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Aberfoyle Resources Limited

EXPLORATION DIVISION

A.C.N. 004 664 108

EXPLORATION LICENCE 5/85,
LAKE MARGARET
TASMANIA

MICROFILMED
FICHE No. 012829-37

OPEN FILE

REPORT ON EXPLORATION FOR AREA TO BE RELINQUISHED NOVEMBER 1993

Volume 1 of 3

Text and Appendices I - IV

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Internal Report No: Lake Margaret 10

Distribution

Aberfoyle - Hawthorn	(1/4)
Aberfoyle - Burnie	(2/4)

Vol 1/3

93-3524.

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1.0 SUMMARY

- Exploration data on the area to be relinquished from E.L.5/85 Lake Margaret are grouped into 7 prospect headings being; Red Hills, North Selina, Julia Creek, Selina South, Tyndall, East Mt. Sedgewick and Mt. Lyell .

- The Red Hills prospect comprises an elongate rhyolitic lens of CVC that passes into felsic volcaniclastics and black shales. DDH RH-5, drilled by Goldfields in 1983, intersected 2.8 metres of high grade massive sulphide. Exploration by Aberfoyle focussed on the assesment of the base metal potential completing an extensive UTEM programme was completed. A target was identified and drilled by DDH's RH-18 and RH-19, for a total of 594 metres. No further targets were identified.

- At North Selina, a programme of mapping, stream sediment sampling, rock chip geochemistry and ground EM was undertaken over the large Selina alteration zone. Alteration and minor mineralisation appear genetically related to the Cambrian Murchison Granite. No targets were identified.

- The Julia Creek, Tyndall and Mt Lyell areas were targetted for reconaissance mapping. No prospective alteration zones or mineralised horizons were identified.

- At East Mt. Sedgewick down hole EM was carried out on DDH MS-1. No conductors attributable to massive sulphide were identified and due to thick Ordovician cover, no further work recommended.

2.0 INTRODUCTION

Exploration Licence 5/85 Lake Margaret was granted to CRA Exploration Pty. Ltd. (CRAE) on the 20th October, 1985. The licence covered an area of approximately 145 square kilometres east and north of Queenstown, from East of Mt. Lyell to south of Mt. Murchison.

An agreement was reached with CRAE on the 28th April, 1988, whereby Aberfoyle Resources Ltd. would fund and manage exploration on E.L. 5/85 to earn a majority interest. This agreement is known as the Mt. Read Volcanic joint venture and includes other CRAE tenements.

The first statutory reduction of the licence area was completed on the fifth anniversary of the tenement in October 1990 (Noonan, 1990). The licence area was reduced from approximately 145 to 73 square kilometres.

A non-statutory partial relinquishment is proposed in November 1993 to reduce the licence area from 73 to 21 square kilometres (Figure 1). The following report documents exploration undertaken by Aberfoyle Resources Ltd. on that area selected for relinquishment.

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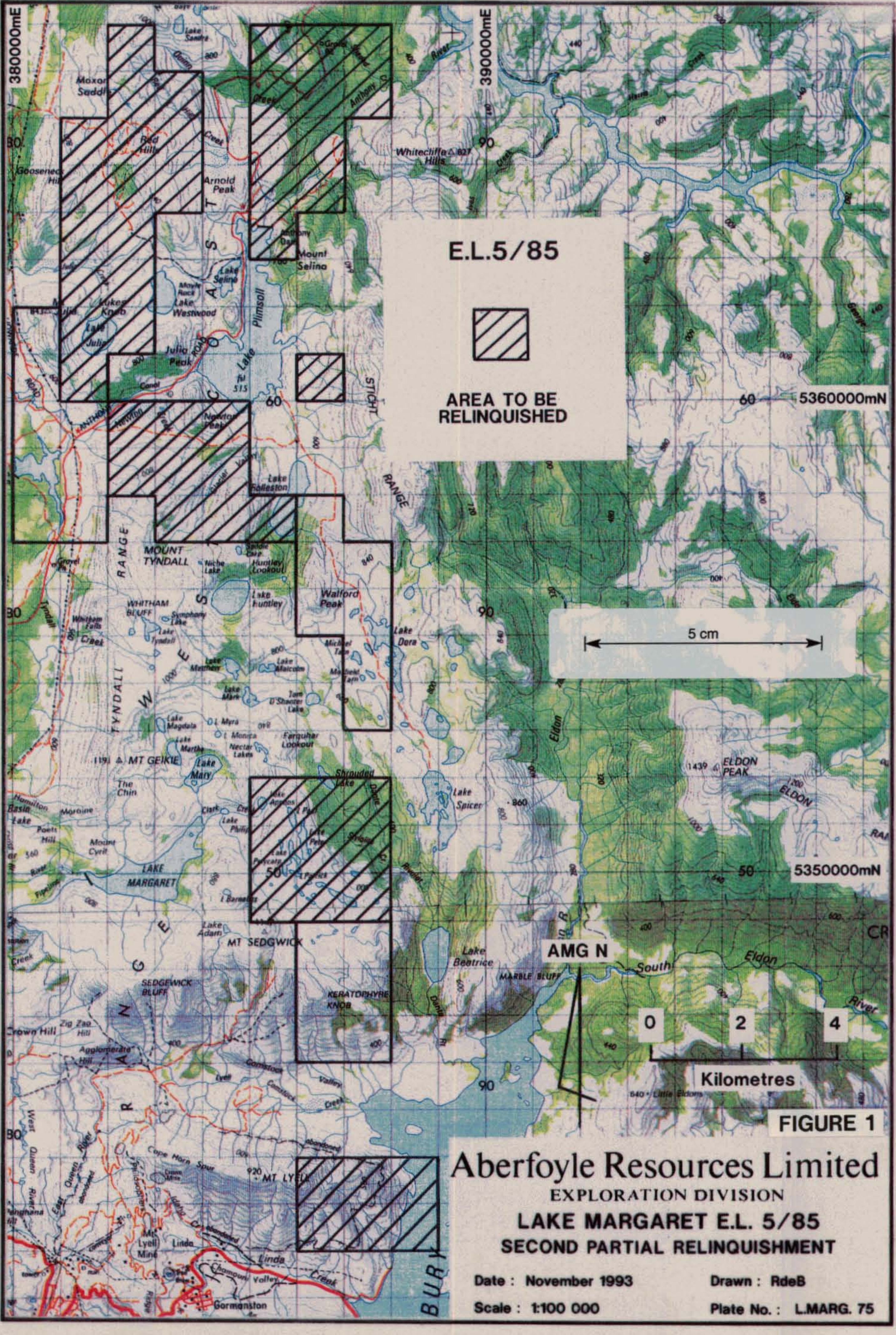

FIGURE 1

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LAKE MARGARET E.L. 5/85

SECOND PARTIAL RELINQUISHMENT

Date : November 1993	**Drawn :** RdeB
Scale : 1:100 000	**Plate No. :** L.MARG. 75

3.0 EXPLORATION HISTORY

Early prospecting at the turn of the century, is evidenced by the numerous small workings in the area. From the 1950s' to 1966, exploration of the area was undertaken by Rio Tinto, who conducted various surface geological, geochemical and geophysical based surveys.

Modern phases of exploration commenced in 1966 by Mt. Lyell, whose work included stream sediment sampling, mapping, IP and drilling. From 1966 to October 1985, exploration over the area nominated for relinquishment was carried out by the Mount Lyell Mining and Railway Company Ltd. (later Goldfields Explorations Pty. Ltd.) in joint venture with Getty Oil Development Company Ltd. (later Little River Resources Pty Ltd) as part of E.L.9/66 Tyndall. Chronological exploration activities from 1966 to 1985 on E.L.9/66 by Goldfields is documented by Fitzgerald (1987) and those references cited therein.

From October 1985 to April 1988, exploration was carried out over the Lake Margaret E.L. by CRAE. Exploration data collected during this time is currently available from reports held on openfile at Mineral Resources Tasmania and include; Sheppard (1986), von Strokirch (1987), Funnell (1987) and Funnell (1988).

Each prospect locality in the area to be relinquished, is accompanyied by a brief exploration history together with documentation of exploration activities (undertaken in the recent phase of exploration by Aberfoyle Resources Ltd).

4.0 EXPLORATION PROGRAMMES

Data generated by Aberfoyle during the 1988-1993 period, within the relinquished areas are reported under 7 prospect headings. Prospect areas from north to south include: Red Hills, North Selina, Julia Creek, Selina South, Tyndall, East Mt. Sedgewick and Mt. Lyell (refer Figure 2).

4.1 Red Hills Prospect

4.1.1 Geological Setting

The Red Hills prospect area lies in the north west portion of the Lake Margaret E.L. The geology of the Red Hills Prospect is summarised on Plate L.MARG.11 and has been described in detail by Corbett (1975) and McNeill (1987). Stratigraphy is dominated by an elongate lens of rhyolitic to rhyodacitic feldspar phyric lava, typical of the Central Volcanic Complex (CVC) and referred to as the Red Hills rhyolite lava dome. The 'dome' is unconformably overlain to the east by correlates of the Middle Owen Conglomerate, with lenses of Jukes Breccia at its base, and passes conformably to the west into a sequence of ash to medium lapilli grade felsic volcaniclastics. Lithologies at Red Hills iare strongly cleaved with banding/bedding approximately parallel to cleavage. Within the felsic volcaniclastics is a lens of steeply west dipping black shale and interbedded ash volcaniclastics, that wedge out at depth.

Tyndall Group quartz-feldspar phyric porphyry, on the flanks of the Gooseneck abut CVC volcaniclastics on an interpreted north-south trending fault to the west. To the south the Red Hills sequence is covered by Tyndall Group volcaniclastics, Owen Conglomerate and Quaternary glacials.

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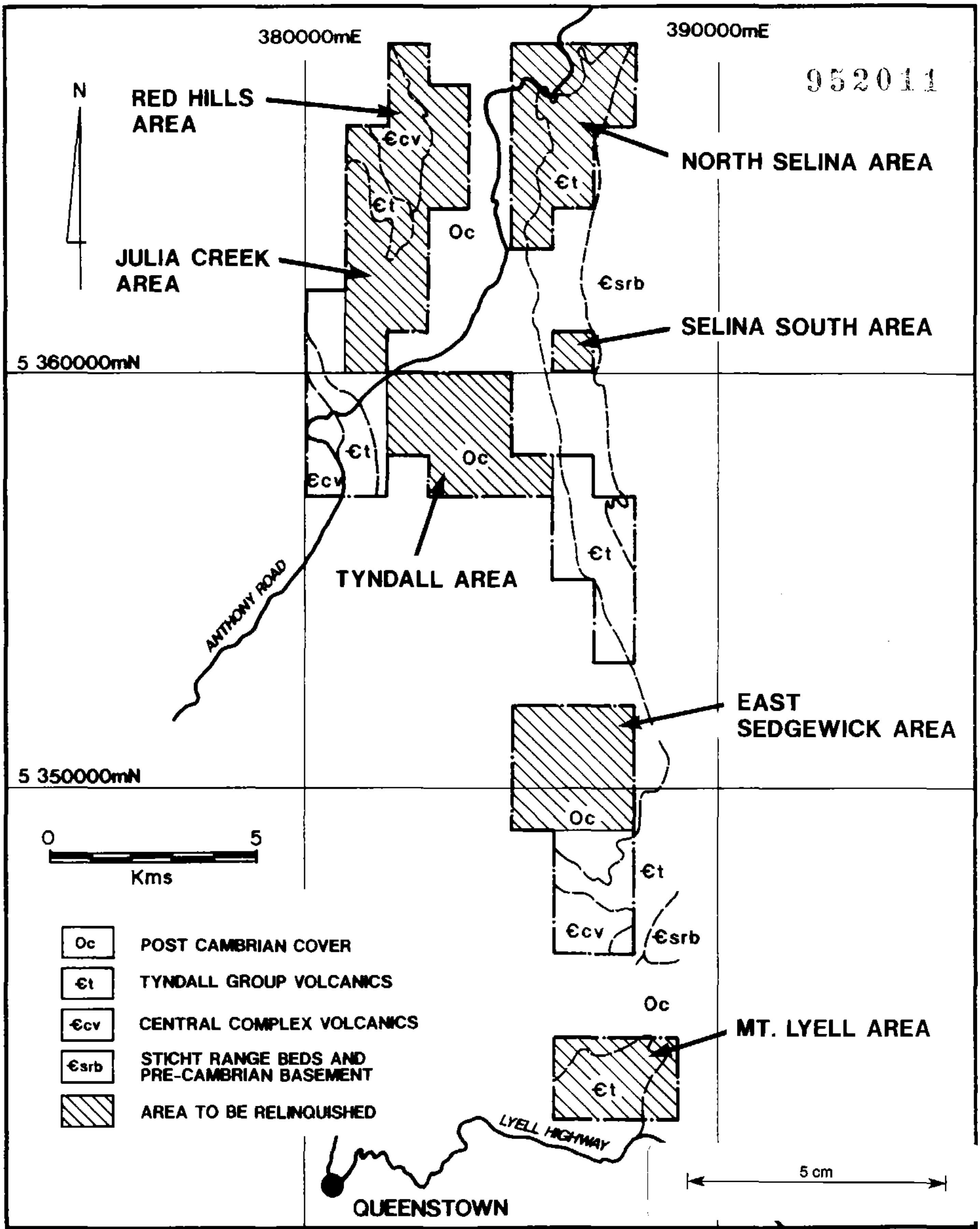

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FIGURE 2

REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

LAKE MARGARET E.L.5/85 C.R.A. JV

1993 PROSPECT LOCATION ON RELINQUISHED AREAS

Scale : As shown

Date : November 1993

Compiled : R.S.

Drawn :

Traced : J.M.S.

Checked : R.S.

Plate No. : L.MARG. 36A

4.1.2 Previous Exploration

The Red Hills area has a long history of exploration that may be divided into three phases:

4.1.2.1 Pre 1966

Early prospecting for copper at the turn of the century was extensive, as evidenced by the numerous small workings indicated on McNeill (1987). In 1907, a number of adits in a magnetite-pyrite-chalcopyrite stockwork at the northern end of the Red Hills rhyolite dome were extended and sampled by the Mt. Lyell Mining and Railway Company.

Between 1957 and 1961, Rio Tinto Exploration, in conjunction with the Electrolytic Zinc Company, conducted extensive geophysical surveys over the prospect, including Turam and ground EM. Geophysical results led to the drilling of three holes; DDH GN-1, GN-2 and RHP-94, all of which intersected black shale and fine volcaniclastics hosting syngenetic pyrite and pyrrhotite. A fourth hole, DDH RHP-94, was drilled into the Red Hills lava. No significant base metal mineralisation was discovered in any of the drill holes (Purvis et al., 1983).

4.1.2.2 1966 to 1984 - Goldfields Exploration

Between 1966 and 1984, exploration carried out by Goldfields and focussed on the Red Hills lava where 23 percussion drill holes and 4 DDHs' (RH1-4) failed to intersect significant Cu mineralisation (Bishop 1982). The Pb-Zn potential of the black shale unit, intersected by RTAE drilling, was further investigated by IP surveys and the drilling of DDH RH-5, which intersected 2.8 metres of banded massive sulphide (34.5% Zn, 11.4% Pb, 250ppm Ag and 6.5ppm Au) hosted by a fine volcaniclastic unit between shale and the Red Hills lava. The strike length of the shales and underlying volcaniclastic 'host horizon' was tested by a further 12 DDHs' (RH6-RH17), all of which failed to intersect further mineralisation. Re-assaying of core delineated a zone of significant Au mineralisation in the vicinity of RH-5. Goldfields concluded that both Au and base metal mineralised zones were sub-economic (Bishop, 1982; Purvis et al., 1983).

4.1.2.3 1985 to 1988 - CRAE

During this period, CRAE continued exploration for both Au and base metals. The prospect area was extensively rock chip sampled and drill core re-assayed for Au (Sheppard, 1986; von Strokirch, 1987). No significant mineralisation was indicated from the results of the CRAE programmes. A further five lines of soil geochemistry over the No.1 North Adit were completed to detail a coincident IP and weak UTEM anomaly. Survey locations and detailed results are reported by Funnell (1987). In addition, a single loop of UTEM and a ground magnetic survey was completed north of the Goldfields IP coverage. No target areas were delineated.
DHEM of DDH RH5 indicated that previously intersected banded massive sulphide did not extend far from the hole, whilst DHEM of DDH RH12 also proved unsucessful.

4.1.3 Aberfoyle

Review of CRAEs' DHEM data from DDH RH-5 and DDH RH-12 identified a target at depth (below the holes) and beyond the end of the two holes (toward the west). A possibility existed that the DHEM response was the result of a deep off hole conductor. Further investigation as to the nature of this target source was planned.

Upon Aberfoyles' acquisition of E.L.5/85 it was apparent that only the northern part of the 2.5 kilometre long prospective trend at Red Hills had been explored with UTEM. It was recommended that the remaining prospective stratigraphy be surveyed by ground EM in order to completely test the area for bedrock conductors.

4.1.4 Geophysics

DDH RH-5 and RH-12 were re-surveyed with DHEM by Aberfoyle using both Sirotem and EM-37. Results indicated that the response observed in the CRAE data was not due to a conductive body, but the likely result of a field operational error. A detailed report of results and accompanying interpretation is included as Appendix I.

To test the northern part of the prospective Red Hills trend two UTEM surveys were completed at the Red Hills and Red Hills East prospects. Reading lines and loop locations for these two surveys are presented on Plate L.MARG.6.

4.1.4.1 Red Hills East UTEM

The Red Hills East survey was designed to geophysically test potential for repetition of the Red Hills stratigraphic mineralised sequence on the eastern flank of the Red Hills lava dome. Interpretation by McNeill (1987) suggested overlying Cambro-Ordovician cover to be of the order of 250-300 metres in thickness and underlying volcanics within the range of effective UTEM.

A total of 12.6 line Kilometres of 50 metre spaced single component data was collected from two loops over the Red Hills East prospect area. Stacked profiles are included in Appendix II. The survey failed to identify any UTEM anomalies indicative of massive sulphide mineralisation.

4.1.4.2 Red Hills UTEM

UTEM carried out by CRAE (Funnell, 1987) encompassed the northern portion of prospective volcanics on reading lines 38N to 12S over the Mt. Lyell grid. No targets worthy of follow up were identified by CRAE. In December 1988, the Mt Lyell grid was re-established by Aberfoyle between reading lines 16S to 80S, in preparation for a two loop UTEM survey. The survey was designed to complete UTEM coverage of exposed Cambrian volcanics at Red Hills. Transmitting loops were positioned west of the prospective host horizon, overlying black shales. Encouraging results from the first two loops led to the establishment of lines 84S to 112S and a third loop of UTEM surveying an area covered dominantly by Cambro-Ordovician and Quaternary Glacial cover. A fourth loop of UTEM was also completed detailing lines 40S to 72S on the eastern side of the volcanics.

All loop locations and reading lines are shown on Plate L.MARG.6. Vertical component (Hz) data was collected at 50 metre spacings and closed to 25 or 12.5 metres in areas of interest. Stacked profiles of continuous and point normalised data are included as Appendix III with survey results shown on Plate L.MARG.5.

The Red Hills UTEM survey failed to locate any conductors at the host horizon stratigraphic position, confirming the negative DHEM results in CRAEs' DDH RH-5. An anomaly was however identified between 32S and 104S and thought to be the culmination of an adjacent shale and a conductive body at depth. The northern part of this anomaly, between 31S and 48S, had been previously tested by drilling (including DDHs': RH-8, RH-9, RH-12, RH14R and RH16), but DHEM surveys in RH-9, RH-14R and RH-16 were required to completely cover the Red Hills area. It was therefore considered that an area with VMS potential existed between 72S to 104S due to UTEM results and lack of drilling data for this area. A drill test on line 84S was recommended to test this anomaly.

4.1.5 Diamond Drilling

4.1.5.1 DDH RH-18

DDH RH-18, collared at AMG grid reference 3 5263402mN, 382403mE, was completed in July 1989. The drill hole was designed to test the Red Hills UTEM anomaly centred between 1050 and 1075mE on line 84S at a depth of approximately 220 metres.

Geology

A detailed geological log of DDH RH-18 is included in Appendix IV and a cross section presented on Plate L.MARG.14. A total of seven petrology samples from drill core were submitted for thin section examination, with petrological descriptions attached as Appendix V. Results of the petrology are integrated with the geological summary log as follows:

0 - 14.1m	Tricone
14.1 - 61.5m	Quartz + feldspar phyric lava/intrusive (Tyndall Group?)
61.5 - 65.2m	No core
65.2 - 97.5m	Sheared rhyolitic lapilli volcaniclastic.
97.5 - 112.1m	Siliceous ash volcaniclastic.
112.1 - 134.2m	Sheared quartz phyric lava.
132.4 - 197.9m	Black shale with volcaniclastic and minor basalt lava (140.7 - 140.9m).
197.9 - 286.9m	Massive dacitic lava/breccia.
286.9 - 291.2m	Peperitic lava with black shale matrix.
291.2 - 299.5m	Sheared black shale with fault bounded ash volcaniclastic intervals.
299.5 - 356.8m	Interbedded feldspar phyric ash and polymict fine to medium lapilli volcaniclastic.

Petrographic descriptions indicate quartz phyric lavas between 14.1 to 61.5 metres and 112.1 to 139.2 metres to be Tyndall Group correlates. Units between 65.2 and 112.1 metres are quartz crystal rich rhyolite lava and epiclastic sandstone fragmental volcaniclastics, also of Tyndall Group affinity. Units between 299.5 and 356.8 metres show a feldspar phyric nature, containing sparse quartz phenocrysts, likely sourced from a dacitic terrain typical of CVC units.

Base metal mineralisation within DDH RH-18 is present as disseminated and vein sphalerite, with minor galena. Mineralisation is confined to black shales sequences and interfingering dacitic lavas. Pyrite and pyrrhotite occur as disseminantions and coatings on fracture surfaces. Three bands of possible syngenetic mineralisation were recorded:

164.5m	0.5cm of sphalerite + pyrite in shale.
296.7m	1cm of spahlerite + galena with minor pyrite in black shale.
298.9m	1cm of pyrrhotite with trace sphalerite and pyrite. Possible barite blebs underlain by approximately 1.5cm of strongly sphalerite + pyrite veined black shale.

Geochemistry

60 core grind samples from DDH RH-18 were submitted for analysis of Cu, Pb, Zn, Ag, Au, Ba, As, Cr, Ti and Zr, with sample 517915 also analysed for Y. Sample intervals correspond to 10 metre lengths or lithological/alteration boundaries. Results are included as Appendix VI.

Two intervals contained elevated base metal values being:

231 - 236m	5m at 4160ppm Pb, 5125ppm Zn and 1.6ppm Ag hosted by dacite lava
287.6 - 299.5m	12.9m at 2800ppm Pb, 5750ppm Zn and 2ppm Ag in lower portions of a black shale unit.

Lithological indicator elements suggest all lithologies with the exception of the basalt dyke between 140.7 and 140.9 metres to have dacitic/rhyolitic affinities with low Cr and low Ti/Zr ratios. Basalt (140.7 to 140.9 metres) shows elevated Ti/Zr levels and a Y contents of 40ppm, suggesting a tholeiitic affinity.

Geophysics

DDH RH-18 was surveyed by DHEM including a single loop Sirotem and three loops of EM-37. Results and detailed interpretations are included in Appendix VII. DHEM surveys delineated two anomalies; an eastern shale related anomaly, and a flat lying western conductor that was recommended for drill testing.

4.1.5.2 DDH RH-19 ✓

DDH RH-19, collared at AMG grid reference 5363401mN, 382396mE, was completed in January 1990. The drill hole was designed to test a flat lying conductor detected by DHEM in DDH RH-18: interpreted to lie below and west of DDH RH-18.

Geology

A detailed geological log of DDH RH-19 is included as Appendix VIII and cross section presented on Plate L.MARG.14. A summary geolgocial log follows:

0 - 5.3m	Tricone
5.3 - 5.5m	Glacial debris
5.5 - 101.0m	Quartz + feldspar phryic lava/intrusive (Tyndall Group?)
101.0 - 102.0m	Quartz sericite fault zone
102.0 - 139.4m	Quartz + feldspar phryic lava/intrusive (Tyndall Group?)
139.4 - 140.9m	Carbonate veined ash volcaniclastic
140.9 - 158.8m	Rhyolitic lapilli volcaniclastic with interbedded ash volcaniclastics and abundant lithic fragments
158.8 - 160.0m	Carbonate veined ash volcaniclastic

160.0 - 169.0m	Sheared chloritised rhyolite lapilli volcaniclastic
169.0 - 169.5m	Fault zone
169.5 - 172.9m	Rhyolitic porphyry with minor disseminated pyrite
172.9 - 180.8m	Rhyolitic lapilli volcaniclastic
180.8 - 188.3m	Polymict breccia volcaniclastic
188.3 - 192.5m	Interbedded siltstone, sandstone and lapilli volcaniclastic
192.5 - 194.1m	Black shale
194.1 - 199.8m	Massive quartz phyric rhyolitic lava
199.8 - 206.3m	Back shale
206.3 - 207.8m	White quartz filled fault zone
207.8 - 237.3m	Massive quartz phyric rhyolitic lava

Minor mineralisation is present as syngenetic pyrite associated with black shale between 192.5 to 194.1 metres and 199.8 to 206.3 metres. Minor sphalerite was also observed.

The interval of black shale, with lesser siltstone, sandstone and lapilli volcaniclastics (188.3 to 194.1 metres) was considered to adequately explain the source of the DHEM response detected in the DDH RH-18 survey.

Geochemistry

25 core grind samples from DDH RH-19 were submitted for Cu, Pb, Zn, Ag and Au assay. Sample intervals correspond to 10 metres or lithological/alteration boundaries. Geochemical results are attached as Appendix IX and Plate L.MARG 43.

Assay results show generally low values with a maximum of 400ppm Pb and 710ppm Zn from the conductive shale sequence between 188.3 and 206.3 metres.

Cu values are uniformly low with a maximum of 75ppm. All Ag and Au assays are below detection limits of 0.5ppm and 0.008ppm respectively.

4.1.6 Research Work

In 1991, a research project was completed by Mr. D. Jenkins as partial fulfilment of an Honours year at the University of Tasmania. The project encompassed volcanology, mineralisation and alteration of the Red Hills area. Investigation of mineralisation styles at Red Hills identified two distinct types:

(i) syngenetic polymetallic massive sulphide mineralisation
(ii) epigenetic granite - related pyrite + chalcopyrite + magnetite stockwork system

Geochemical investigation of massive sulphide intersected in DDH RH-5 indicated similarities with VHMS mineralisation at the Rosebery and Hercules deposits. These similarities include; sulphur isotopes, lead isotope signatures, zinc ratios and footwall alteration styles.

Detailed examination of alteration styles by Jenkins (1991) identified three discrete types; sericitic, chloritic and K-feldspar. The sericitic alteration shows a spatial affiliation with strongly sheared and deformed rocks, whilst chloritic altered units display little cleavage development and an association with pyrite + chalcopyrite + magnetite veining. K-feldspar alteration is overprinted by chloritisation. Jenkins (1991) concluded mineralised Au-bearing stockwork veining to be associated with chloritised zones in a similar setting to to alteration and mineralisation styles at Jukes Proprietary. Stockwork veins are therefore inferred to relate to Cambrian granitic intrusions at depth.

4.1.7 Summary and Conclusions

The Red Hills Prospect forms an area with a complex series of felsic volcanics that have been strongly altered and deformed. Felsic volcanics include two sedimentary horizons; a black shale horizon and a volcaniclastic host horizon, with two distinct types of genetically unrelated mineralisation.

Exploration by Aberfoyle at the Red Hills prospect has concentrated on the assesment of the base metal potential and lesser gold, with an extensive UTEM programme conducted to the south and east of the main prospect area. UTEM interpretation identified a target area on line 84S, that was drill tested by DDHs' RH-18 and RH-19. No further geophysical or geological targets were identified in the Red Hills area and as a result no further work recommended.

4.2 North and South Selina

4.2.1 Geological Setting

The North Selina prospect is situated in the northeastern corner of E.L.5/85 between Mt. Selina and Mt. Murchison. It comprises the northern part of the large Selina hydrothermal system hosted by Eastern Quartz Phyric Sequence/Murchison Volcanics lavas and volcaniclastics. In the west, the Eastern Sequence is unconformably overlain by Cambro-Ordovician Owen Conglomerate sediments. In the east, the Eastern Sequence overlies siliciclastic conglomerates and sandstone and siltstones of the Cambrian Sticht Range Beds. The Sticht Rage Beds in turn, rest unconformable on phyllitic Pre-Cambrian basement.

Eastern Sequence units at North Selina form variable volcano-sedimentary units, predominantly of a quartz phyric nature and include abundant rhyolitic-dacitic lava/breccias and intrusive porphyritic rhyolite lavas. A massive quartz phyric granite, the Murchison Granite, outcrops in the northern portion of the prospect area. The Murchison Granite is interpreted to underlie much of the North Selina area, with moderate to intense magnetite, haematite, quartz, k-feldspar and tourmaline alteration attributed to the influence of the granitic intrusion.

The Selina South area is a one kilometre square area enclosed by E.L.103/87 Basin Lake currenltly held by Billiton. This Selina South area is covered by Pleistocene glacial deposits.

4.2.2 Previous Exploration

Mt. Lyell commenced exploration in the Lake Selina area in 1969-1970. Exploration was centred about Mt. Selina, in the area retained by Mt. Lyell following the reduction of E.L.9/66 in 1984 (Fitzgerald, 1987). This area was subseqeuntly relinquished and is currently held by Billiton as part of E.L.103/87. Previous work in the Lake Selina area is summarised in detail by Purvis et al., (1983) and Fitzgerald (1987).

Work undertaken by Goldfields on that portion of Lake Selina now covered by E.L.5/85 includes; geological mapping, soil geochemistry, rock chip geochemistry and IP. The IP survey generated several anomalies centred about two intensely altered linear belts referred to as the western and eastern pyrite zones. These IP anomalies were drill tested through a 13 DDH programme. Only 3 of the 13 holes fall within the North Selina area being; LS8, LS11 and LS12.

No work was undertaken in the North Selina area by CRA Exploration between 1985 and 1988.

4.2.3 Aberfoyle

The North Selina prospect area was targeted for 1:10000 scale reconnaissance mapping, rock chip sampling and stream sediment sampling programmes. These programmes aimed to delineate target areas for follow up and testing by ground EM

4.2.4 Geology

In 1990, a mapping programme was completed over the North Selina area at 1:10000 scale. Fact maps are included as Plates L.MARG.20B1 and L.Marg.20B2 with abbreviation codes on Plate L.Marg.40.

During the mapping programme, sequences of rhyolite/dacite lavas and volcaniclastics were correlated to Tyndall Group sequences. Since this time, Corbett (1992) revised the classification of Tyndall Group sequences within the MRV subdividing it into Eastern Quartz Phyric Sequence and Tyndall Group. Previously identified Tyndall Group units at North Selina prosepect are now recognised to be quartz- rich Eastern Sequence, stratigraphically lower within the MRV stratigraphy than previously thought.

Small centres of Murchison Granite are present in the North Selina area, with the main body of Murchison Granite well exposed in the north of the area. The granite is likely genetically related to pyrite + magnetite mineralisation and associated North Selina workings.

No work has been carried out by Aberfoyle on the Selina South block.

4.2.4.1 Structure

Two fault structures were located during the mapping programme. Along Red Hills creek, an east-west fault dislocates the Cambro-Ordovician volcano-sedimentatry sequence in the northwest of the area. A minor northwest structure dislocates Eastern Sequence volcanics to the southeast of the horseshoe bend in the HEC Anthony Road.

Limited bedding, flow banding and lithological contact data indicate a steeply west dipping, north-south striking volcanic package. Moderate to strong northwest cleavage development is evident throughout volcaniclastics and to a lesser extent, within massive rhyolitic-dacitic lavas.

4.2.4.2 Alteration

Moderate to intense, pervasive to vein associated K-feldspar + magnetite with lesser quartz ± epidote ±/ tourmaline ± calcic alteration was identified at North Selina. The intensity of alteration increases toward the north and northwest of the mapped area. Patchy quartz + sericite + k-feldspar + magnetite alteration is also well developed in this locality.

Late stage alteration includes veinlets of chlorite ± pyrite to chlorite ± magnetite to quartz ± chlorite and quartz ± sericite mineral assemblages. This alteration transects earlier K-feldspar + magnetite alteration and is a late stage overprint.

Towards the south of the North Selina prospect area, pervasive chlorite and sericite alteration is developed as a north-south trending linear zone (Plate L.MARG.33.B_1 and B_2).

4.2.4.3 Mineralisation

Extensive pervasive vein related magnetite mineralisation was identified throughout the North Selina volcanic sequences. Minor pyrrhotite, chalcopyrite and galena (482749) is observed in association with pyrite vein development. No significant base metal mineralisation has been identified in the prospect area.

4.2.5 Geochemistry

4.2.5.1 Stream Sediment Geochemistry

As part of an initial assement of the North Selina block a -80 mesh stream sediment survey was conducted, with a total of 22 samples collected. Samples were assayed for Cu, Pb, Zn, Ag, Au, Ba and As with results included as Appendix X, and sample locations displayed on Plates L.MARG.16. and L.MARG.18.

Base metal assay results of stream sediment samples returned generally low values. Best assay value (sample 482754) returned 20ppm Cu, 135ppm Pb and 360ppm Zn, which was sampled from a small creek draining eastward into the Anthony River. Subsequent follow up mapping of the creek led to the identification of an anomalous magnetite sulphide clast within a lapilli volcaniclastic (samples 564795, 564957) and an outcrop of intense sericite, silica, pyrite altered dacite lava.

4.2.5.2 Rock Chip Geochemistry

41 rock chip samples were collected in conjunction to the stream sediment sampling programme and reconnaissance mapping. Rock Chip samples were analysed for Cu, Pb, Zn, Ag, Au, As, Ba, with the majority of samples also analysed for Cr, Ti, Zr, Ti and Y and several analysed for K_2O, Na_2O, CaO and MgO. In addition, a number of samples were also selected for F, Sn and Rb analysis to aid in the characterisation of possible granite related mineralising processes. Sample results are appended (Appendix XI), with locations displayed on Plate L.MARG.16. and results on Plate L.MARG.18.

