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Aberfoyle Resources Limited

EXPLORATION DIVISION

ACN 004 664 108

EXPLORATION LICENCE 13/94

MOUNT CATTLEY

TASMANIA

MICROFILMED
FICHE No.013777-

EL13/94
21 NOV 1995
See folio 24

PROGRESS REPORT FOR THE PERIOD

OCTOBER 1994 TO SEPTEMBER 1995

VOLUME 1 OF 1

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95-3798

PROGRESS REPORT 1994-95
MT CATTLEY ABERFOYLE -
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Burnie	(1/3)
Melbourne	(2/3)
sources Tas	(3/3)

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MAC153P/A	1:10,000	Mackintosh EL 106/87, Gridding 1994/95

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2. EL 13/94 Mount Cattley Surface EM Survey

APPENDICES

- 1: TDEM Data Sections

1.0 SUMMARY

Work on EL 13/94 during the current reporting period has focussed on surface EM surveying of sub-Tertiary basalt Que-Hellyer Volcanic correlates. These are inferred to occupy the core of the south plunging Black Marsh syncline in the southern half of the EL. A four loop 17.5 line kilometre survey was completed. No conductors attributable to massive sulphide mineralisation were detected.

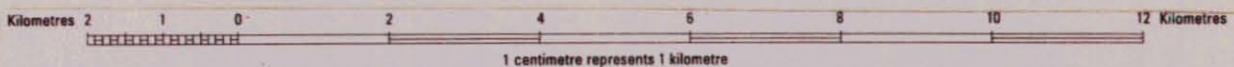
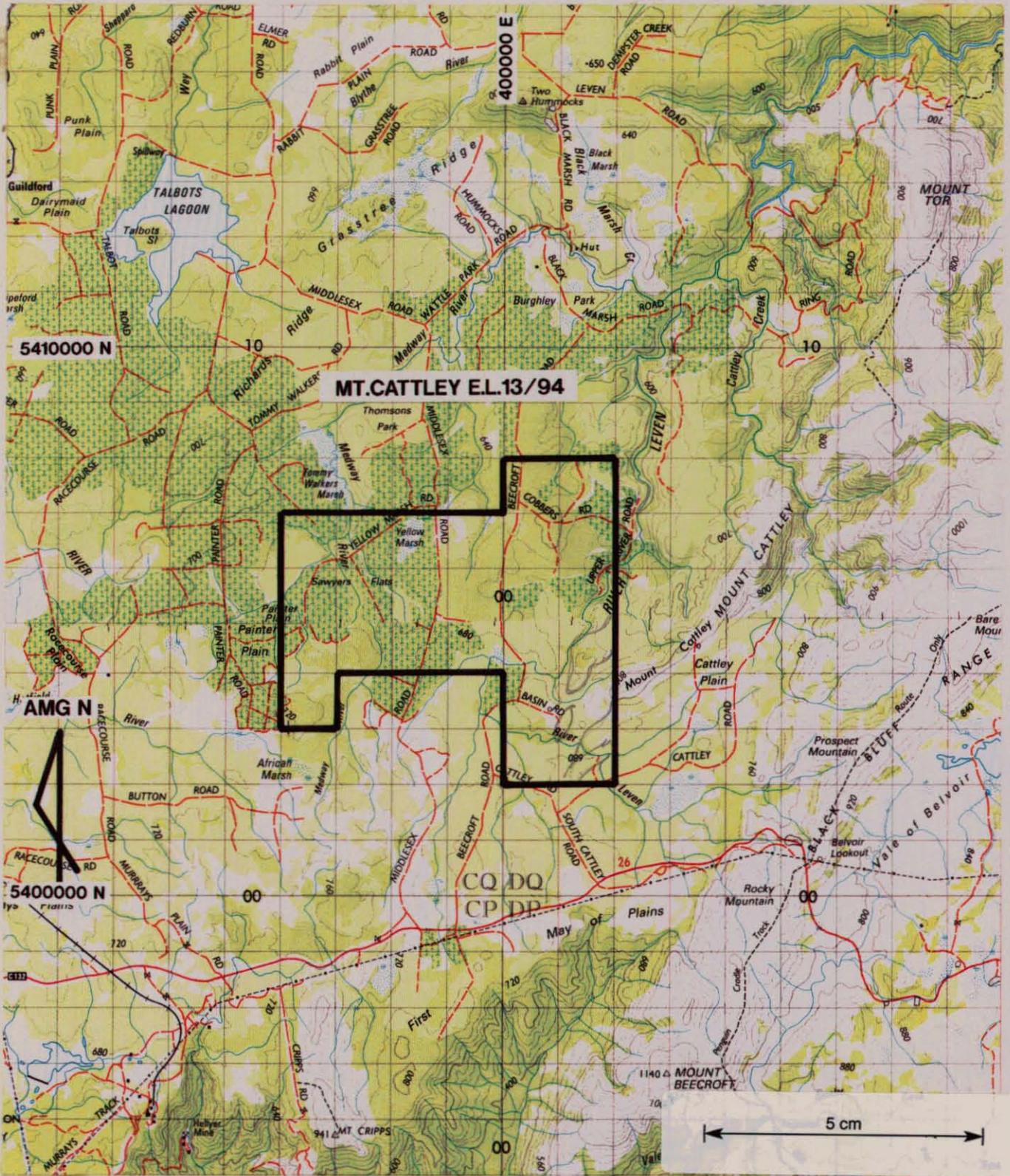
Future work will focus on the area west of MCDD6 where an 800 metre drill hole is proposed to test a deep structural/stratigraphic target.

2.0 INTRODUCTION

Exploration Licence 13/94, Mount Cattley, covering 25 sq km is located ten kilometres northeast of Hellyer mine, Figure 1. The licence was granted to Aberfoyle Resources Ltd on 21 October, 1994.

The area is considered prospective for Volcanic Hosted Massive Sulphide mineralisation hosted by correlates of the Que-Hellyer Volcanics. These rocks occur beneath Tertiary basalt cover in the southern half of the EL.

This report describes exploration completed on the Mount Cattley licence for the period October, 1994 to September, 1995.



Aberfoyle Resources Limited
EXPLORATION DIVISION

NORTH WEST TASMANIA
E.L.13/94 MT.CATTLEY
LOCALITY PLAN

Compiled : **RdB**
Drawn : **RdB**
Traced :
Checked : **SMR**
Plate No. : **CAT1**

REVISIONS			
Init.	Date	Init.	Date

Location Code :

Scale : **1 : 100000**

Date : **OCTOBER 1995**

1-05

3.0 WORK COMPLETED

3.1 Introduction

Correlates of the Que-Hellyer Volcanics are known to underlie Tertiary basalt, at depths of up to about 300 metres, in the core of the Black Marsh Syncline; Figure 2. To date two Outokumpu drill holes have tested these rocks; MXRD1 (1990) 750.0m and MCDD6 (1991) 798.0m. Both indicate remarkably similar stratigraphy to EL 106/87, Mackintosh with correlates of the Animal Creek Greywacke through to the Southwell Sub-Group being intersected.

On the basis of these two holes Outokumpu interpreted the Que-Hellyer Volcanic Mixed Sequence to thicken toward the west.

3.2 Surface EM Survey

3.2.1 Introduction

Surface EM 37 surveys were carried out by Outokumpu in 1987 (Figure 2) but did not cover the western limb of the Black Marsh Syncline where Que-Hellyer Volcanics are now known to occur. Although conductive Tertiary basalt would limit the effectiveness of surface EM it was considered that conductive VHMS mineralisation around Hellyer orebody size would be detectable.

3.2.2 Surveyed Area

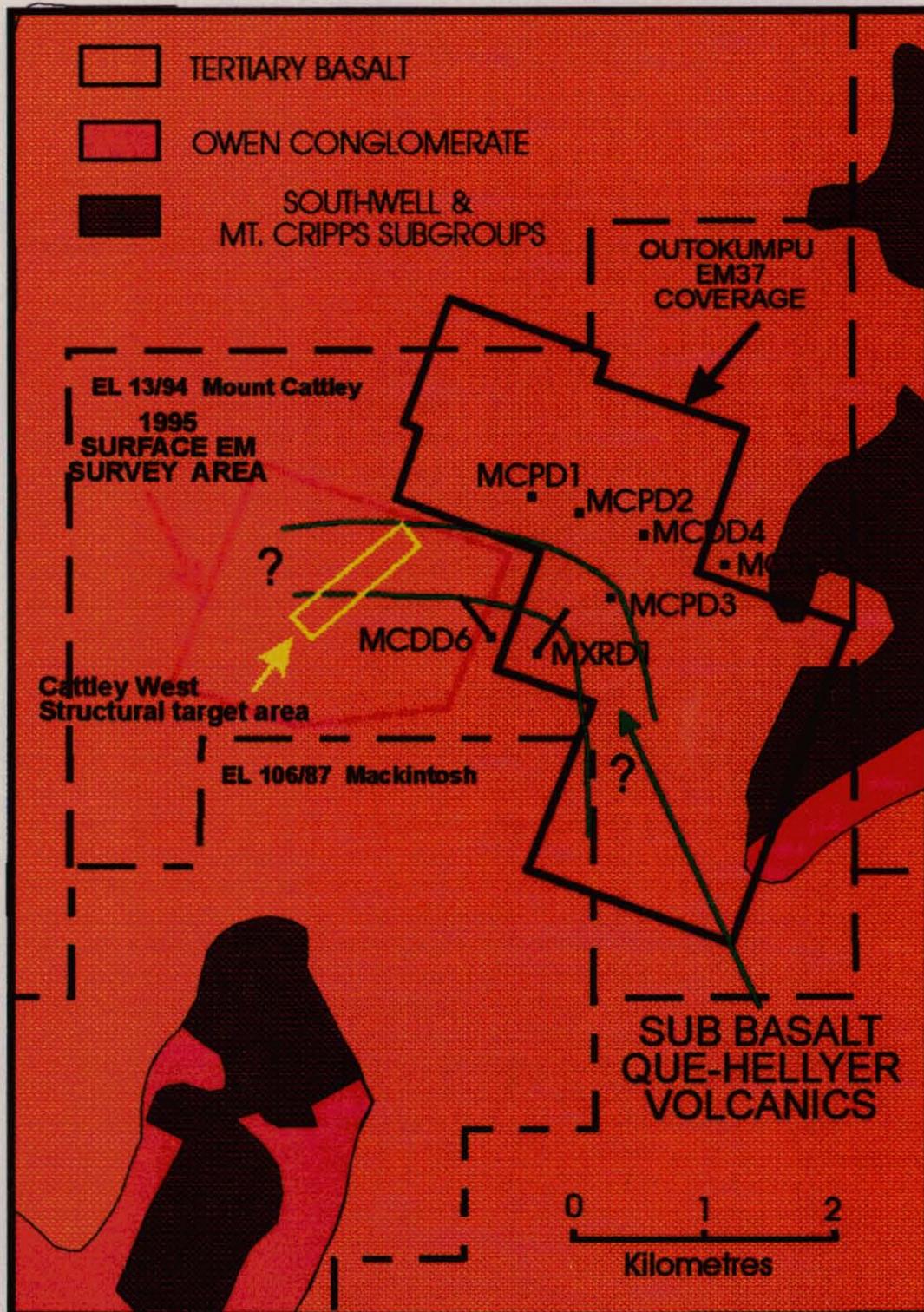
A four loop 17.5 line kilometre surface EM survey was conducted over the western limb of the Black Marsh Syncline. The survey area was chosen to cover the inferred location of Que-Hellyer Volcanic correlates and prospective basal Southwell Sub-Group rocks.

