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A FINAL REPORT ON PARTS OF EXPLORATION LICENCE 35/81

RELINGUISHED IN 1985

LOW STONEY HEAD

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Report No. 1130

October, 1985.

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1. INTRODUCTION

1.1 Exploration Licence E.L. 35/81 was originally granted to Valken Mining Pty. Ltd. in 1981.

Valken Mining initially optioned the E.L. to C.R.A. Exploration on a joint venture basis.

C.R.A. were mainly interested in the exploration of alluvial gold from the basalt covered deep leads.

After some mapping, sampling and geophysical work, C.R.A. relinguished their option and the area reverted to Valken Mining.

The Exploration Licence was then taken up by Epoch Minerals Exploration NL on the basis that Valken Mining receive a gross royalty of 7% from any ultimate mining from leases pegged within the E.L..

1.2 Epoch Minerals Exploration NL have explored section of the E.L. for alluvial gold. It has retained those sections of the E.L. considered to have longterm potential for either alluvial or deep lead gold and has relinguished those areas considered less prospective.

1.3 Epoch have not carried out any exploration work on the area relinguished apart from very reconnaissance field examination. C.R.A. had carried out some geophysical traverses over Tertiary basalt areas near Beechford.

1.4 The area relinguished is shown on accompanying Plates 1 and 2 attached to this report.

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2. GEOLOGY

2.1 The oldest rocks in the area relinguished are lower Palaeozoic Mathinna Beds, predominantly phyllites, siltstones, slates and sandstones generally altered to the Lower Greenschist Facies.

2.2 These rocks crop out in the higher elevated area and are covered by Quaternary sediments and Tertiary basalts elsewhere.

2.3 The Tertiary basalts are confined to a central zone extending from Lefroy to Beechford. The extent of basalt subcrop on the area relinguished is shown on Plate 1. The basalts are thought to overlie deep lead sediments which may be prospective for alluvial gold derived from the weathering of the auriferous reefs of the Lefroy area.

2.4 To determine the depth of basalt C.R.A. Exploration carried out gravity and magnetic geophysical surveys over a wide area from Lefroy to Beechford. Several of the traverse lines are within the area relinguished. The position of these lines is shown on Plate 1.

2.5 The lower elevated areas, particularly along the coastal plain are covered with Quaternary sediments. Over a large area along the coast these sediments comprise sand, silt and clay. Some deposits of windblown sands including old dunes occur. Alluvial deposits of sands and clays are present adjacent to the creek and river and marsh deposits in a number of areas.

2.6 Scattered remnant Pleistocene conglomerate or gravel deposits occur particularly on the more elevated areas. These are thought to have a shallow marine origin, associated with at least one incursion of the sea during the Pleistocene Era.

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2.7 There is no known mineralization in the area relinguished. However, the Lower Palaeozoic Mathinna Beds are prospective for hydrothermal gold mineralization contained within quartz reefs developed along structural lineations.

2.8 All the known reefs of the Lefroy and Back Creek area have been retained within the Exploration Licence or encircled Mining Leases.

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3. EXPLORATION BY C.R.A.

3.1 The geophysical work carried out by C.R.A. within the relinguished area comprised -

(a) Part of Lefroy Gravity and Magnetic Traverse No. 2.

(b) Ground Magnetic Traverses Nos. 22, 23, 24, 25, 29, 30, 31 and 32.

3.2 Copies of these traverses in the format received from C.R.A. are attached to this report as Appendix I.

3.3 The Magnetic Data on Line 2 is fairly confused and noisy, in an area where the basalt is extensive, approaching a plain situation rather than a defined river valley. Similarly the gravity data is also complex. C.R.A. used a fourth order line of best fit to the profile to obtain residuals for inversion modelling.

3.4 The modelling suggests that 2 channels occur, one west of the Beechford Road, within the area retained in E.L. 35/81, and one to the east outside the area retained. We have smoothed the model to provide a more realistic geological interpretation.

3.5 The Magnetic Data on the other lines is also confused, but it is possible to delineate on the east-west lines, two highs with an intermediate low. Lowest values occur at each end of the line, off the basalts.

The edge of the basalt flow in this area is often very noisy with a number of sharp but narrow magnetic highs. The centre part of the flow overall often has a lower magnetic profile.

3.6 C.R.A. suggests that the lower susceptibility of the basalts may be due to alignment of the magnetite in the reverse magnetic direction? However, is yet to be substantiated by any susceptibility measurements.

3.7 It is not uncommon for the edges of basalt flows to be less weathered and hence the higher values and confused pattern is likely to be due to shallow dense basalts, which have been subject to some differentiated weathering at a shallow level. The central high is possibly associated with thickening basalt in the axis of the channel area. Lower readings either side of the central high can be indicative of increased weathering which commonly occurs between the basalt edge and the channel core.

3.8 However, the above pattern does not match the gravity interpretation on Line 2 and hence in our opinion much more work is required before there can be any resolution of the pattern of any potential deep leads within the area relinguished.

3.9 In our opinion this area is too far from the potential source rocks to justify exploration, and investigations of the deep leads would be better served closer to Lefroy.