Base and Precious Metal Analyses

Rock chip sample analyses identified two outcrops anomalous in base metals. An outcrop of rhyolitic lava (samples 482749 and 482986) within the Red Hills Creek returned base metal assays of 100-250ppm Cu, 185-555ppm Pb and 3050-7900ppm Zn. A second outcrop of lapilli epiclastics with visible magnetite and sulphides returned 40-65ppm Cu, 1900-2298ppm Pb and 2689-6900ppm Zn.

Several other samples analysed showed mildly elevated base metal contents. These include sample 482792 of highly sericite, silica, pyrite altered dacite with 425ppm Cu and sample 482790 of rhyolitic breccia volcaniclastic in Red Hills Creek with 405ppm Cu and 335ppm Pb.

Ag and Au values were generally below detection limits. Best assay returned 0.430ppm Au from a magnetite-pyrite vein hosted by a lapilli volcaniclastic (sample 482714).

Lithophile Analyses

Lithophile analysis results provided little additional information. Ti/Zr ratios were variable indicating several dacitic to rhyolitic lava flows to be present. Volcaniclastic units also indicated highly variable Ti/Zr ratios.

Granitic Fluid Study

The F, K_2O, Rb and Sn analyses primarily aimed to identify, Cambrian hydrothermal processes were active in the North Selina area, namely;

(i) hydrothermal processes associated with intrusion of the Murchison Granite
(ii) hydrothermal processes associated with VHMS-style mineralisation

Elevation in Rb (>200ppm) and F (>600ppm) levels suggest interaction between granitic fluids and outcropping Eastern Quartz Phyric Sequence units which host the alteration zone.

4.2.6 Pb Isotopes

Seven rock chip samples (482710, 482729, 482749, 482790, 482957, 482972 and 482986) were submitted for Pb isotope investigation. The aim was to ascertain the age of Pb mineralisation and examine the variation in Pb isotopic signature. The results of the Pb isotope studies, conducted through the CSIRO-Division of Exploration Geoscience, are attached as Appendix XII.

Two groupings of Pb isotopic data were present. The first group includes samples 482729, 482749, 482957 and 482986, which plot within the limits of the Rosebery 95% confidence ellipse. Remainding samples (482710, 482790 and 482792) show relatively elevated $^{205}Pb/^{204}Pb$ ratios that plot within or close to the Hellyer and Que River 95% confidence ellipse. The apparent variation in the $^{206}Pb/^{204}Pb$ ratios may be the result of radiogenic Pb addition since Cambrian time. No firm conclusions can be drawn on the basis of Pb isotope signatures as to the likely nature of the hydrothermal events.

4.2.7 Geophysics

During January 1991, a three loop 21 line kilometre UTEM survey was completed over North Selina Eastern Sequence units. Survey loop and line locations are shown on Plate L.MARG.41. with data collected at 50 metre station spacings on 200 metre spaced reading lines. Point and continuous normalised profiles are attached as Appendix XIII.

No response attributable to massive sulphide accumulations was detected within the Eastern Sequence. However an off-line response was detected to the east of North Selina and recommended for follow up. Further exploration work as a result, was undertaken on the Sticht Range EL 7/91 with all details on open file (Sharpe, 1992).

4.2.8 Summary and Conclusions

Alteration and minor mineralisation observed within the North Selina prospect appear genetically related to the intrusion of the Murchison Granite into Eastern Quartz Phyric Sequence rhyolite to dacite lava/volcaniclastics. This inference is supported by the presence of tourmaline as an alteration phase mineralogy and geochemistry in the north of the prospect area.

The area was tested for bedrock conductors using ground EM. No bedrock conductors attributable to massive sulphide accumulations were identified with little encouragement from mapping and geochemical programmes. As a result no further work was recommended for the area.

4.3 Julia Creek

4.3.1 Geological Setting

Julia Creek flows through a flat based valley that lies between Mt. Julia/Lukes Knob in the south and Gooseneck Hills to the north. Geology of the Julia Creek area comprises thickly bedded Ordovician sediment with the valley filled by Pleistocene glacial deposits.

4.3.2 Previous Exploration

Little previous work has been undertaken in the Julia Creek area. Mapping by McNeill (1987) identified a fault bounded wedge of Tyndall Group volcanic derived siltstones and sandstones.

In 1987, CRAE identified a magnetic anomaly hosted by Ordovician sediments proximal to Julia Creek. The magnetic anomaly was estimated to be within 100 metres of the surface (von Strokirch, 1987). Further work recommendations by CRAE pended the results of analogous work and drilling programmes being simultaneously conducted at East Mt. Sedgewick (Funnell, 1987), testing areomagnetic anomalies for Cu-Au associated mineralisation.

4.3.3 Aberfoyle

Limited reconnaissance mapping was undertaken by Aberfoyle in the Julia Creek area. A traverse was made of the Julia Creek valley in 1990, in order to locate outcrops of Tyndall Group volcanics previously reported by McNeill (1987).

4.3.4 Geology

Reconnaissance mapping is presented on Plate L.MARG.28A. Minor outcrops of siliciclastic conglomerate were identified toward the southern end of Julia Creek. Previously reported outcrop of Tyndall Group volcanics at the headwaters of Julia Creek were not relocated during the reconnaissance programme

4.3.7 Summary and Conclusions

No further work was recommended for the Julia Creek prospect on the basis of the East Sedgewick areomagnetic anomaly follow up programme results (refer to section 4.5).

4.4 Tyndall

4.4.1 Geological Setting

The Tyndall prospect area extends from Newton Gap in the north west, over the Tyndall Range to Lake Rolleston in the east. The area comprises Ordovician Owen Conglomerate sequences consisting of micaceous Lower Newton Creek Sandstone to thickly bedded conglomerates and sandstones of the Middle Owen Conglomerate.

4.4.2 Previous Exploration

The Tyndall area has had very little exploration conducted over it, with no recognised workings or alteration zones in the area.

CRAE undertook a regional orrientation programme over the Owen Conglomerate, including the Tyndall area (Funnell, 1987). For the purpose of CRAEs' programme, cyanide leach stream sediment samples were analysed for Auto test Ordovician sequences for fine Au and thin layer deposits. Little encouragment resulted from the programme, with nearly all samples returning less than 15ppb Au. No follow up work was recommended.

No work was undertaken by Aberfoyle on the Tyndall area for the 1988 - 1993 period.

4.5 East Sedgewick

4.5.1 Geological Setting

The East Sedgewick prospect area is a 9 square kilometre area comprising of a thick sequences of Cambro-Ordovician Upper Owen Conglomerate. Minor Jurassic dolerite outcrops at the peak of Mt. Sedgewick in the south west of the prospect area. Late Ordovician Gordon Limestone outcrops in the north east of the area.

4.5.2 Previous Exploration

Little exploration was carried out in the East Sedgewick area prior to 1985, with no alteration or old workings located in the prospect area.

Goldfields identified a large strong circular aeromagnetic anomaly north east of Mt. Sedgewick on the 1981 Department of Mines survey (Bishop, 1983 and Purvis etal., 1983). The anomaly is located approximately 3.5 kilometres north of Beatrice lava dome, in an area of outcropping Owen Conglomerate. Goldfields concluded the source to the magnetic anomaly to be a rhylotic lava dome at depth likely magnetite + heamatite altered and as a consequence prospective for Au-Cu mineralisation (by analogy to Mt. Darwin and Jukes Proprietary).

Goldfield did not recommend further work on the aeromagnetic anomaly due to an estimated Ordovician cover of at least 250 metres. As part of a regional programme, CRAE analysed a number of stream sediment samples. The aim of the programme was to test the Ordovician for Au anomalism (Sheppard, 1986). Re-interpretation of Goldfields' East Mt. Sedgewick aeromagnetics by CRAE proposed the source of the anomaly to be a large magnetic body with an estimated depth of 500 metres. The possibility that the source of the anomaly may be associated with pyrite and chalcopyrite mineralisation existed. As a result CRAE commissioned a programme of IP centred over the Sedgewick east anomaly.

This area was initially excluded from the MRV joint venture agreement entered into between CRAE and Aberfoyle. On 28th August 1990, the exclusion lapsed and the area was included as part of E.L.5/85 under terms of the joint venture document.

From 1987 to 1988 a grid was established and ground magnetics carried out to ascertain an acurate definition of the aeromagnetic anomaly. Several lines of dipole-dipole IP were also completed in an effort to delineate zones of chargeability within the Owen conglomerate.

The East Mt. Sedgewick magnetic anomaly was confirmed and then drilled by CRAE in 1988. DDH 88MS-1 was terminated at 600 metres, failing to intersect Cambrian volcanics or any significant gold or base metal mineralisation. As a result the aeromagnetic anomaly was interpreted to be the result of a zone of magnetite intersected between 454 and 600 metres. A downhole EM survey of this hole was recommended but not carried out by CRAE.

4.5.3 Aberfoyle

Previous work by CRAE and an observable lack of alteration, provided little enouragement for further exploration. It was recommended that DHEM be carried out on DDH 88MS-1.

4.5.6 Geophysics

In February 1991, DDH 88MS-1 was located and determined to be open to 530 metres. A three loop down hole EM survey was conducted using Aberfoyles' Zonge GDP-16 system. Loop locations and the results of the survey are presented on Plate L.MARG.44. and in Appendix XIV respectively. No significant conductive bodies were identified, and as a result no further work recommended for the East Sedgewick area.

4.6 Mt. Lyell Area

4.6.1 Geological Setting

The Mt. Lyell area of E.L.5/85 is a 6 square kilometre block extending from the western edge of Mt. Lyell eastward toward the King River valley, now filled by Lake Burbury. Geological units include Tyndall Group volcaniclastics in the east to Ordovician sediments in the west. Basal Tyndall Group units include Comstock Tuff equivalents.

4.6.2 Previous Exploration

The Mt. Lyell area was explored by Goldfields upto 1985 (Fitzgerald, 1987). The programme included rock chip sampling and mapping. No work was undertaken on the prospect by CRAE.

4.6.3 Aberfoyle Exploration

Previously identified outcrops of Tyndall Group volcaniclastics (Corbett et al., 1989) were targeted for limited reconnaissance mapping in order to further indentify a prospective horizon. Mapping concentrated on exposure along the Linda Valley-Comstock Mine Railway. The exploration was undertaken as part of a regional programme.

4.6.4 Geology

Reconnaissance mapping at 1:10000 scale (Plate L.MARG.28D.) detailed the Cambro-Ordovician exposure east of Mt. Lyell. Tyndall Group correlate lithologies mapped included volcaniclastics. A minor shear zone of green quartz phyric ash lapilli volcaniclastic was identified in the southeast of the mapped area. In this area a green grey lithic fragment bearing quartz feldspar phyric lapilli volcaniclastic conformably overlies the ash lapilli volcaniclastic and forms a likely correlate to the Comstock Tuff north of Queenstown.

A unit of quartz felsdpar phyric conglomerates (Jukes Conglomerate correlate) was identified overlying the Comstock Tuff correlate. Conformably overlying the Tyndall Group units in this area are Cambro-Ordovician Owen Conglomerate sequences. Areas of Pleistocene glacial till are abundant

4.6.5 Summary and Conclusions

Mapping of the Lyell area, as part of a regional programme, aimed to identify prospective base metal host horizons. Poorly developed alteration was identified during mapping. Mapping did not provide encouragement for a potential base metal host horizon and as a conseqeunce no further work was recommended for the area.

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APPENDIX I

952040

ABERFOYLE RESOURCES LIMITED

Technical Report

DOWN HOLE ELECTROMAGNETIC INVESTIGATIONS

RED HILLS PROSPECT

LAKE MARGARET EL 5/85

TASMANIA

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Chief Geophysicist

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Plates

1. Introduction

The Lake Margaret EL is situated approximately 15 kilometres NE of Queenstown. Extensive exploration of the licence has occurred in the past, predominantly for base metal mineralization. Recently, prior to 1988, CRAE spent two years assessing the gold potential of the property. A total of 28 DDH's and 23 PDH's have been drilled on the property.

The Red Hills grid, lies in the NW corner of the EL and is the most intensely explored section of the licence. A Cambrian rhyolite dome forms the Red Hills, with sequences of volcaniclastic sediments, black tuff shales and ignimbrites occurring on both sides, and dipping steeply away from the rhyolite dome. Pervasive chlorite-hematite alteration occurs within the dome along with magnetite-pyrite-chalcopyrite-gold mineralization in both disseminated and vein form. A small, 2.8 m thick, massive sulphide lens (34.5% Zn, 11.35% Pb, 0.3% Cu, 250 g/t Ag, 6.5 g/t Au) was intersected in DDH RH5. Following up this intersection CRAE read DDH's RH5 and RH12 with DHEM (Em-37) and carried out 8.5 line/km of UTEM.

2. CRAE Down Hole EM Data

CRAE conducted a six loop, 2 hole, DHEM survey during November 1986. Three 200 m x 200 m loops were located around each of DDH RH5 and RH12, to determine if the massive sulphide intersected in RH5 extended away from RH5. The CRAE loop positions are shown on plate L Marg 4.

CRAE concluded that the massive sulphide intersected in RH5 did not extend far from the drill hole. Aberfoyle re-interpreted the CRAE DHEM data, suggesting that CRAE had not recognized a response due to an off-hole conductor. This interpretation was largely based upon the data recorded in

RH5, as the profiles from RH12 show no conductive responses at late time. The low signal levels measured indicate a very resistive environment.

Loop RH5E produced a profile where all channels increase in amplitude smoothly up to 130 m depth, with a steady decrease towards the end of the hole. A large increase in signal amplitude accompanies this profile. This behaviour was interpreted as indicating an off hole conductor that, had RH5 been drilled to a sufficient depth, would have produced a negative EM response as the drill hole passed over, or under, the top of the conductor.

The centre loop on RH5 produced a profile exhibiting a positive to negative cross over at 130 m depth, becoming slightly positive again towards the end of the hole. A large early time negative was produced by conductive black shales at the top of the hole. The NE loop produced a noisy profile, showing an early time response due to the black shales, but no late time responses.

The change in sign from the high amplitude positive of the east loop, to the low amplitude negative of the centre loop was interpreted to indicate a vertical conductor existed between loops RH5C and RH5E. The position of this conductor could have been such that the NE loop was in a null couple position, thus accounting for the lack of response from this loop.

3. Aberfoyle Sirotem Survey

To confirm the existence of the interpreted conductor, Aberfoyle planned a seven loop Sirotem DHEM survey. Four E-W trending loops were sited on RH5 with the remaining three loops on RH12. Although planned as 200 m x 200 m loops, the Sirotem loops were actually laid as 100 m x 100 m in size, in the positions shown on plate L Marg 4.

All three profiles for RH12 exhibit low signal amplitude and a significant noise level, especially at late time. Self response from the probe dominates the profiles to such an extent that little real EM data was recorded. An example is the lack of any response from the conductive black shales. The four data sets from RH5 are also dominated by self response and high noise levels. No responses indicative of off hole conductors were recorded.

Due to the error in laying the loops, the Sirotem survey was not a conclusive test of the hypothesis formulated from CRAE's Em-37 data. No direct comparison between the two sets of data could be attempted.

4. Aberfoyle Em-37 Survey

To fully test the interpretation of CRAE's Em-37 data Aberfoyle commissioned a seven loop Em-37 survey. Four E-W trending 200 m x 200 m loops were sited on RH5 and three 200 m x 200 m loops on RH12.

4.1 RH12 Results

The profiles from RH12 exhibit no late time responses indicative of off-hole conductive mineralization. An early time response evident from loops 1 and 3, with its maximum amplitude at 70-80 m, is probably due to pyrite associated with a silicified felsic tuff.

The character and amplitude of the profiles recorded from Aberfoyles Em-37 survey compare favourably with the earlier Em-37 data, when allowance is made for differences in loop positions. This comparison identified a problem exists with the sign convention of some profiles, as from CRA loop C a positive response was recoded down RH12, whereas from Loop 2 (in approximately the same position) a negative response was recorded. Geoterrex. have addressed this problem with a new field procedure to determine probe polarity. Relative to the CRAE data, Aberfoyles Em-37 DHEM profiles have been shifted due to a negative DC shift in the equipment used.

A problem exists in explaining the large change in amplitude of the early time response of channels 1-10, in RH12, read from CRA loop C and Aberfoyle loop 2. For these similar loops the early time response was six times greater recorded from loop C than from loop 2. A current of 14 amps was used in loop C whereas 22.3 amps was used in loop 2. It was expected that this would produce a greater reponse, not the six factor decrease observed.

The observed change in response amplitude is difficult to explain, but may have been produced by some probe self-response during the CRA survey. Probe self response is not usual with EM-37 but the possibility that it may occur should be considered during future surveys.

4.2 RH5 Results

The results from the four loops sited on RH5 produced disappointing results. All loops showed only conductive responses at early times, due to the black shales that extend to 60 m depth in RH5.

The character and signal amplitude of the data recorded from loop 5 matched closely with the data recorded from CRAE's loop RH5C. Making allowance for differing loop positions the data from loops 6 and RH5NE also agree. Major discrepancies exist between the data recorded from loops 7 and RH5E, as the characteristics shown by the earlier CRAE data were not repeated in any way. Consequently the Aberfoyle

Em-37 data does not indicate that an off-hole conductor exists to the east of RH5. This result substantially downgrades the potential of the area immediately surrounding RH5.

One explanation as to why a DHEM response, similar to that produced by an off-hole conductor, was recorded from loop RH5E, is that while RH5 was being read from loop RH5E, loop RH5NE was connected at surface. This would produce a response that, after a maximum was reached, would pass through a zero point as the plane of the edge of loop RH5NE was crossed. The profile for loop RH5E suggests this would have occurred if RH5 had been a greater depth, hence crossing the plane of the edge of RH5NE.

It should be noted that the polarity of the CRAE data can not be relied upon as being correct. This polarity problem was identified during Aberfoyles Em-37 program and an operational procedure instigated to eliminate it. The polarity of each of Aberfoyles profiles from RH5 is in fact, opposite to its true polarity.

5. Comparison of Em-37 and Sirotem Data in RH5

In order to investigate the difference in data quality between Sirotem and Em-37, the 100 m x 100 m Sirotem loop 2 was re-laid as Em-37 loop 8 and RH5 re-read. Despite the smaller loop the Em-37 data clearly resolves the conductive shales, to 60 m depth, in RH5. A response from the shales is not clearly evident in the Sirotem data, as the Sirotem profile is dominated by probe self-response. A measure of this self-response can be gained by directly comparing the transient EM response measured by Em-37 and Sirotem. In order to do this the Em-37 response measured in nanovolts per amp metre squared must be multiplied by 10 to convert it to the micro volts per amp units of the Sirotem response. If Sirotem channel 2 (0.8 ms) and Em-37 channel 10 (0.712) are compared, the Em-37 response is 50 m V/A whereas the Sirtoem response is 150 m V/A. This illustrates the degree to which the Sirotem transient EM response is polluted by self-response of the probe.

Another advantage of Em-37 is that its data is less affected by noise, hence producing DHEM profiles that are easier to interpret.

6. Conclusions

The crucial data that lead to Aberfoyles interpretation of an off-hole conductor from RH5, was not repeated during Aberfoyles Em-37 survey. It was thus shown that no off-hole conductor occurs to the east of DDH RH5. A field operational error is thought to account for the data that lead to Aberfoyles off-hole conductor interpretation. The potential of the area surrounding DDH's RH5 and RH12 has been substantially downgraded.

During the several phases of this investigation a comparison was carried out between Sirotem and Em-37 DHEM data. It has been concluded that Em-37 should be favoured for DHEM work as it produces higher quality data and usually does not suffer from Sirotems probe self response problem. Em-37 also provides a greater amount of early time EM data.

Appendix 1

CRAE Em-37 DHEM DATA

DDH RH5 AND DDH RH12

Appendix 2

ABERFOYLE SIROTEM DHEM DATA

DDH RH5 AND DDH RH12

Appendix 3

ABERFOYLE Em-37 DHEM DATA

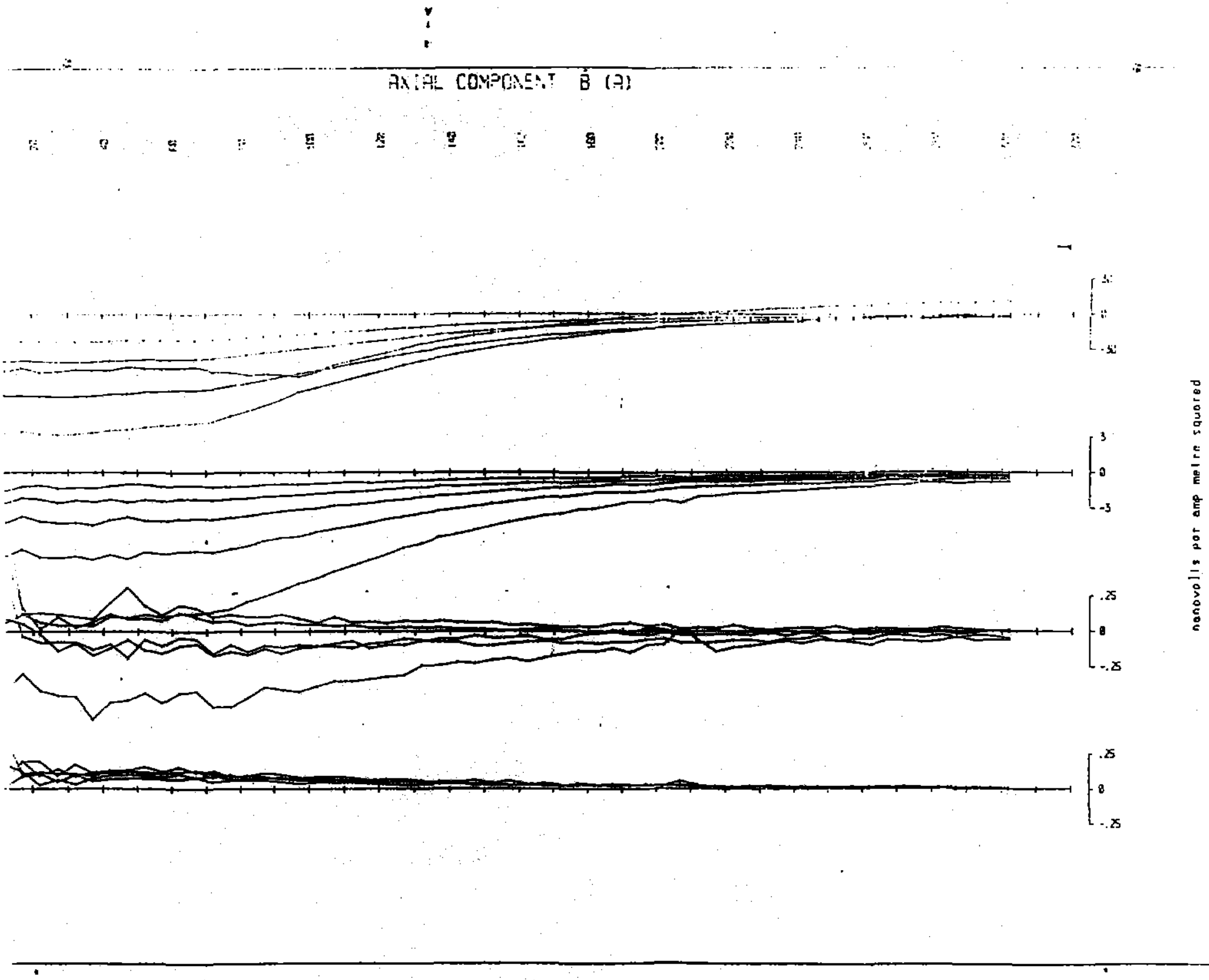
DDH RH5 AND DDH RH12

952051

Appendix 1

CRAE Em-37 DHEM DATA

DDH RH5 AND DDH RH12



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED SECONDARY FIELD

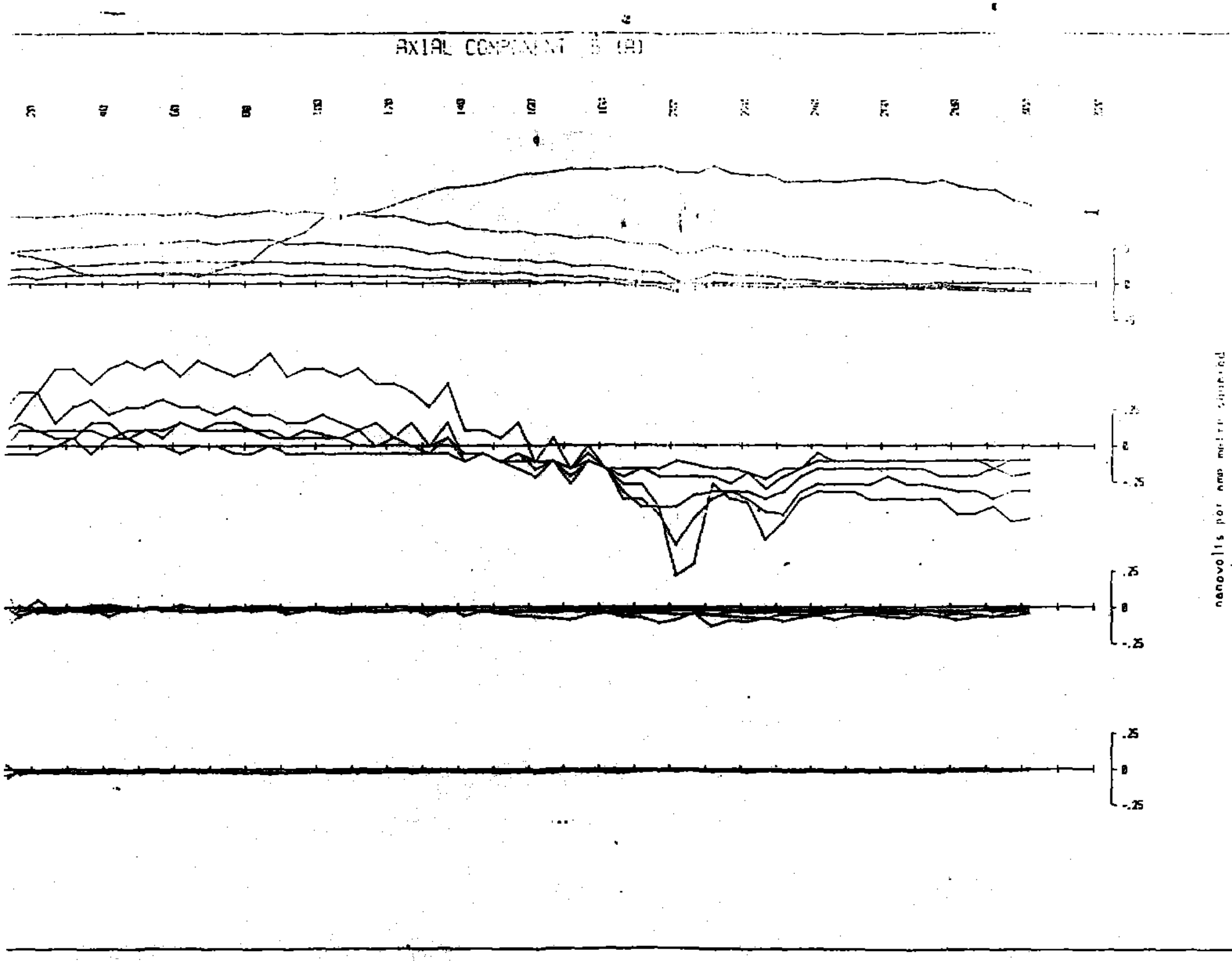
TIME DERIVATIVE OF FLUX DENSITY (Ḃ)

TX LOOP SIDES : 00:00N 00:00E
: 00:00S 00:00W
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 120 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 14.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SOCH
DATE : 03/11/1986

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-814

CLIENT : CRA Exploration
PROJECT : Red Hills
AREA : Lake Margaret Tas.
BOREHOLE : RH12
TX LOOP : C



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE IN Z COMPONENT FIELD

TIME DERIVATIVE OF FLUX DENSITY

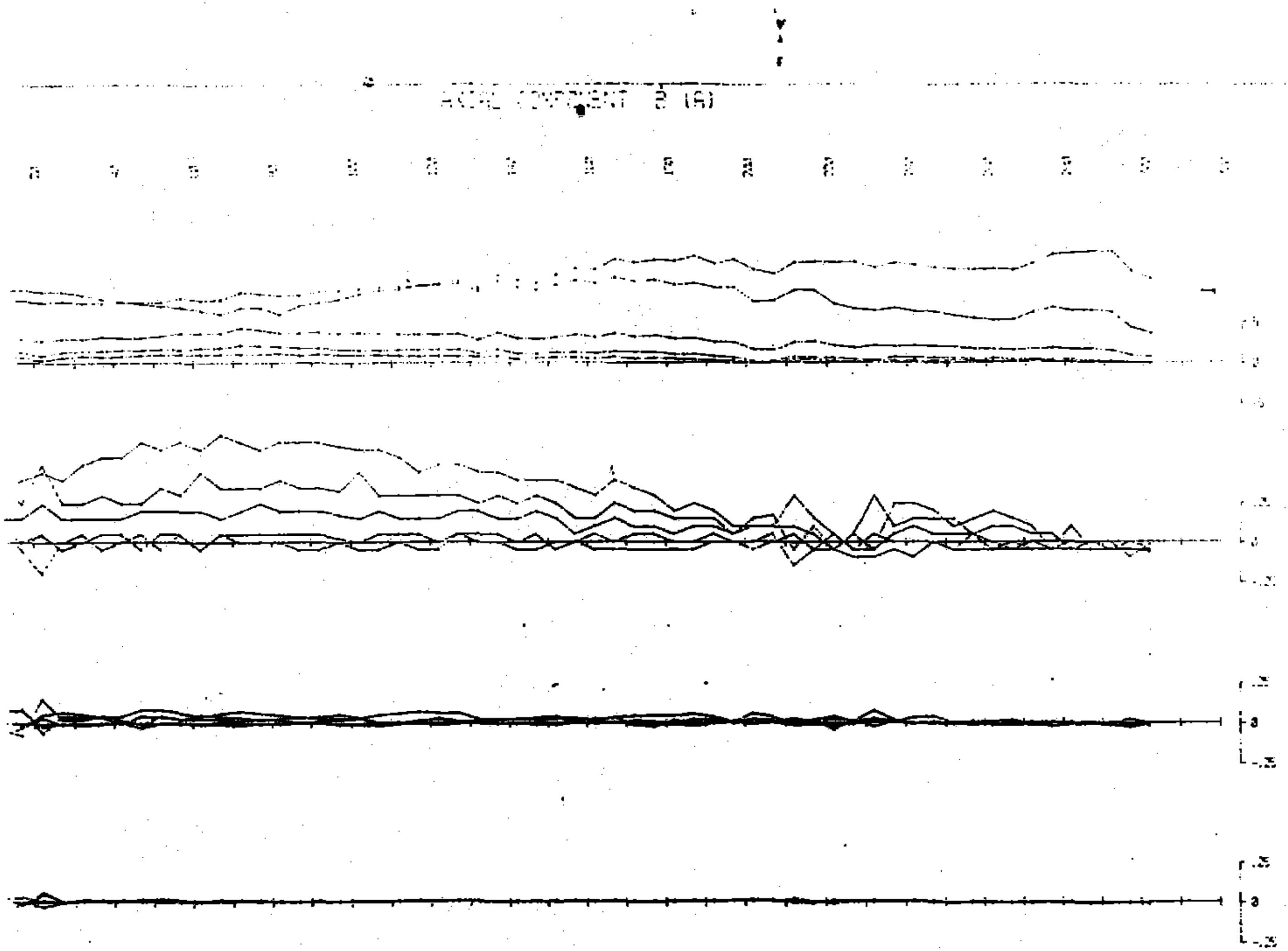
TX LOOP SIDES : 00100N 00100E
: 00300N , 00300E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 115 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 14.1 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDCH
DATE : 04/11/1986

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-011

CLIENT : CRA Exploration
PROJECT : Red Hills
AREA : Lake Margaret Tas.
BOREHOLE : RHI2 ;
TX LOOP : NE

952053



BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED SECONDARY FIELD

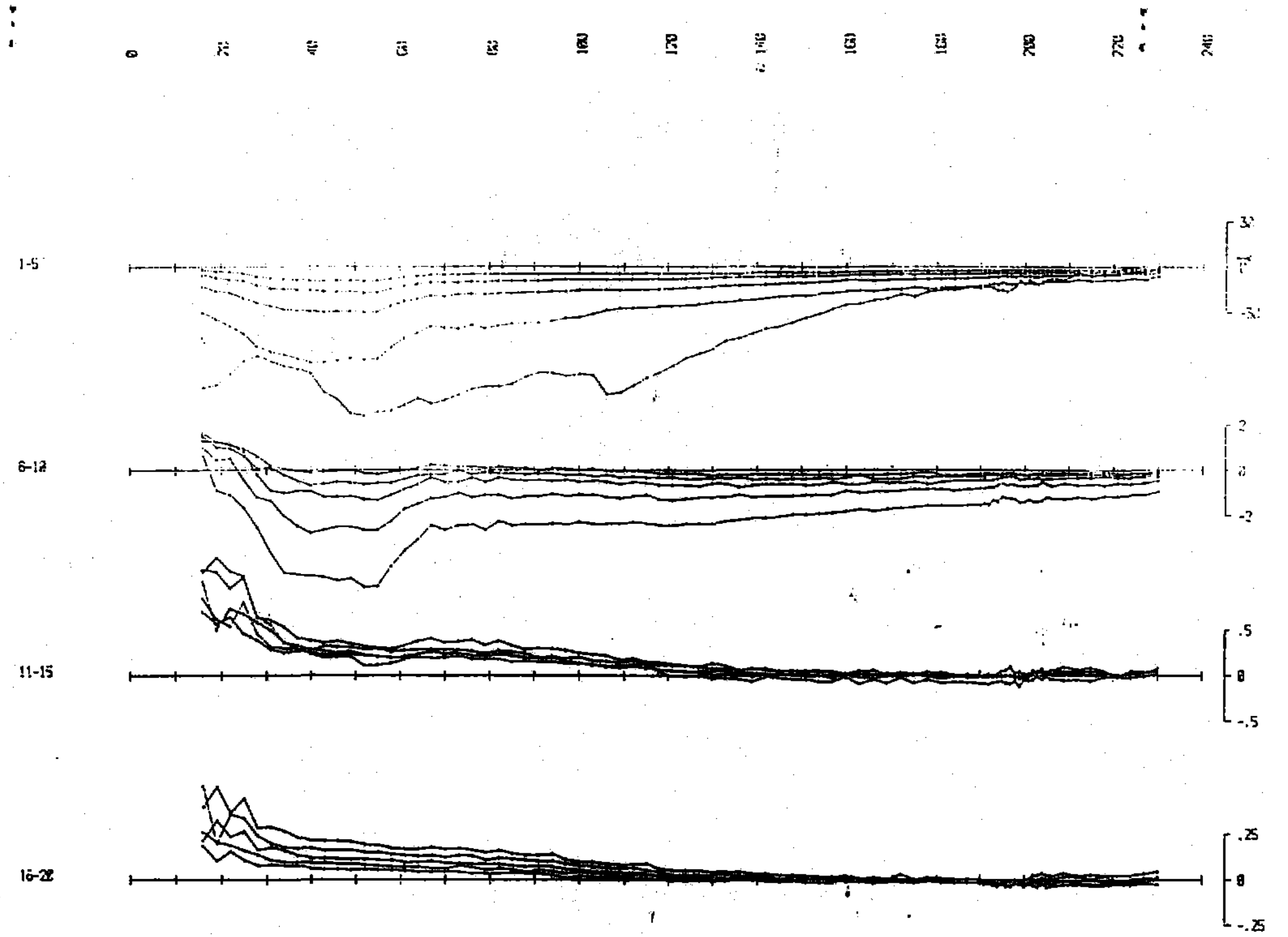
TIME DERIVATIVE OF FLUX DENSITY

TX LOOP COORDS : [illegible] [illegible]
[illegible] [illegible]
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 132 microsecs.
FIRST GATE TIME : 93.5 microsecs.
CURRENT : 15.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDM
DATE : 02/11/1986