3.2.3 Specifications

A four fixed loop programme, utilising Zonge GDP 16 TDEM system operating at 8 hz was conducted over parts of the exploration licence (see Plate MAC 153P/A).

EL 13/94 MOUNT CATTLEY SURFACE EM SURVEY

Figure 2



5 cm

The system was operated in a reconnaissance mode, and only the vertical component data was collected at 50 metre station spacing.

The data was then to be analysed using simple spatial derivative techniques, and if a bedrock conductor (at least a conductor beneath the tertiary basalt cover) was to be identified, then 25 metre station spacing data consisting of both the vertical and horizontal components was to be collected.

3.2.4 TDEM Data Set

Collecting data with a base frequency of 8 hz, results in a data set with the latest time window at 24.24 msec and for this survey a suitable frequency for penetrating very moderately conductive tertiary basalt cover. In fact, as the inspection of the data set in profile form shows, there is practically no background signal from the basalt cover at these late times. (Appendix I, TDEM Data sections).

Inspection of the data also shows, that no effects from confined conductors beneath the basalt cover are evident in the data set. Only variations in the basalt topography are effecting the data set.

3.2.5 Conclusion

No effects which could be attributed to conductors beneath the basalt cover are evident in the data set.

4.0 **FUTURE PROGRAMME**

The surface EM survey is considered to test the Que-Hellyer Volcanics for about 100-150 metres beneath the base of the Tertiary Basalt. Therefore, future drilling will need to target below the resolution of currently available geophysical methods.

On EL 106/87, Mackintosh, a genetic association between syn-volcanic structures and mineralisation is recognised. Localised dilation and rapid subsidence at the intersection of syn-volcanic faults can allow highly focussed hydrothermal fluid flow leading to orebody formation. Syn-volcanic structures have been identified and others inferred from the integration of geologic, magnetic and gravity datasets. Drill testing of prospective stratigraphy at great depth, adjacent to inferred syn-volcanic structures and in particular their intersections, is underway at Mackintosh.

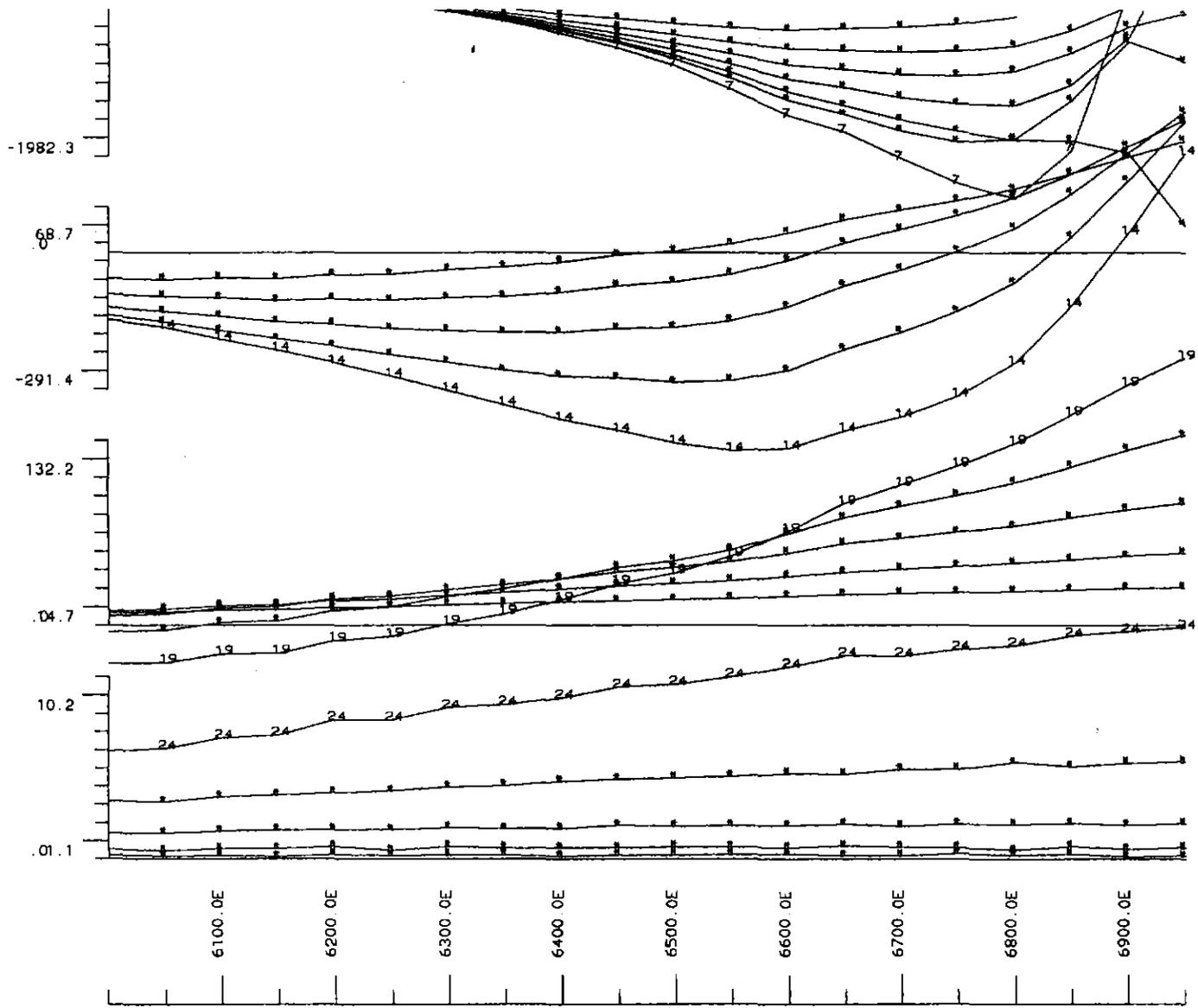
Two potential syn-volcanic structures, identified from aeromagnetics, can be extrapolated from Mackintosh EL 106/87. They intersect about one kilometre west of hole MCDD6 to define a target area referred to as Cattley West (Figure 2). Due to very limited information on Cambrian geology on EL 13/94 such a target is high risk. The only available support is apparent thickening of Mixed Sequence correlates from MXRD1 toward MCDD6 (McKay, 1991), possibly indicating increasing subsidence in the target area.

The Cattley West target is proposed for drilling in the coming twelve month period.

5.0 REFERENCES

McKay, G., 1991. Annual Report to 20 August, 1991. EL 14/85
Mount Cattley. Report to Mineral Resources Tas. by Outokumpu
Exploration Australia Pty Ltd.

APPENDIX I



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

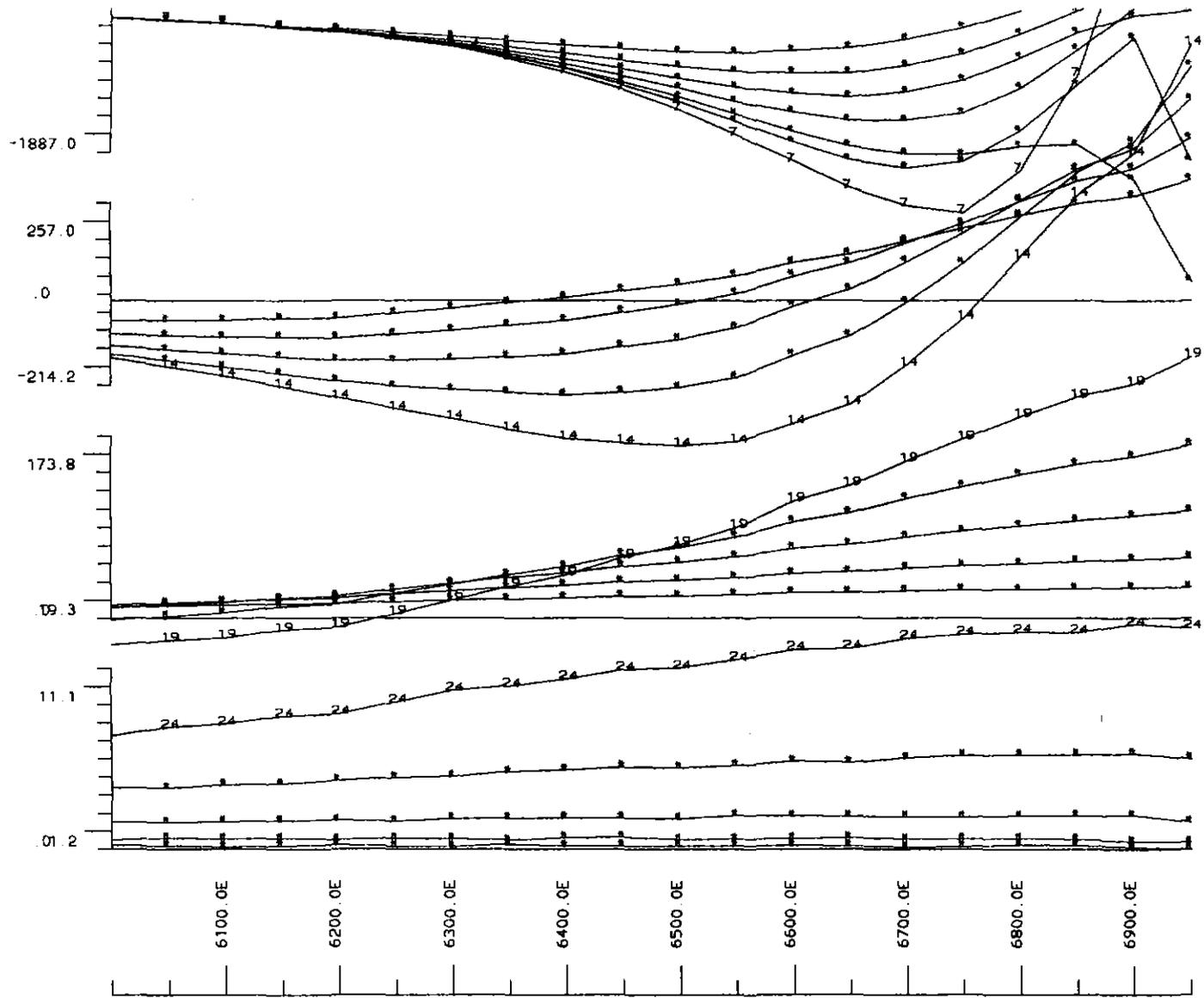
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PLOTTED MB