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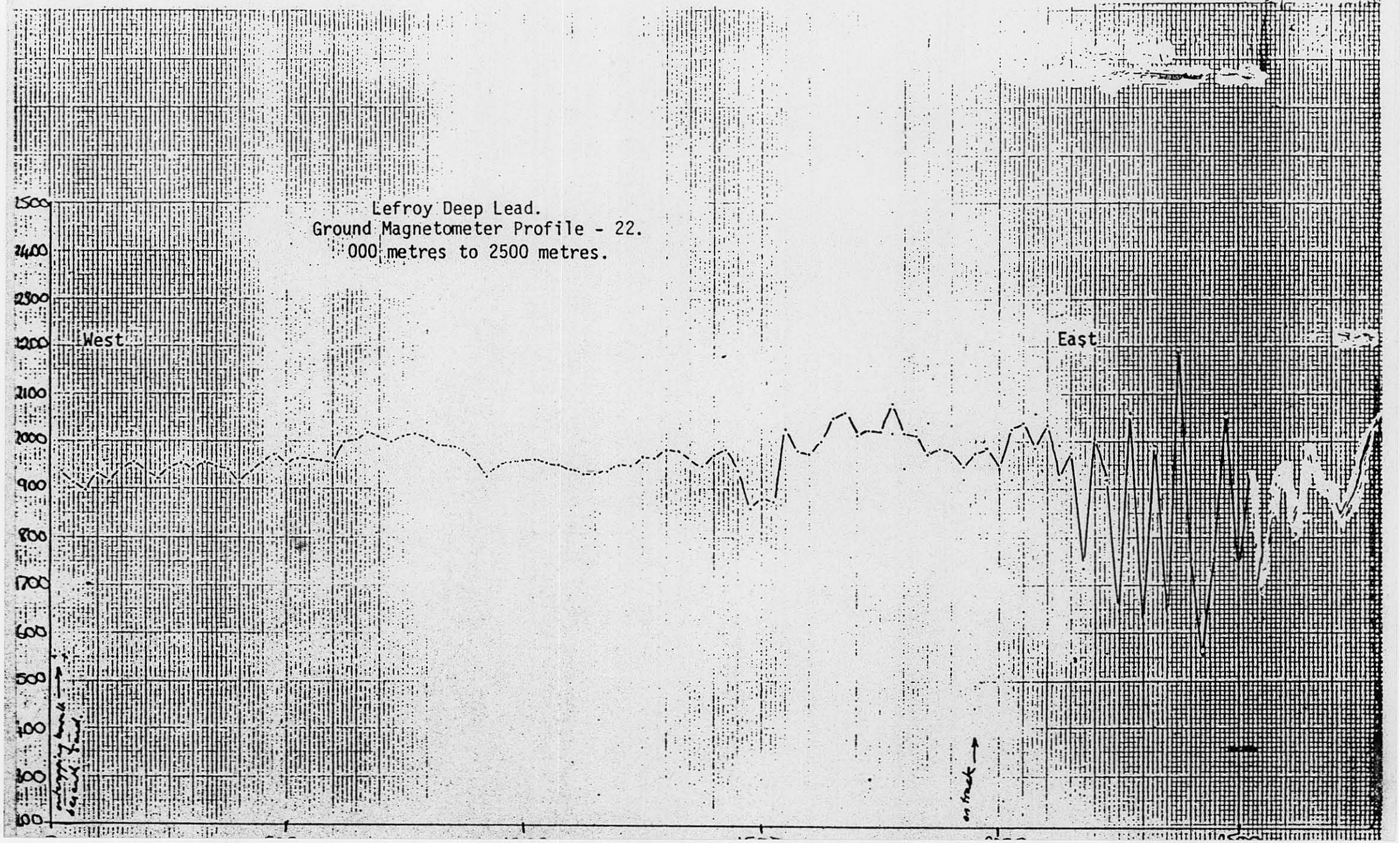
Lefroy Deep Lead.
Ground Magnetometer Profile - 22.
000 metres to 2500 metres.
West
East
1500
2400
2300
2200
2100
2000
900
800
700
600
500
400
300
200