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.	PROJECT NO. 4-914

CLIENT : CRA Exploration
PROJECT : Red Hills
AREA : Lake Margaret Tas.
BOREHOLE : RH22
TX LOOP : E

952054



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

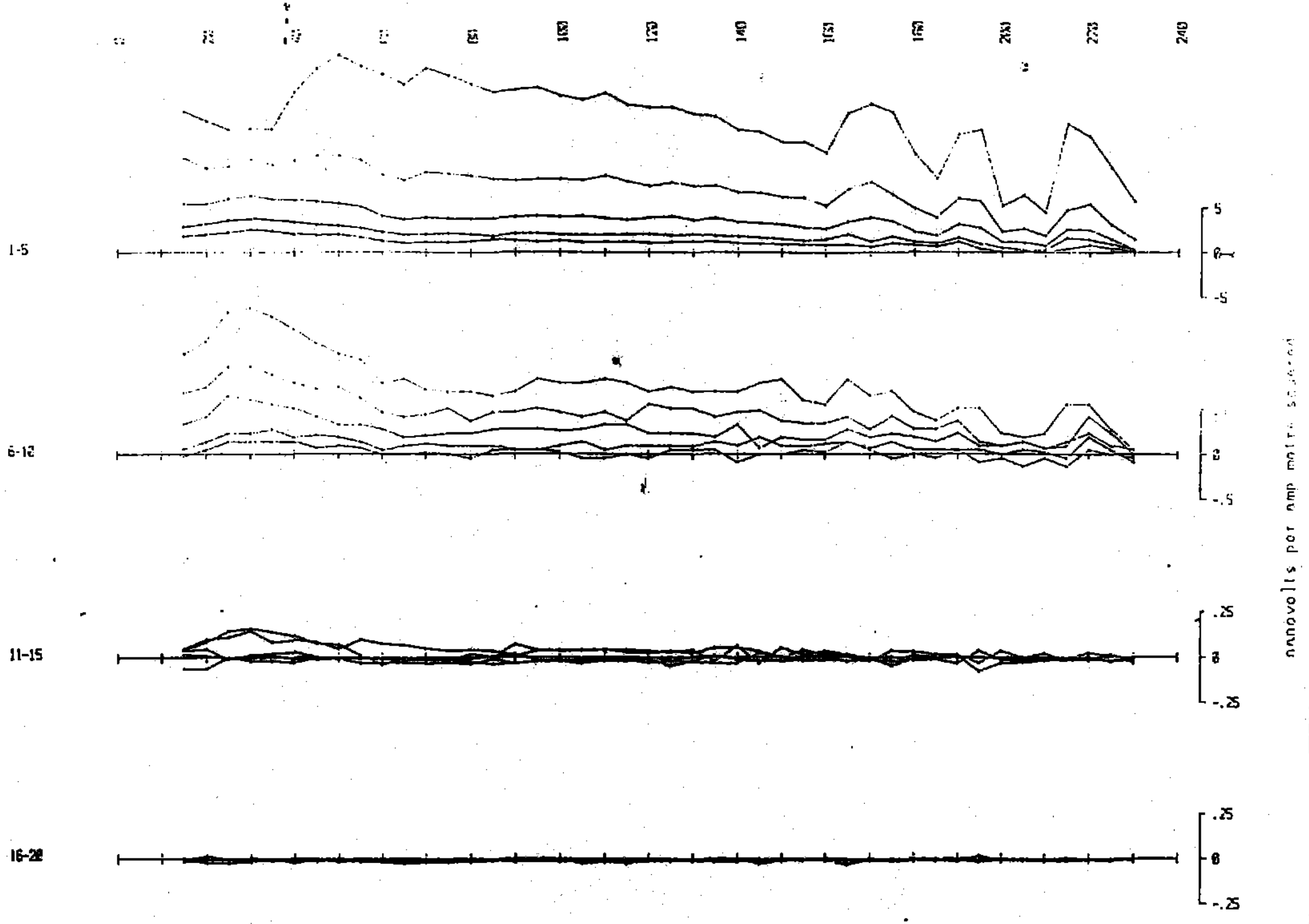
TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 20120N 02122E
: 02132S 20120W
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 120 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 15.7 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDCH
DATE : 29/10/1986

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-914

CLIENT : CRA Exploration
PROJECT : Red Hills
AREA : Lake Margaret Tas.
BOREHOLE : RH5
TX LOOP : C



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

(TIME DERIVATIVE OF FLUX DENSITY (B))

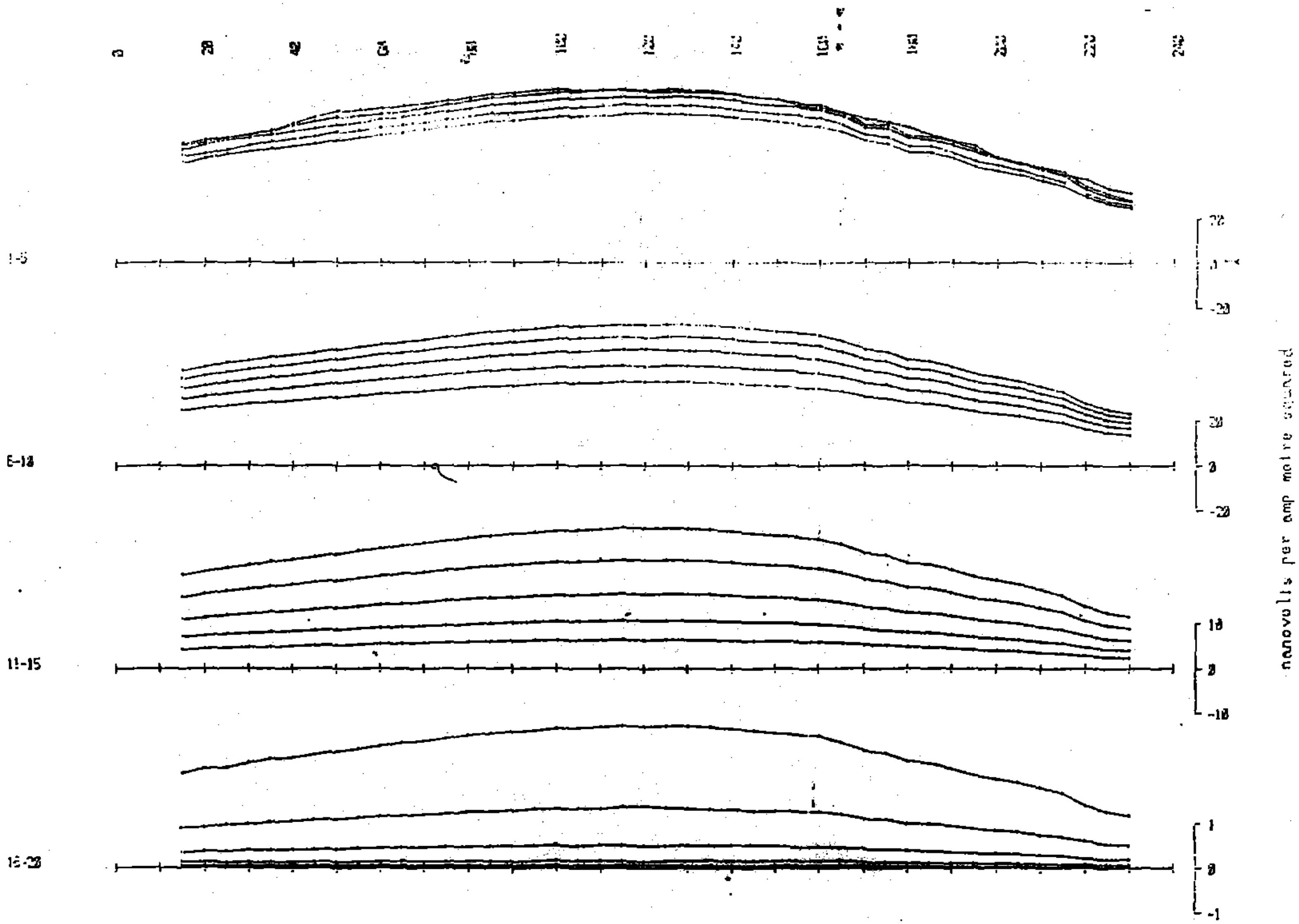
TX LOOP SIDES . 20275N 20135E
. 20275N 20355E
TX LOOP SIZE : 220 m X 220 m.
TX TURN OFF TIME : 150 microsecs.
FIRST GATE TIME : 99.5 microsecs.
CURRENT : 16.1 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDCH
DATE : 01/11/1996

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.	PROJECT NO. 4-914

CLIENT : CRA Exploration
PROJECT : Red Hills
AREA : Lake Margaret Tas.
BOREHOLE : RHE
TX LOOP : NE

952056

AXIAL COMPONENT B (Z)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

[illegible]

TX LOOP SIDES : 0312004 0025SE
: 0312005 0345SE
TX LOOP SIZE : 220 m X 200 m
TX TURN OFF TIME : 140 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 17.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 256 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDCH
DATE : 31/12/1995

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.

PROJECT NO. 4-914

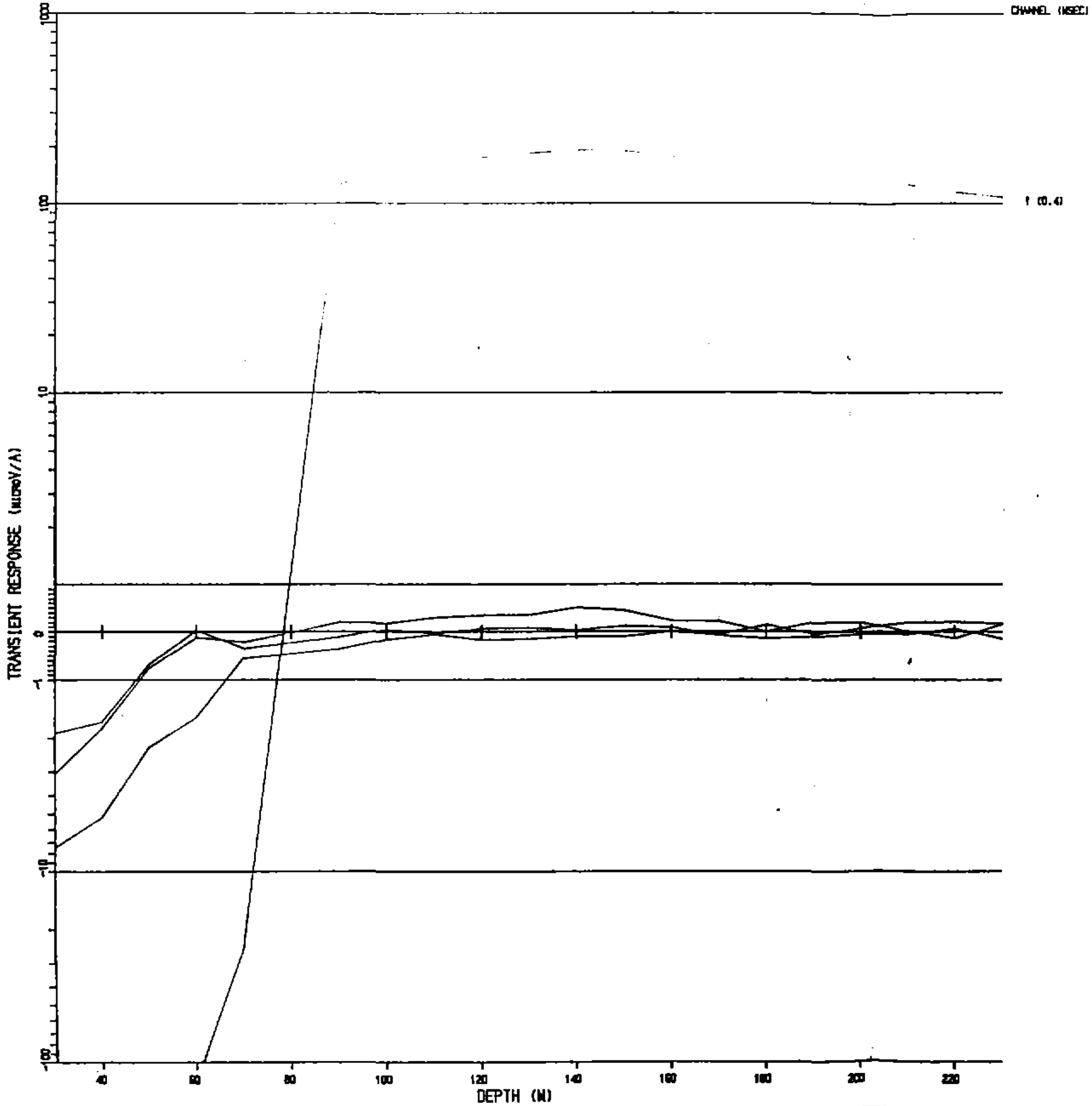
CLIENT. : CRA Exploration
PROJECT. : Red Hills
AREA. : Lake Margaret Tas.
BOREHOLE. : RHS
TX LOOP : 5

952057

Appendix 2

ABERFOYLE SIROTEM DHEM DATA

DDH RH5 AND DDH RH12



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKINNING GEOPHYSICS P/L

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1235
CURRENT : 12.0 AMPS

OPERATOR : P McSKINNING

PLOT SPECIFICATIONS

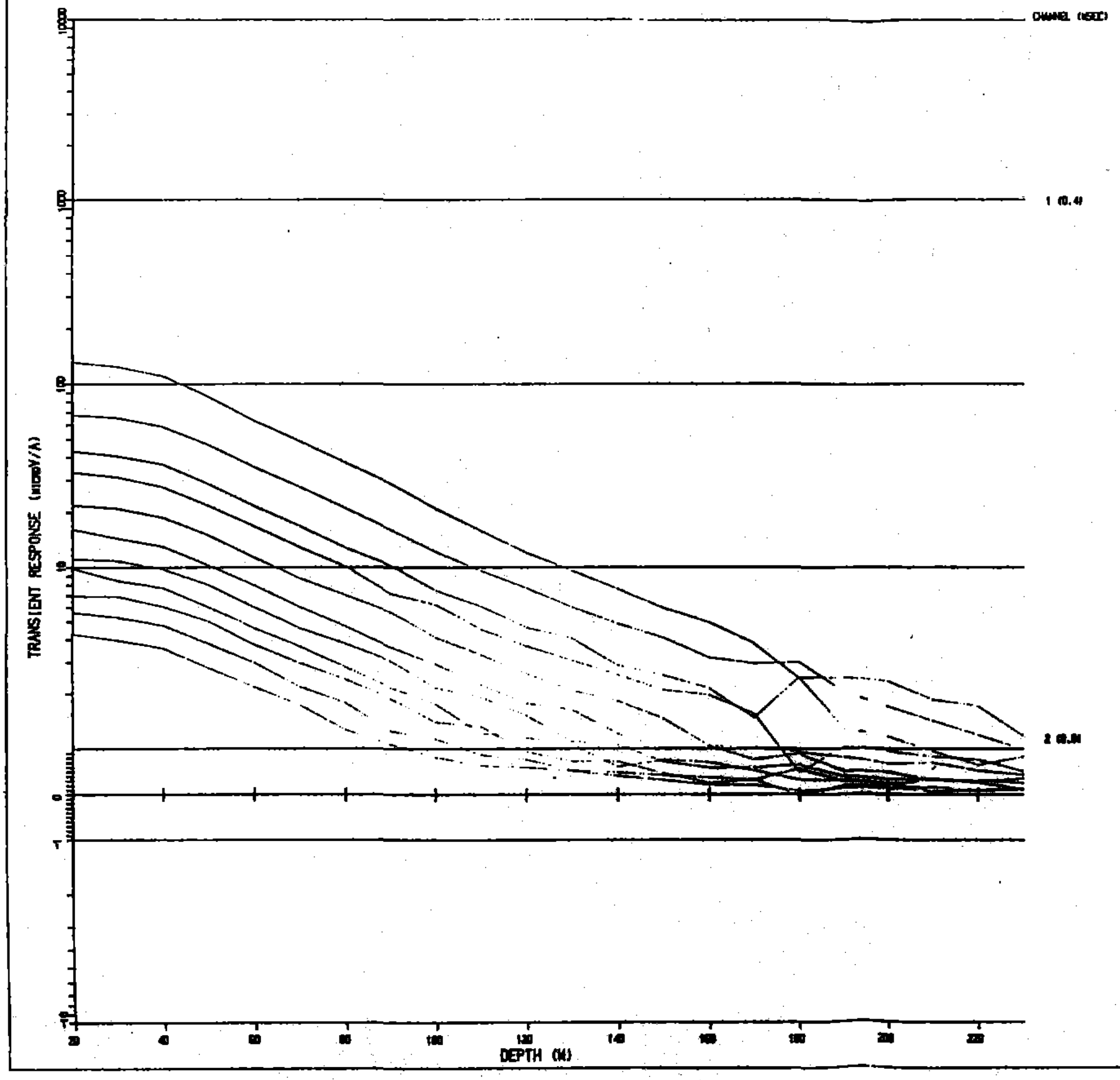
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH5 LOOP 1

SCALE - 1:1000

950259



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS P/L

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1236
CURRENT : 11.9 AMPS

OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

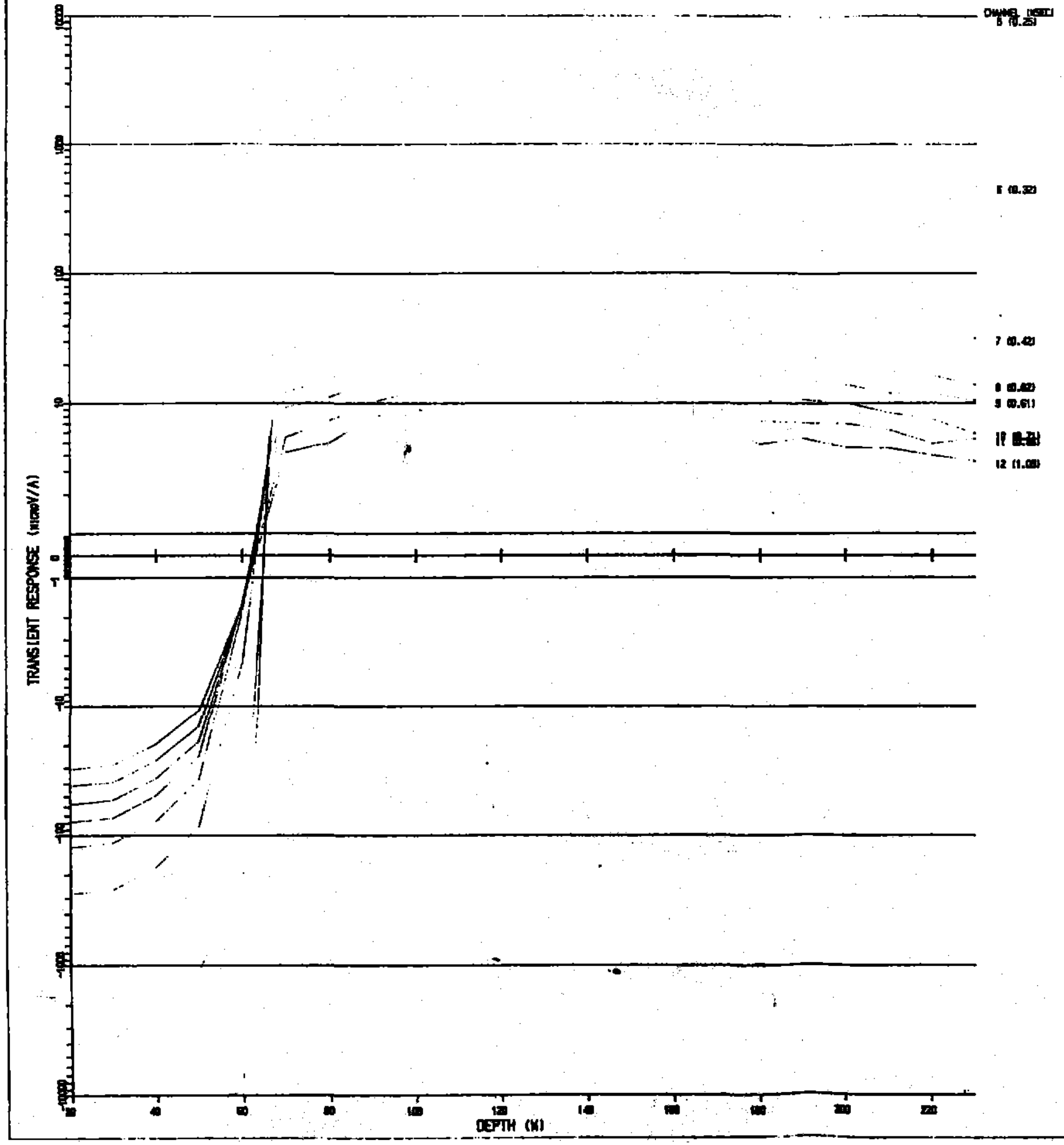
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH5 LOOP 2

SCALE - 1:1000

952060



SURVEY SPECIFICATIONS

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1256
CURRENT : 12.2 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

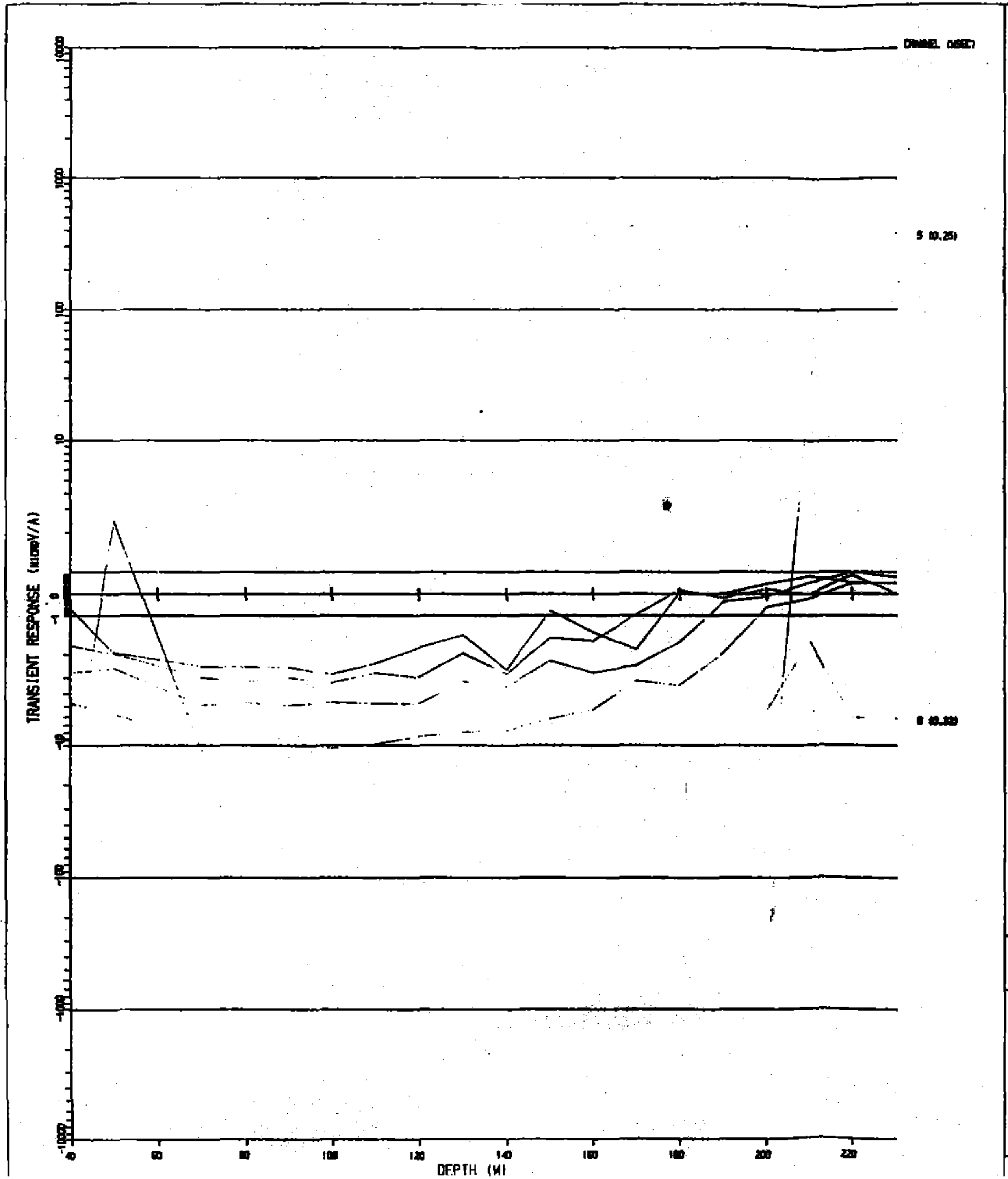
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
3CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH5 LOOP 3 ET

SCALE - 1:1000

952061



SURVEY SPECIFICATIONS

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1236
CURRENT : 14.8 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

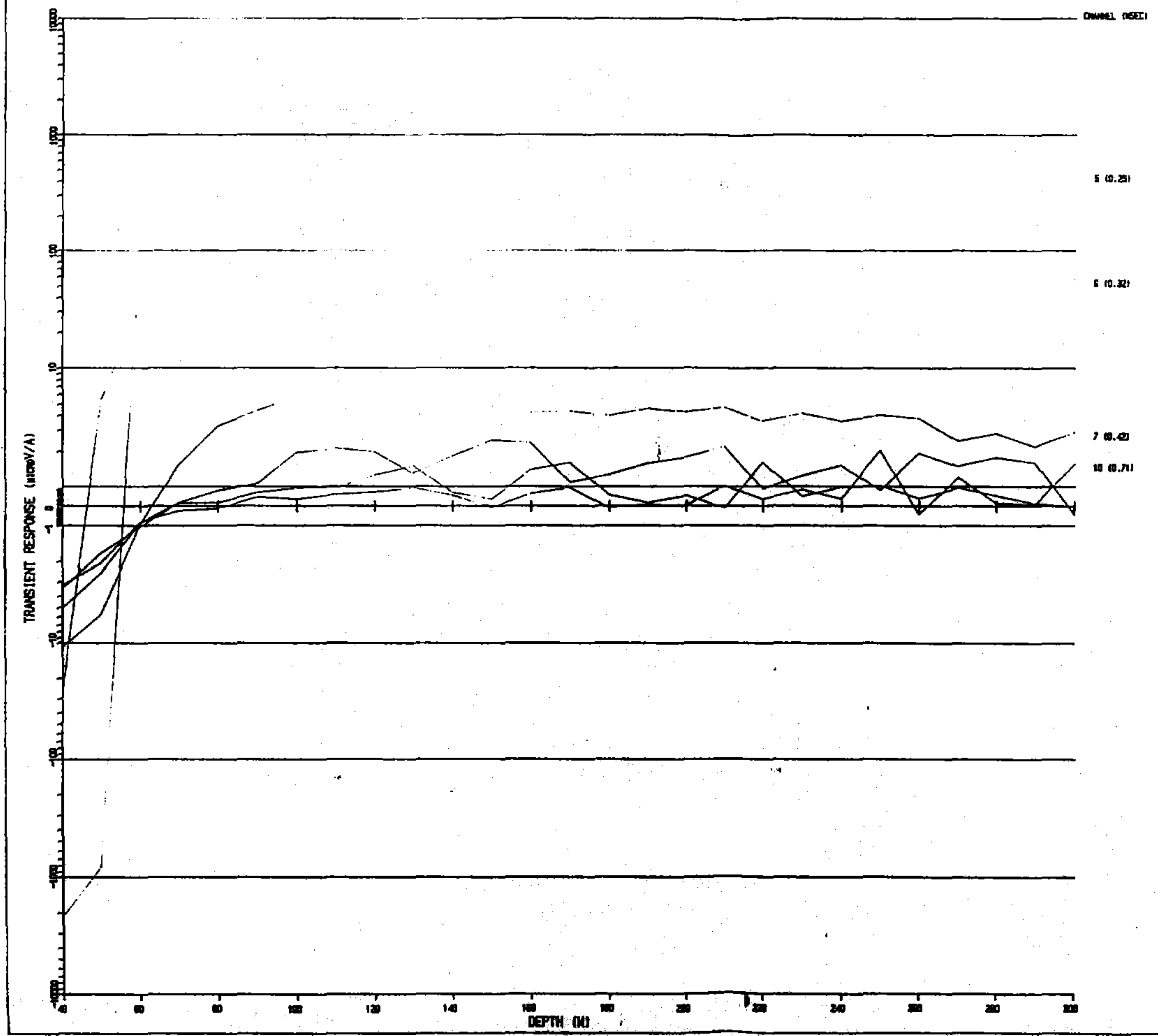
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
3CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH5 LOOP 4 ET

SCALE - 1:1000

952062



SURVEY SPECIFICATIONS

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1236
CURRENT : 14.4 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

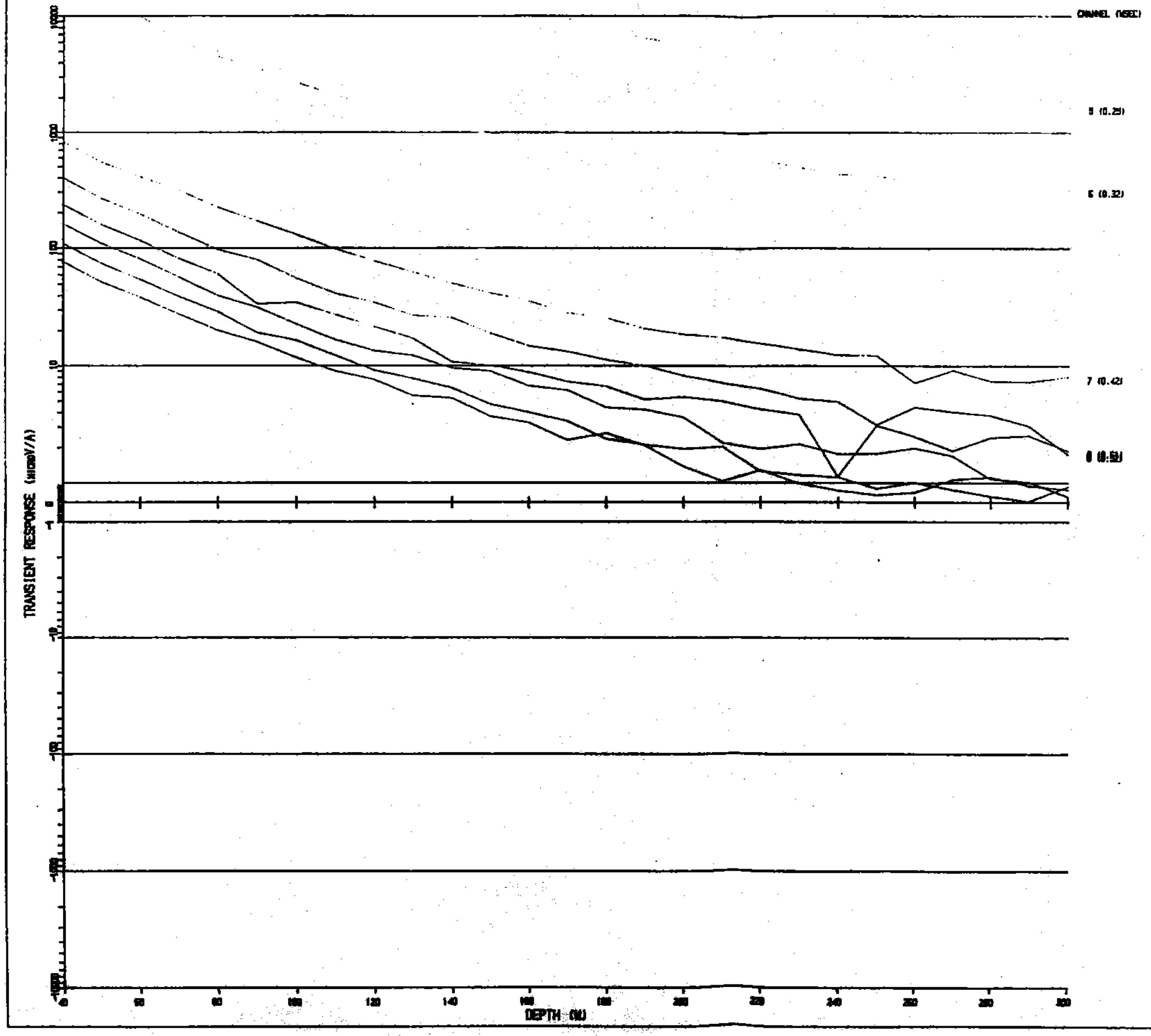
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
3CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH12 LOOP 1 ET

SCALE - 1:1000

952063



SURVEY SPECIFICATIONS

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 512
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1236
CURRENT : 14.6 AMPS