FIG 1

5 cm

745013



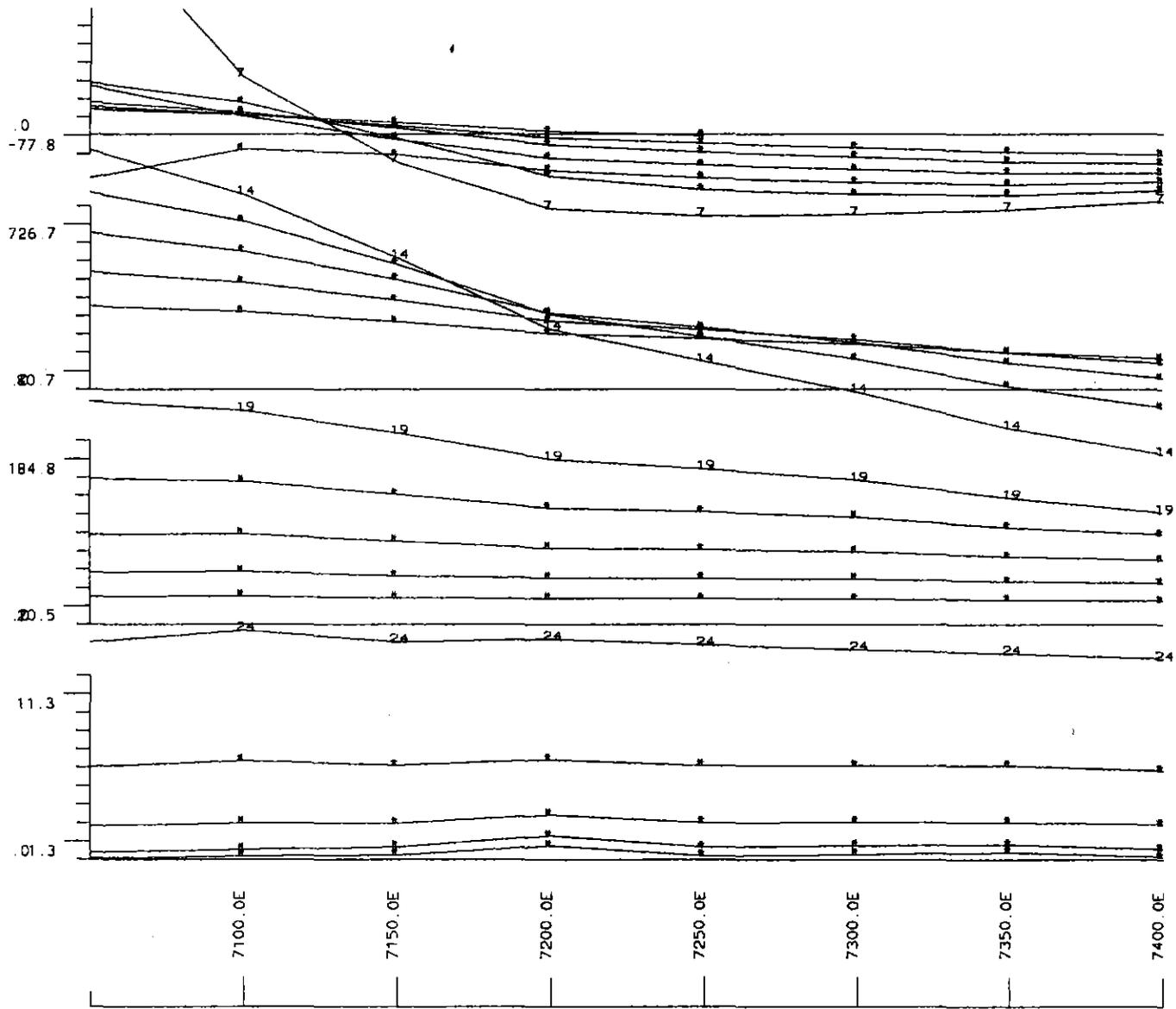
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 Horiz scale 1: 5757.6

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

5 cm

FIG2

745014



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

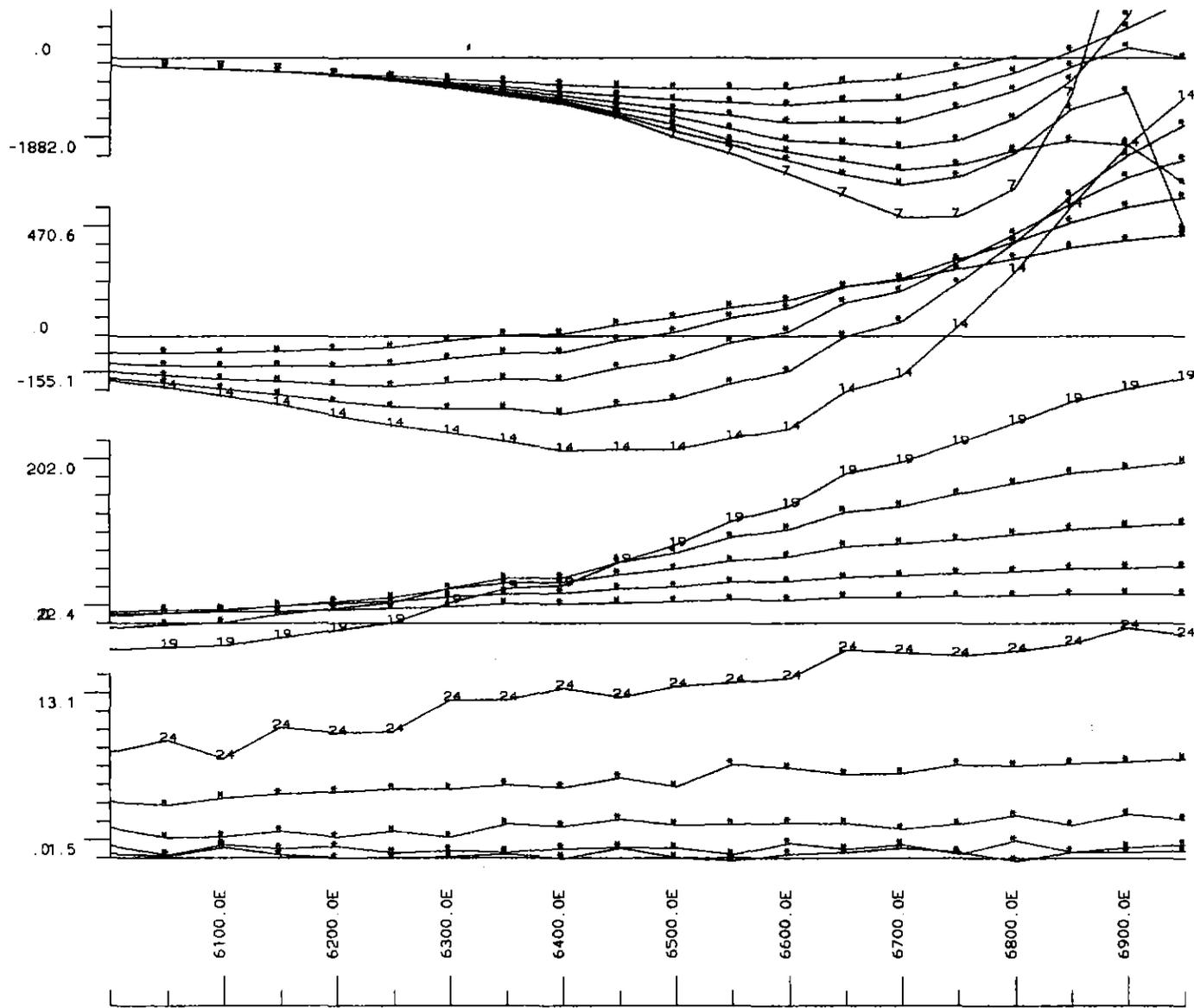
MAR 1995

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PLOTTED MB

Fig 3

245015



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

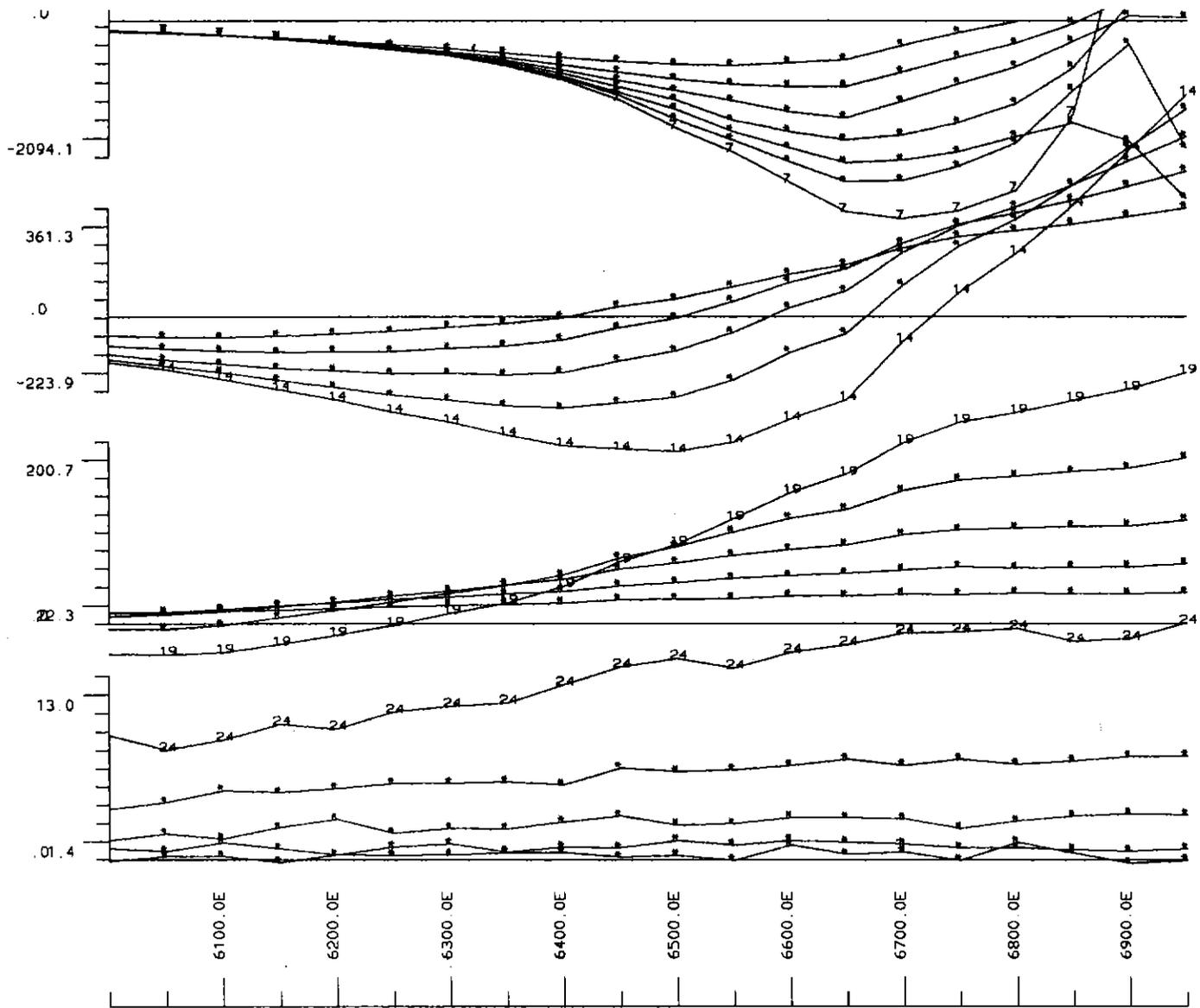
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PLOTTED MB

