDSON S.M.
VOLUME 2 OF 2

G	A	E
H	B	F
	C	
	D	

Aberfoyle Resources Limited		720304
EXPLORATION DIVISION		
NORTH WESTERN TASMANIA		
MACKINTOSH EL. 106/87		
GRIDDING 1994/95		
Location Code:		Scale: 1:10,000
Date: OCTOBER 1994		Plate No: MAC153P/A

REVISIONS			
Init.	Date	Init.	Date
JMS	1994/95		

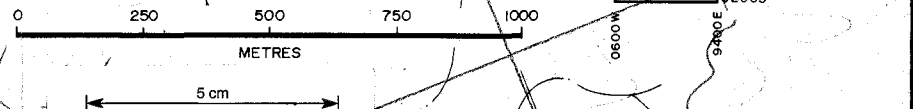
Compiled	SMR
Drawn	RdbB
Traced	IF
Checked	RdbB

96-3839

LAKE MACINTOSH EL 10687 PROGRESS REPORT 1995/96
ABERFOYLE RESOURCES LTD. - RICHARDSON'S M
VOLUME 2 OF 2

E.L. 106/87
E.L. 56/94

G	A	E
H	B	F
C	D	



Aberfoyle Resources Limited

720305

EXPLORATION DIVISION

NORTH WESTERN TASMANIA

MACKINTOSH E.L.106/87

GRIDDING 1994/95

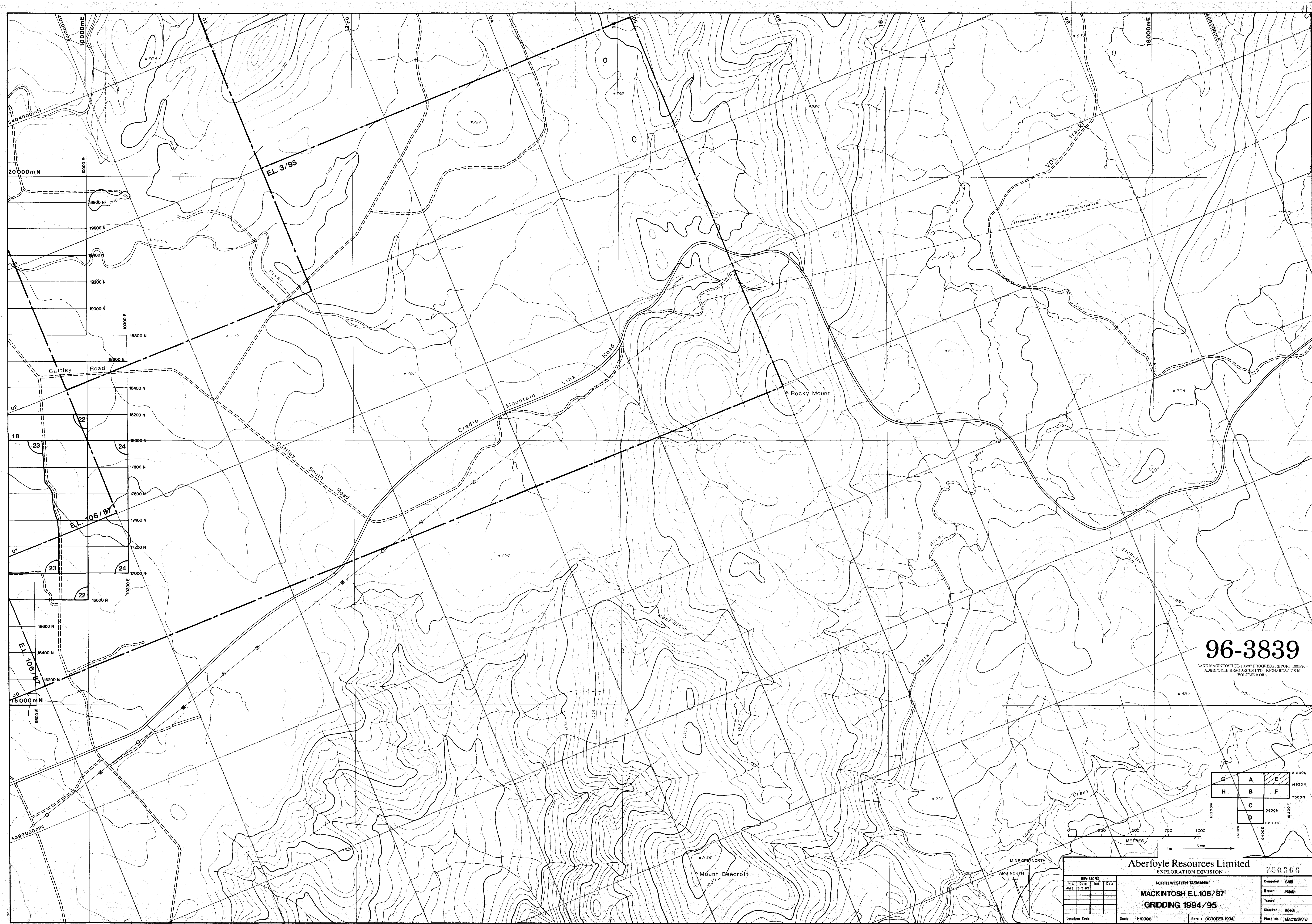
REVISIONS	
No.	Date
1	1994/95
2	1995/96

Location Code: K55/3

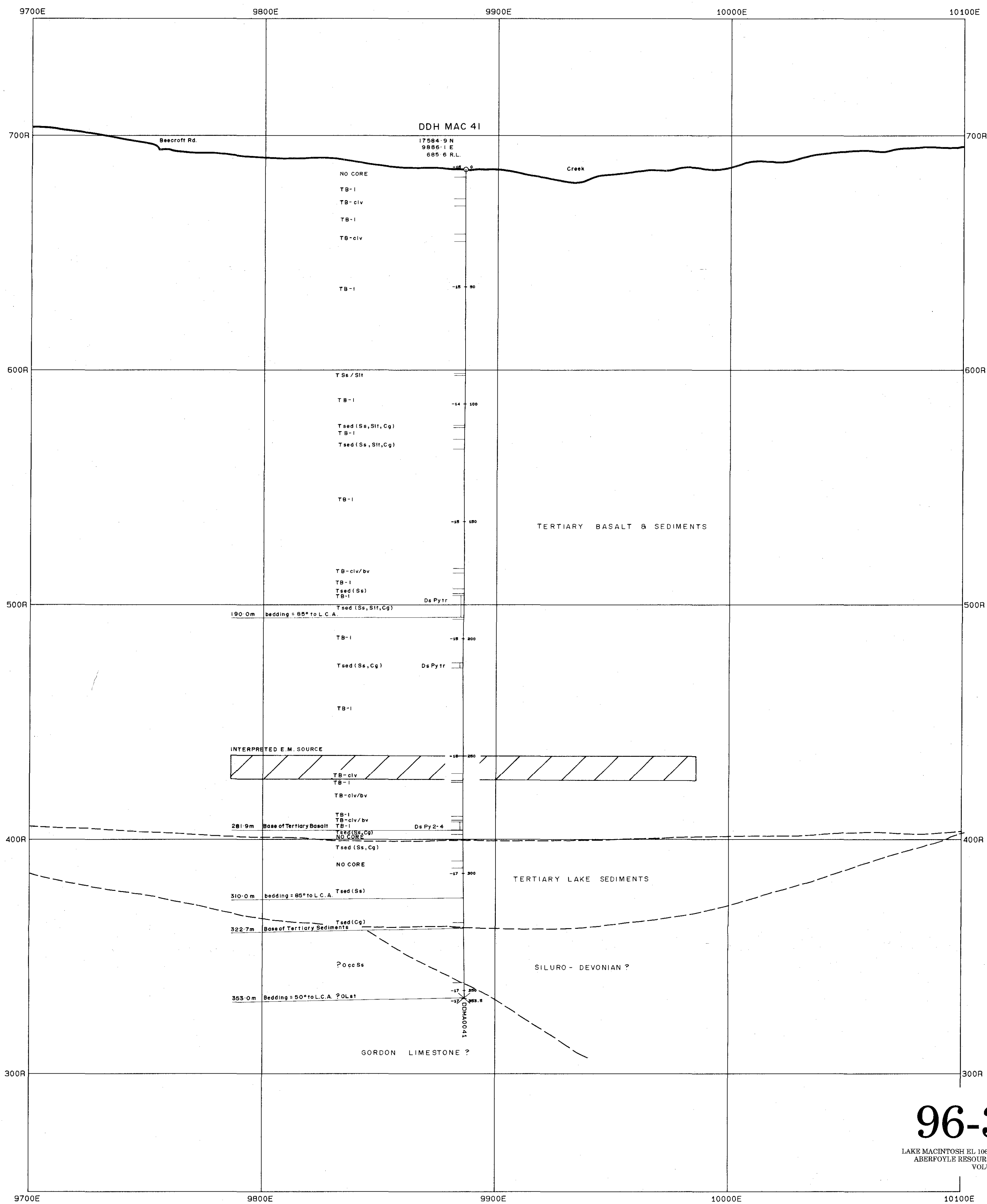
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Date: OCTOBER 1994