OPERATOR : P McSKINNING

PLOT SPECIFICATIONS

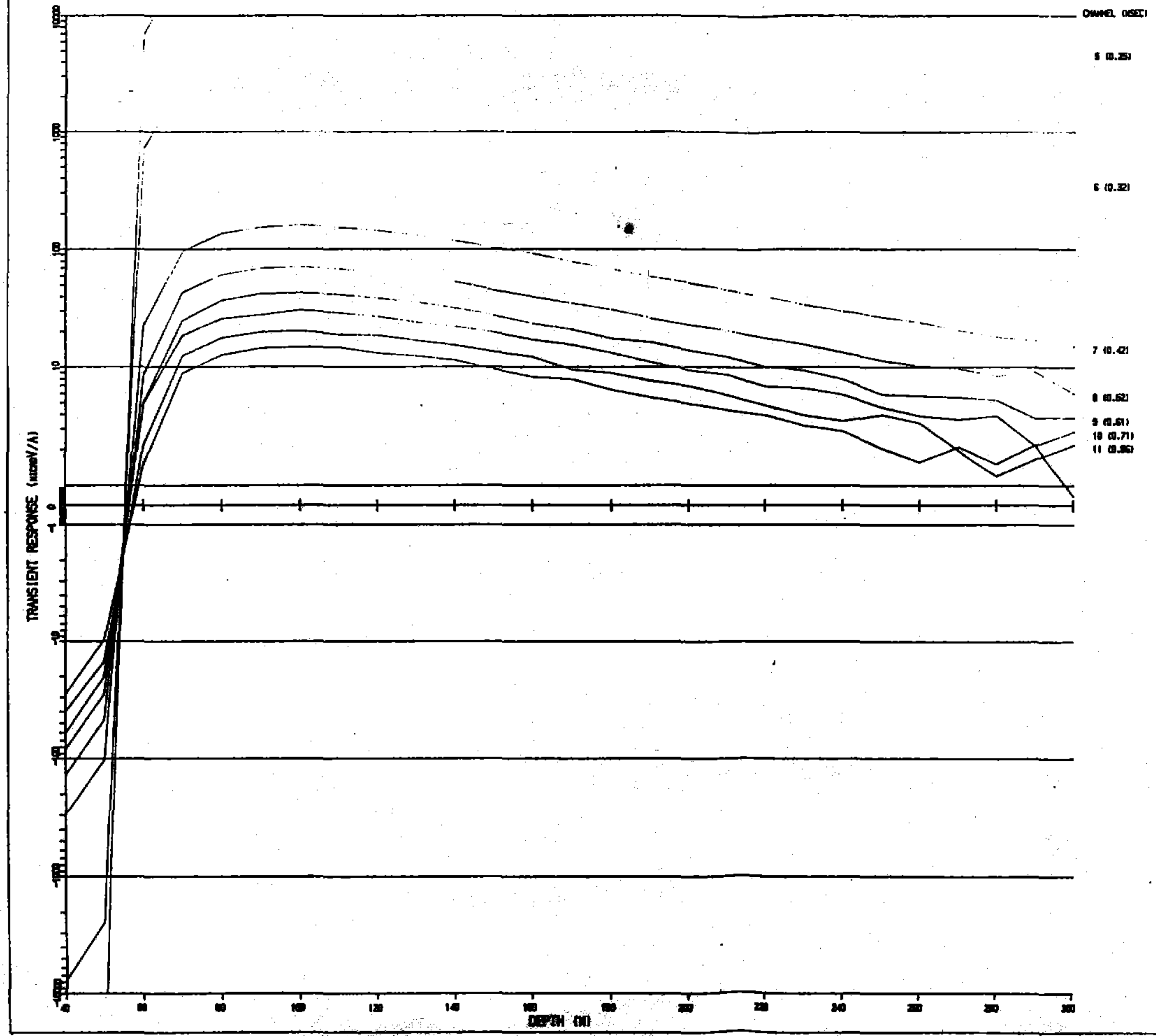
HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
3CM. PER DECADE
LINEAR BETWEEN -1 AND +1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH12 LOOP 2 ET

SCALE - 1:1000

95 2064



SURVEY SPECIFICATIONS

SURVEY DATE : SEPT 1988
CONFIGURATION : 100M SQUARE TRANSMITTER LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1236
CURRENT : 13.3 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
3CM. PER DECADE
LINEAR BETWEEN -1 AND 1

ABERFOYLE EXPLORATION

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE RH12 LOOP 3 ET

SCALE - 1:1000

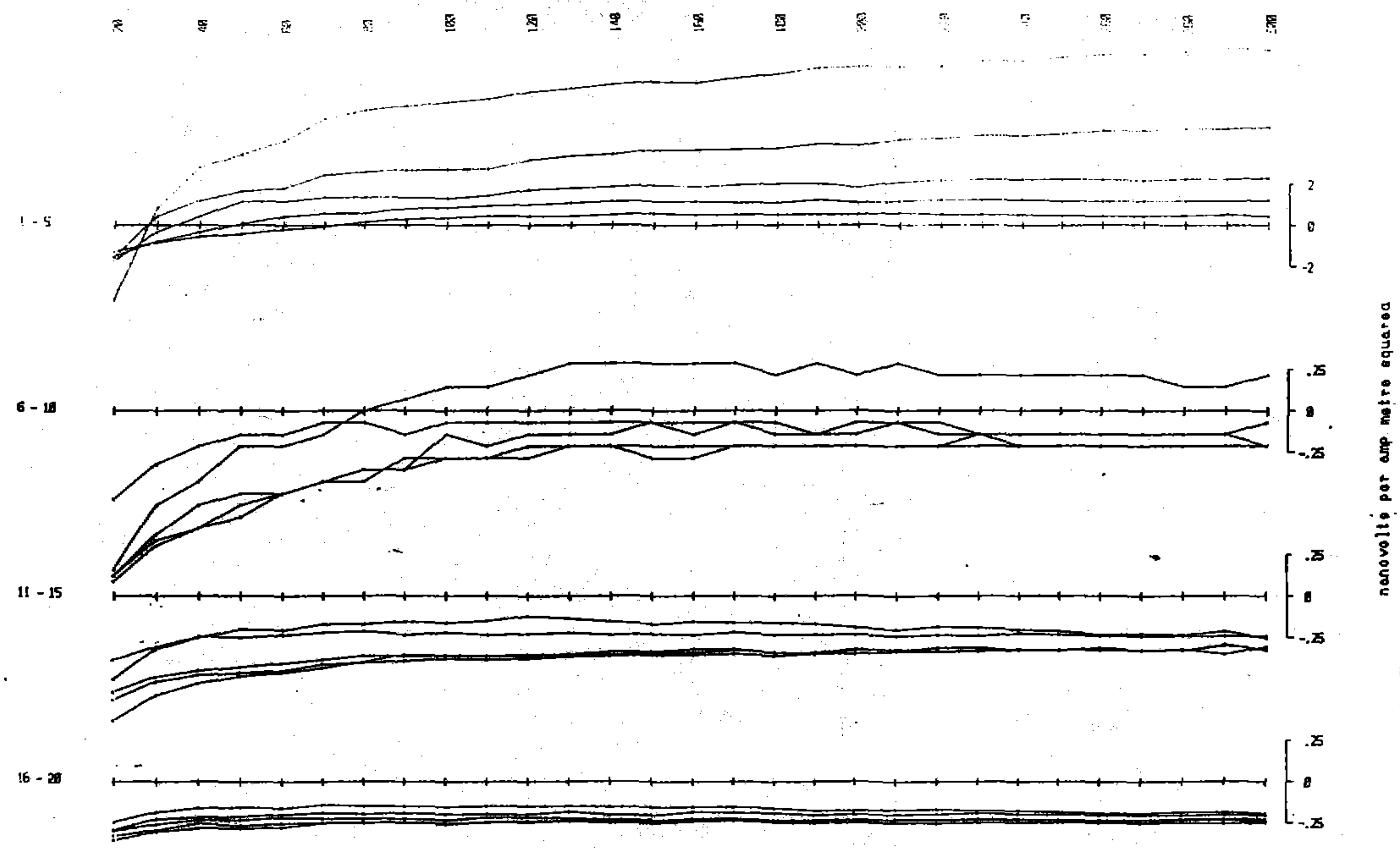
952065

Appendix 3

ABERFOYLE Em-37 DHEM DATA

DDH RH5 AND DDH RH12

AXIAL COMPONENT Ė (A)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : [illegible] [illegible]
: [illegible] [illegible]
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 100 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 21.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDLR
DATE : 01/11/1988

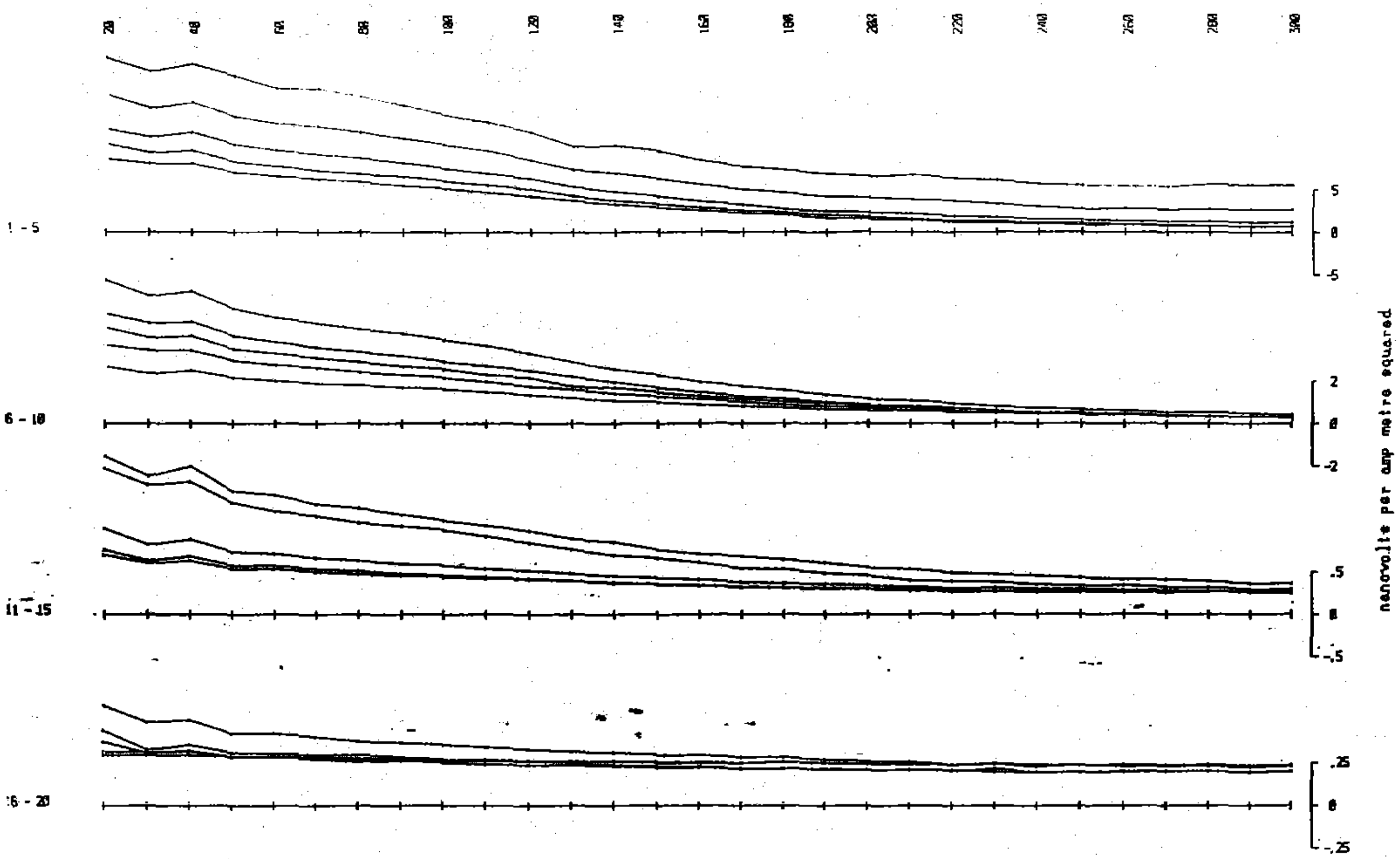
SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-005

CLIENT : Aberfoyle Resources
PROJECT : Red Hills J.V.
AREA : Red Hills Tasmania
BOREHOLE : RH12
TX LOOP : 1

952067

AXIAL COMPONENT B (A)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : [illegible] [illegible]
: [illegible] [illegible]
TX LOOP SIZE . : 200 m X 200 m
TX TURN OFF TIME : .195 microsecs.
FIRST GATE TIME . : 60.5 microsecs.
CURRENT . : 22.3 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE . : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE . : 01/11/1988

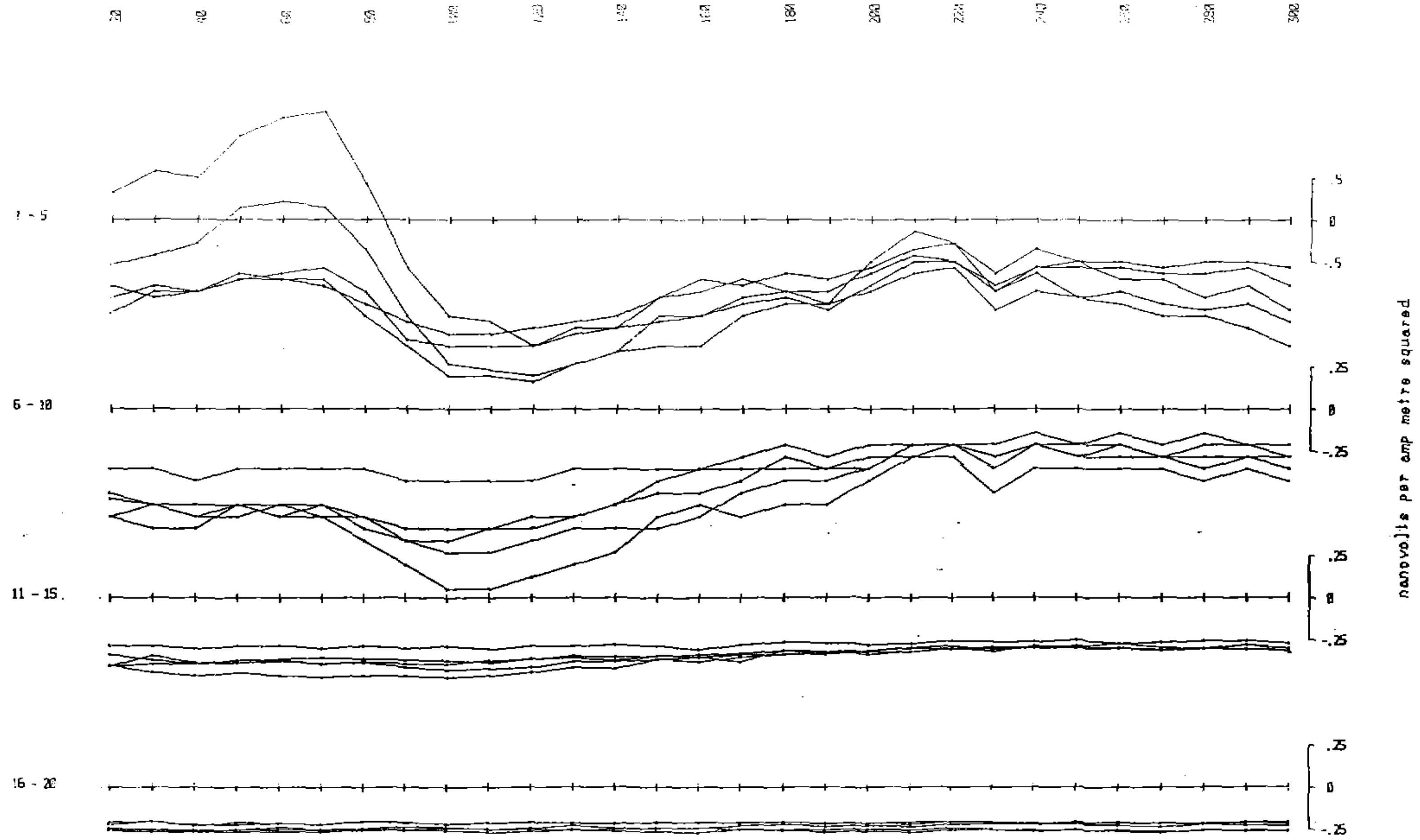
SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.

PROJECT.NO. 4-005

CLIENT. : Aberfoyle Resources
PROJECT. : Red Hills J.V.
AREA . : Red Hills Tasmania
BOREHOLE. : RH12
TX LOOP : 2

952068

AXIAL COMPONENT Ḃ (H)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

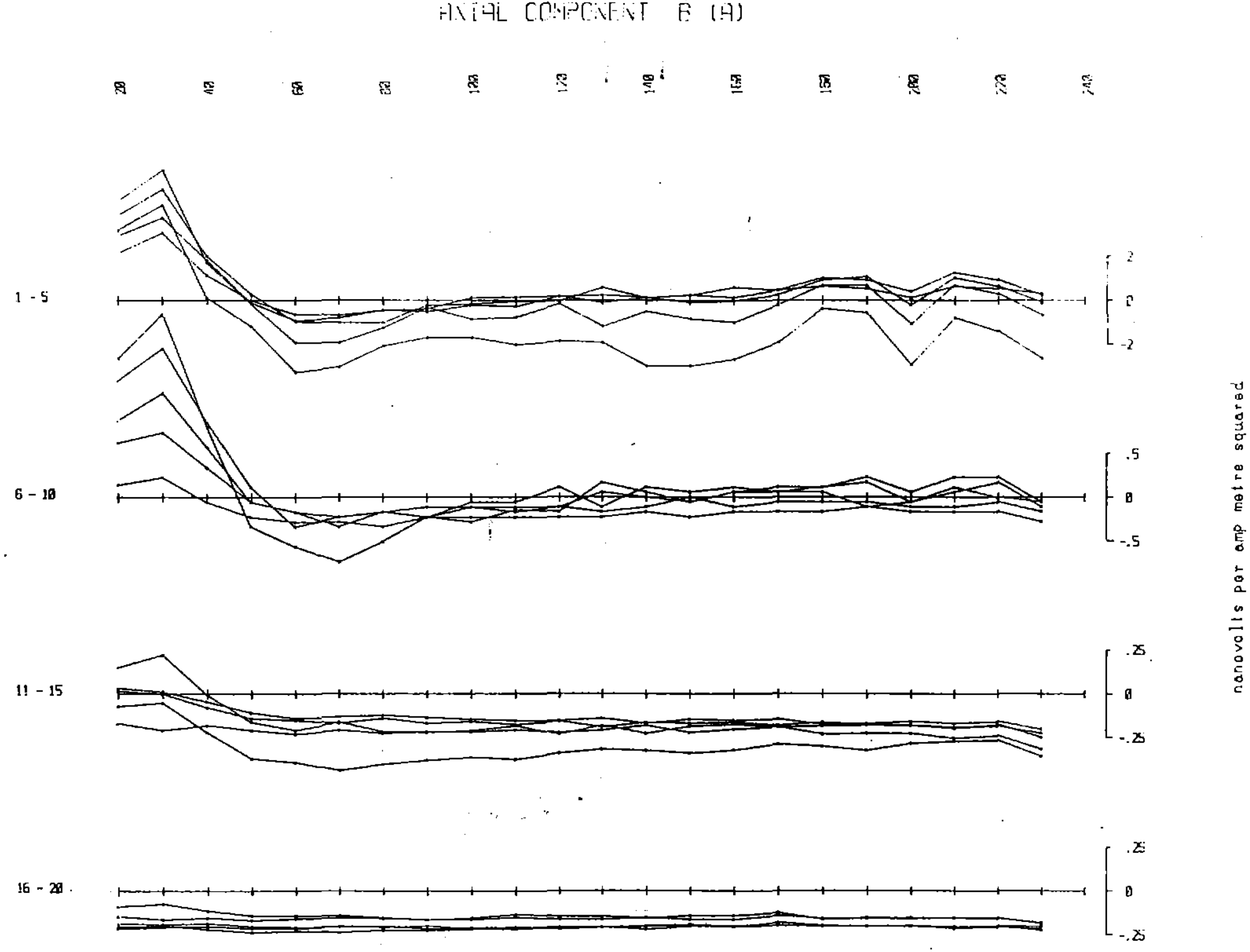
TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 00400N 00400E
: 00600N 00600E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 195 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 21.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE : 01/11/1988

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-006

CLIENT : Abe-Joyle Resources
PROJECT : Red Hills J.V.
AREA : Red Hills Tasmania
BOREHOLE : RH12
TX LOOP : 3



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

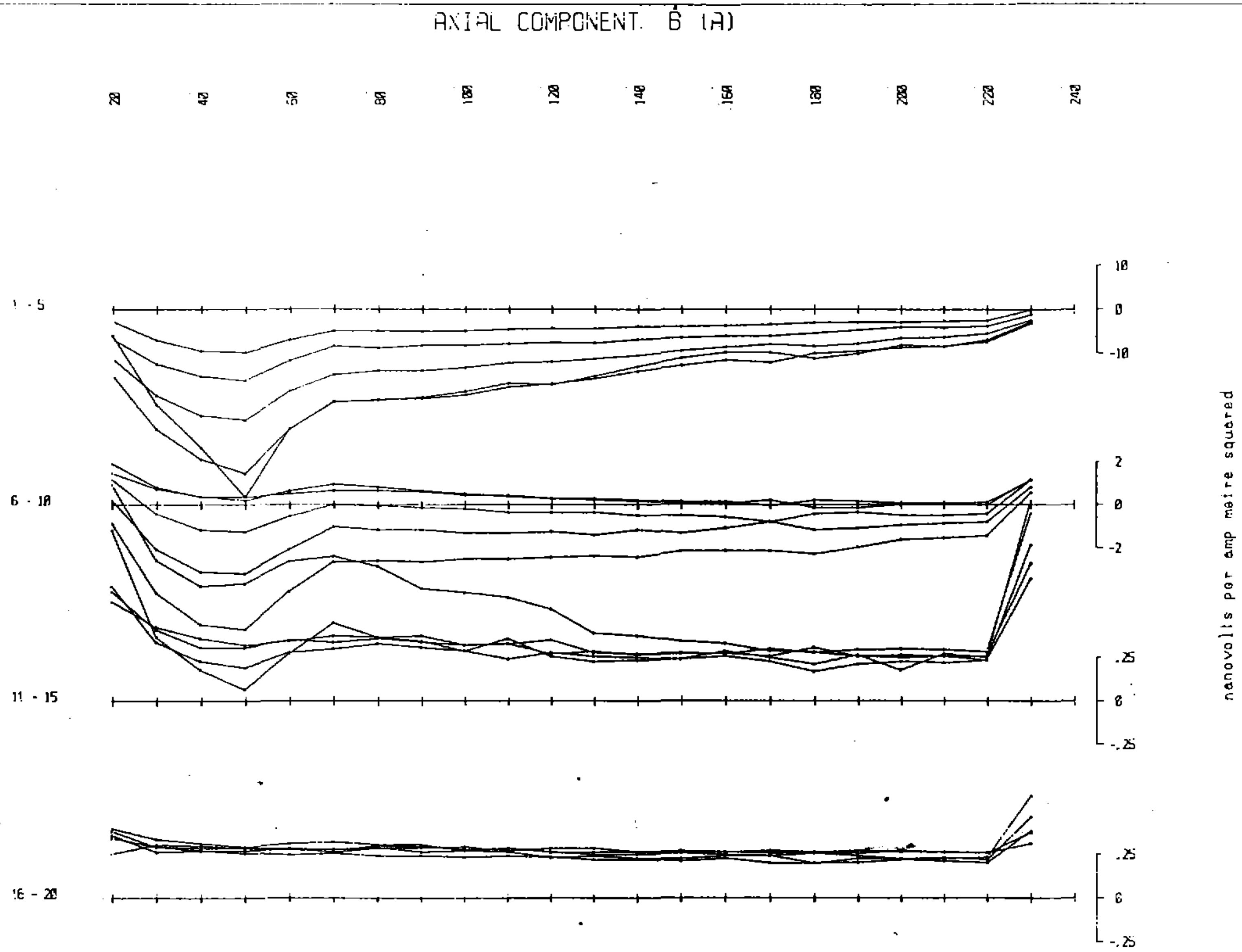
TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 00000N 00200E
: 00200N 00400E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 200 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 26.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE : 01/11/1988

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-006

CLIENT : Aberfoyle Resources
PROJECT : Red Hills J.V.
AREA : Red Hills Tasmania
BOREHOLE : RH5
TX LOOP : 4



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (Ḃ)

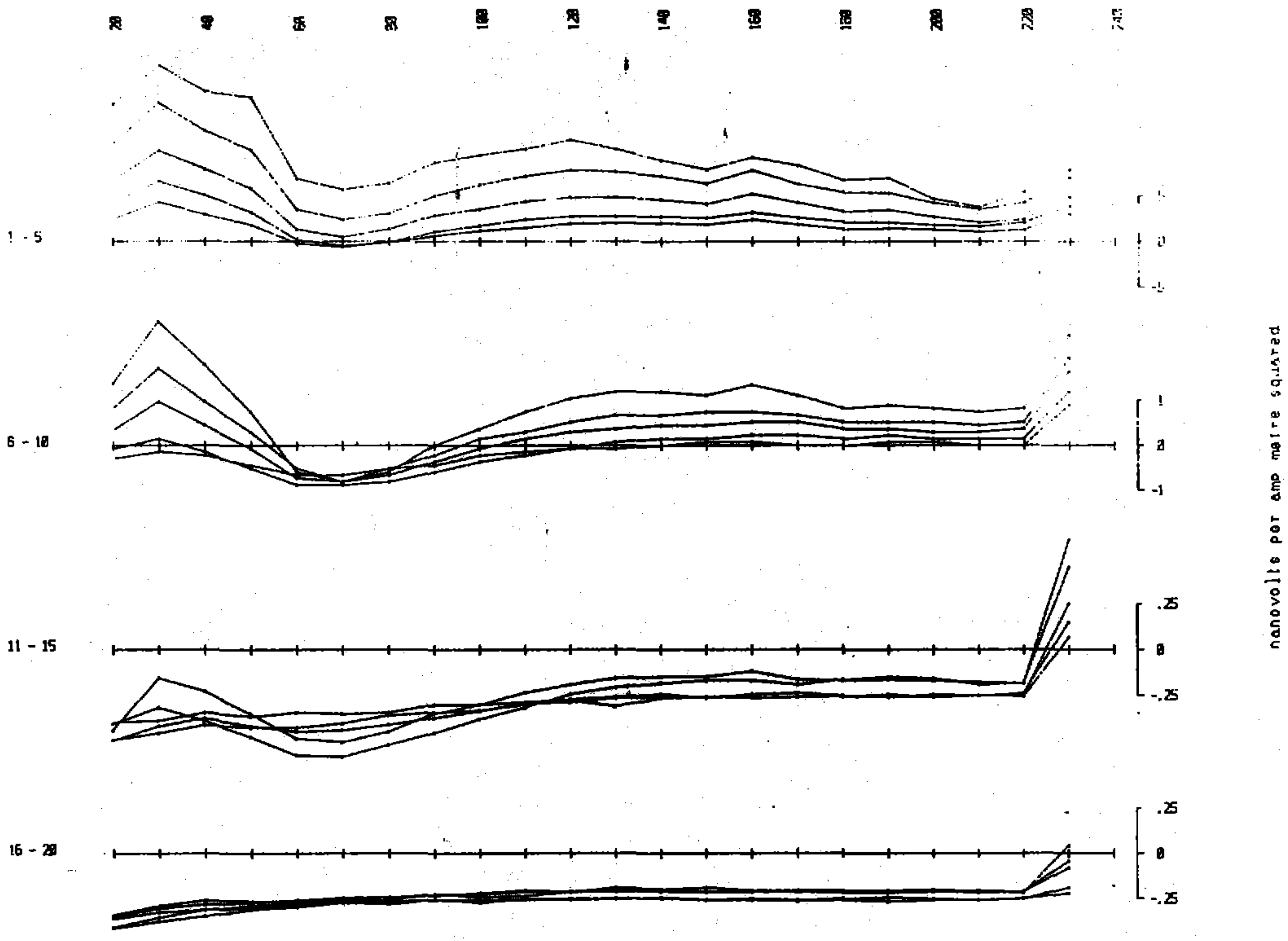
TX LOOP SIDES : 00000N 00400E
: 00200N 00600E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 190 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 20.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE : 01/11/1988

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-006

CLIENT : Aberfoyle Resources
PROJECT : Red Hills J.V.
AREA : Red Hills Tasmania
BOREHOLE : RH5
TX LOOP : S

AXIAL COMPONENT B (A)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

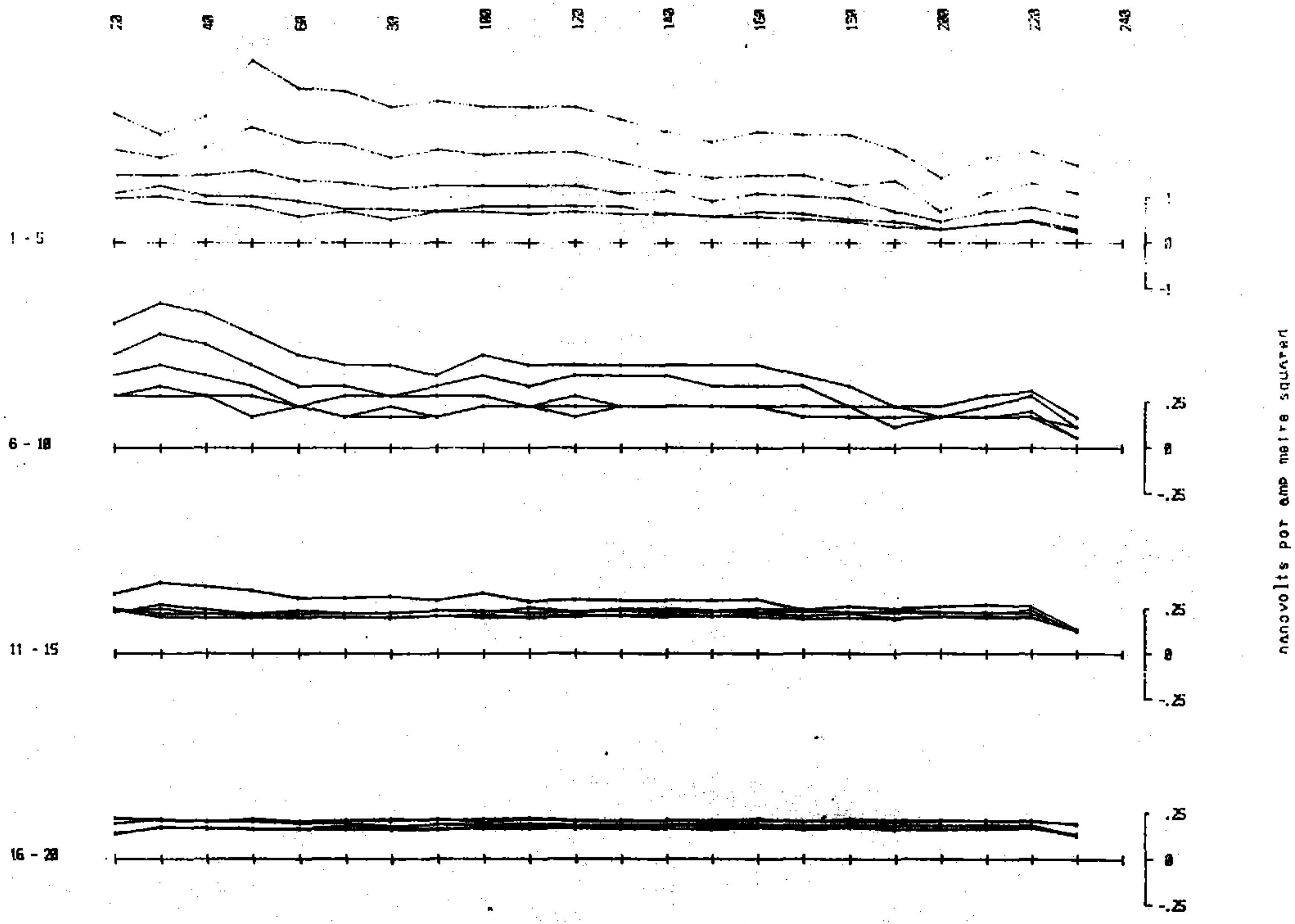
TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 00000N 00600E
: 00200N 00000E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 185 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT. : 20.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE. : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE. : 02/11/1988

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.	PROJECT NO. 4-006

CLIENT. : Aberfoyle Resources
PROJECT. : Red Hills J.V.
AREA. : Red Hills Tasmania
BOREHOLE : RHS
TX LOOP : 6