5 cm

Fig 3a

745016



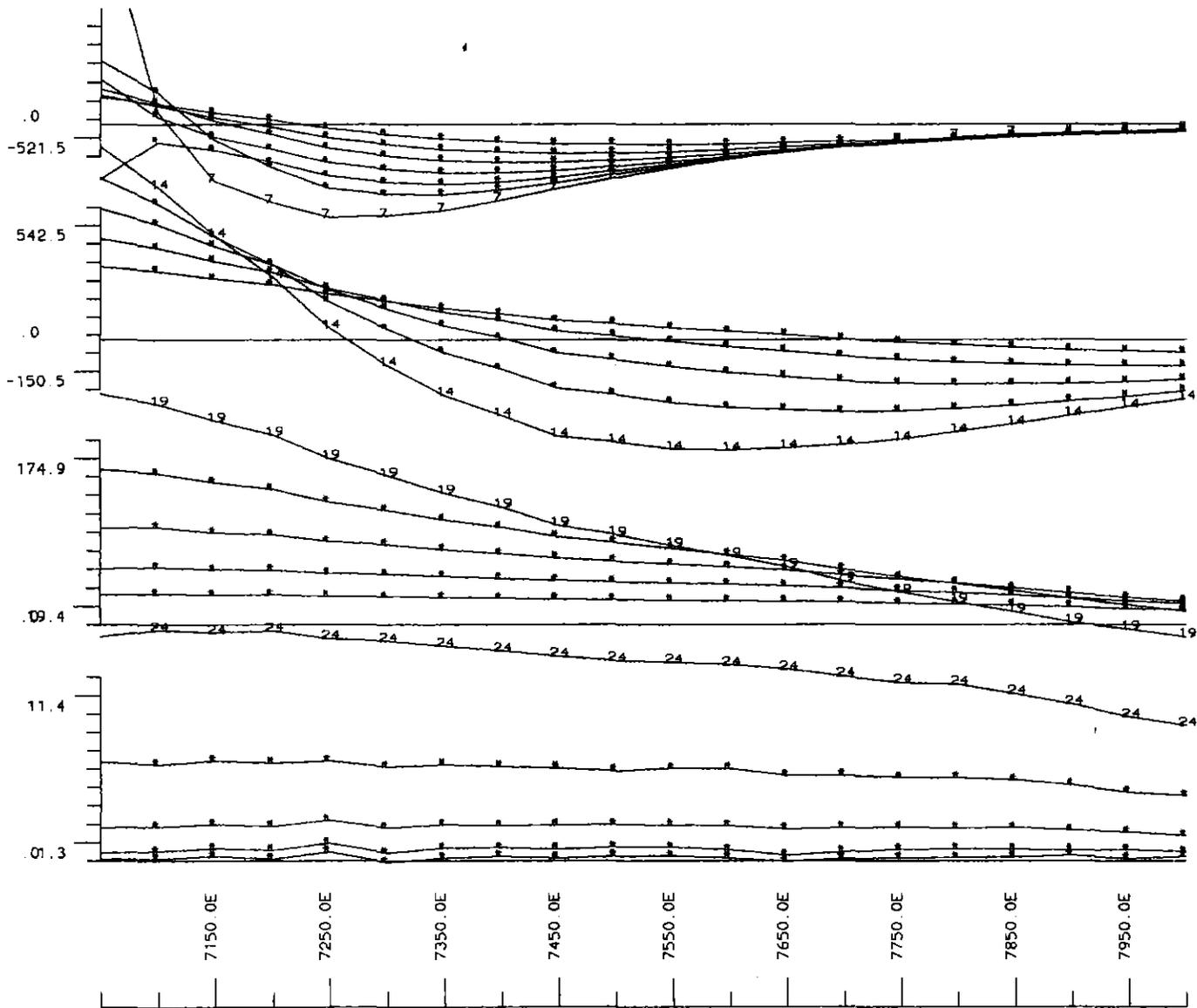
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 LINE: 20000.00N
 Date Plotted: 17/03/95
 Horiz scale 1: 5757.6

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

5 cm

Fig 4

245017



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

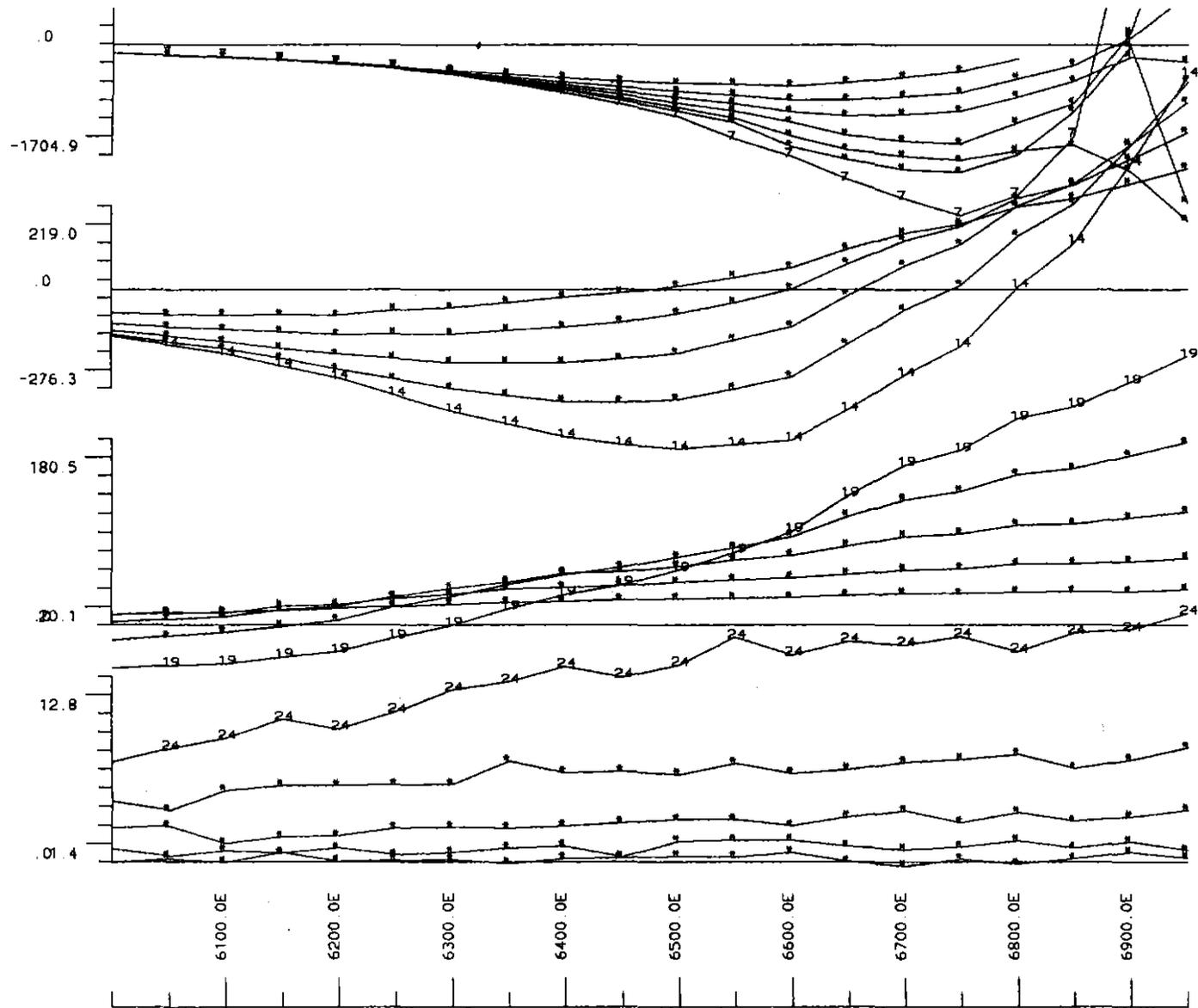
MAR 1995

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PLOTTED MB

Fig 4a

745018



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

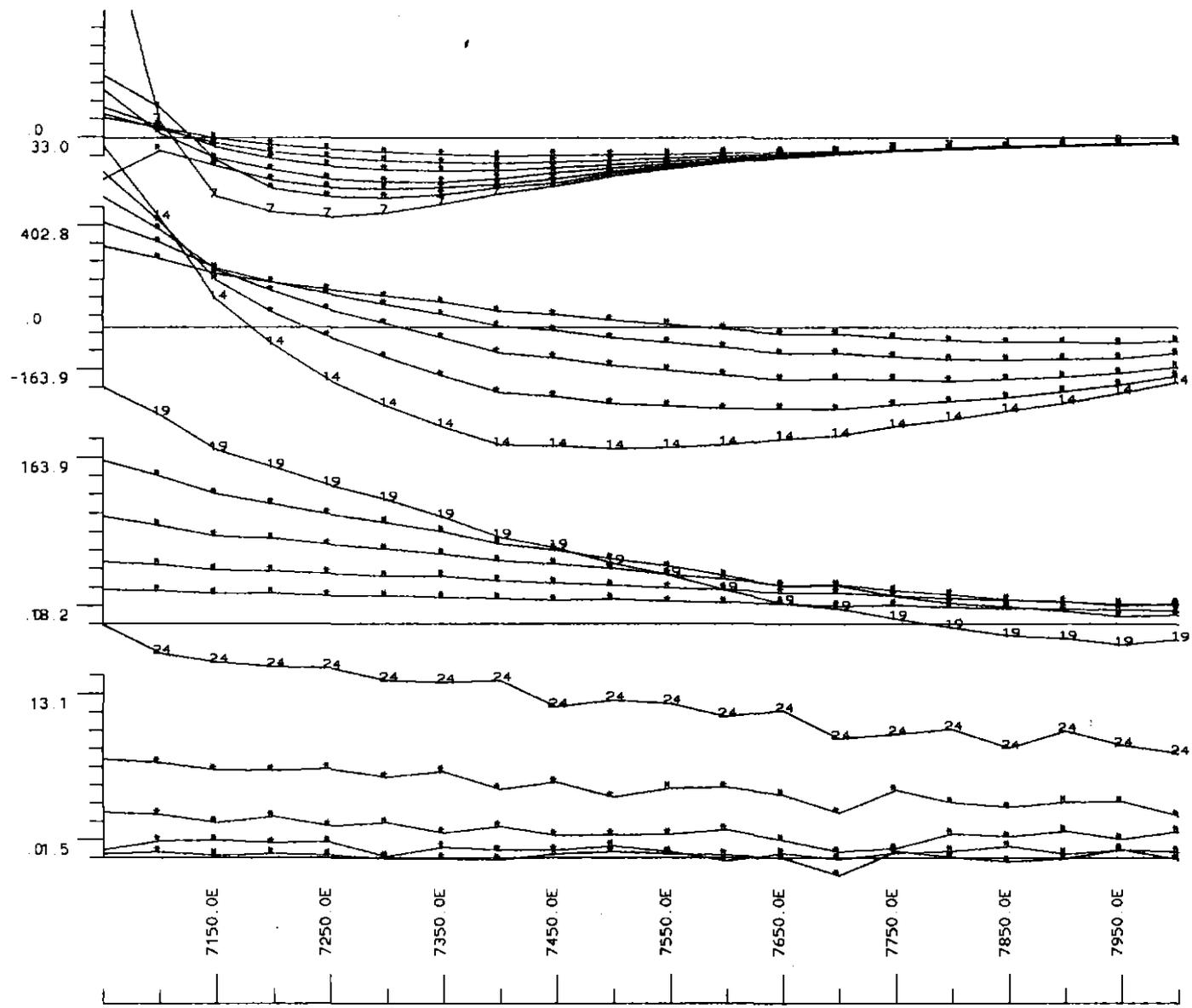
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5 cm