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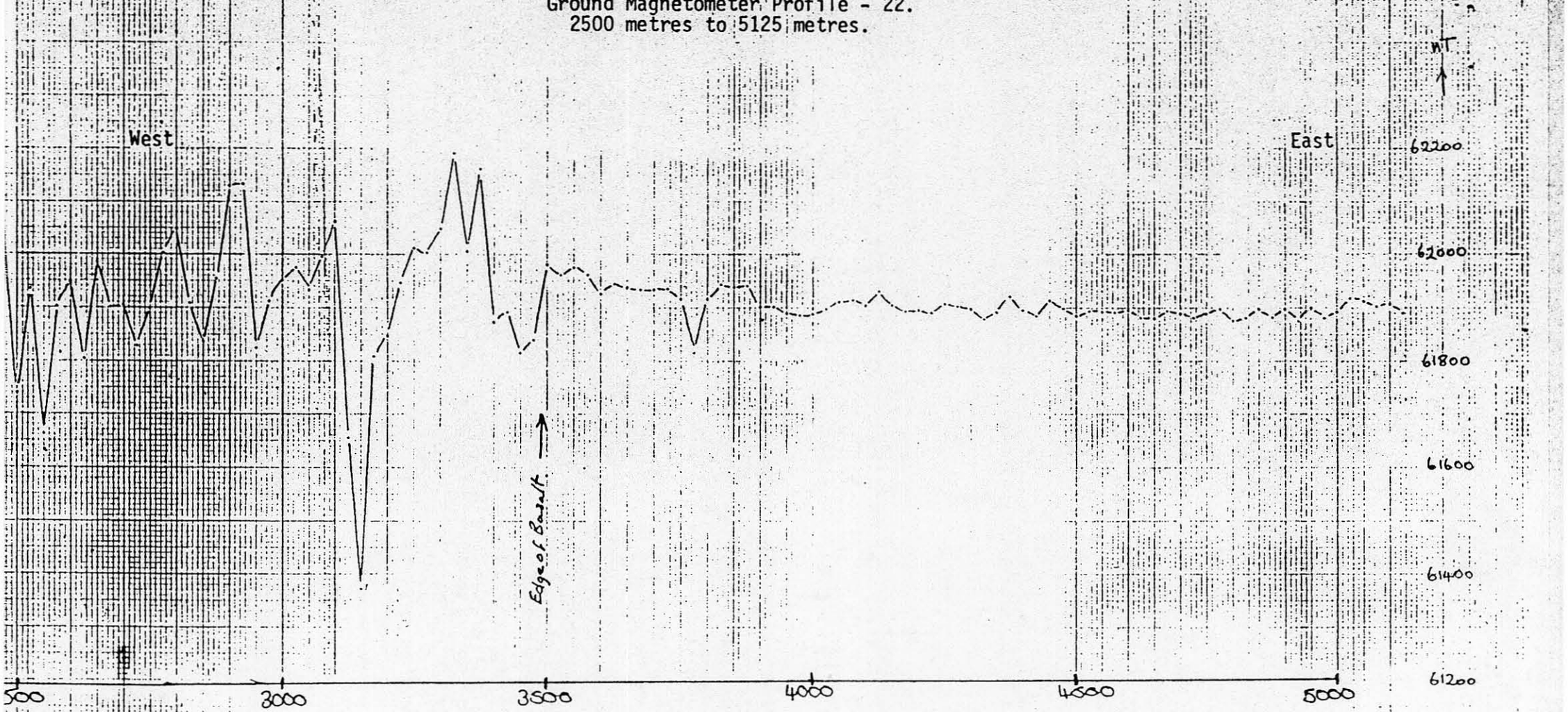
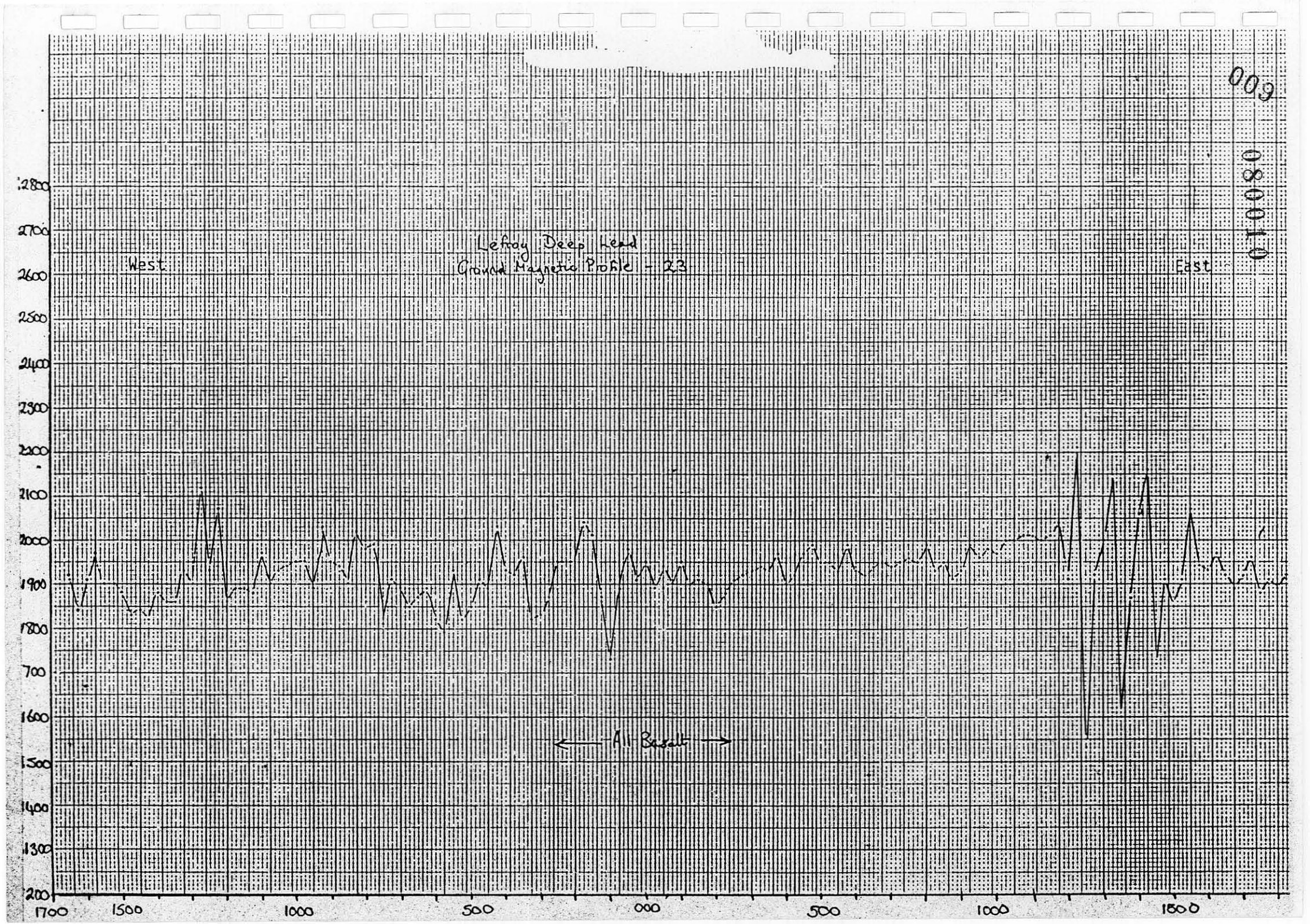
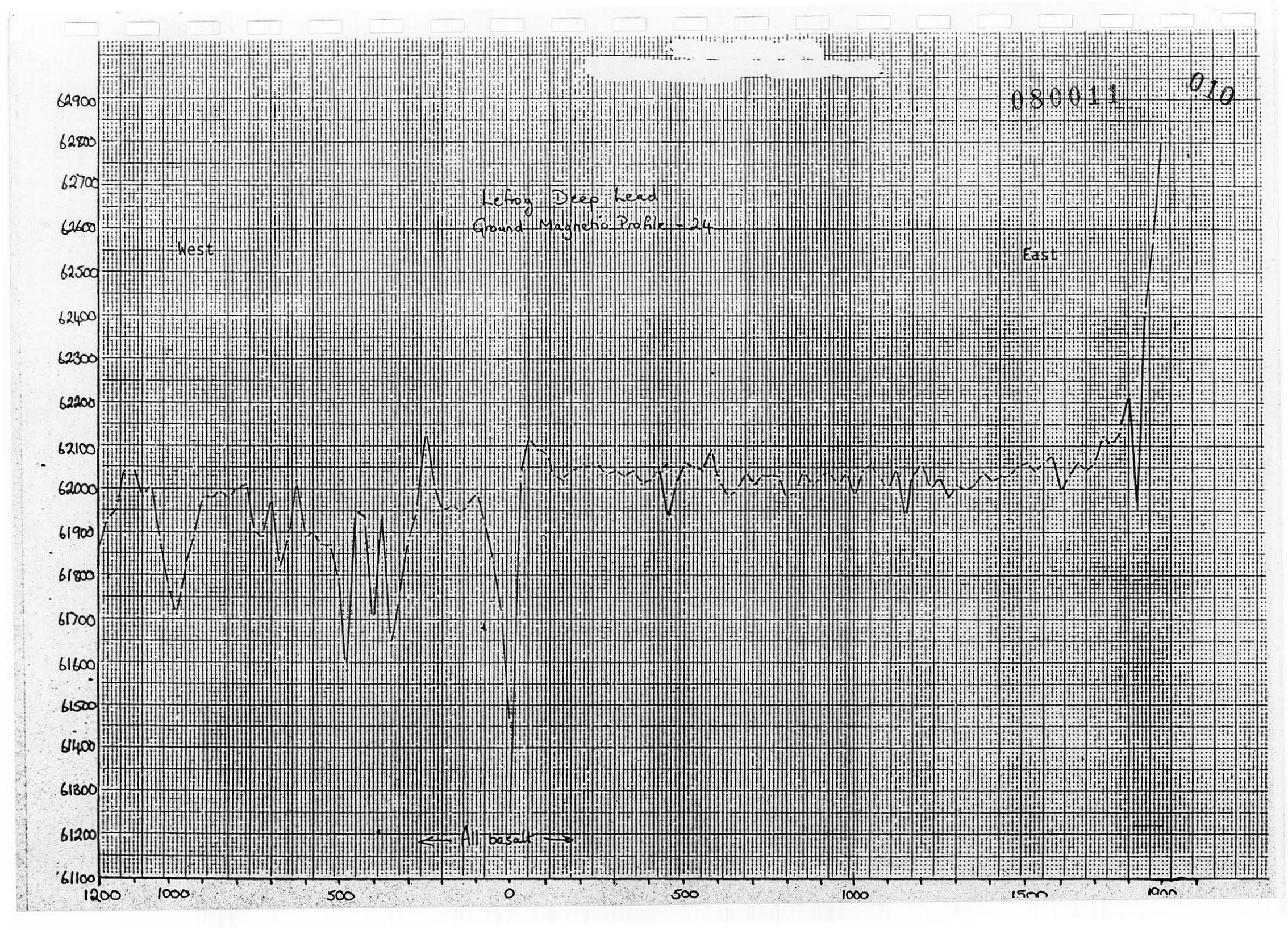