AXIAL COMPONENT Ḃ (A)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

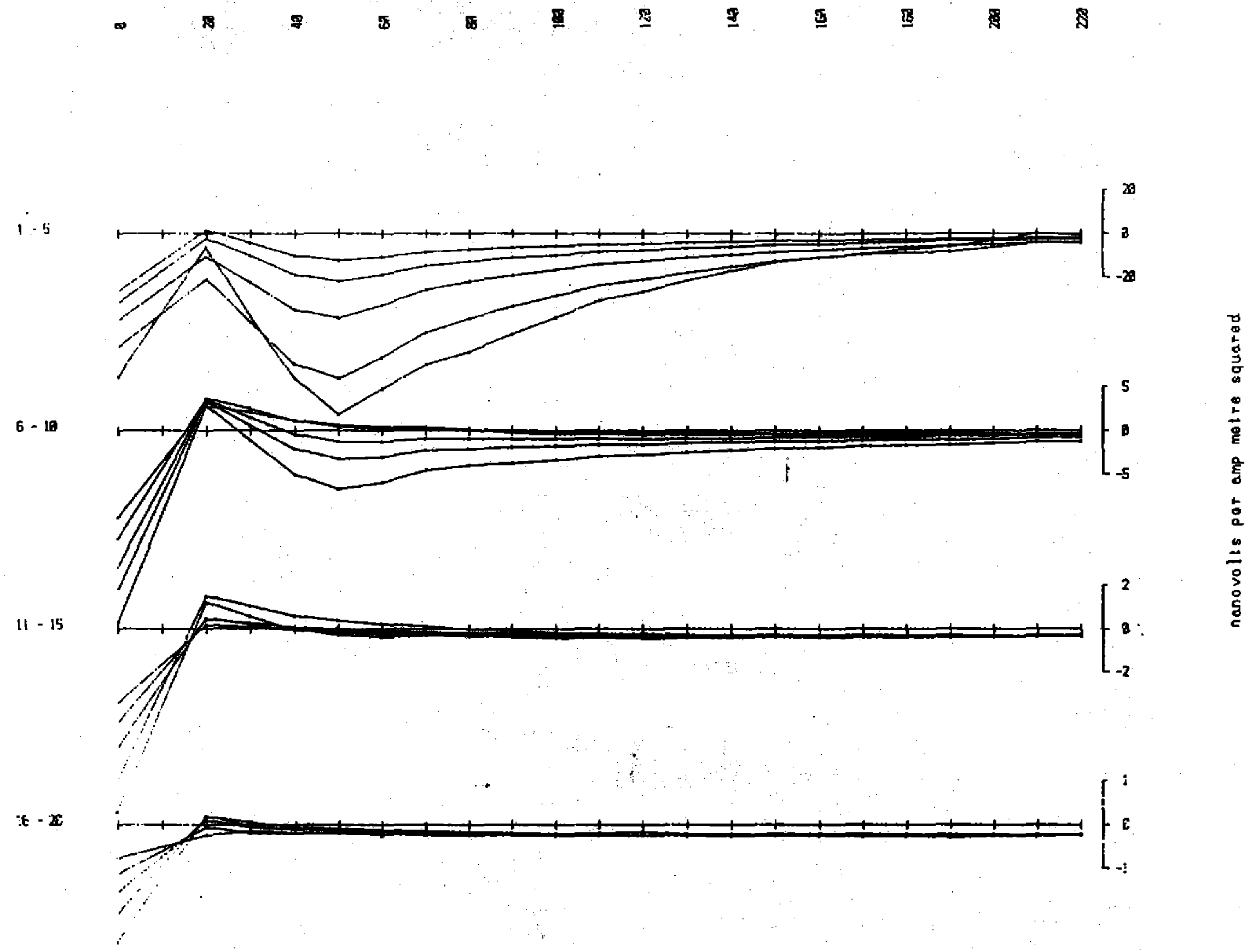
TX LOOP SIDES : 00000N 00300E
: 00200N 01000E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 235 microsecs.
FIRST GATE TIME : 98.5 microsecs.
CURRENT : 26.5 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:1000
SURVEYED BY : SDJR
DATE : 02/11/1988

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.	PROJECT NO. 4-086

CLIENT : Aberfoyle Resources
PROJECT : Red Hills J.V.
AREA : Red Hills Tasmania
BOREHOLE : RH5
TX LOOP : 2

952073

AXIAL COMPONENT Ḃ (A)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (Ḃ)

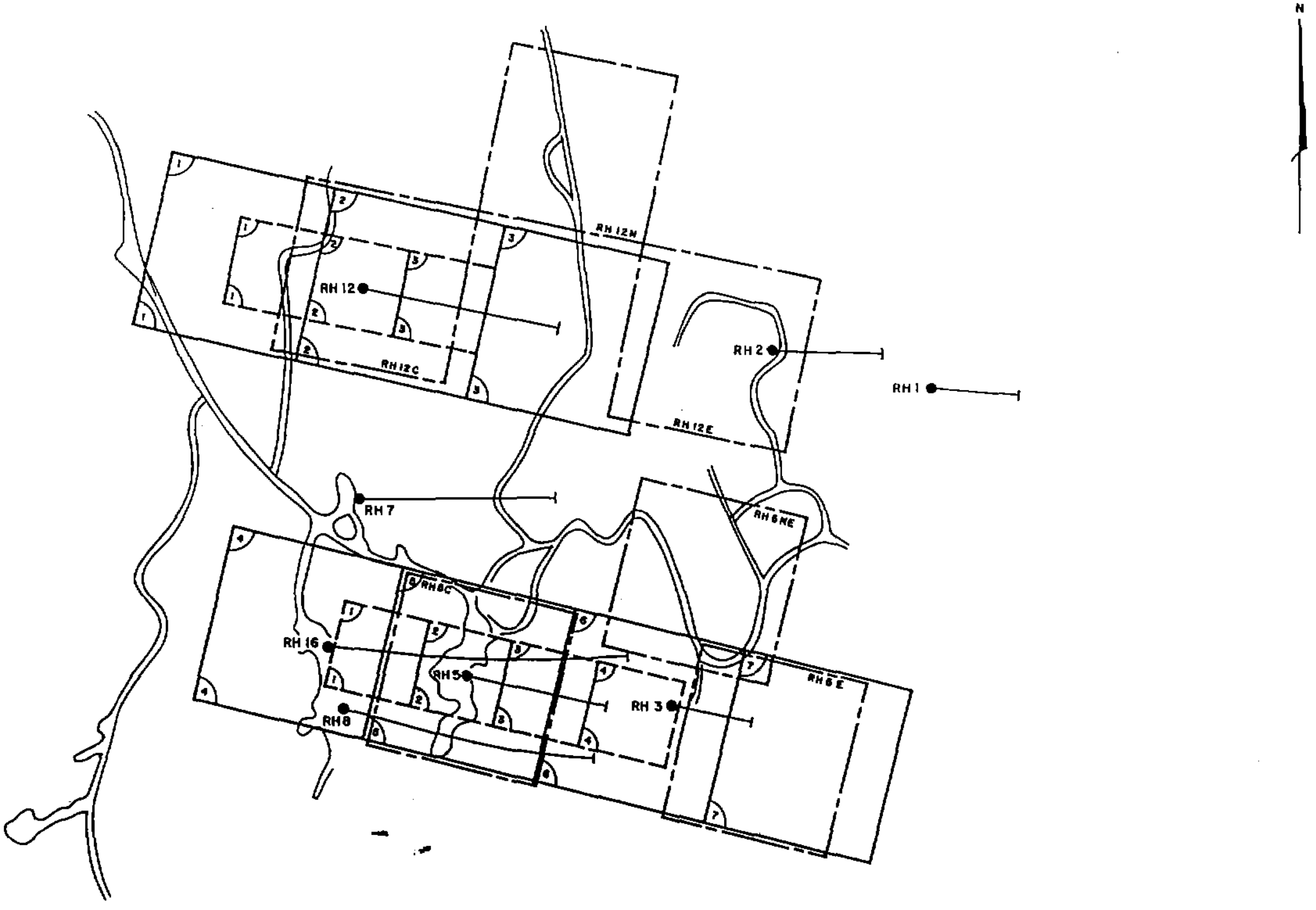
TX LOOP SIDES : 00050N 00450E
: 00150N 00550E
TX LOOP SIZE : 100 m X 100 m
TX TURN OFF TIME : 120 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 21.2 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1 1000
SURVEYED BY . SDJR
DATE . 02/11/1988

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.

PROJECT NO. 4-00E

CLIENT. : Aberfoyle Resources
PROJECT. : Red Hills J.V
AREA. : Red Hills Tasmania
BOREHOLE . RH5
TX LOOP . 9

952074



LEGEND

RH4 ●——┤	CRA Exploration Diamond Drill Hole
7	EM-37 Survey Nov. 88 Aberfoyle Resources
1	Sirotem Survey Sept. 88 Aberfoyle Resources
RH6E	Em-37 Survey Oct 86 CRA Exploration
//	4 WD Track

0 100 200 300 400

METRES

Aberfoyle Resources Limited

EXPLORATION DIVISION

REVISIONS			
Init	Date	Init	Date

Location Code

TASMANIA

LAKE MARGARET E.L.

RED HILLS DOWN HOLE E.M. LOOP LOCATIONS

Compiled : JJR

Drawn : JJR

Traced : Geo Drafting

Checked

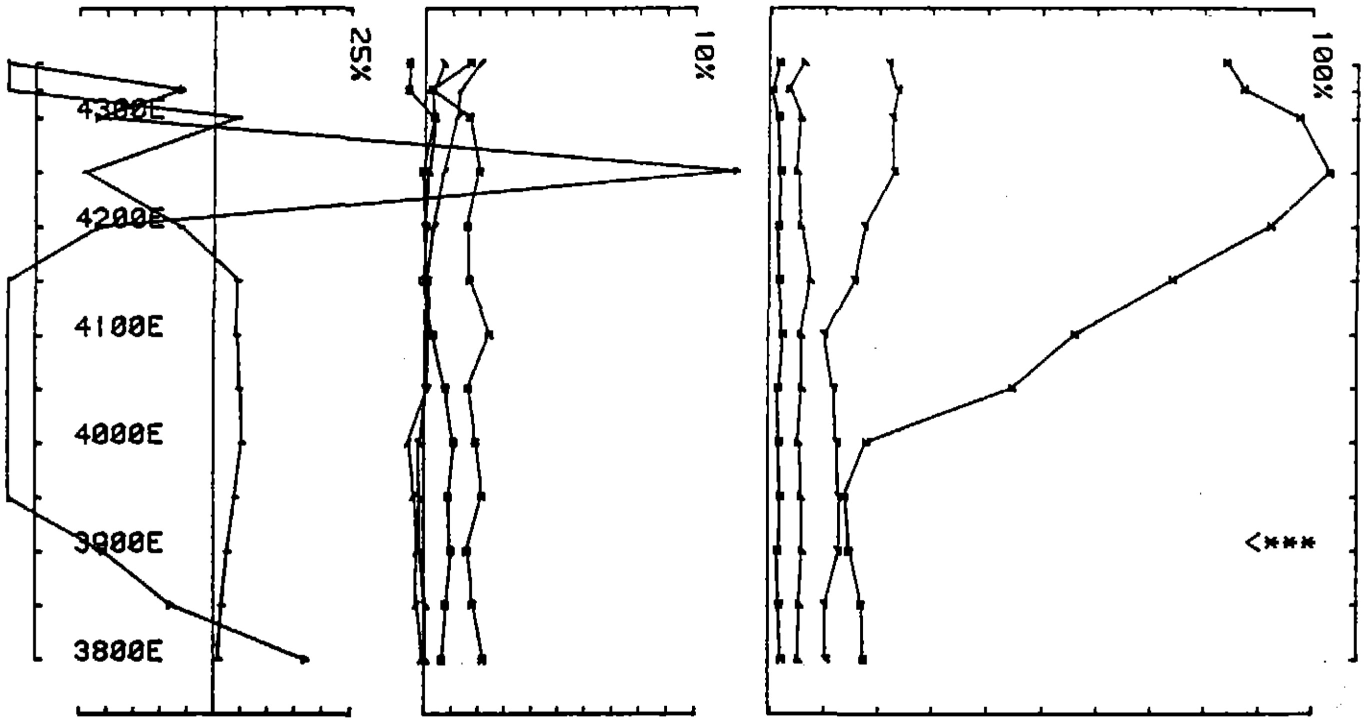
Scale 1:5000

Date Nov. '88

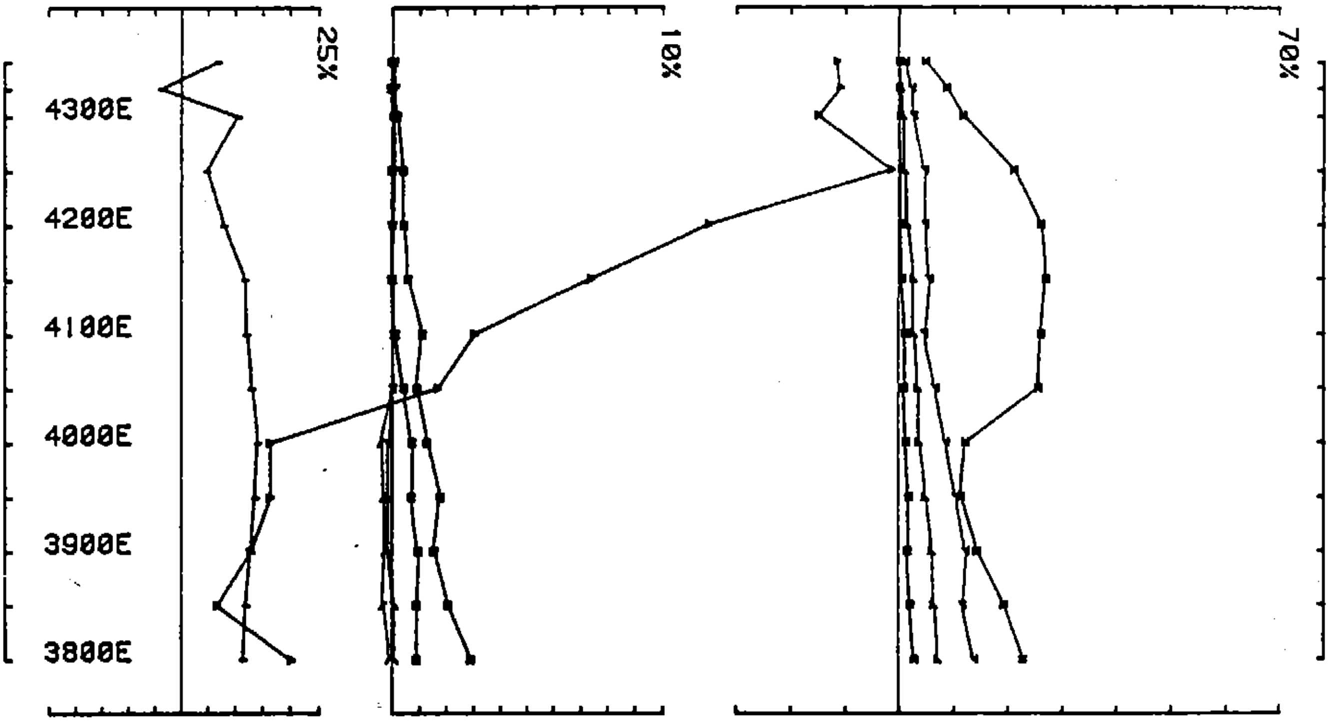
Plate No L MARG-4

APPENDIX II

952077



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 4 line 4000N component Hz secondary field Ch 1 point norm.

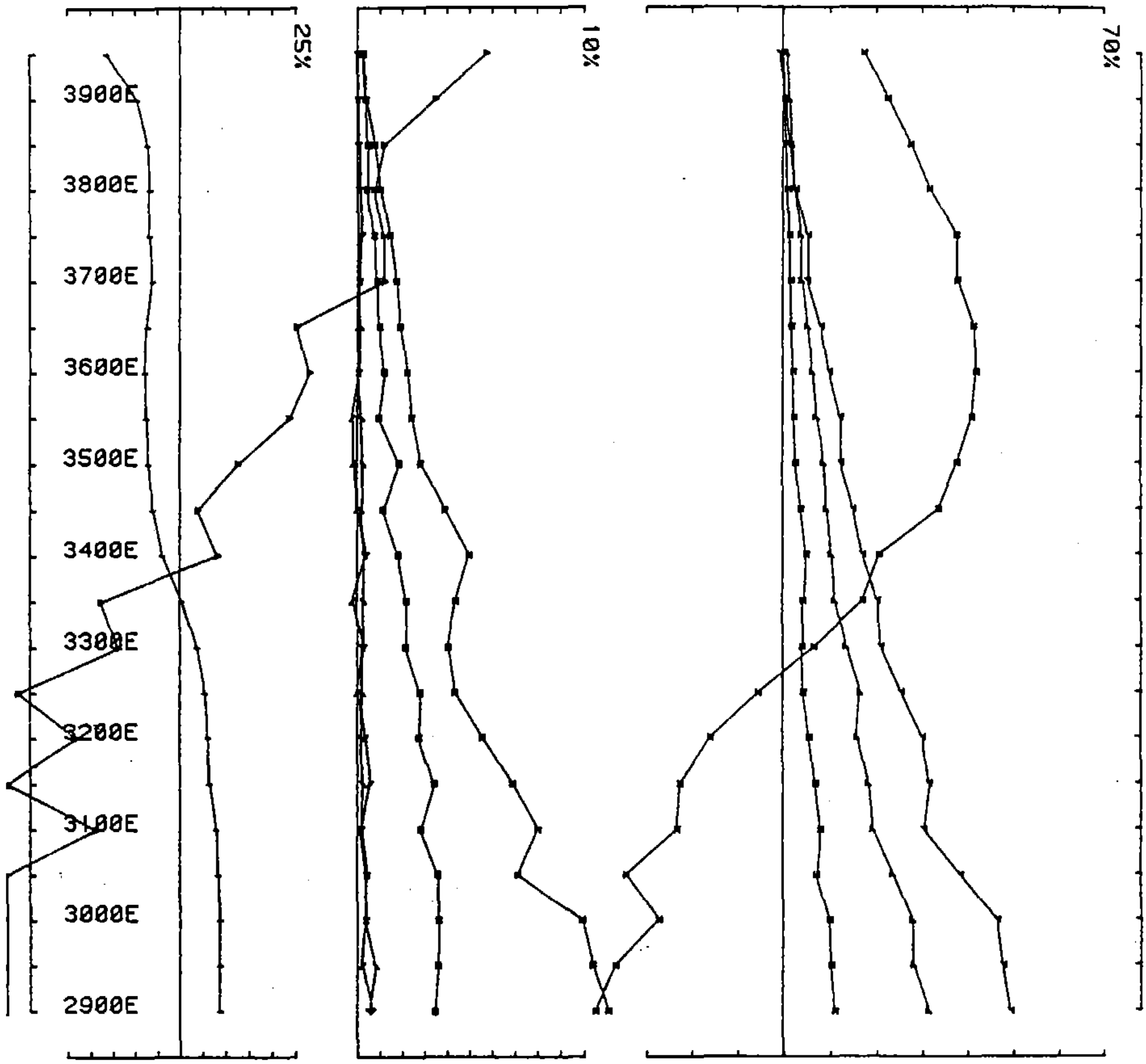


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

conducted by SJV CONS. , LAMONTAGNE job 8901 base freq (hz) 26.230

loop no 4 line 4000N component Hz secondary field Ch 1 contin. norm.

952079



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
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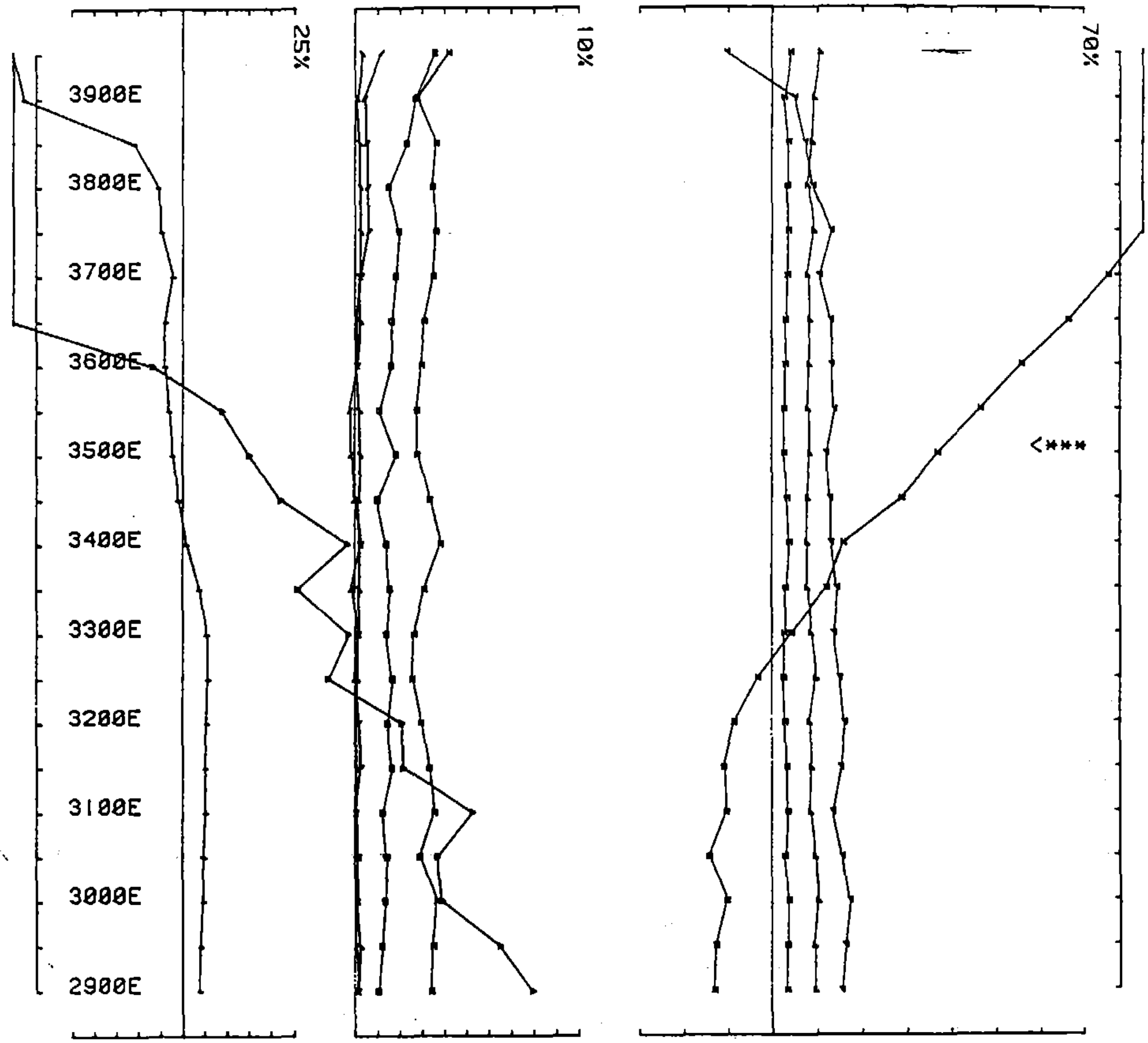
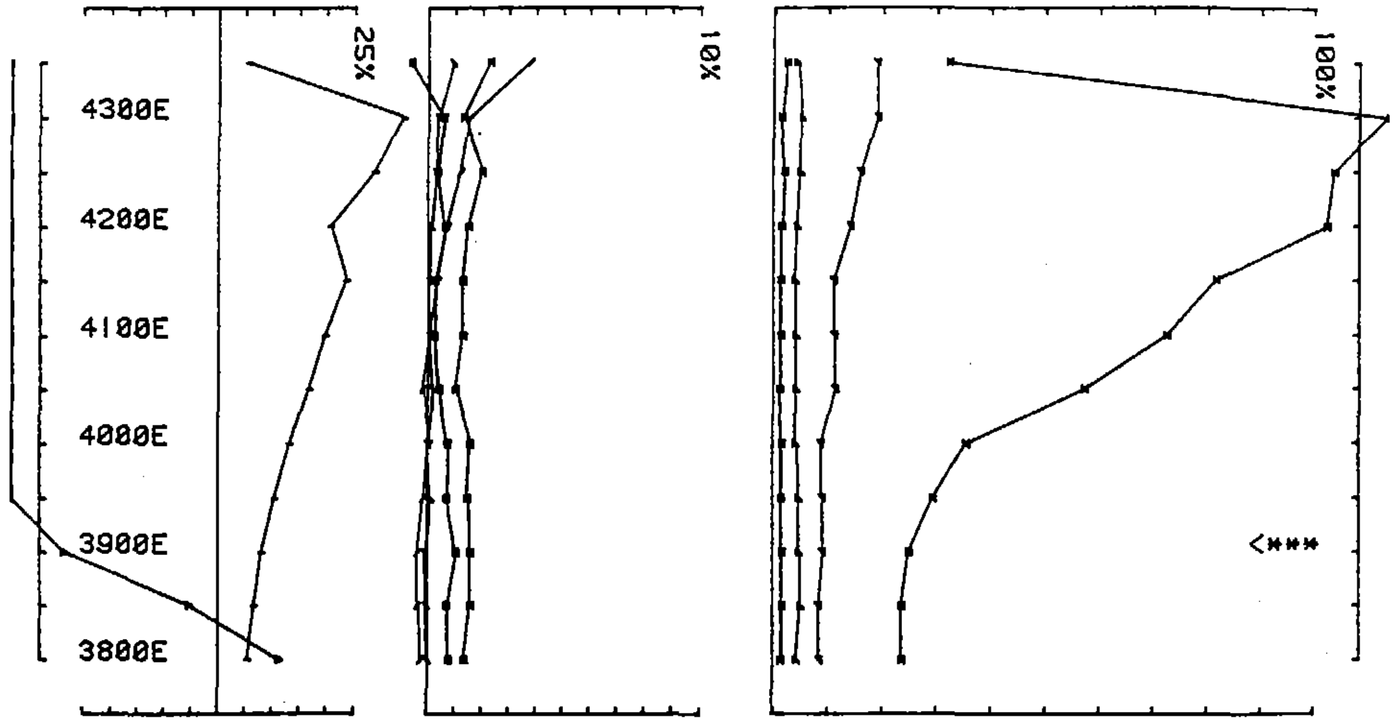
loop no 3 line 4000N component Hz secondary field Ch 1 contin. norm.

952080



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS.,LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 4000N component Hz secondary field Ch 1 point norm.

952081

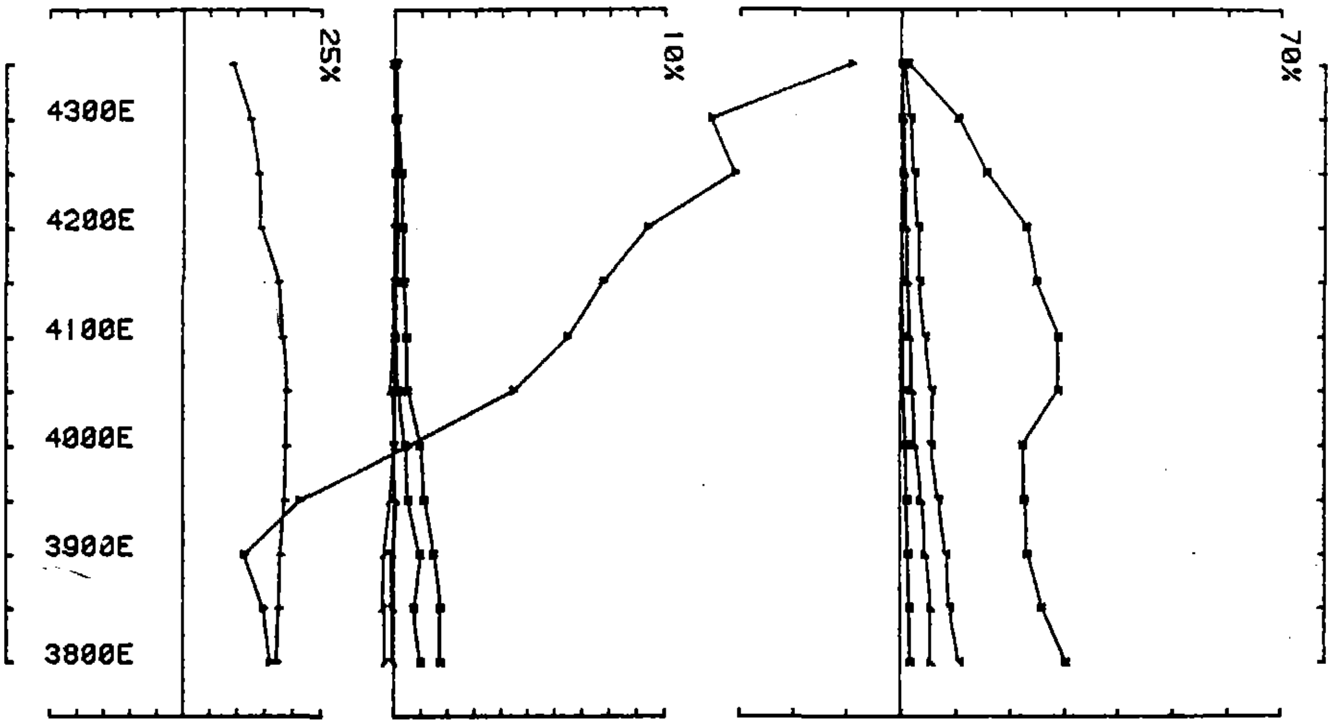


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

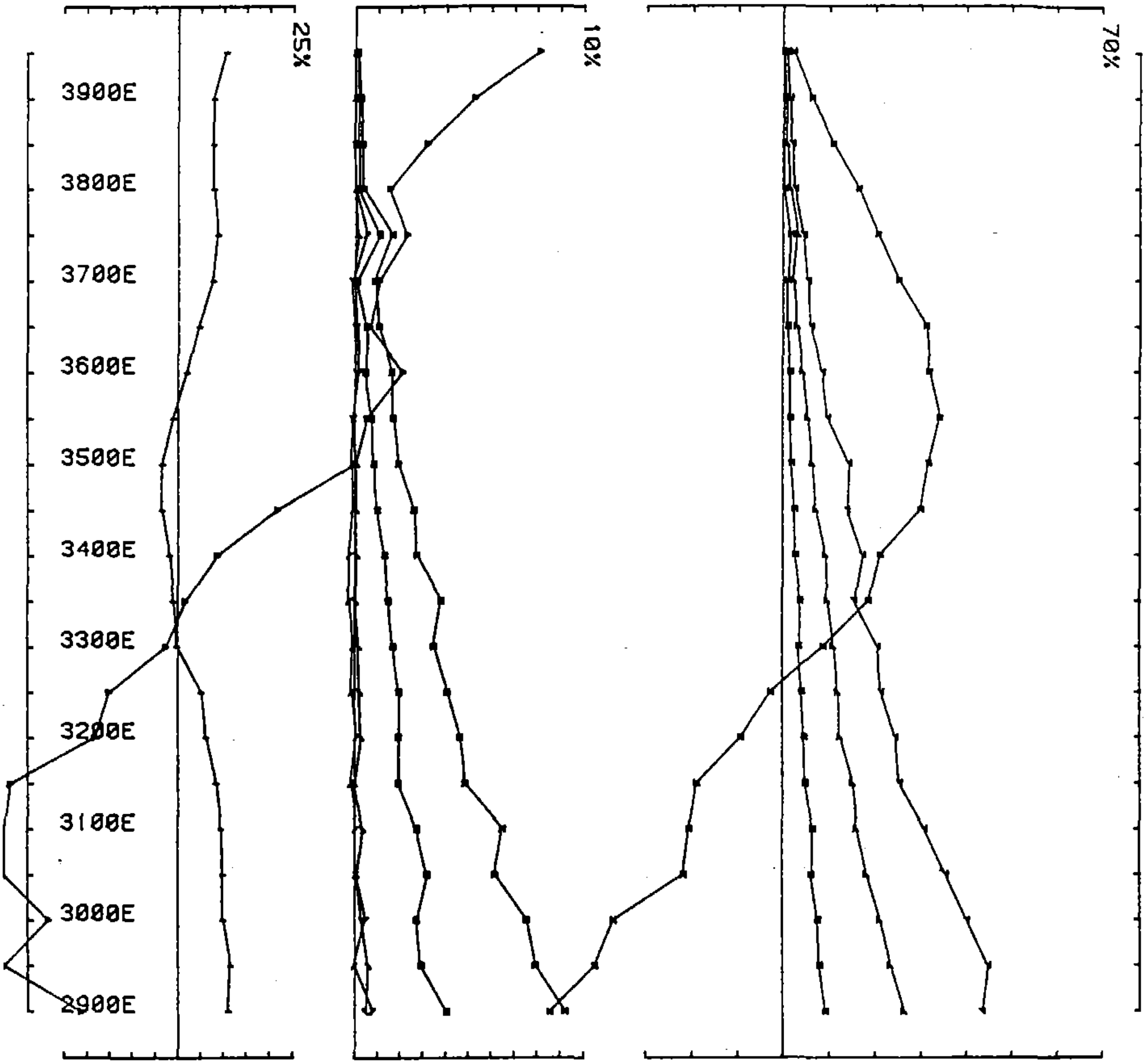
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989

loop no 4 line 4200N component Hz secondary field Ch 1 point norm.

952082



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS. , LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 4200N component Hz secondary field Ch 1 contin. norm.



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
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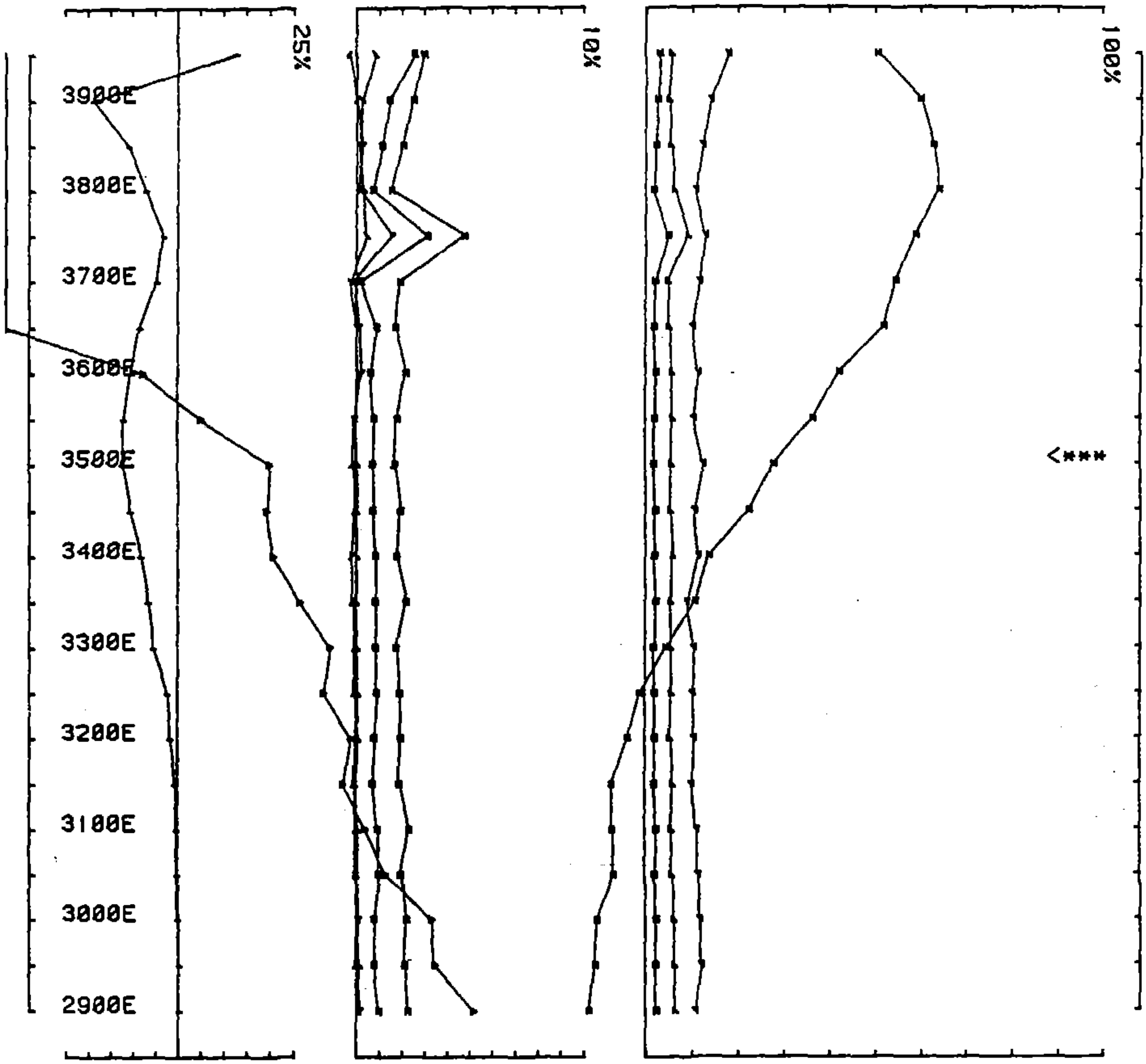
loop no 3 line 4200N component Hz secondary field Ch 1 contin. norm.