Compiled	SMR
Drawn	RdbS
Traced	
Checked	RdbS
Plate No.	MAC153P/B



PROGRAM: dms
PROSPECT: mac
SECTION: definition:
BRID: Mac
E: 9700.0 10100.0
N: 17800.0 17800.0
RL: 200.0 700.0
Forward extent: 100.0
Backward extent: 100.0
Section Strike: 90.0
Section Length: 400.0
PDF file: mac448.pdf
PLOT file: mac448.plt
DRI file: mac448.dri
LEGEND - Right Side
LEGEND - Left Side



96-3839

LAKE MACINTOSH EL 106/87 PROGRESS REPORT 1995/96
ABERFOYLE RESOURCES LTD - RICHARDSON S M
VOLUME 2 OF 2

720307

5cm

Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS

Init. Date Init. Date

Location Code: 1000

TASMANIA

MACKINTOSH E.L. 106/87

CROSS SECTION 17800N

DDH MAC41

Date: 18/07/95

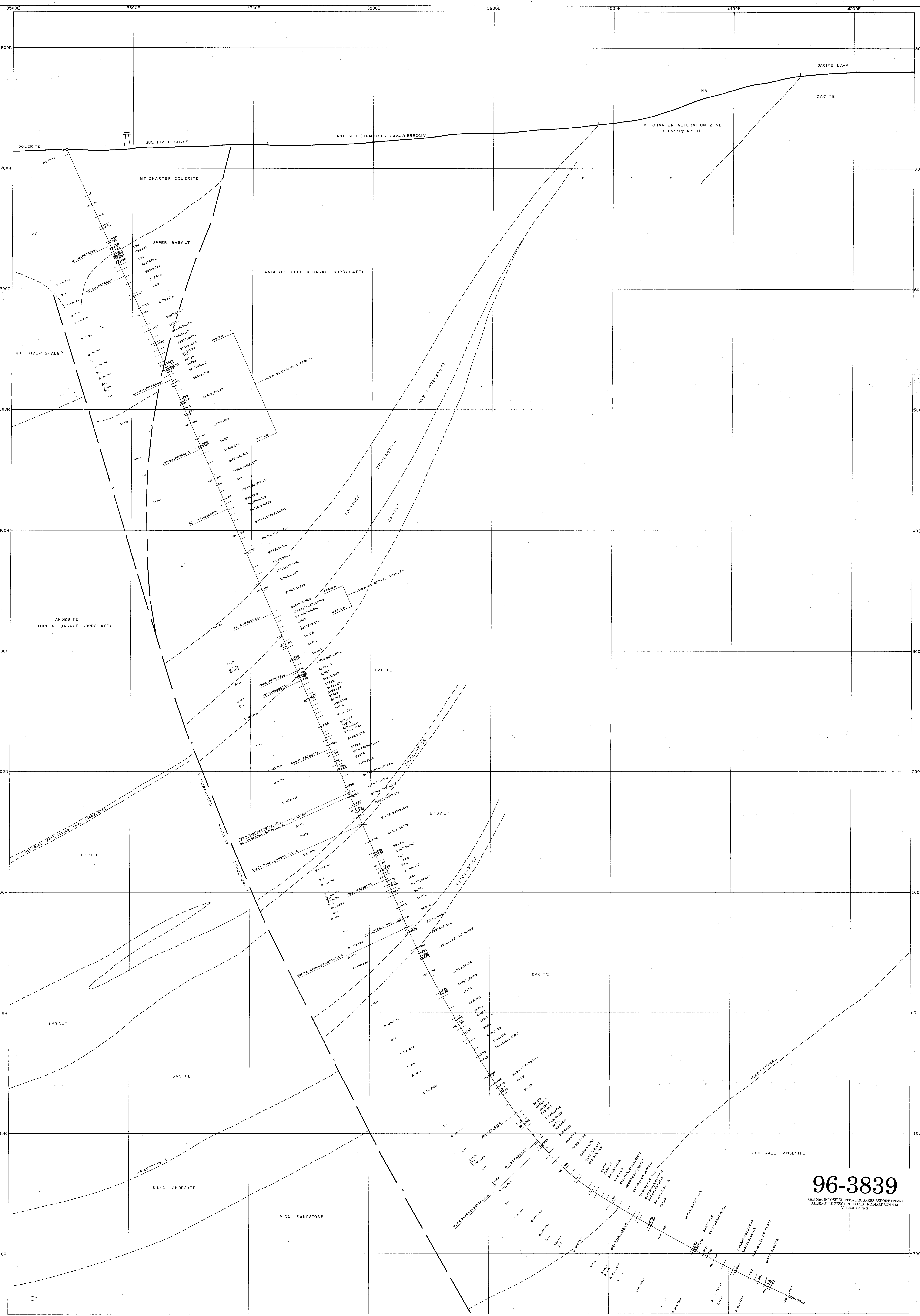
Compiled: AMCN

Drawn: DHSS

Traced: JLR

Checked: AMCN

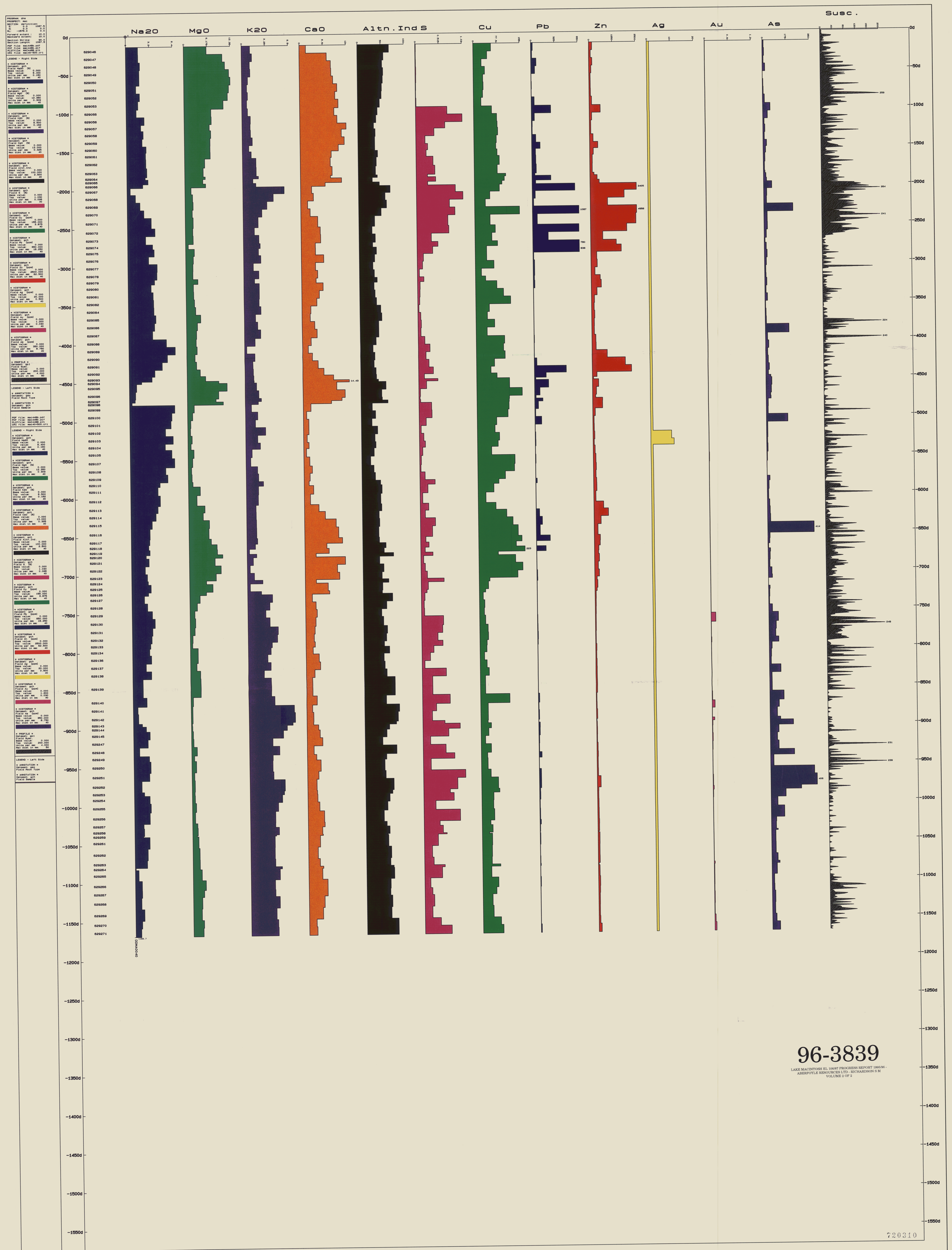
Plate No.: MAC448



96-3839

LAKE MACINTOSH EL. 1067 PROGRESS REPORT 1995/96
ABERFOYLE RESOURCES LTD., RICHARDSON'S M.
VOLUME 2 OF 2

Aberfoyle Resources Limited				720008
EXPLORATION DIVISION				
TerraNova				
Mackintosh E.L. 106/87				
CDH MAC-40				
Section on 8000N				
Location Code:				
Scale: 1:1000				
Date: 15/08/95				
Author: J. MacKay				
Revisions				
NO.	DATE	BY	REVISION	
1	11/95	JM	1	
Location Code:				
Scale: 1:1000				
Date: 15/08/95				
Author: J. MacKay				



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LAKE MACINTOSH E.L. 108/87 PROGRESS REPORT 1995/96
ADDERFOTLE RESOURCES LTD. - RICHARDSON'S M.
VOLUME 2 OF 2

720310

5 cm

Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS				Tasmania		Compiled: <u>PHW</u>	
Inst	Date	Inst	Date	Mackintosh E.L. 106/87		Drawn:	
				Geochemical Profiles		Traced:	
				DDH MAC40 (sheet 2 of 2)		Checked: <u>SHR</u>	
				24/01/95		Plate No: <u>MAC40B</u>	