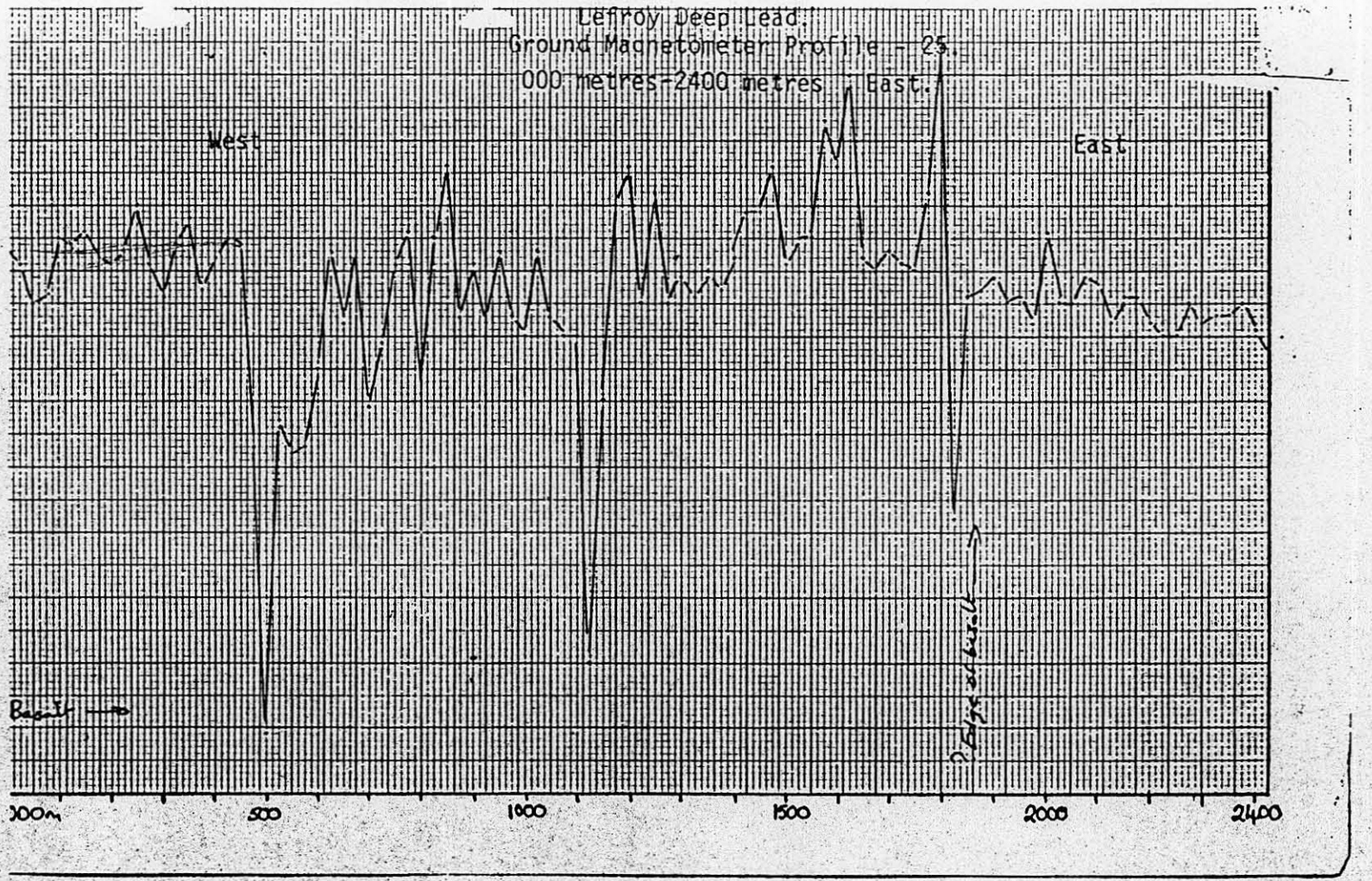
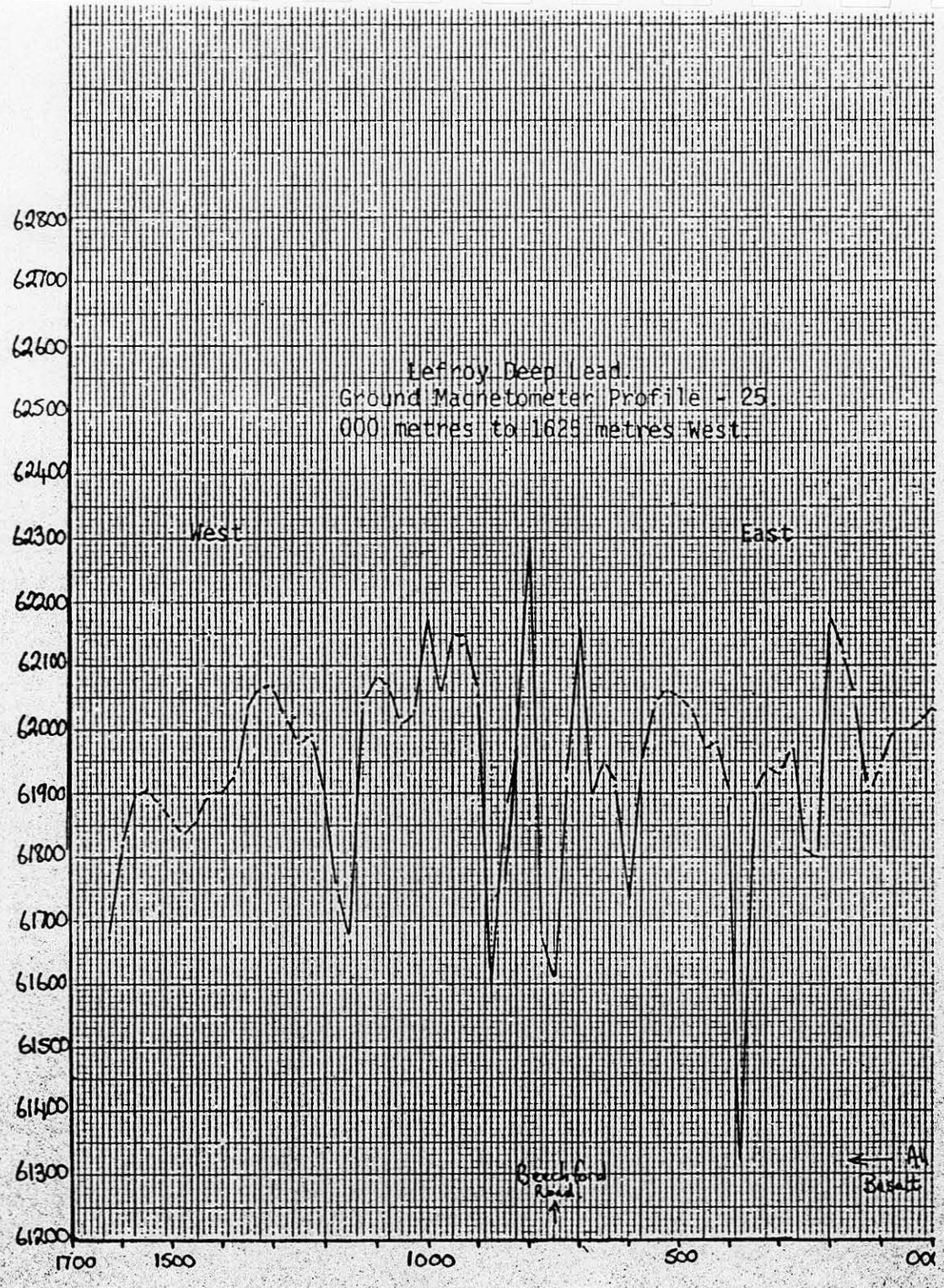
Lefroy Deep Lead.
Ground Magnetometer Profile - 22.
2500 metres to 5125 metres.