952084



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
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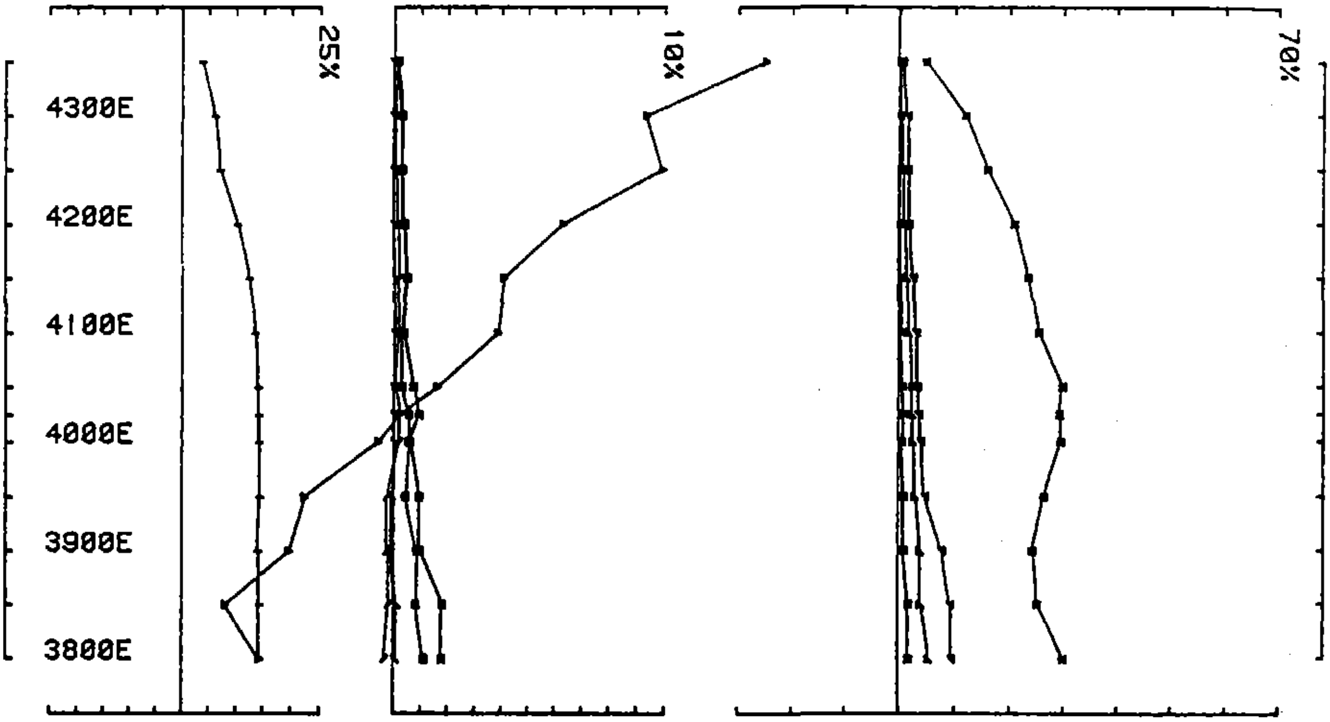
loop no 3 line 4200N component Hz secondary field Ch 1 point norm.

952085

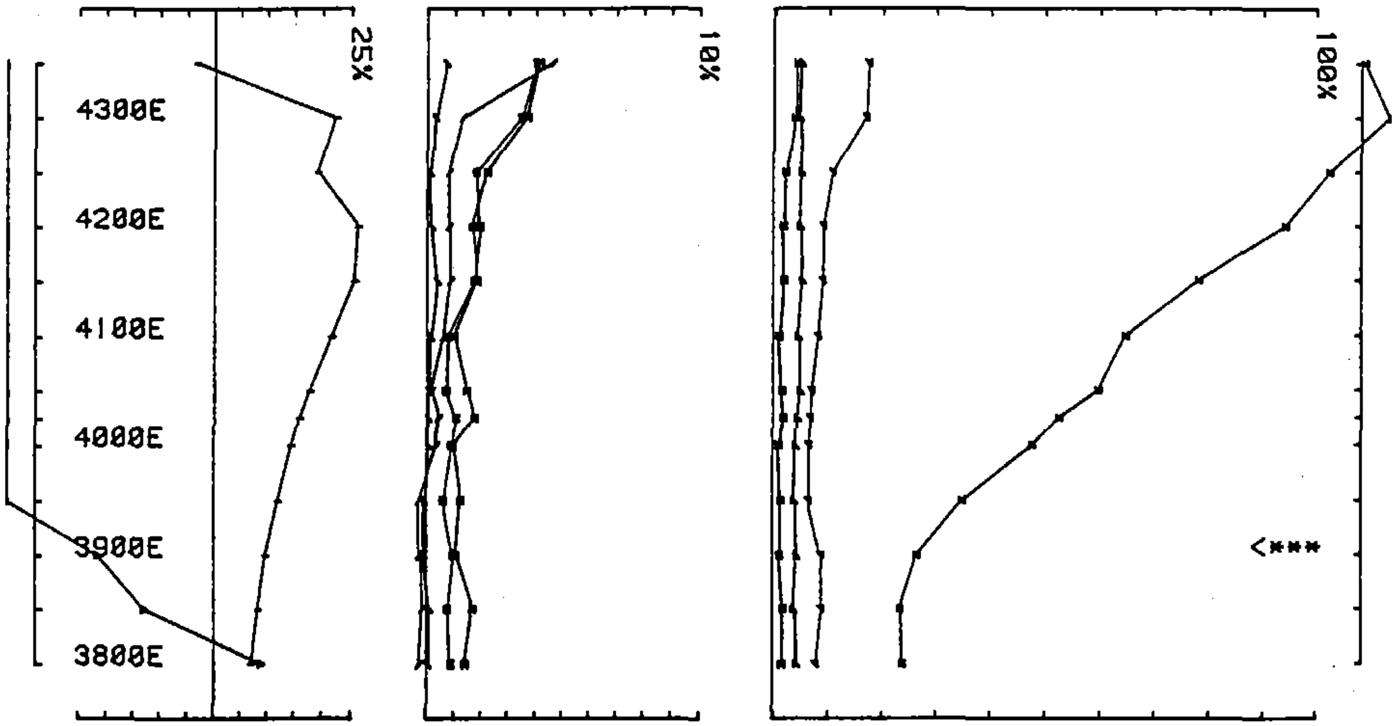


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

conducted by SJV CONS. , LAMONTAGNE job 8901 base freq (hz) 26.230

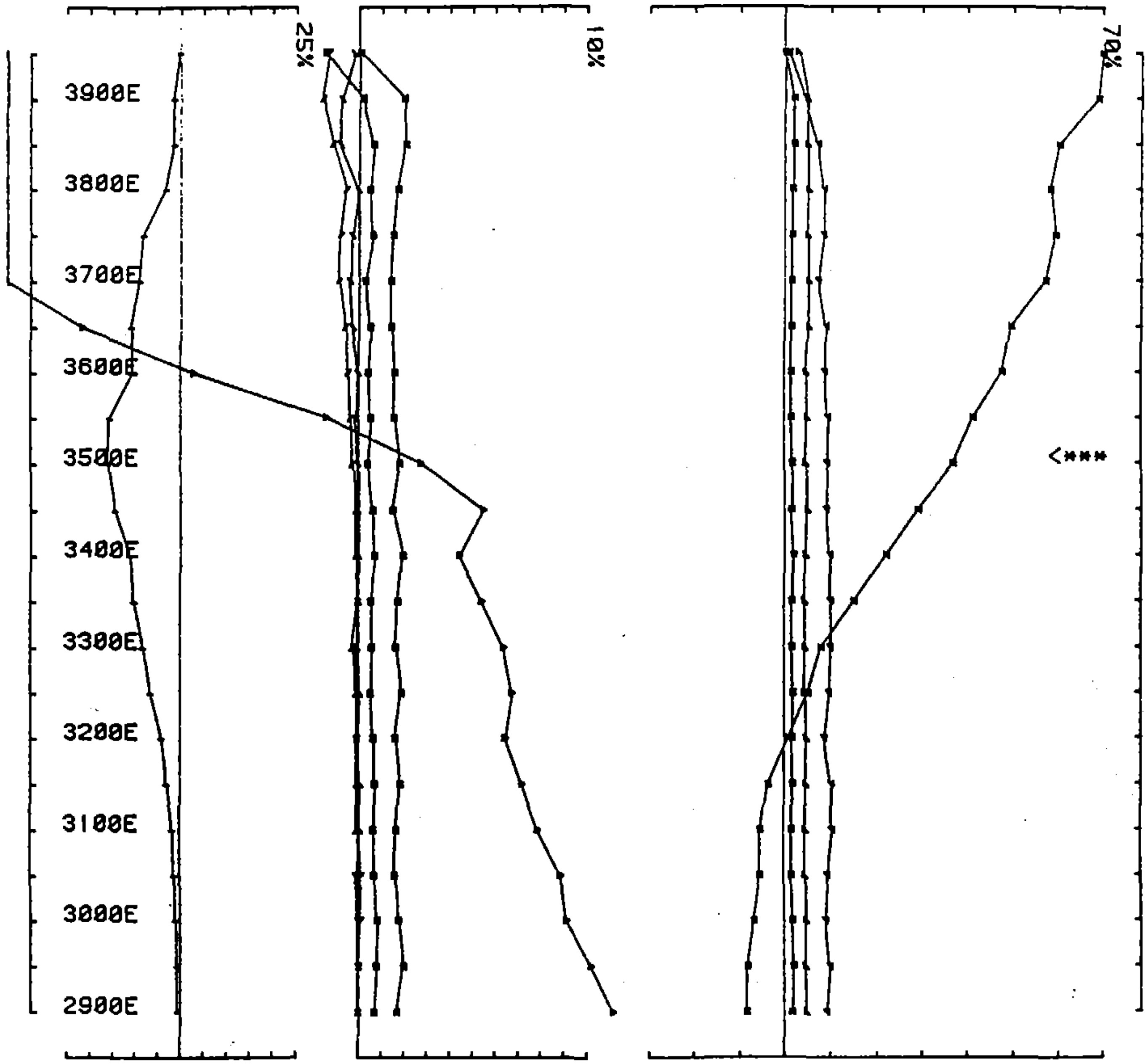
loop no 4 line 4400N component Hz secondary field Ch 1 contin. norm.

952086



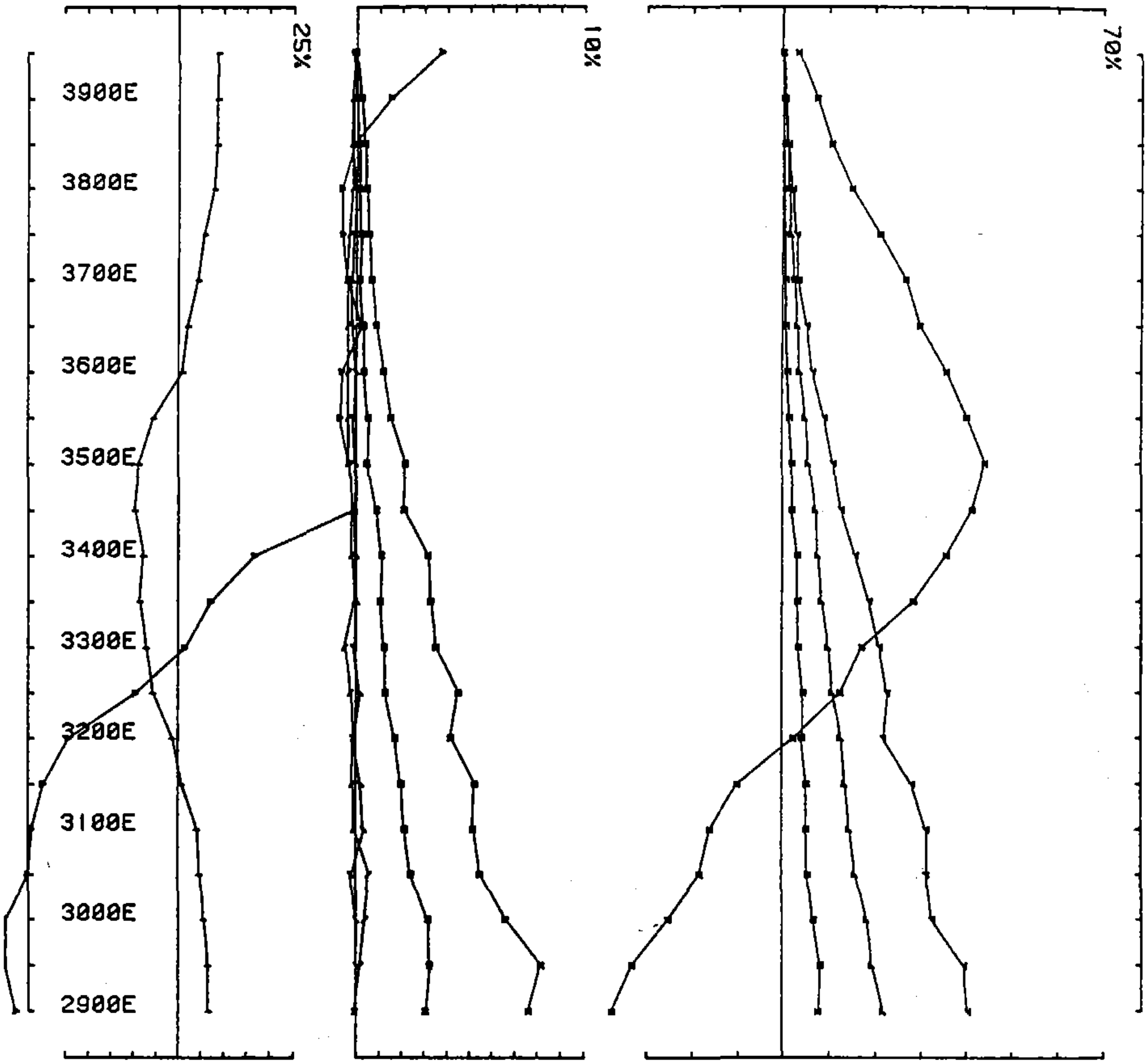
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 4 line 4400N component Hz secondary field Ch I point norm.

952087



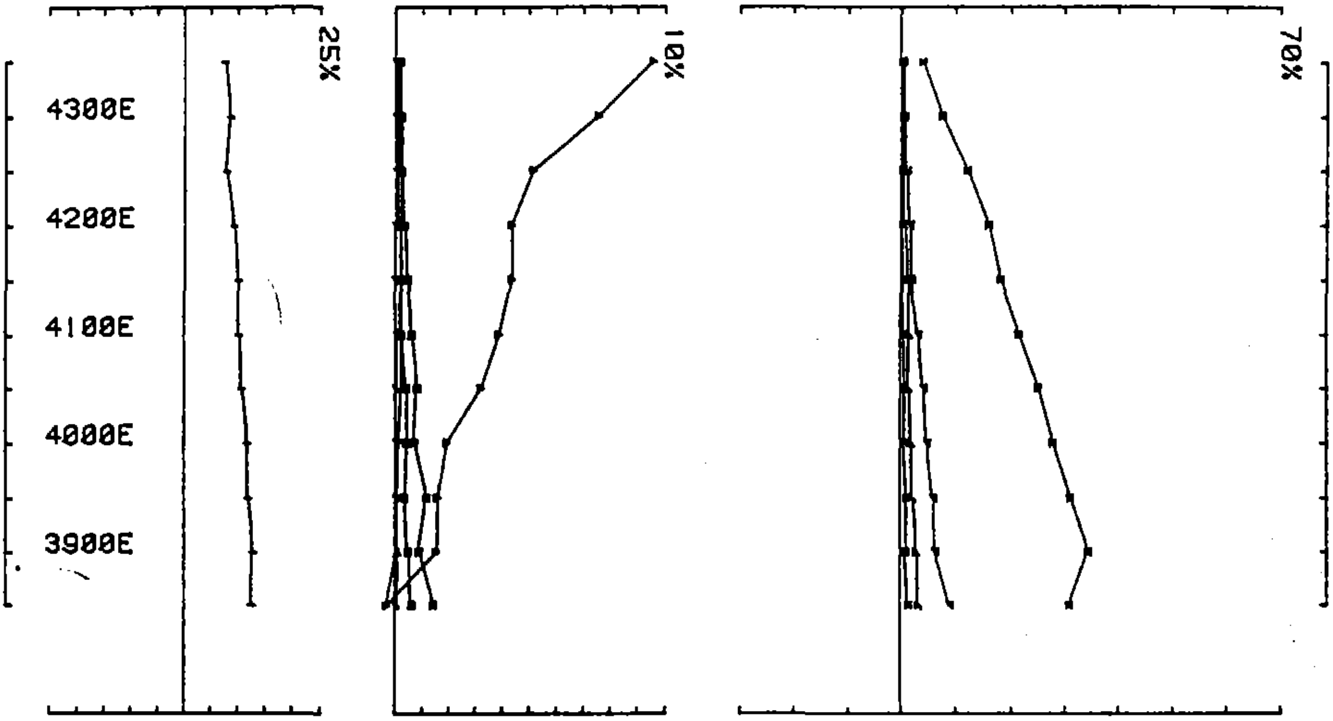
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE Job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 4400N component Hz secondary field Ch 1 point norm.

952088



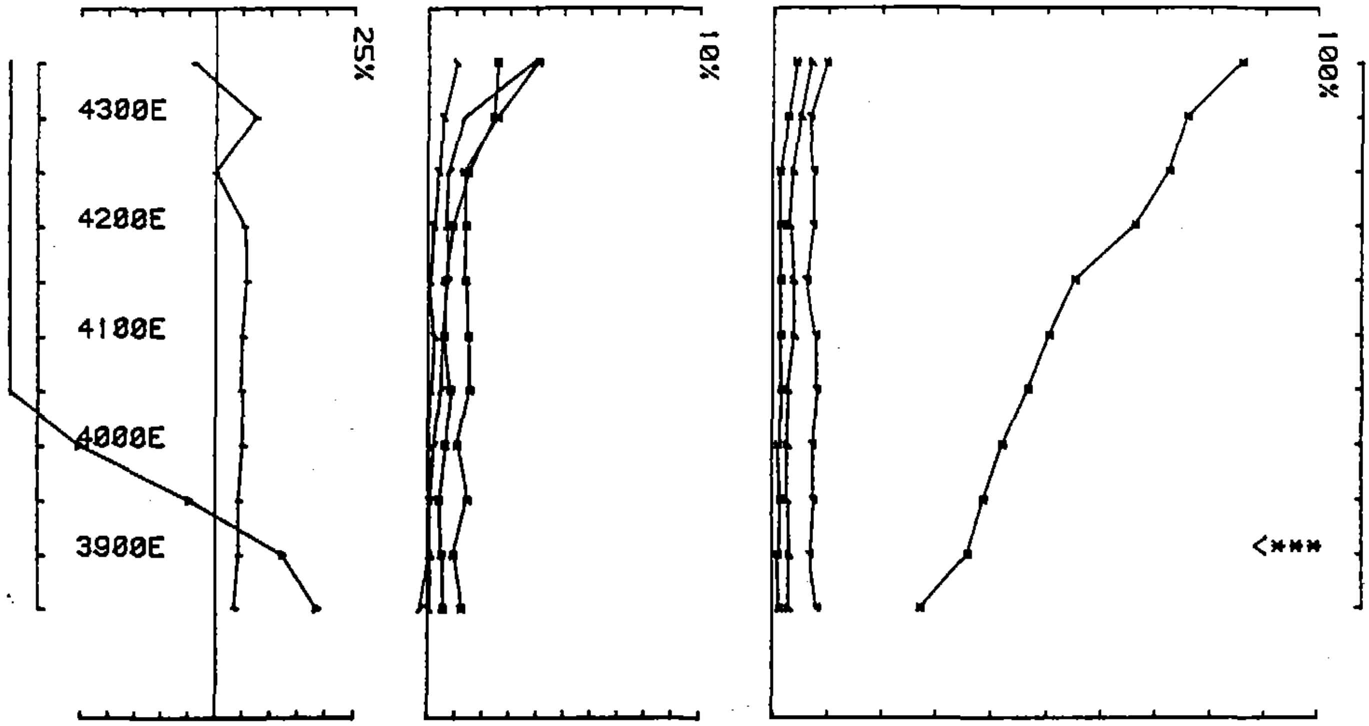
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 4400N component Hz secondary field Ch 1 contin. norm.

952089



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 4600N component Hz secondary field Ch I contin. norm.

952090

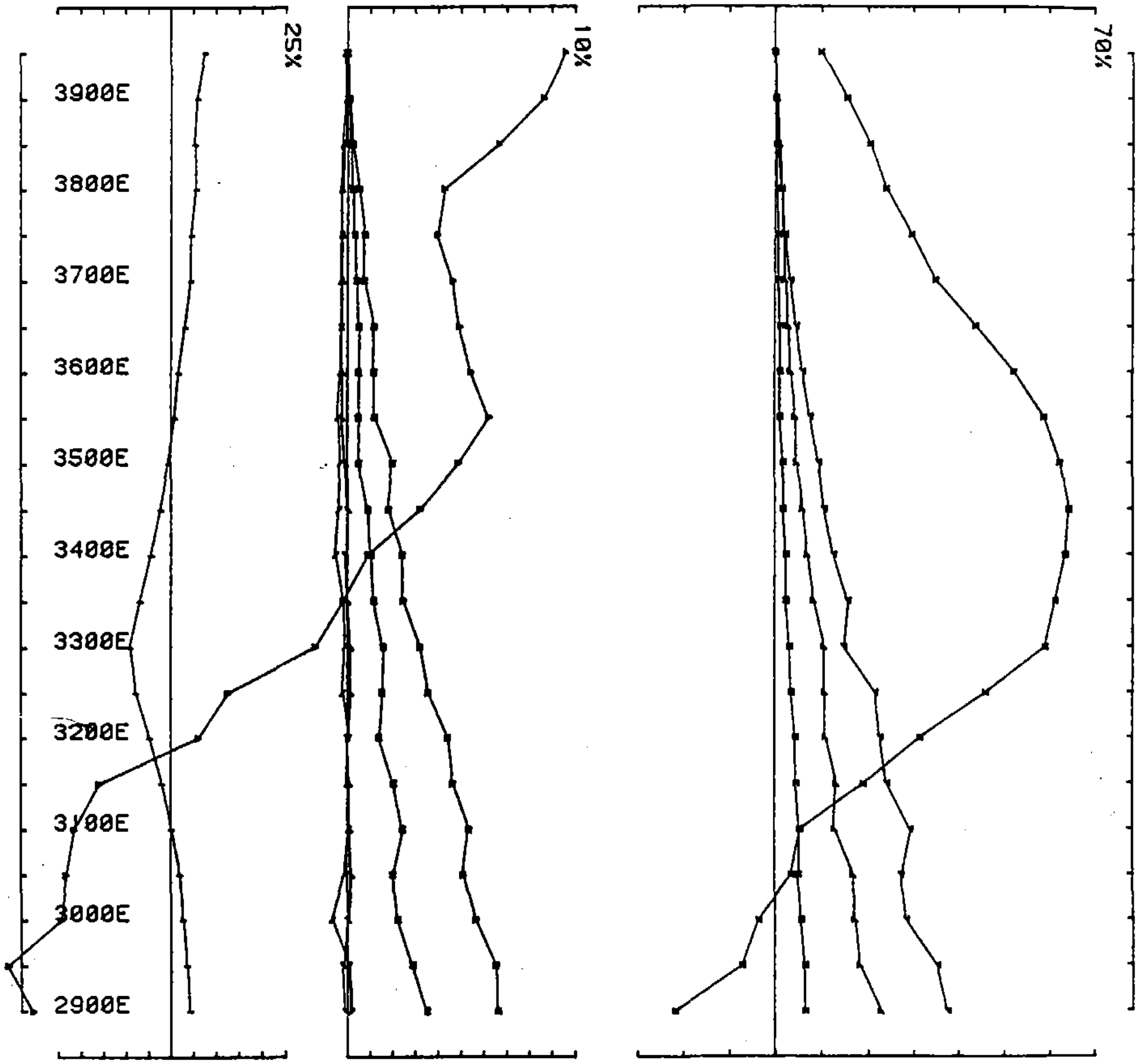


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989

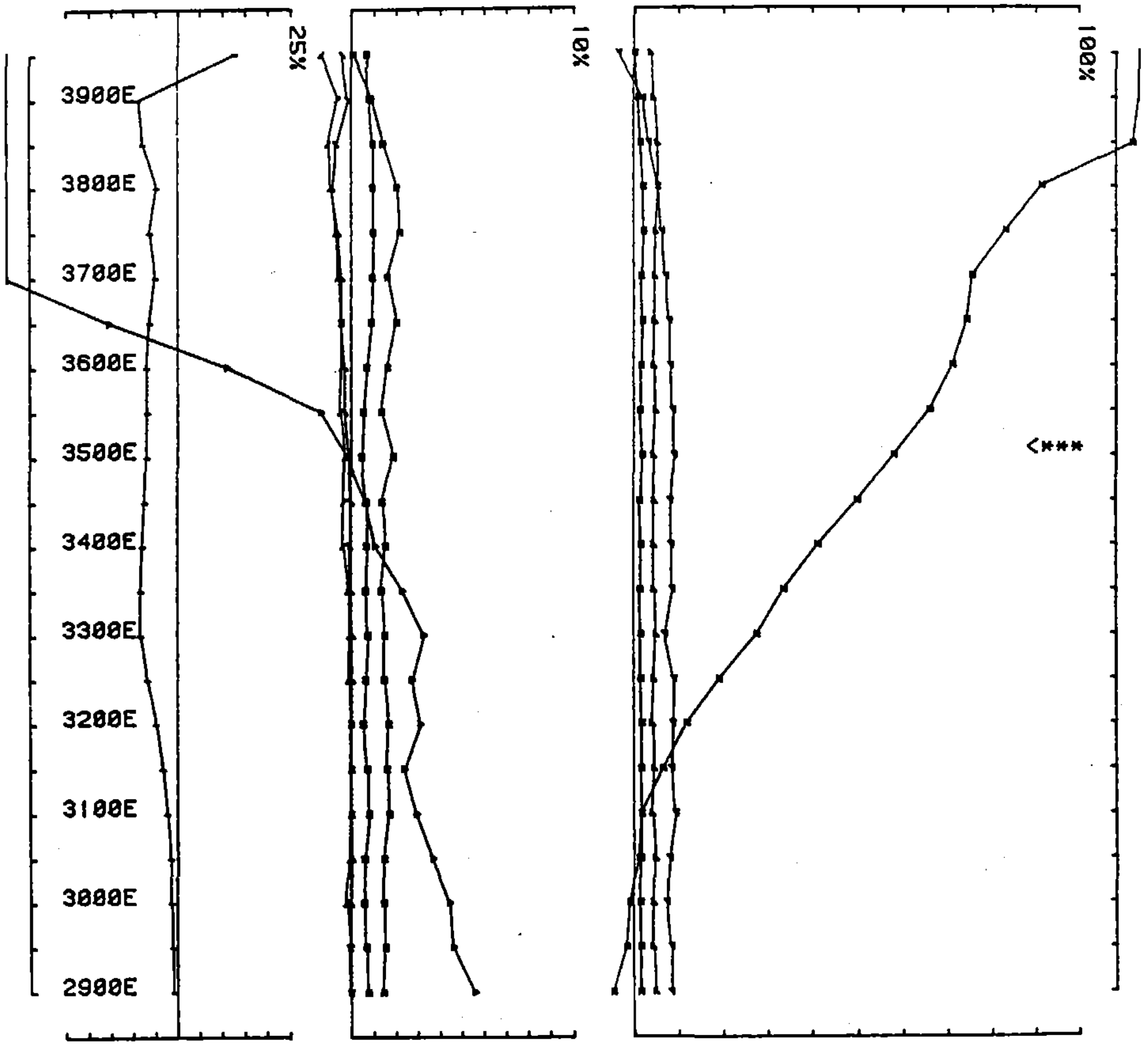
loop no 4 line 4600N component Hz secondary field Ch 1 point norm.

952091



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 4600N component Hz secondary field Ch 1 contin. norm.

952092

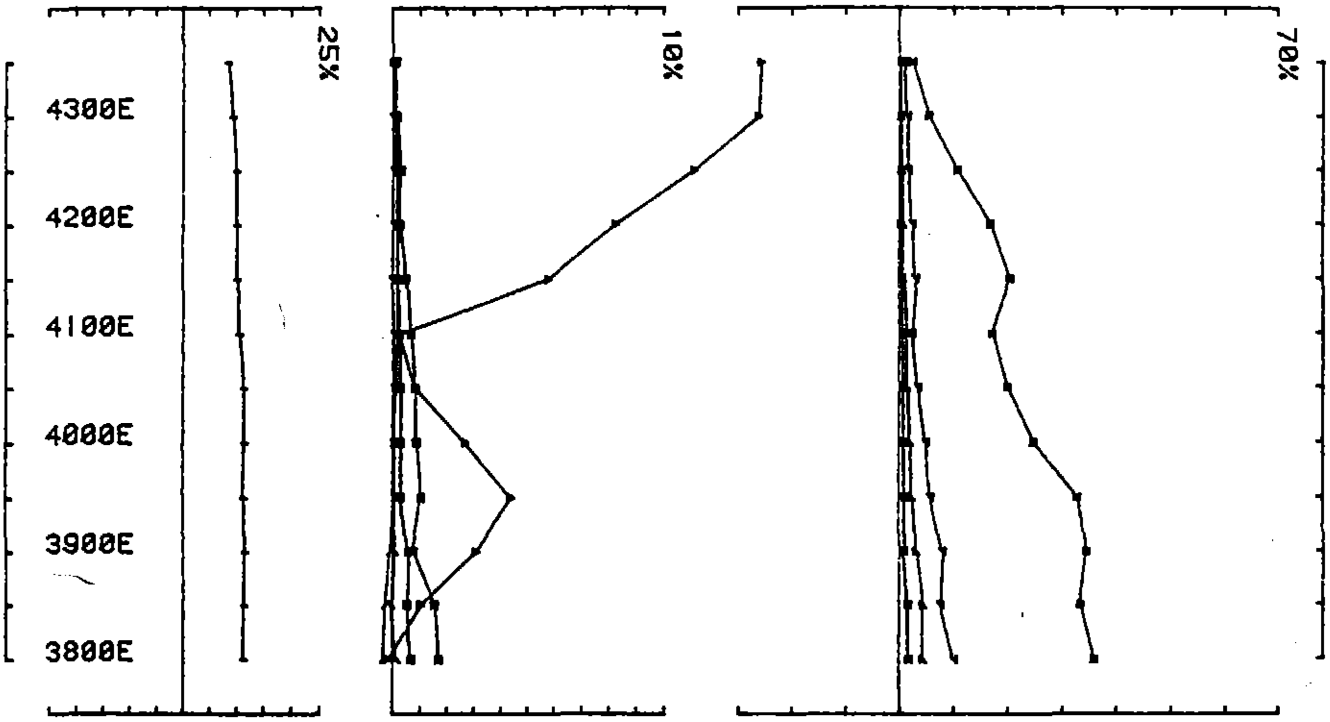


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989

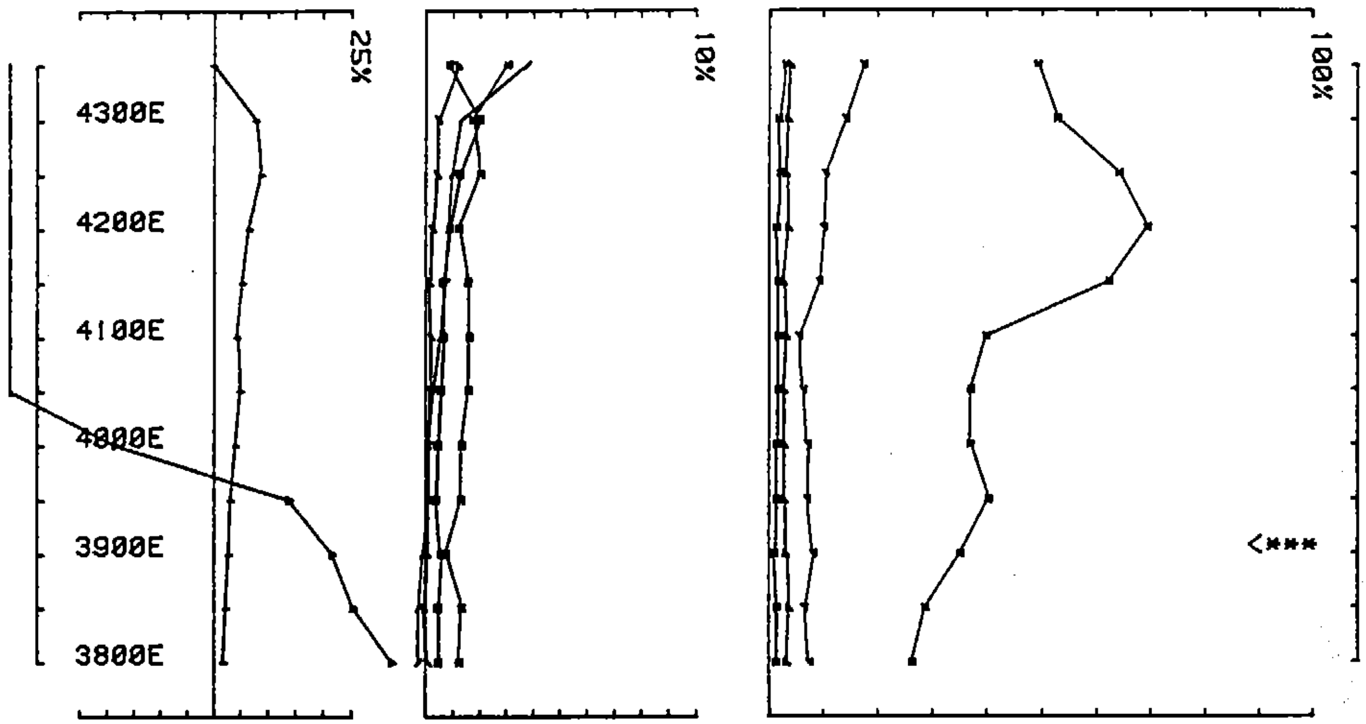
loop no 3 line 4600N component Hz secondary field Ch 1 point norm.