Fig 5

745019



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LOOP: 27

LINE: 20200.00N

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Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

MAR 1995

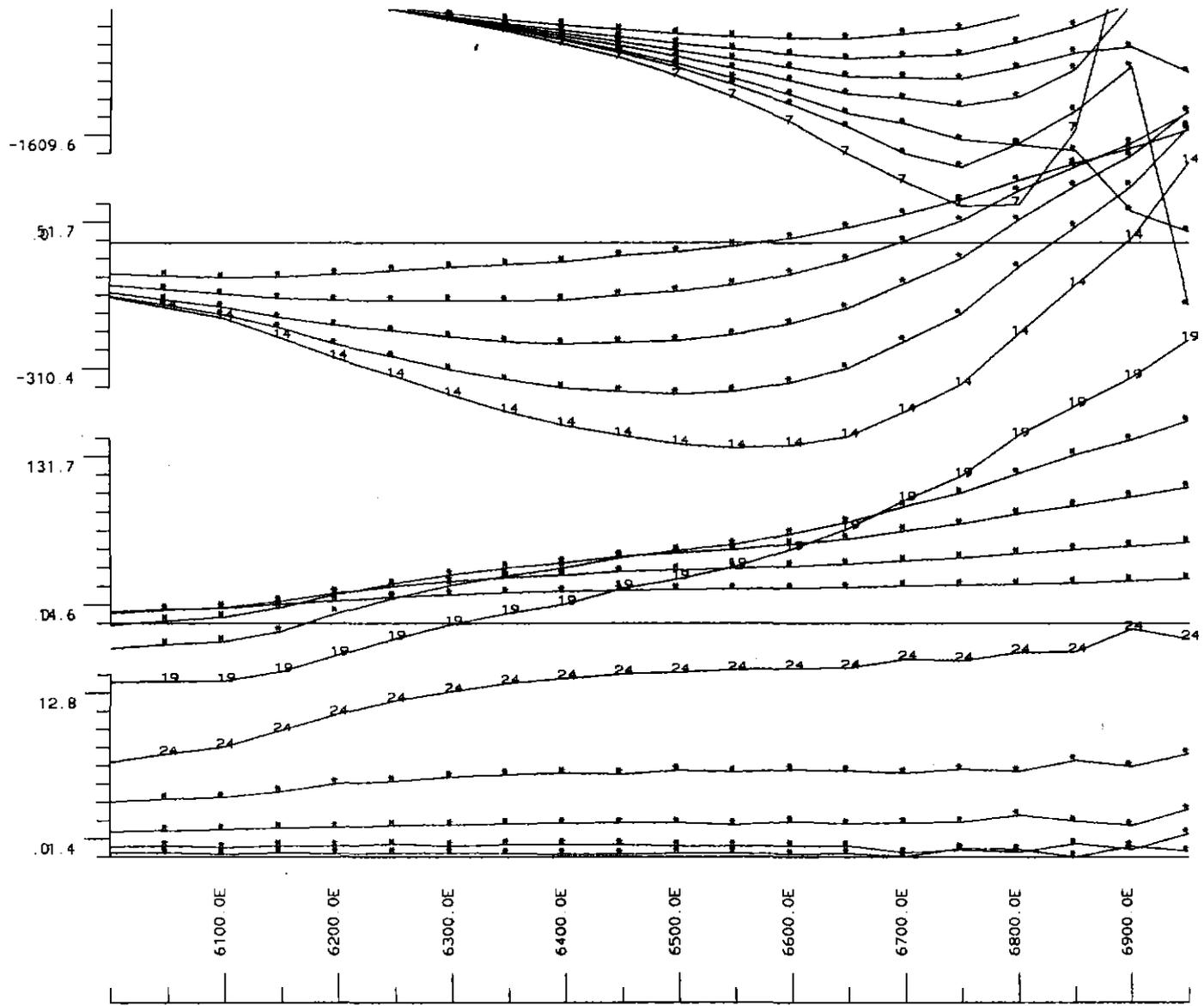
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5 cm

Fig 5a

245020



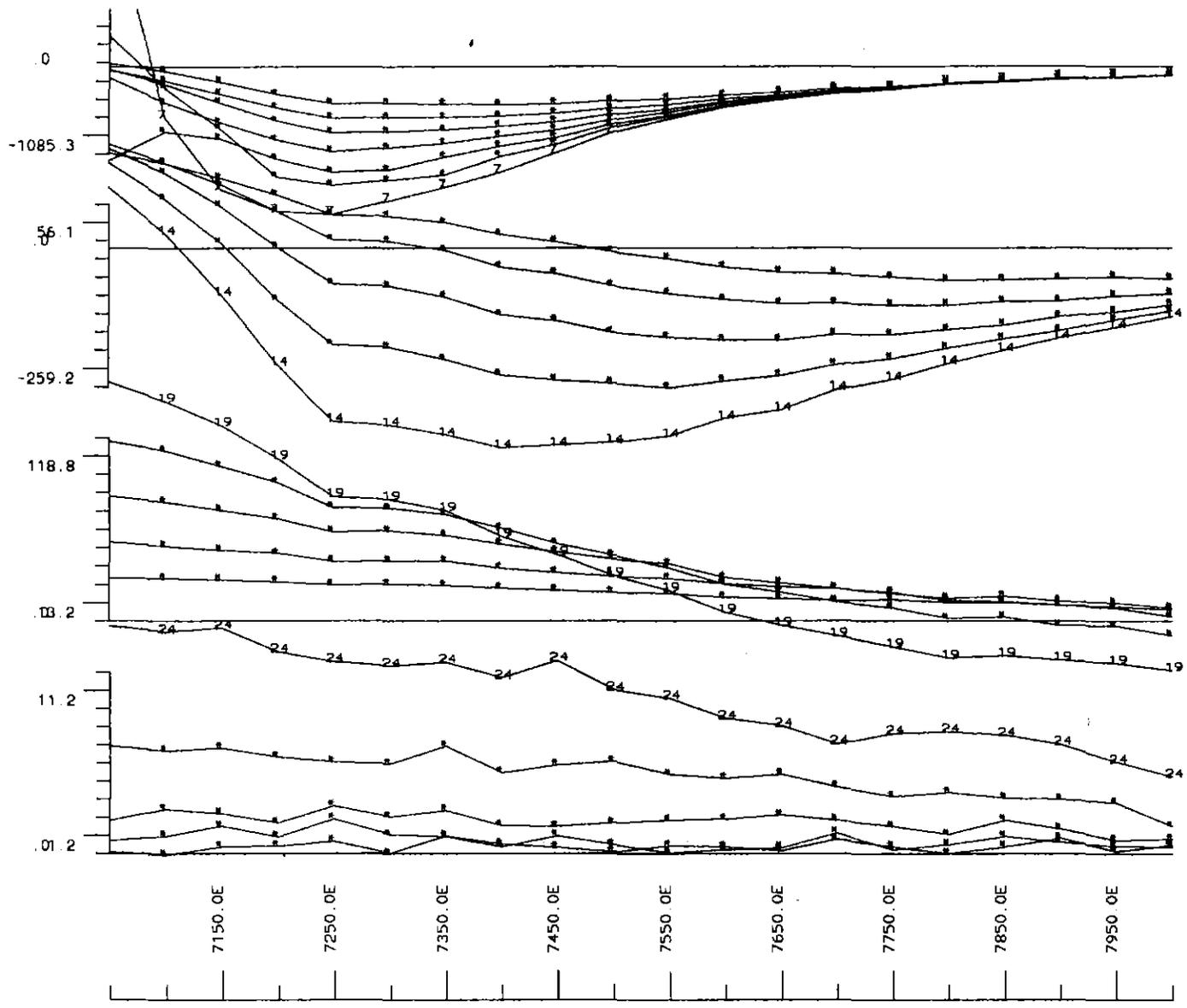
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 Horiz scale 1: 5757.6

MACKINTOSH
 SURFACE EM
 HZ COMPONENT
 ZONGE GDP16 8HZ
 MAR 1995
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 PLOTTED MB