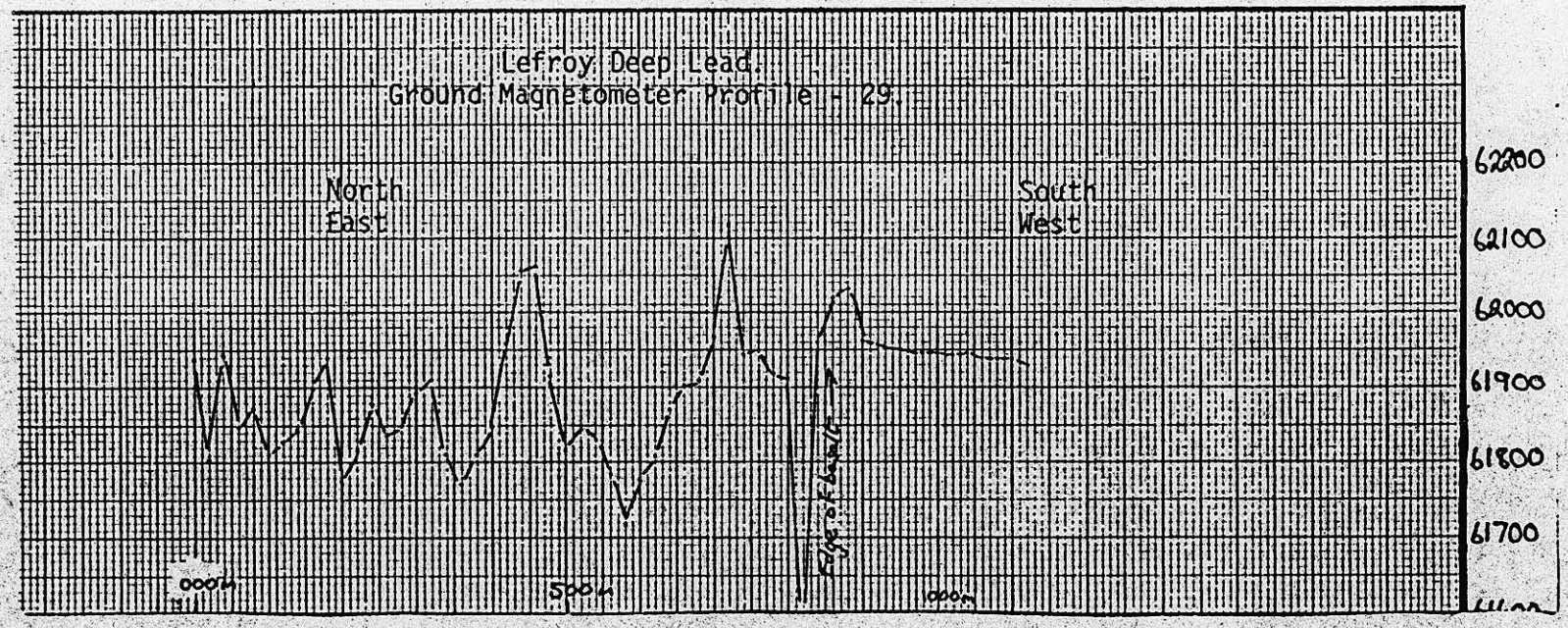



009
-10080
Lefroy Deep Lead
Ground Magnetic Profile - 23
West
East
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
700
1600
1500
1400
1300
200
All Basalt
1700
1500
1000
500
000
500
1000
1500