952093

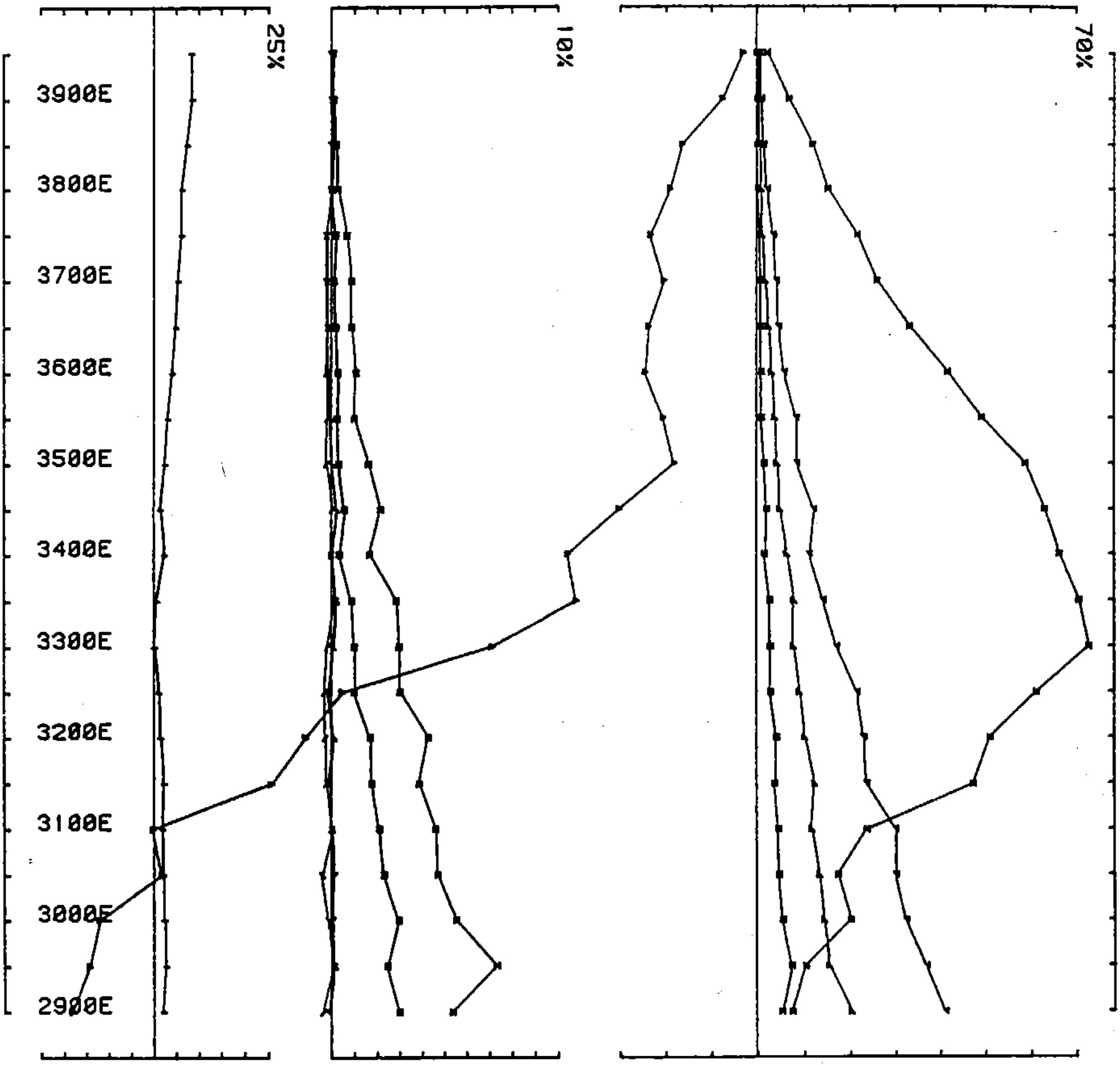


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS. , LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 4800N component Hz secondary field Ch 1 contin. norm.

952094

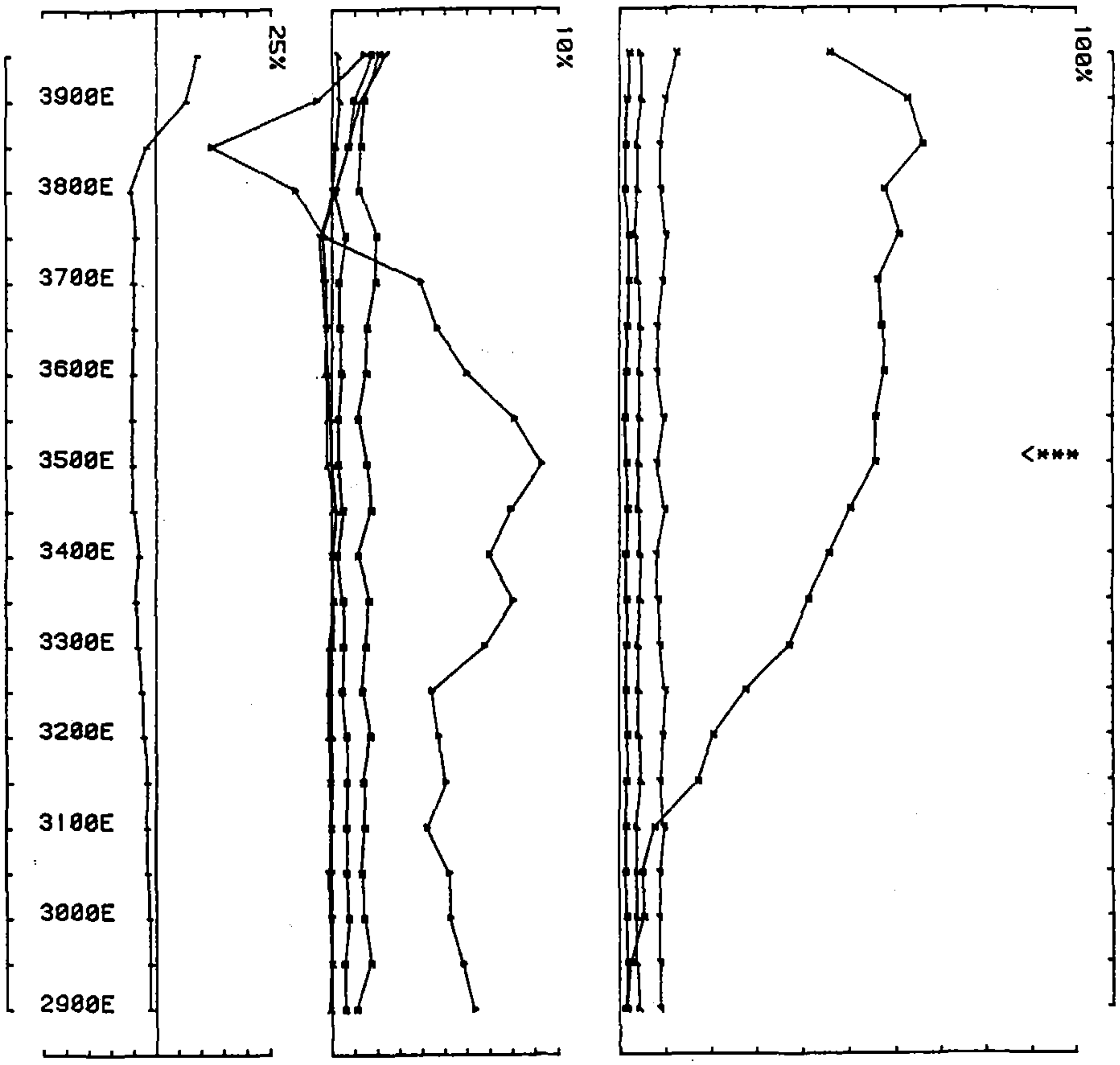


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no line 4800N component Hz secondary field Ch 1 point norm.



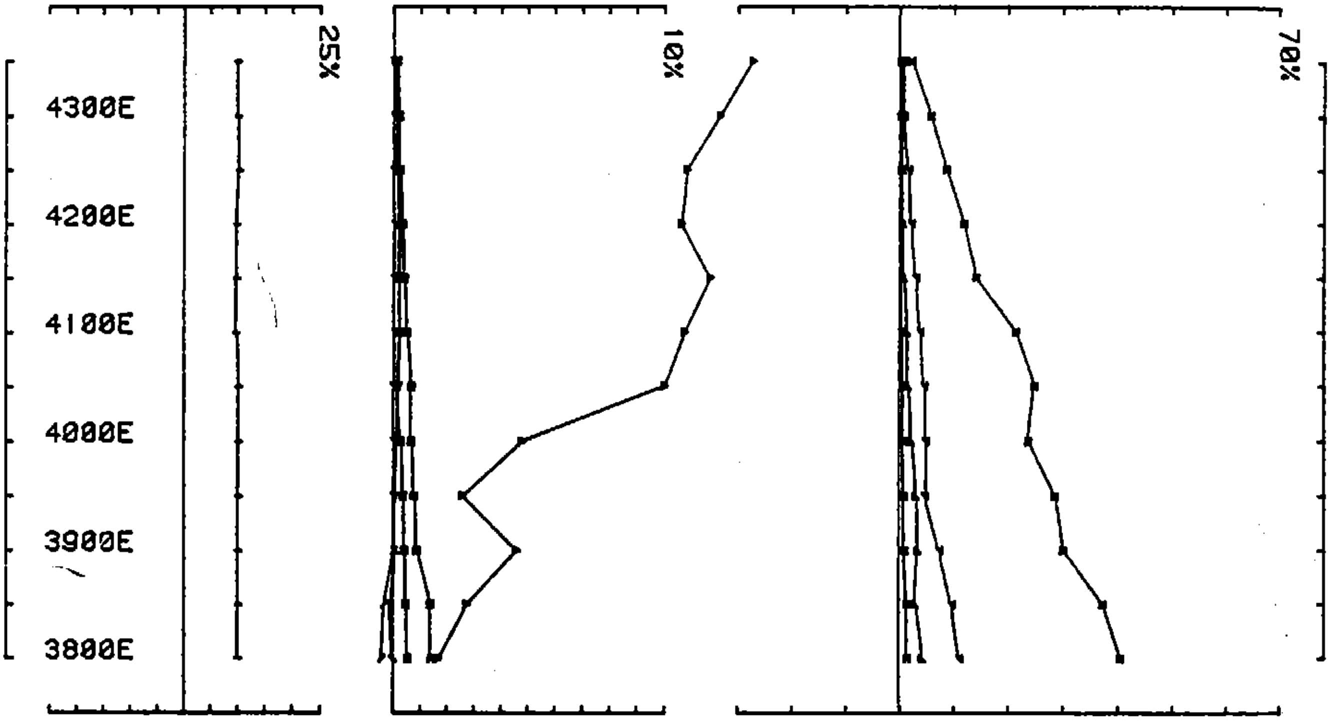
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 4800N component Hz secondary field Ch 1 contin. norm.

952096



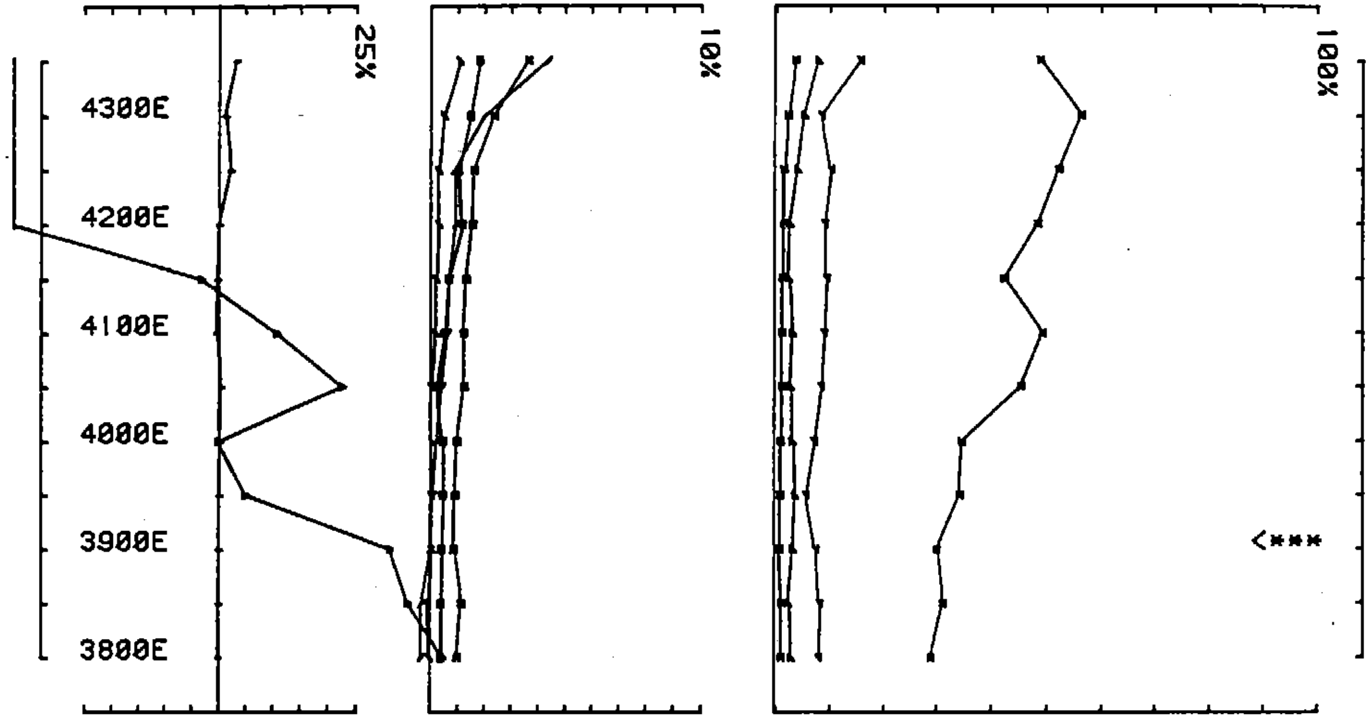
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS.,LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 4800N component Hz secondary field Ch 1 point norm.

952097



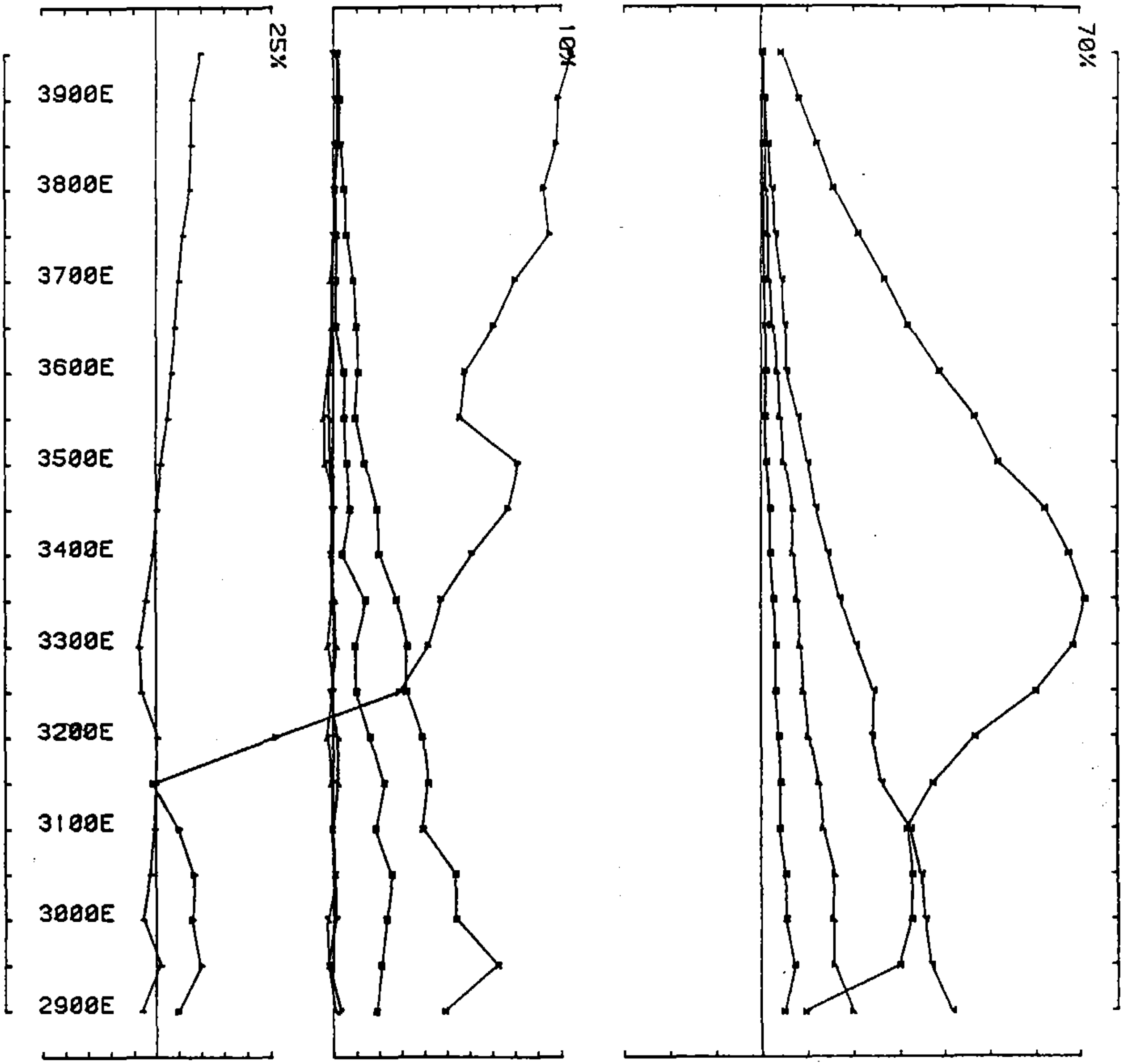
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 5000N component Hz secondary field Ch 1 contin. norm.

952098



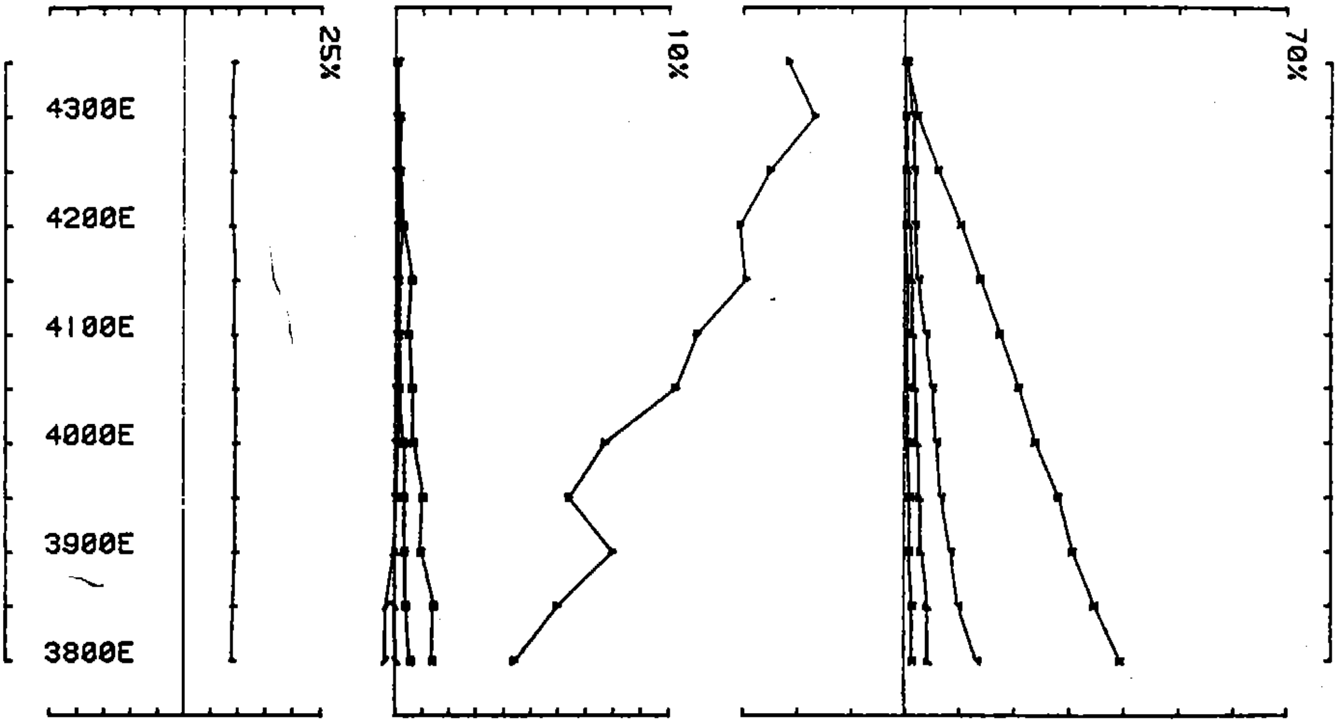
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 4 line 5000N component Hz secondary field Ch 1 point norm.

952099



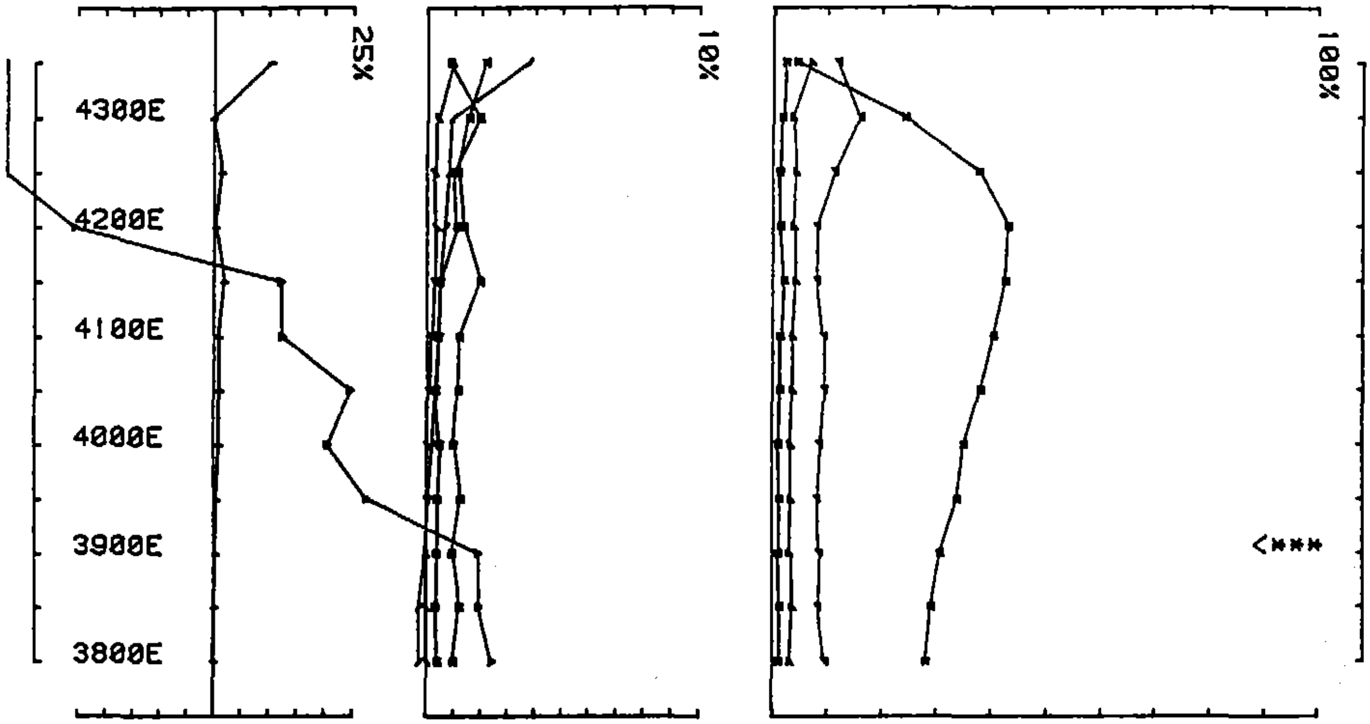
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 5000N component Hz secondary field Ch 1 contin. norm.

952100

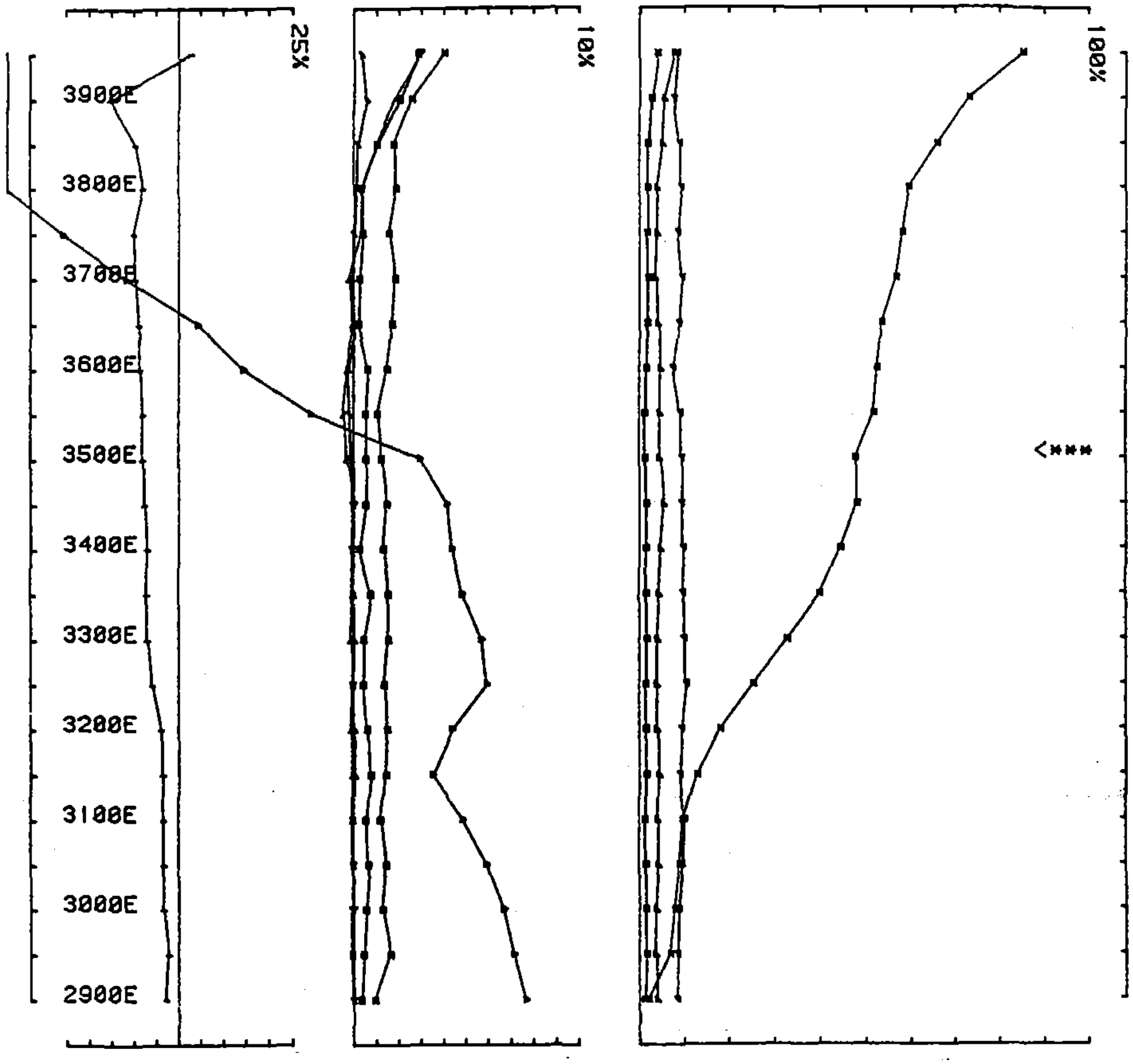


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS.,LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 5200N component Hz secondary field Ch 1 contin. norm.

952101

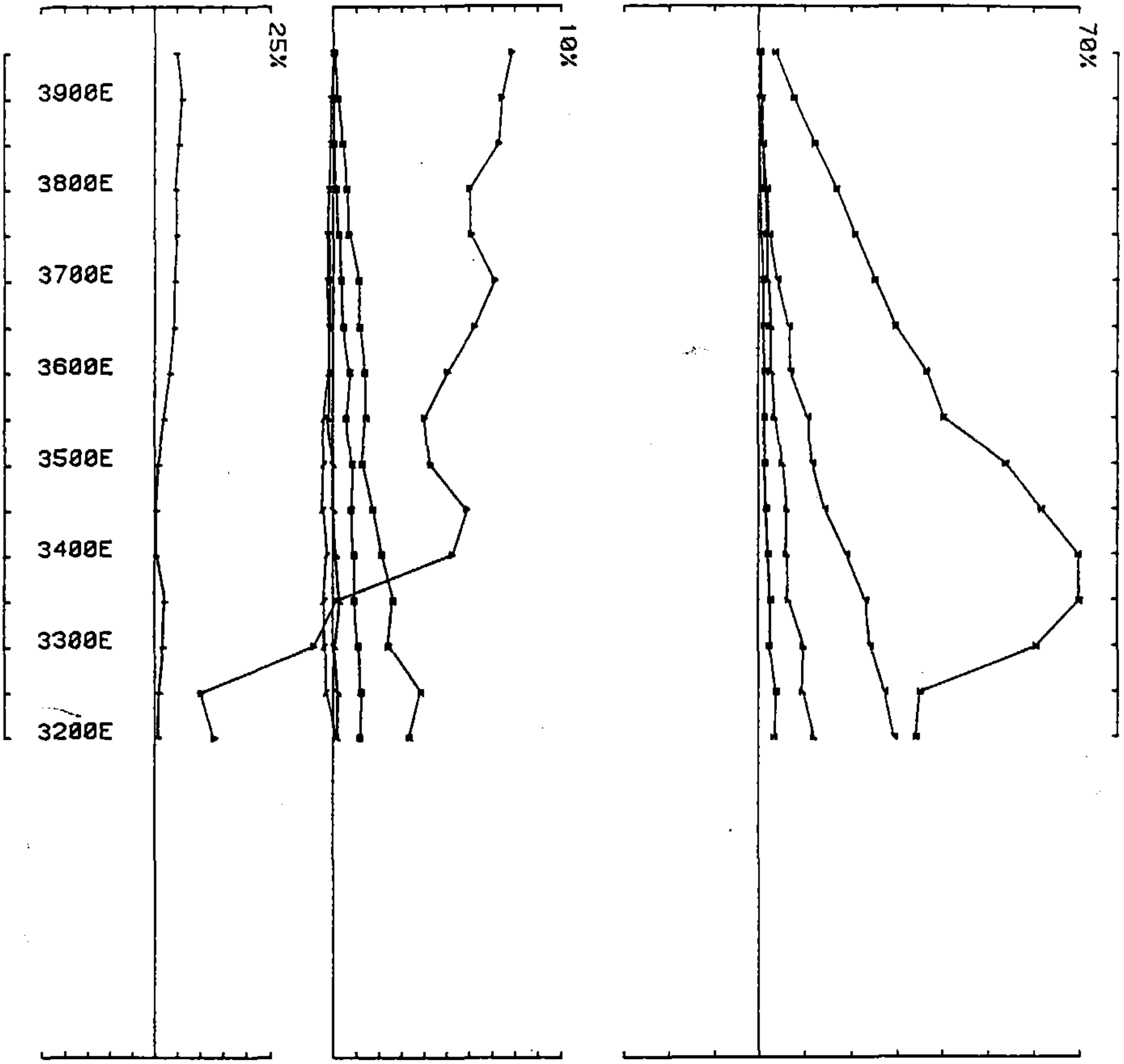


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 4 line 5200N component Hz secondary field Ch 1 point norm.