5 cm

Fig 6

745021



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

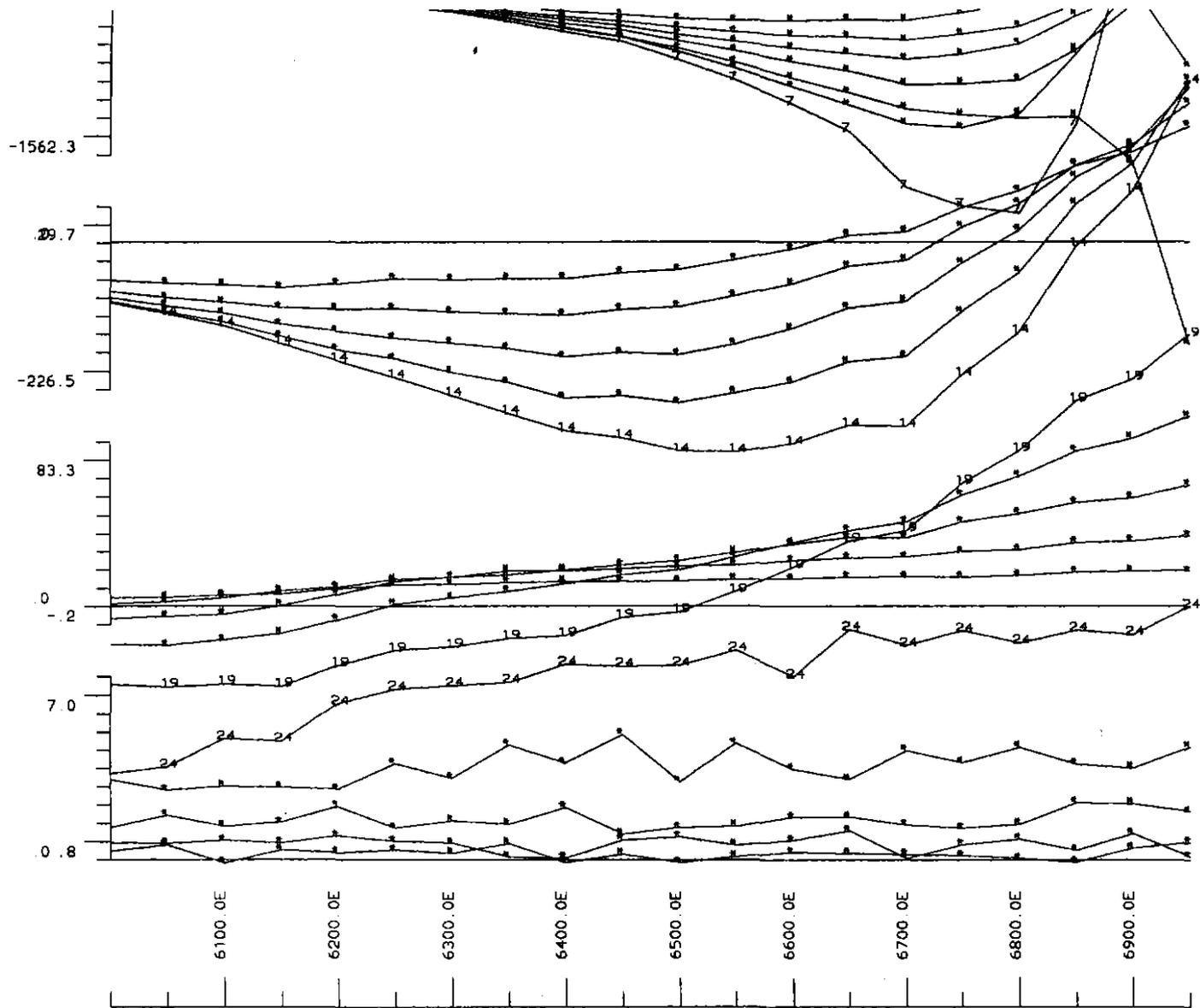
MAR 1995

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Fig 6a

745022



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

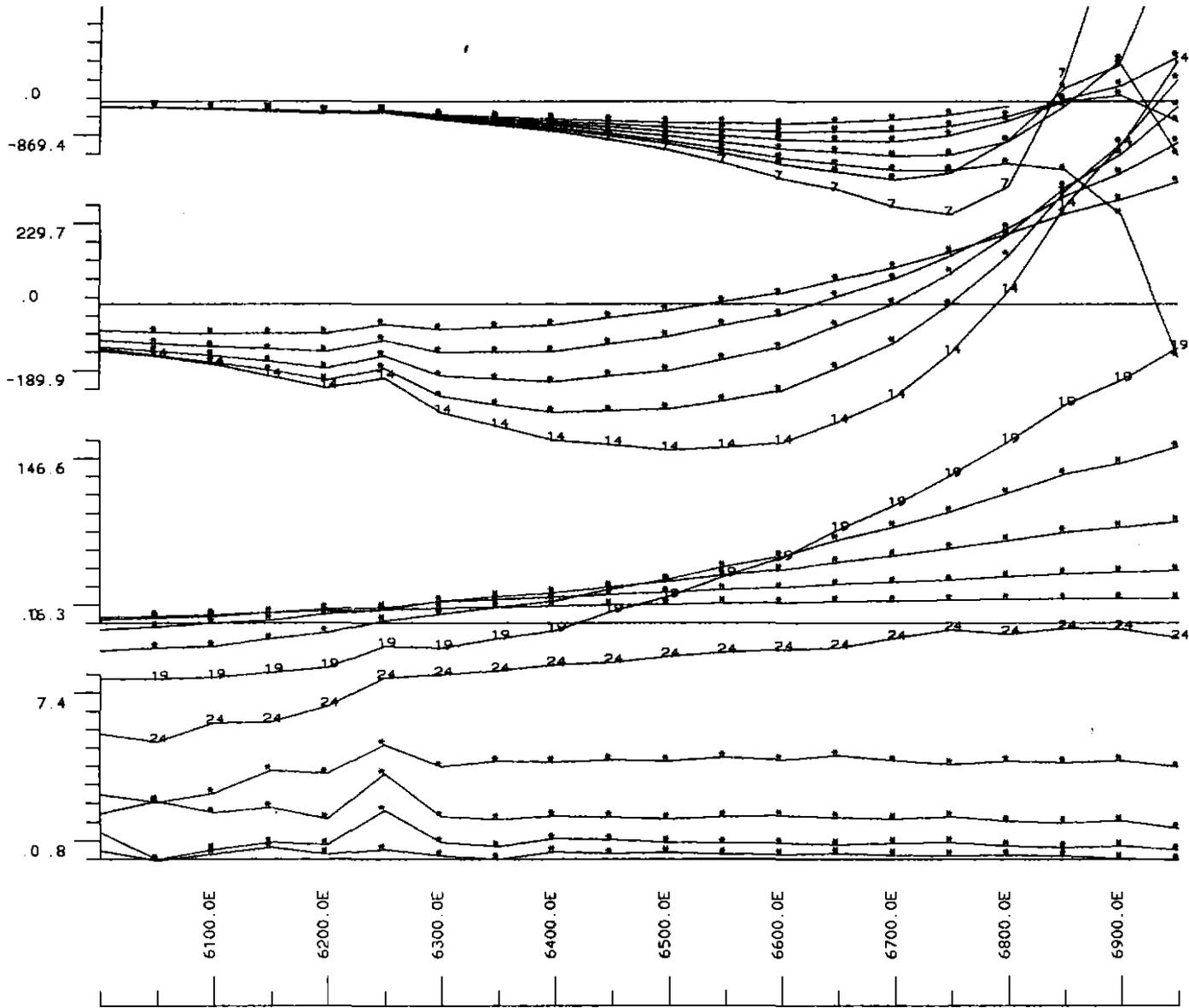
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PLOTTED MB

5 cm

Fig 6b

745023



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

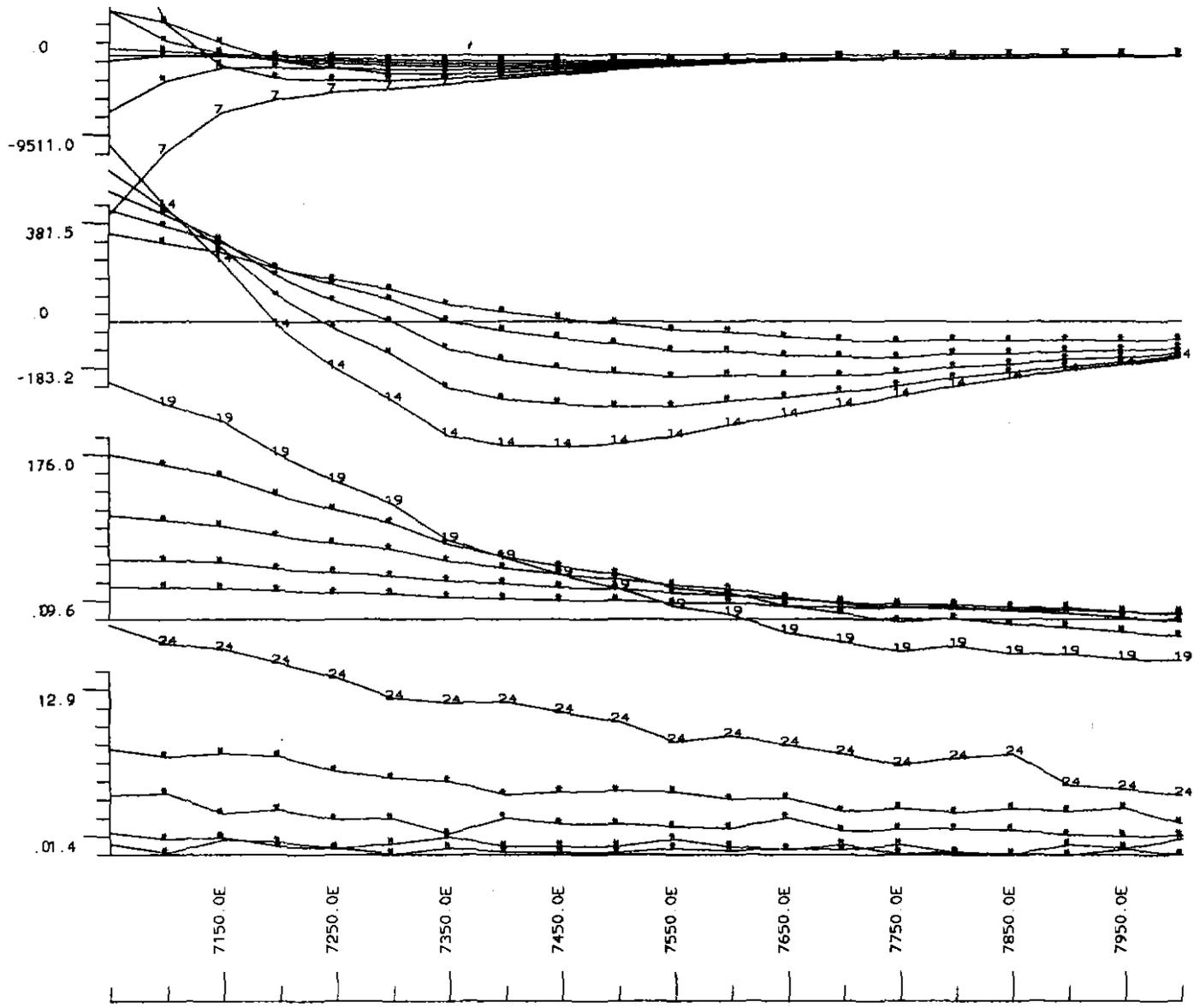
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5 cm

Fig 7

245024



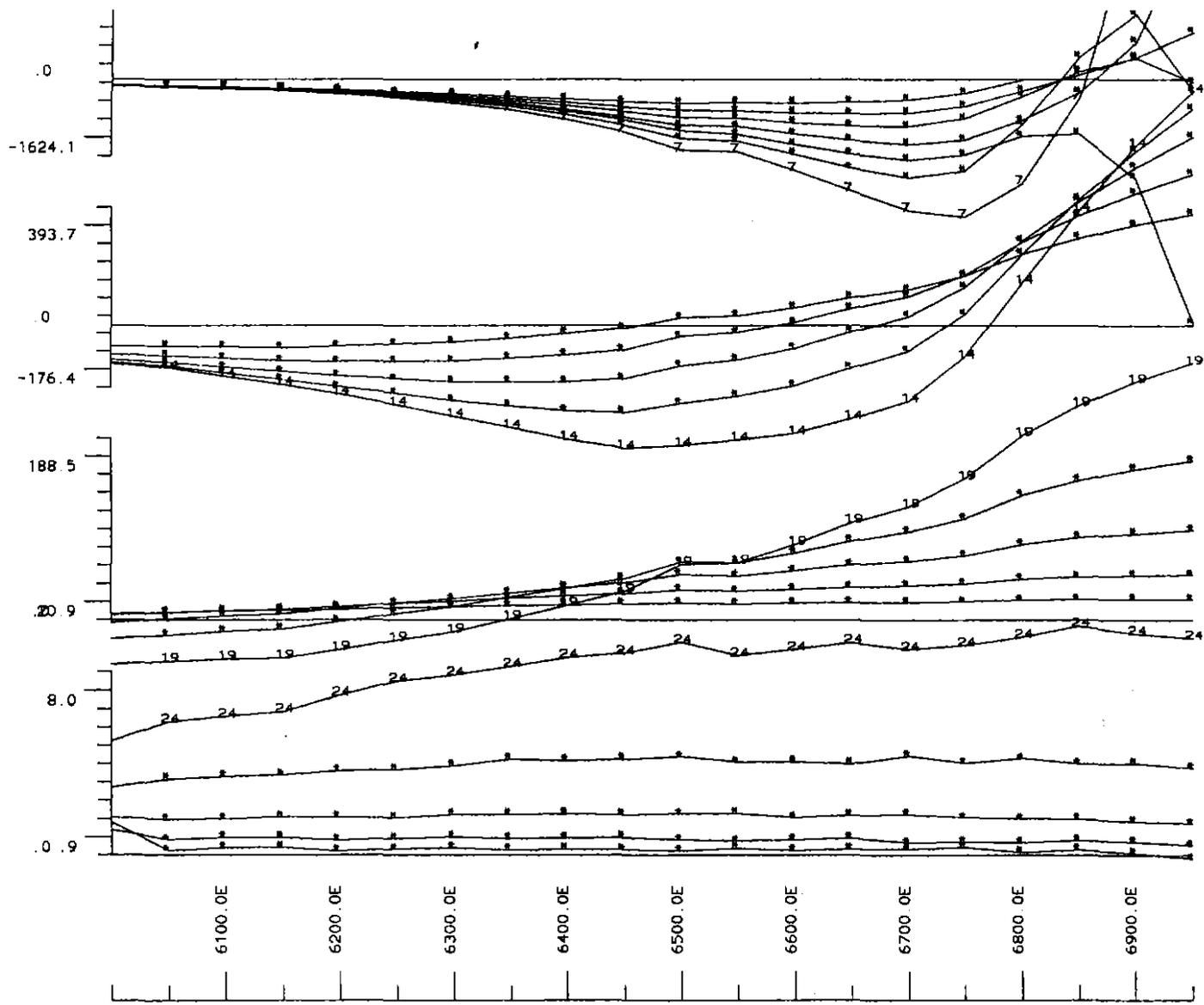
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 Date Plotted: 16/03/95
 Horiz scale 1: 5757.6