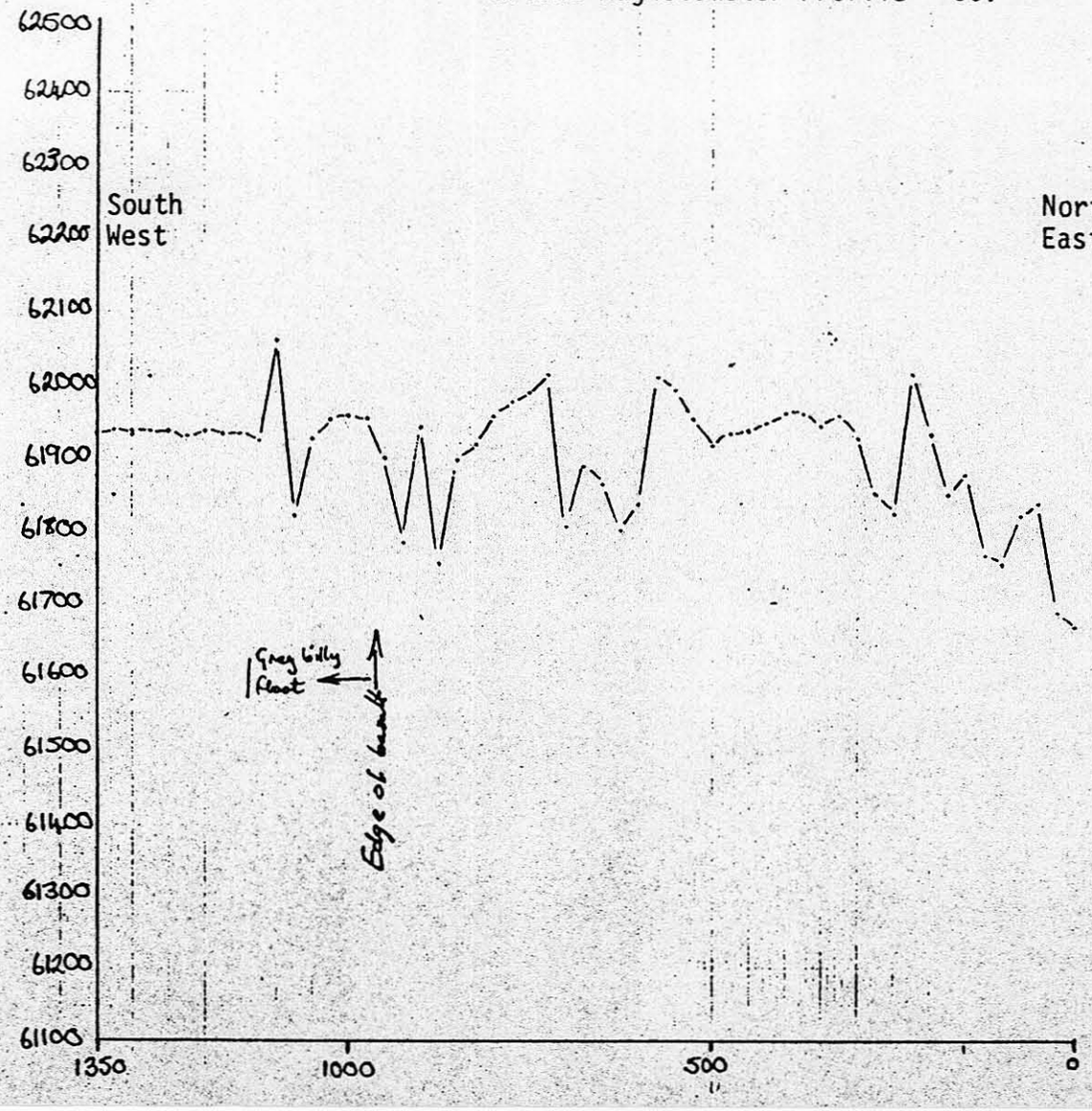

080011
010
Lefroy Deep Lead
Ground Magnetic Profile - 24
West
East
62900
62800
62700
62600
62500
62400
62300
62200
62100
62000
61900
61800
61700
61600
61500
61400
61800
61200
61100
← Alt basalt →
1200
1000
500
0
500
1000
1500


Lefroy Deep Lead
Ground Magnetometer Profile - 25
000 metres-2400 metres East.
West
East
500
1000
1500
2000
2400