MACKINTOSH
 SURFACE EM
 HZ COMPONENT
 ZONGE GDP16 8HZ
 MAR 1995
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 PLOTTED MB

5 cm

Fig 7a

745025



Datafile: s\mac_em2\loop26.av

LDOP: 26

LINE: 20800.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

MAR 1995

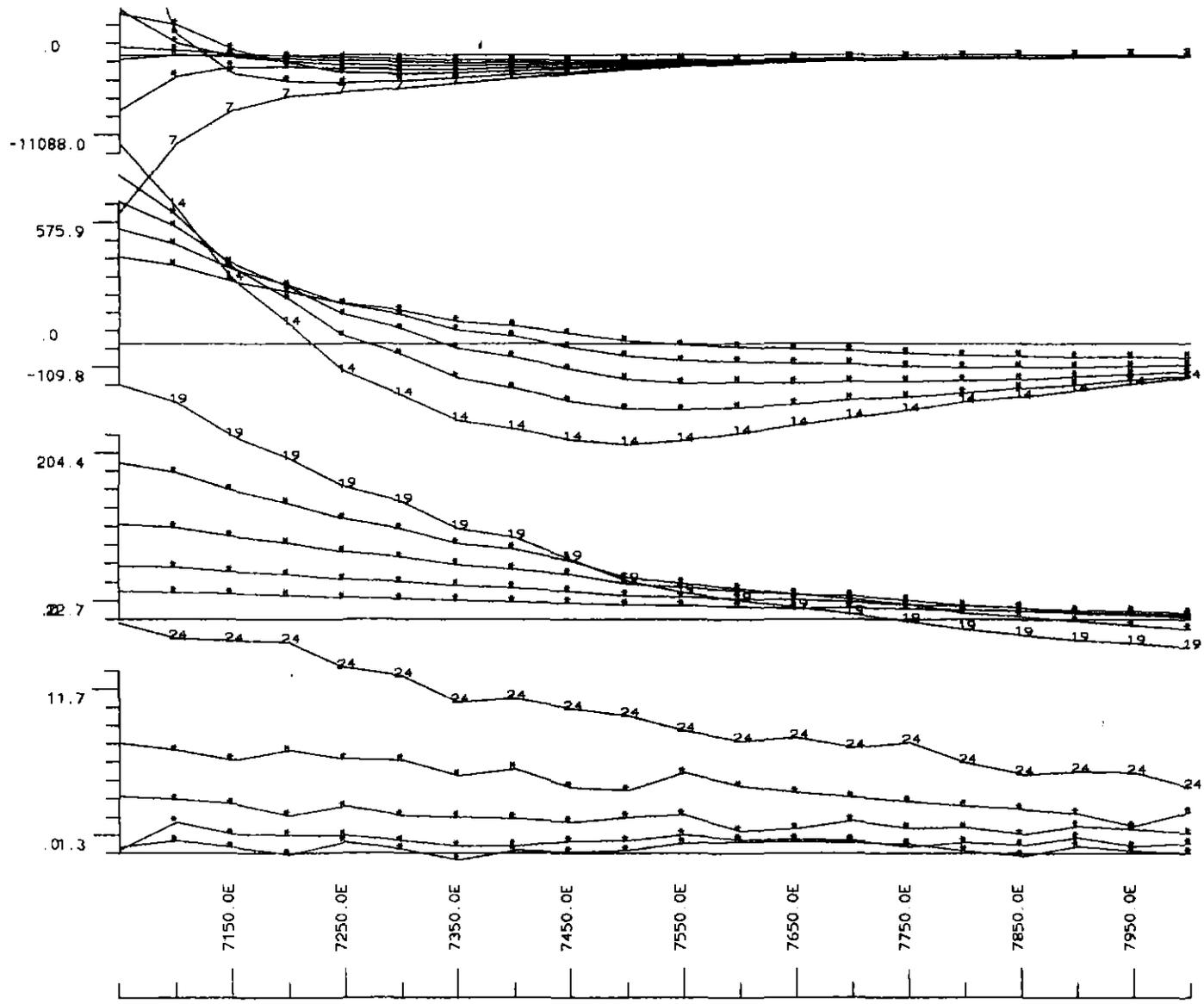
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5 cm

Fig 8

745026



Datafile: s\mac_em2\loop25.av

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LINE: 20800.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

MAR 1995

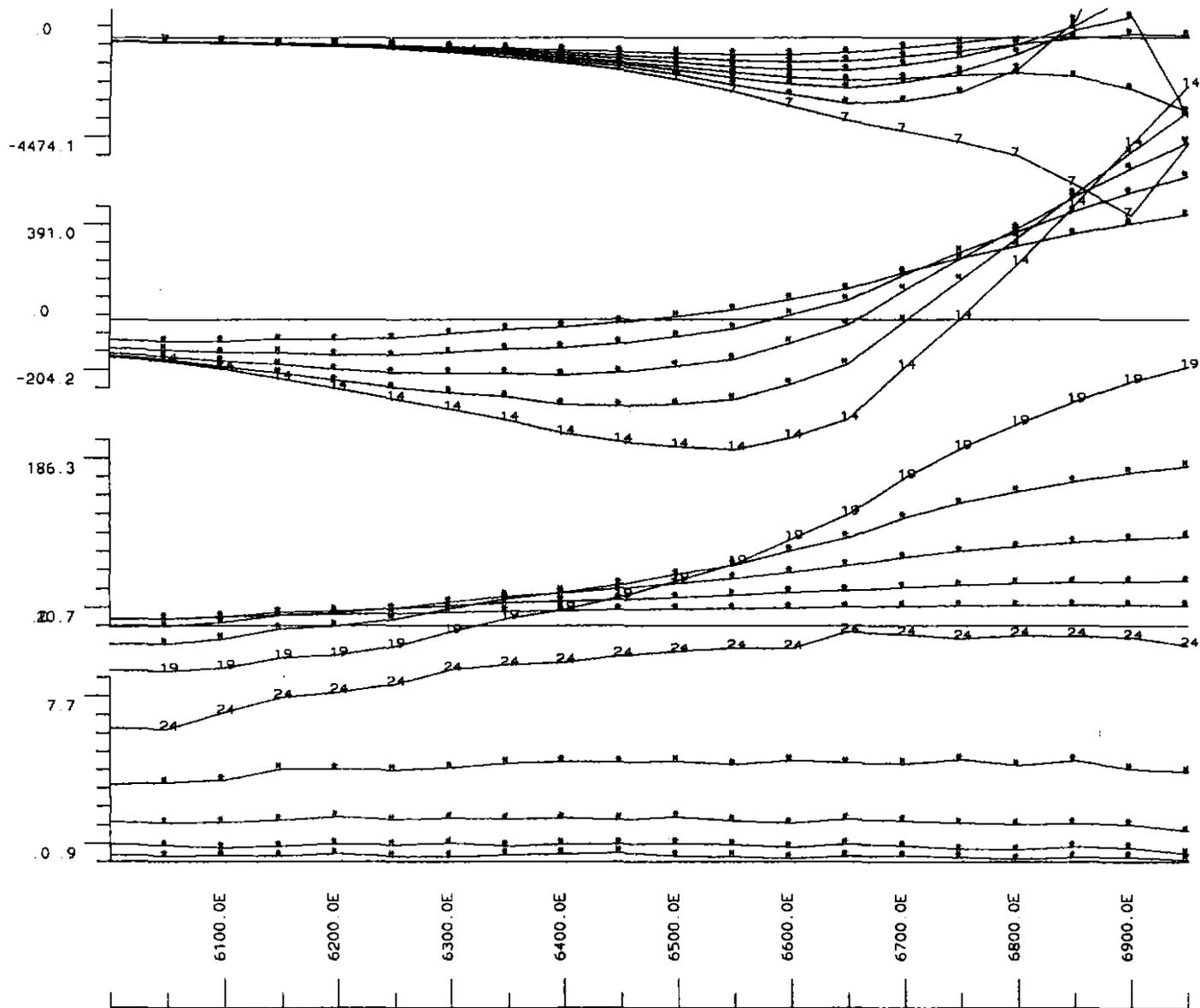
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5 cm

Fig 8a

748027



Datafile: s\mac_em2\loop26.av

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LINE: 21000.00N

Date Plotted: 16/03/95

Horiz scale 1: 5757.6

MACKINTOSH

SURFACE EM

HZ COMPONENT

ZONGE GDP16 8HZ

MAR 1995

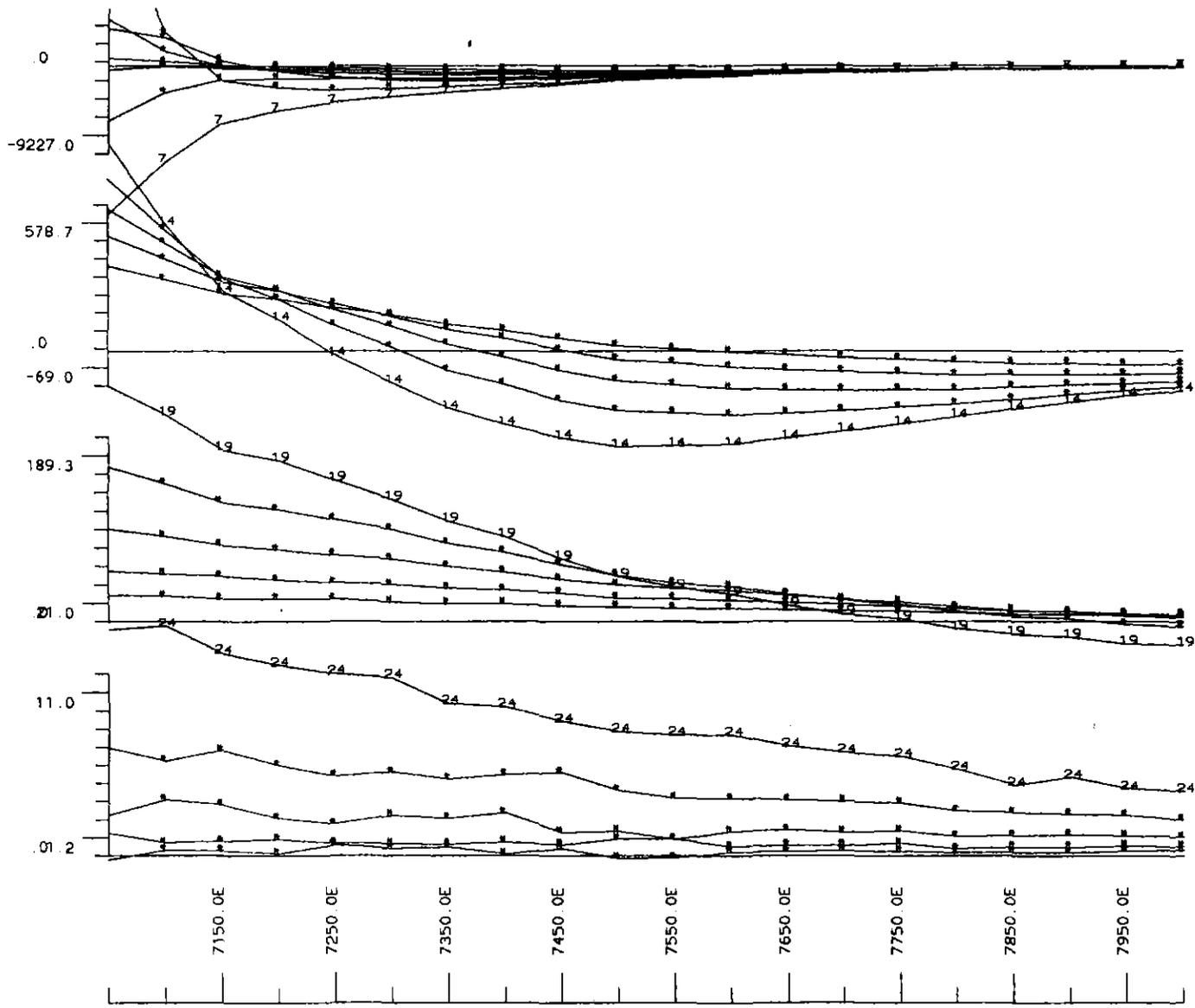
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5 cm

Fig 9

745028



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 GDP16 8HZ

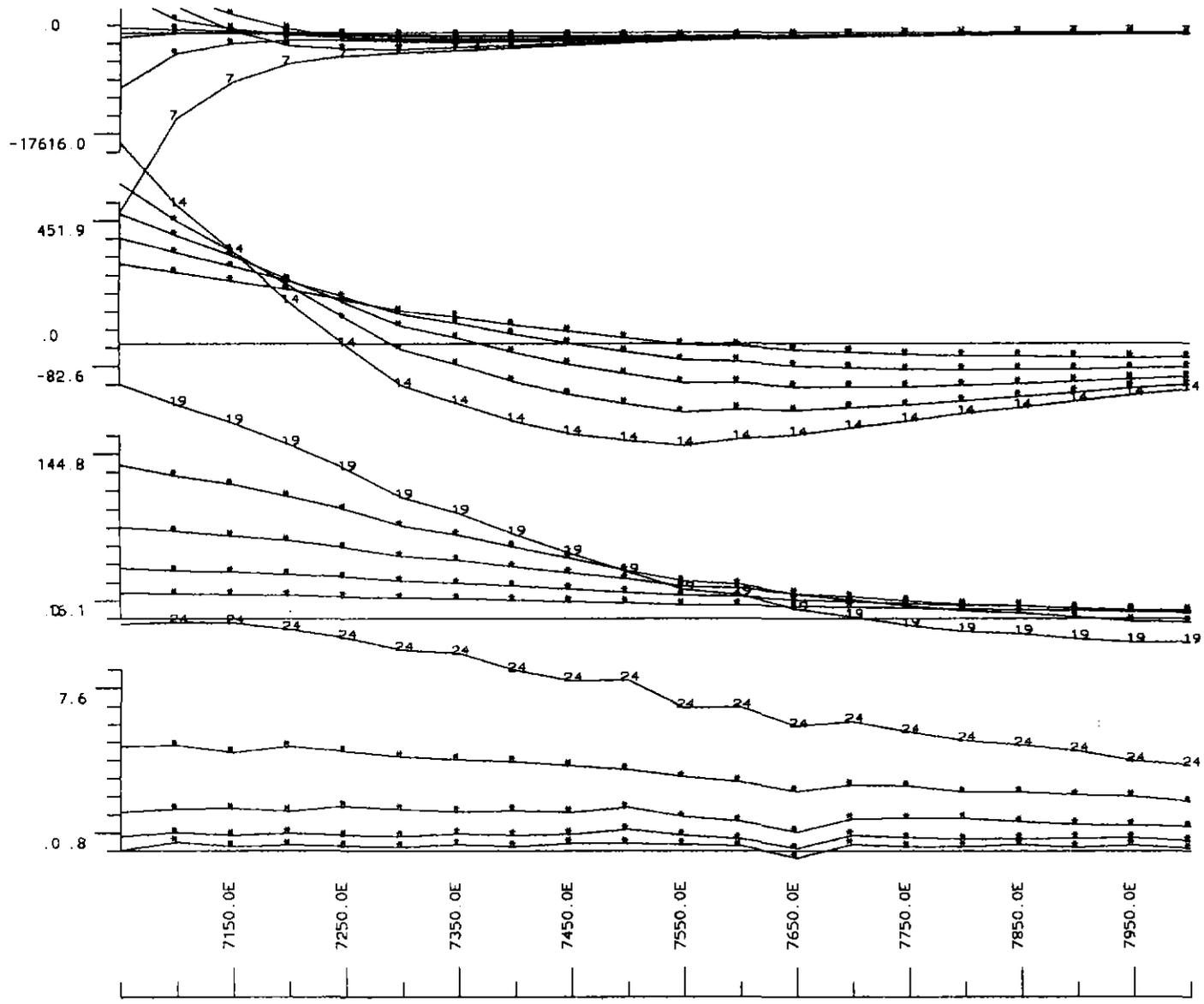
MAR 1995

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Fig 9a

245039



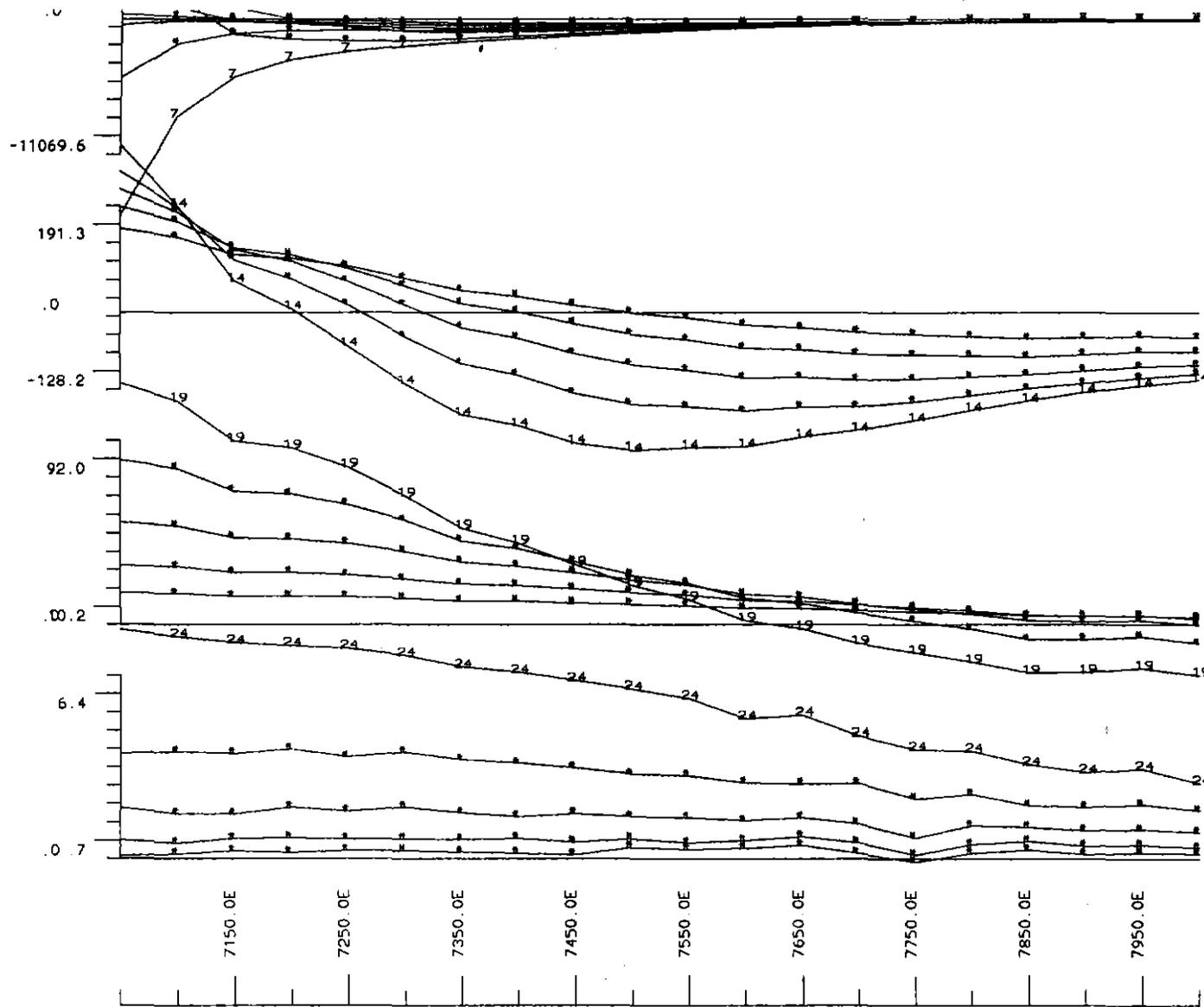
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 Horiz scale 1: 5757.6

MACKINTOSH
 SURFACE EM
 HZ COMPONENT
 ZONGE GDP16 8HZ
 MAR 1995
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5 cm

Fig 10

745030



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
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5 cm

Fig 11

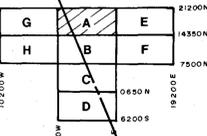
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PROGRESS REPORT 1994-95
 MT CATTELY ABERFOYLE
 RICHARDSON'S

MINE GRID NORTH
 AMG NORTH



745032

Aberfoyle Resources Limited
 EXPLORATION DIVISION

NORTH WESTERN TASMANIA

MACKINTOSH E.L.106/87
 GRIDGING 1994/95

REVISIONS			
Rev	Date	By	Desc
1	1994	JMS	Feb 93

Compiled :	SMR
Drawn :	Rdub
Traced :	Rdub
Checked :	Rdub
Plate No :	MAC153P/A

Location Code: Scale: 1:10 000 Date: OCTOBER 1994