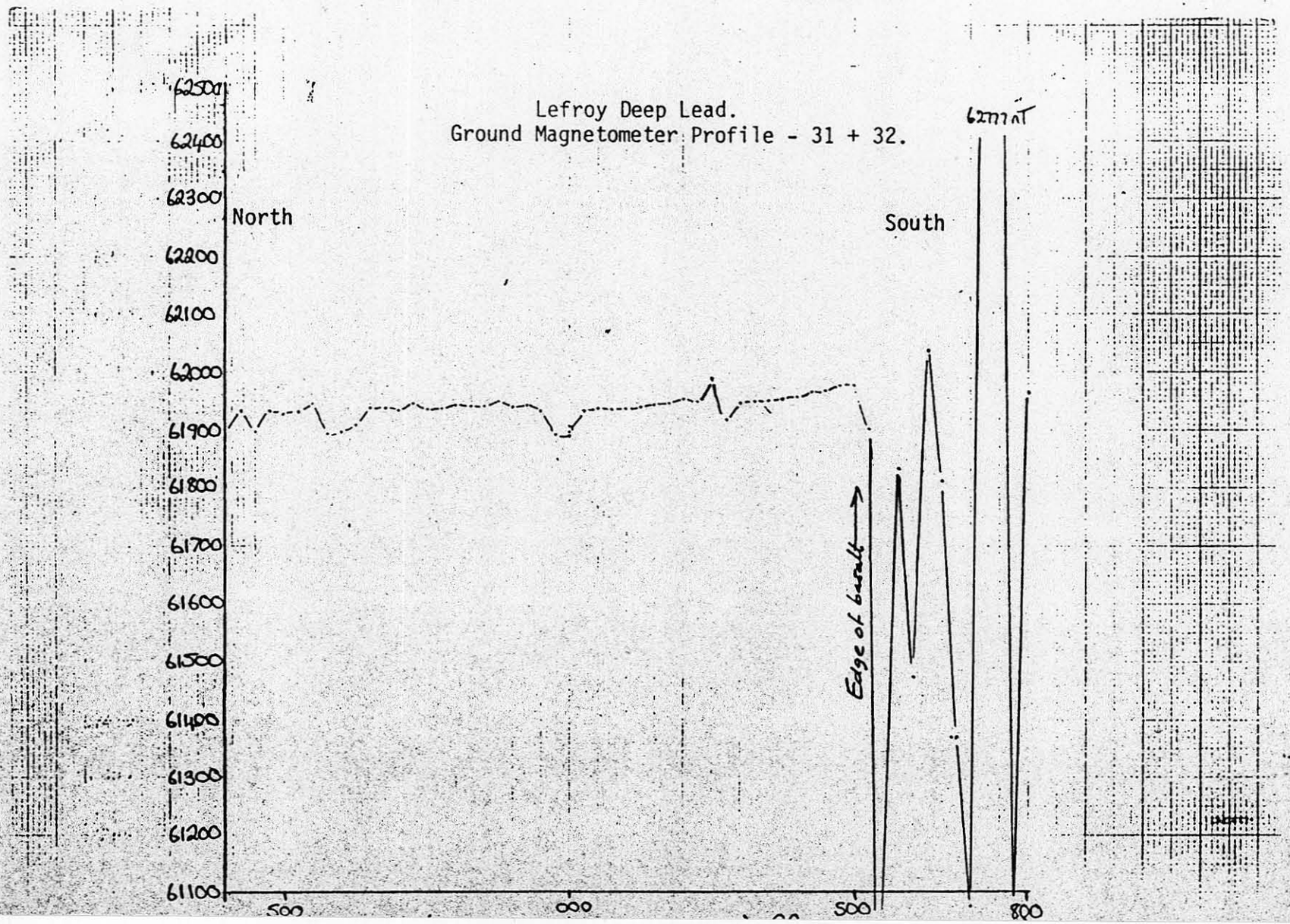

Lefroy Deep Lead.
Ground Magnetometer Profile - 25.
000 metres to 1625 metres West.
West
East
62800
62700
62600
62500
62400
62300
62200
62100
62000
61900
61800
61700
61600
61500
61400
61300
61200
1700
1500
1000
500
000
Beech Ford Road
A
Basalt

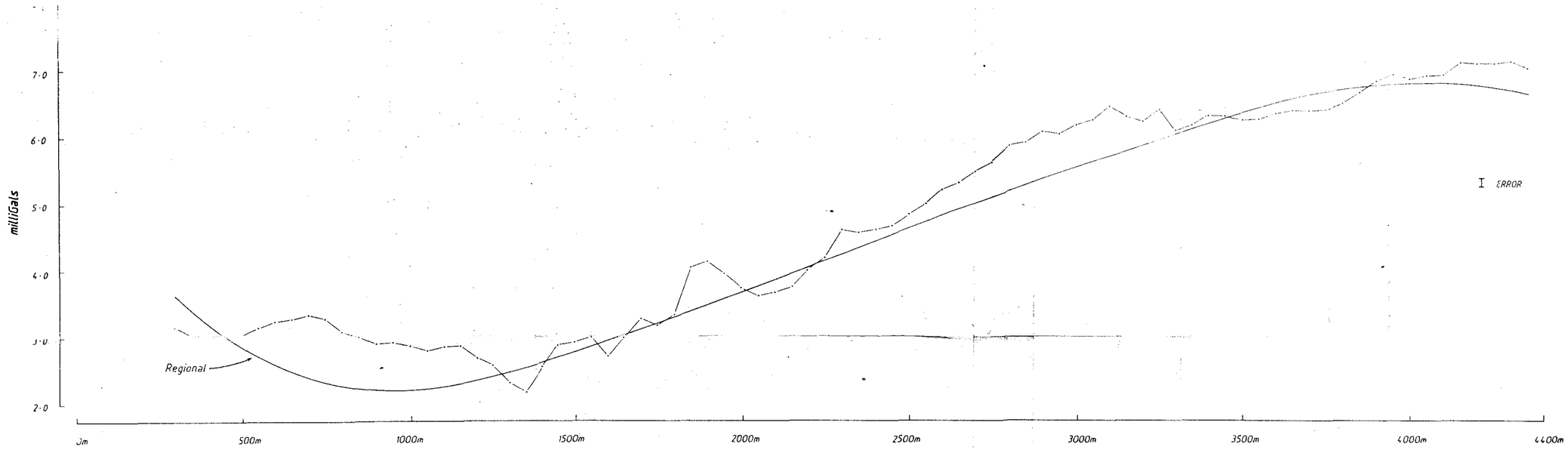

Lefroy Deep Lead.
Ground Magnetometer Profile - 29
North
East
South
West
62200
62100
62000
61900
61800
61700
000m
500m
1000m

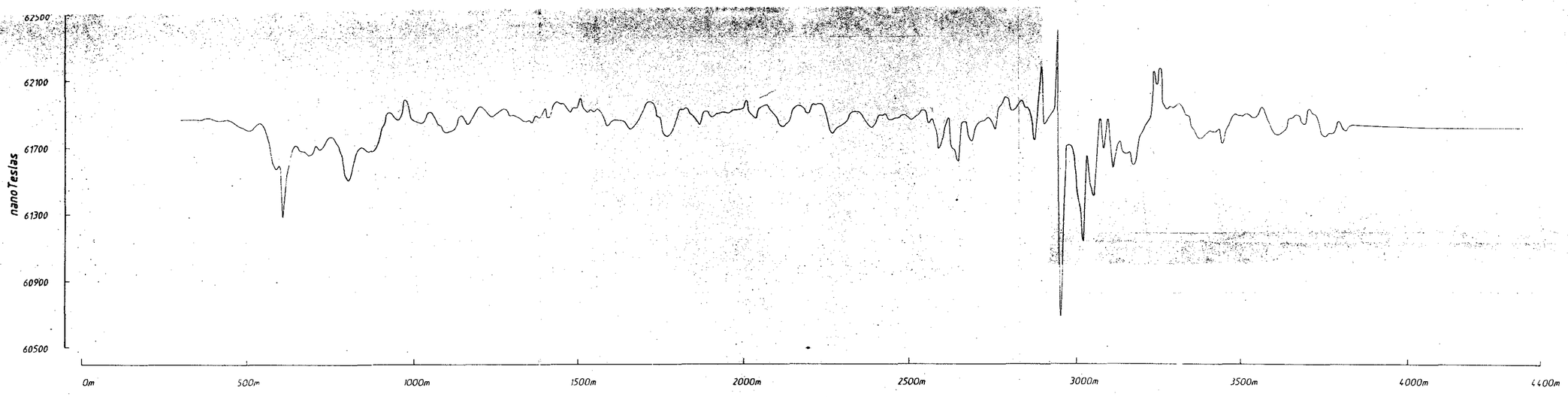
Lefroy Deep Lead.
Ground Magnetometer Profile - 30.

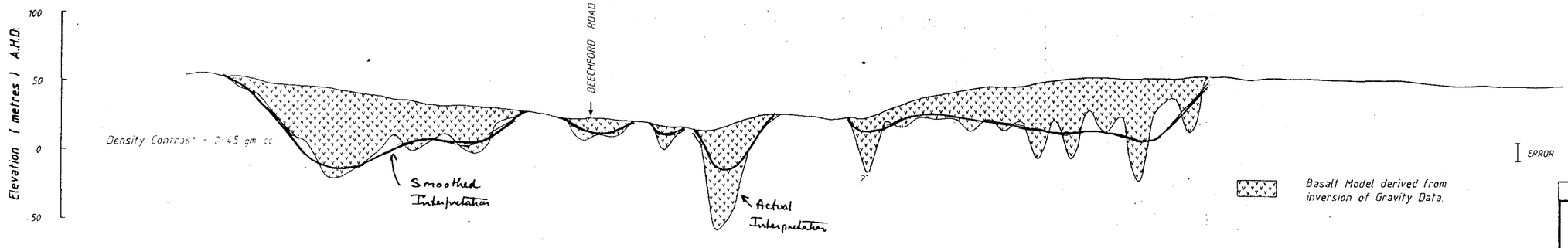


Lefroy Deep Lead.
Ground Magnetometer Profile - 31 + 32.









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CRA EXPLORATION PTY. LIMITED

LEFROY E.L. 35/81
GEOPHYSICAL TRAVERSE N°. 2
GROUND MAGNETICS
& GRAVITY SURVEY

Ref:	SK55 - 4		
Scale:	1 : 10.000	Drawn:	R. T.
Author:	M. FLIS	Report N°.	12104
Date:	3 - 5 - 1983	Plan N°.	TASh 1370

MURDOCH GEOSCIENCES

Client : Epoch Minerals Exploration NL

Location : Southern part of E.L. 35/81 -
Low Stoney Head
Relinguished in 1985

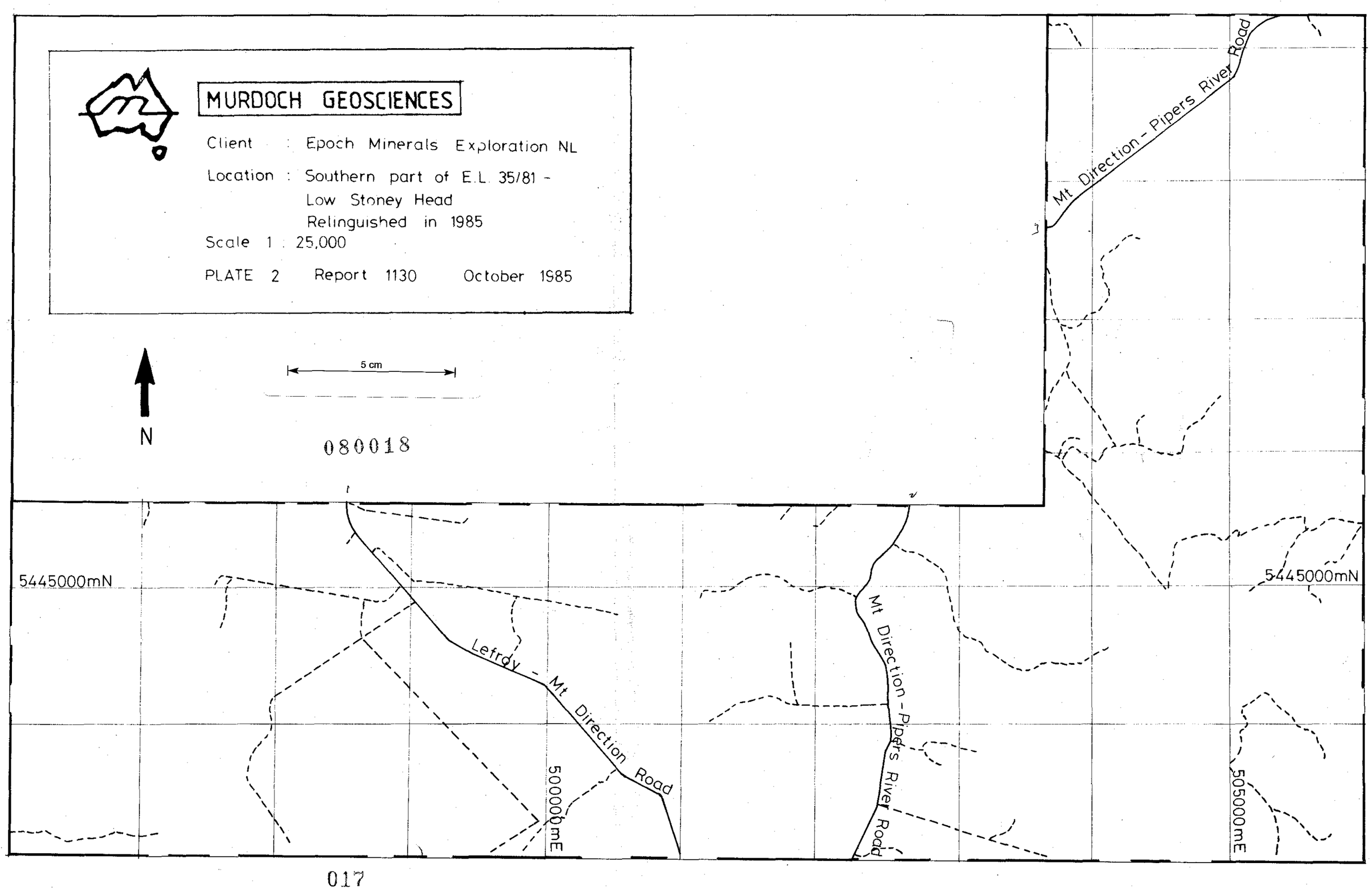
Scale 1 : 25,000

PLATE 2 Report 1130 October 1985

N

5 cm

080018



017

490000mE

495000mE

500000mE

505000mE

BASS STRAIT

5460000mN

5455000mN

5450000mN

Traverse No. 24

Tb

Traverse No. 23

Traverse No. 31

Traverse No. 22

Traverse No. 22

BEECHFORD

Latrobe-Beechford Road

Traverse No. 30

Tb

Traverse No. 29

Traverse No. 25

Traverse No. 32

Traverse No. 2

LEGEND

——·—— Edge of Tertiary basalt

Tb Tertiary basalt

——— Geophysical Traverse

N

080019

5 cm

MURDOCH GEOSCIENCES

Client Epoch Minerals Exploration NL

Location Northern part of E.L. 35/81 - Low Stoney Head Relinguished in 1985

Scale 1: 25,000

PLATE 1 Report 1130 October 1985

018

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