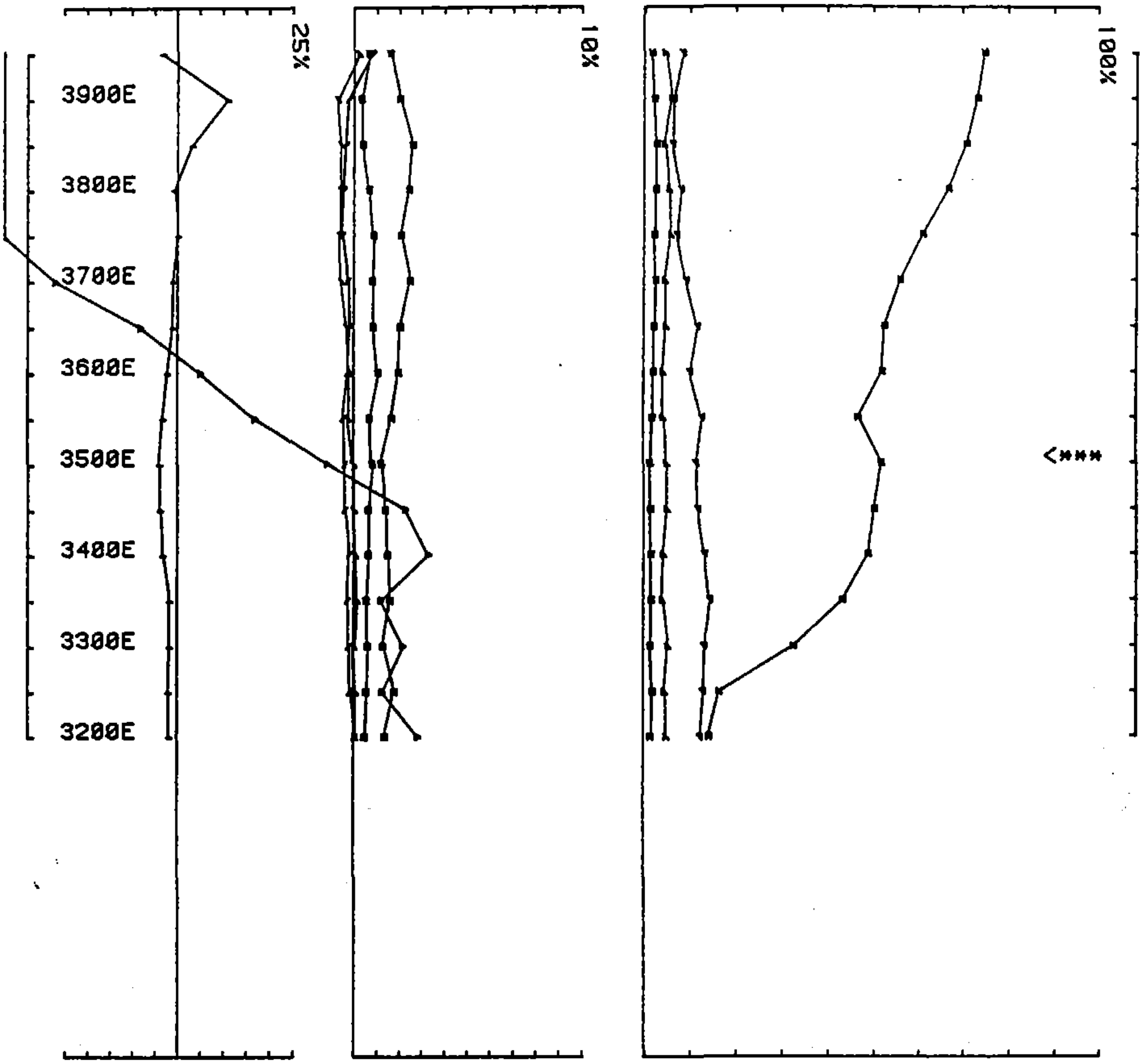
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS.,LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 5000N component Hz secondary field Ch 1 point norm.

952103



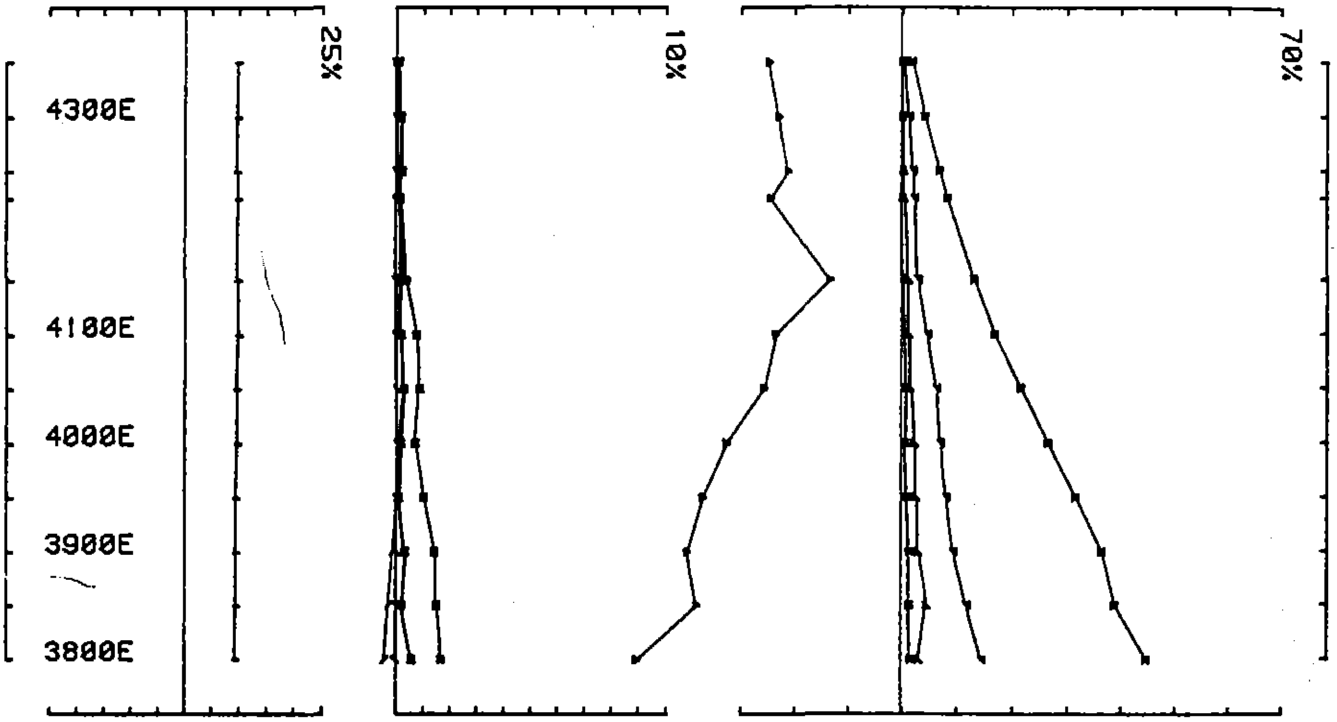
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS.,LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 5200N component Hz secondary field Ch 1 contin. norm.

952104

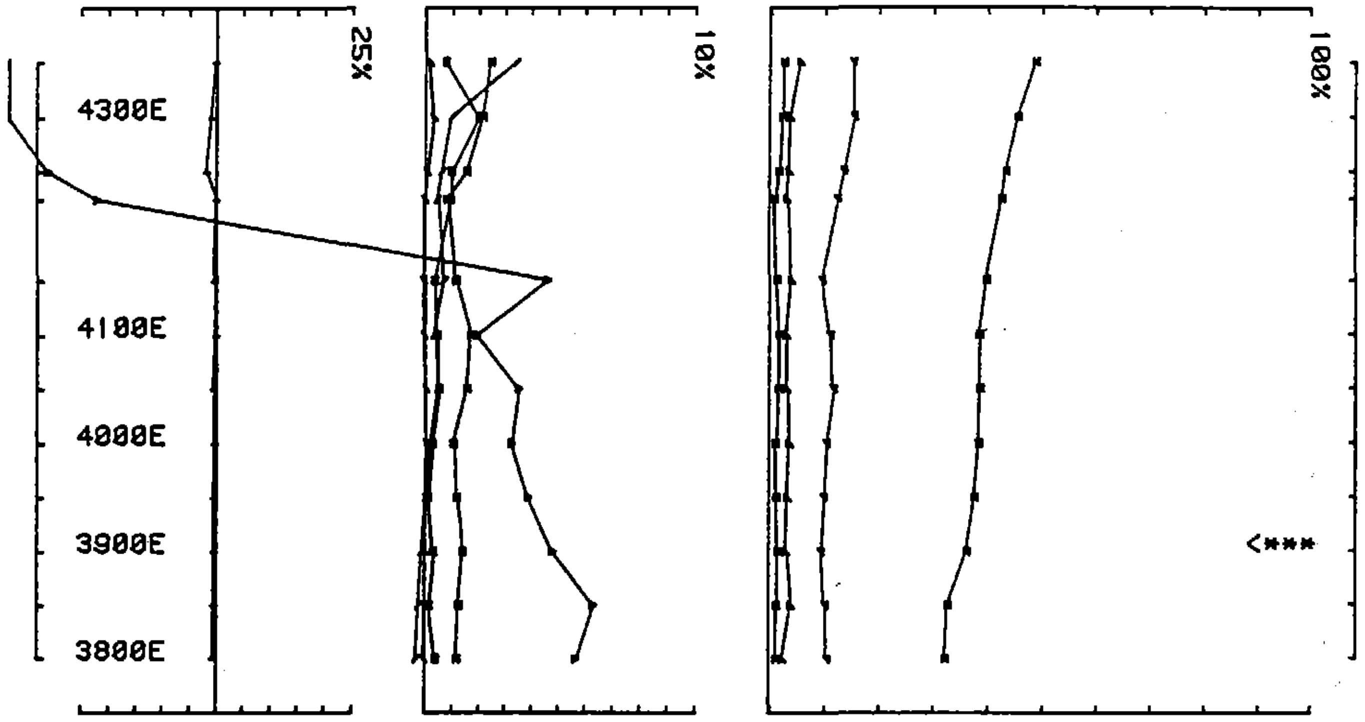


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 5200N component Hz secondary field Ch 1 point norm.

952105



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 5400N component Hz secondary field Ch 1 contin. norm.

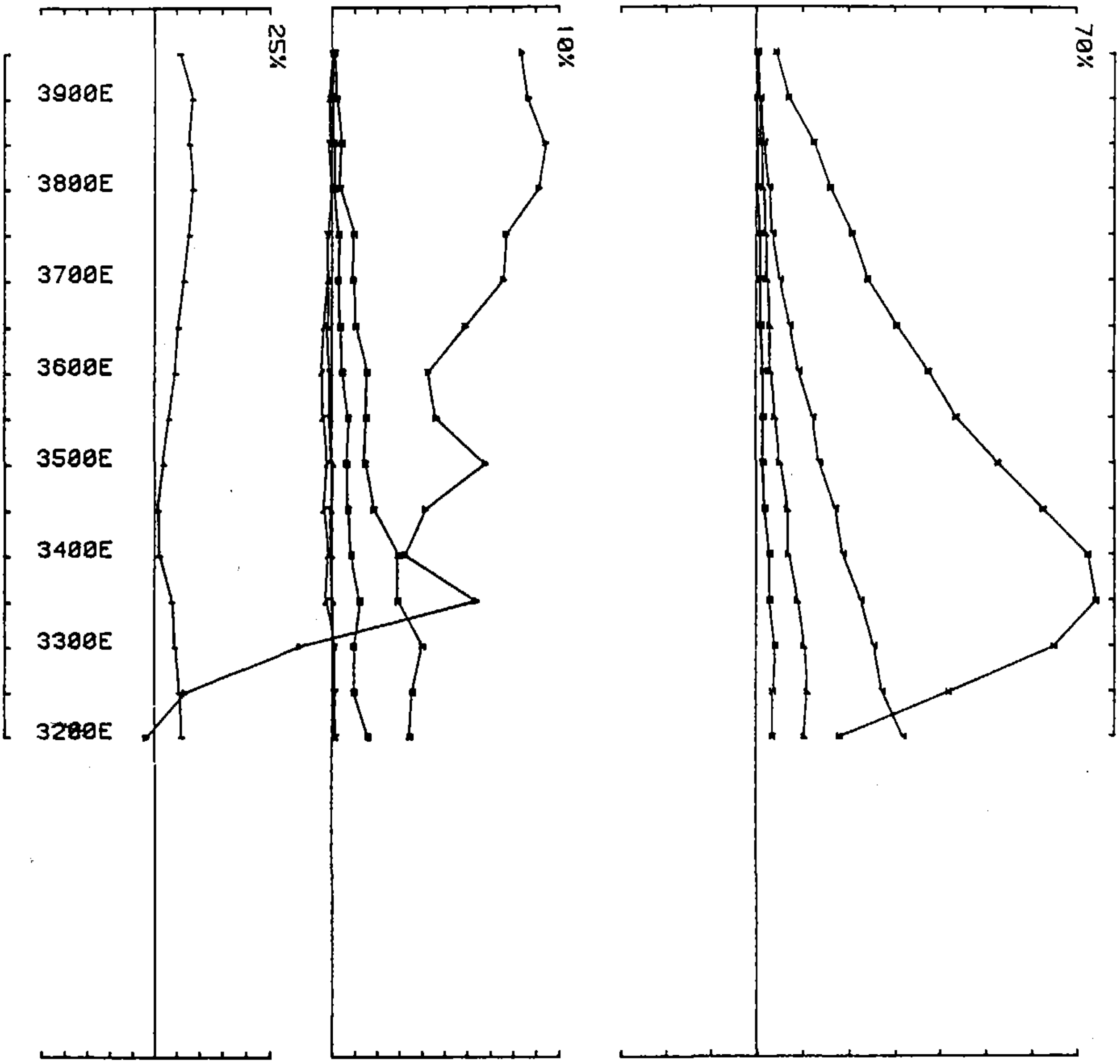


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.

conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989

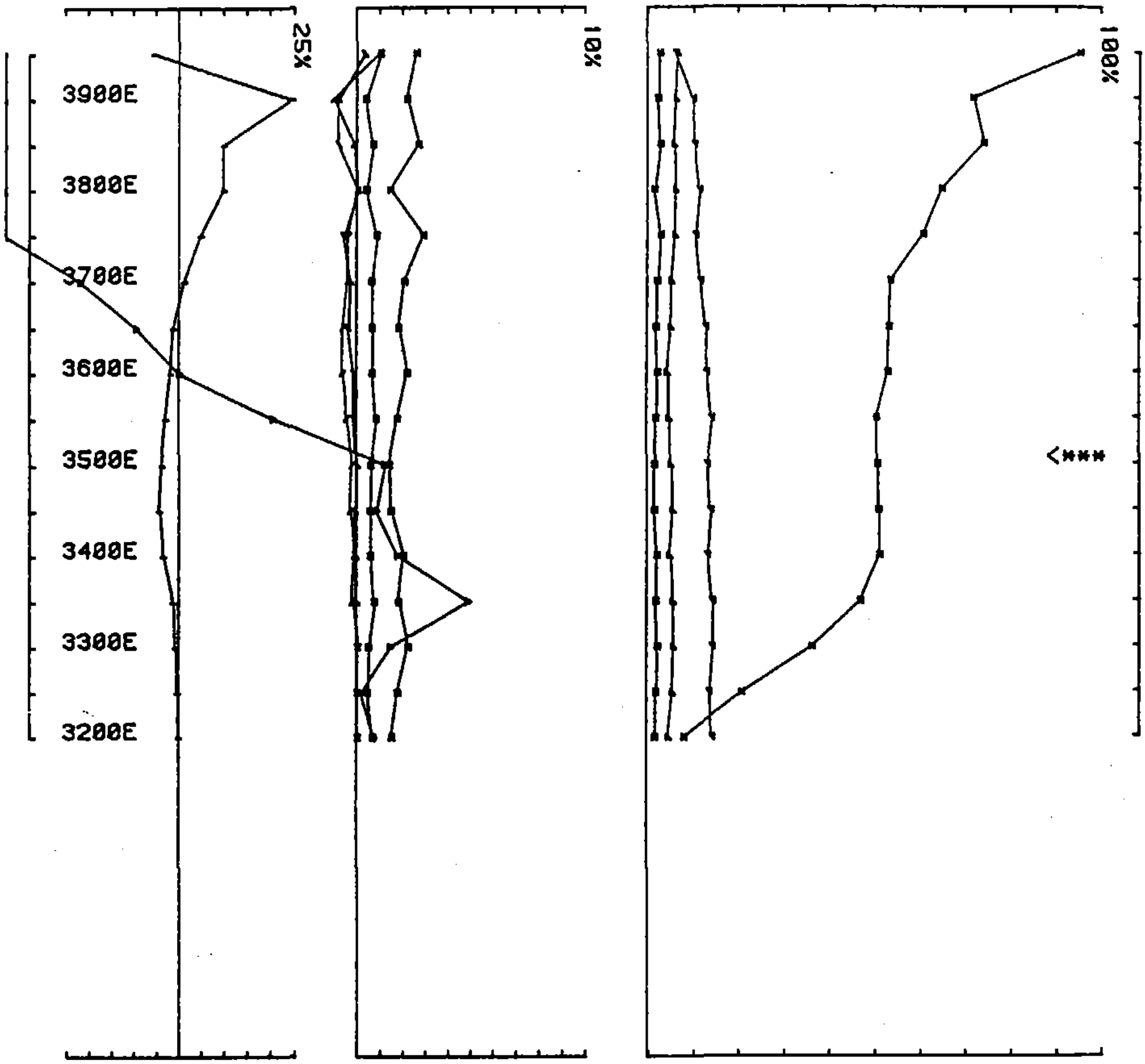
loop no 4 line 5400N component Hz secondary field Ch 1 point norm.

952107



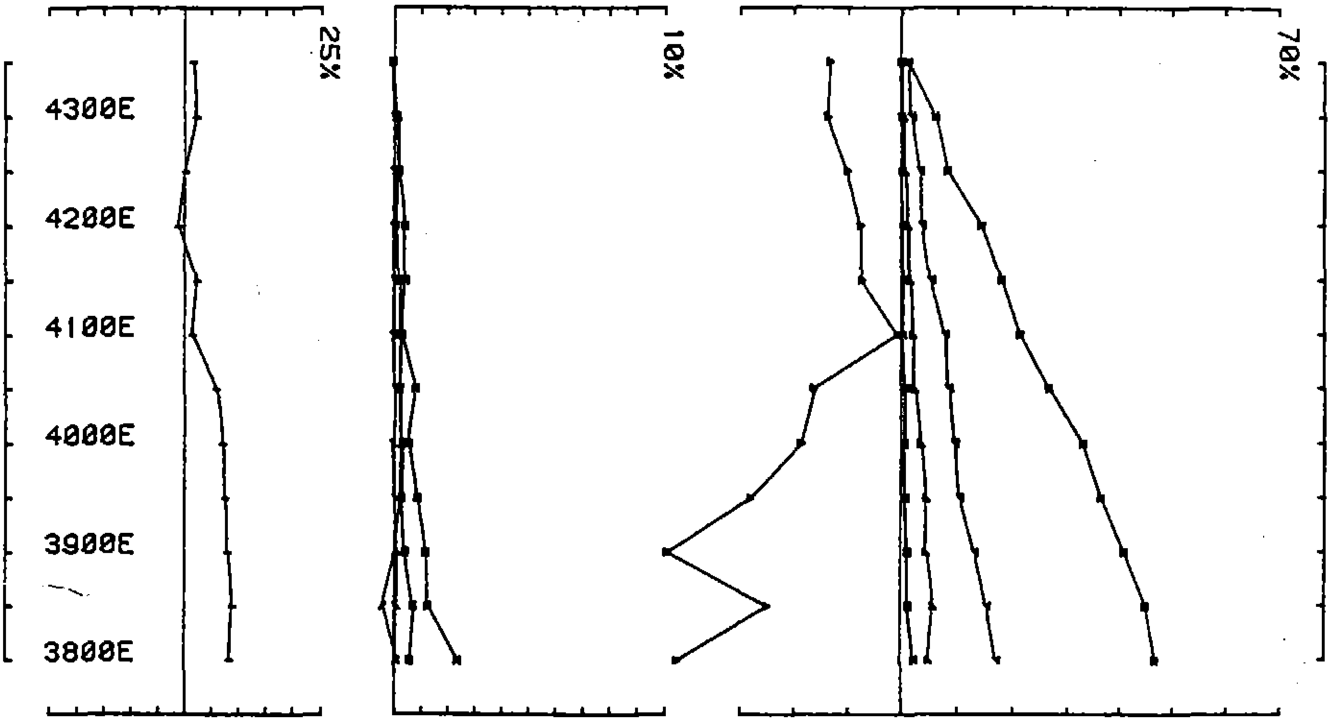
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 5400N component Hz secondary field Ch I contin. norm.

952108

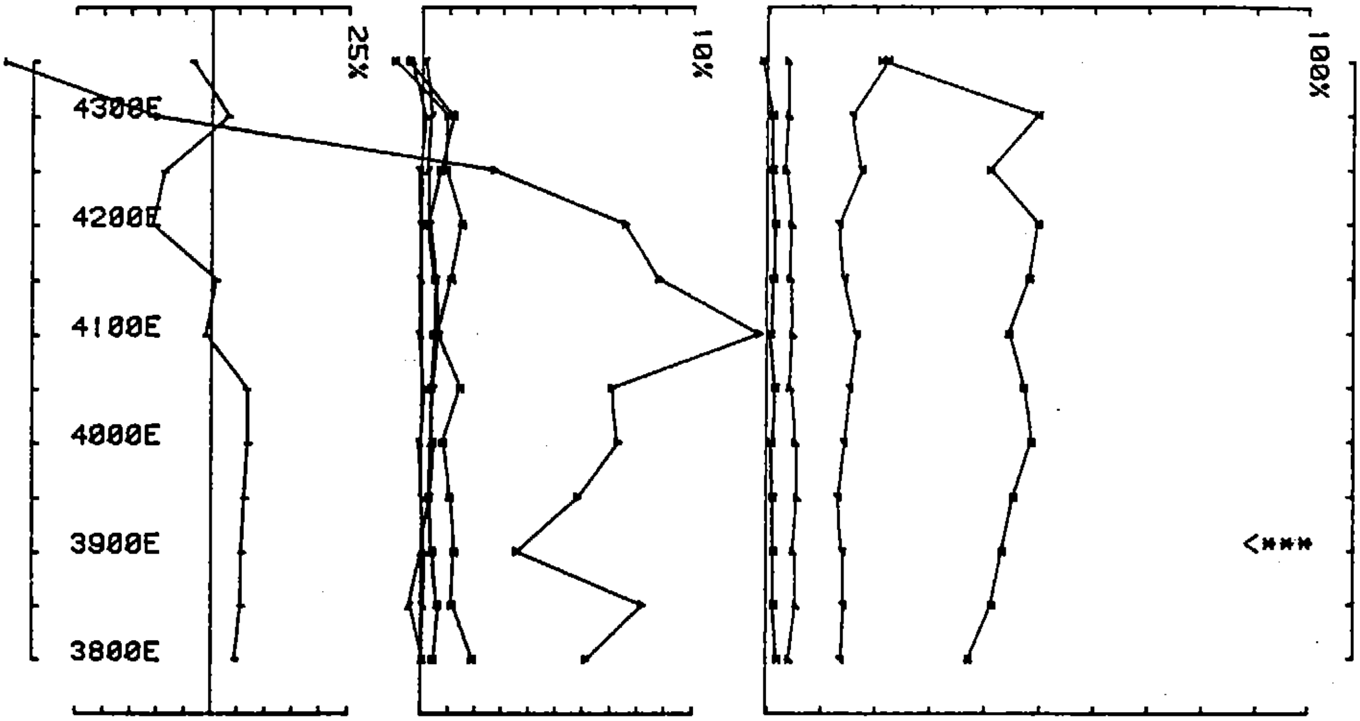


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 5400N component Hz secondary field Ch 1 point norm.

952109

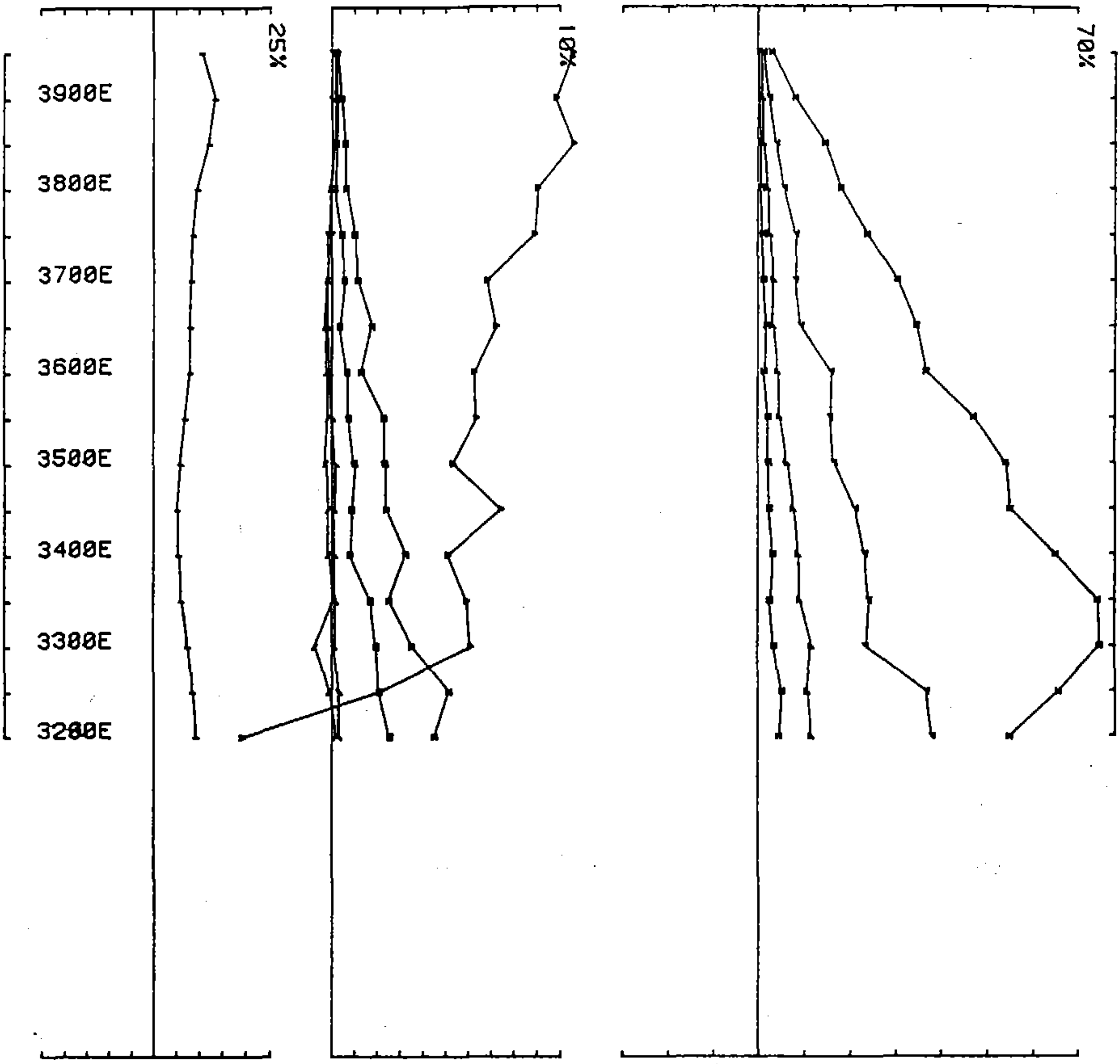


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 4 line 5600N component Hz secondary field Ch I contin. norm.



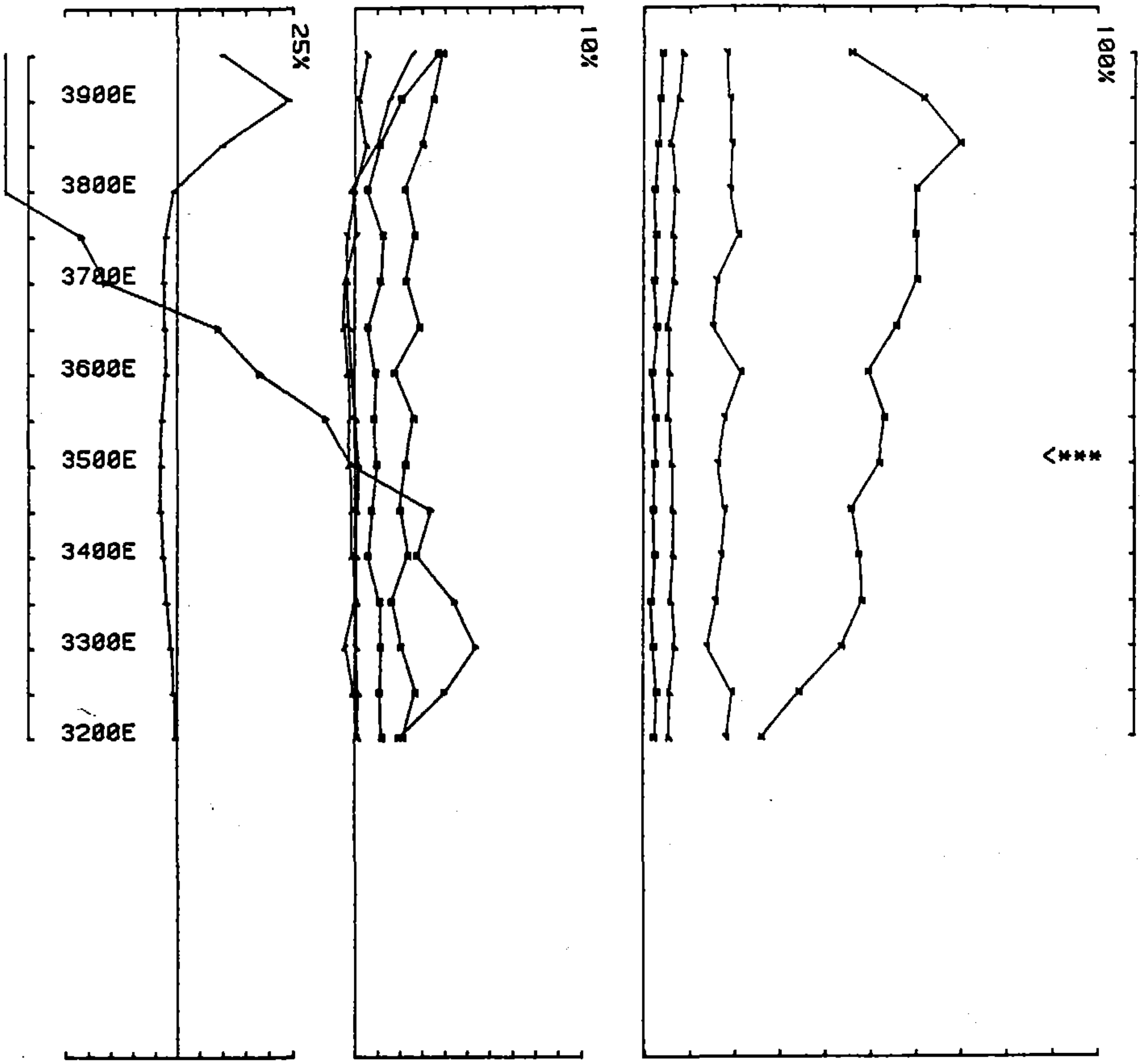
UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 4 line 5600N component Hz secondary field Ch I point norm.

952111



UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230
loop no 3 line 5600N component Hz secondary field Ch 1 contin. norm.

952112

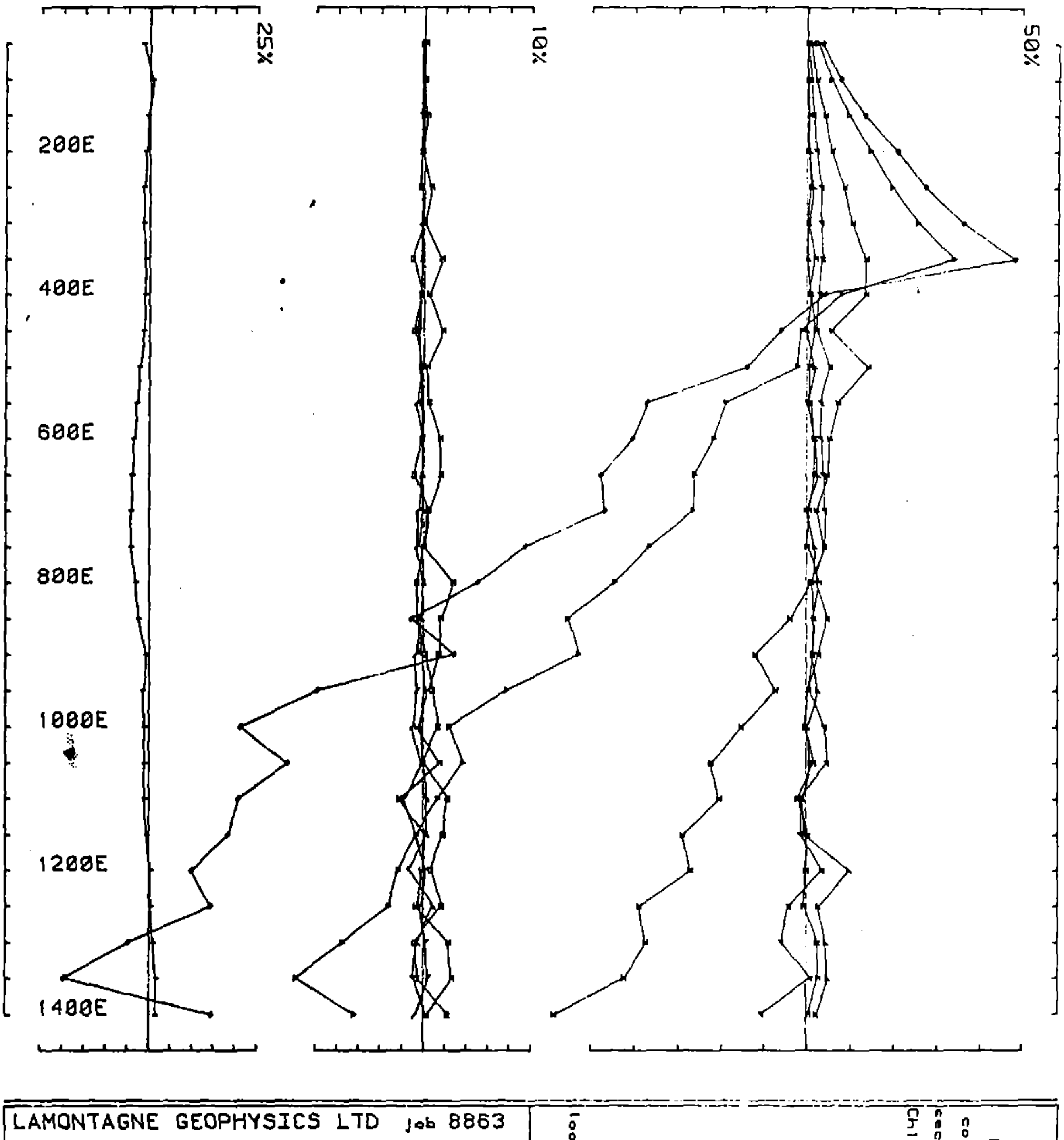


UTEM SURVEY at EAST RED HILLS for ABERFOYLE RESOURCES LTD.
conducted by SJV CONS., LAMONTAGNE job 8901 base freq (hz) 26.230 JAN 1989
loop no 3 line 5600N component Hz secondary field Ch 1 point norm.

APPENDIX III

LOOP 1 DATA

952115

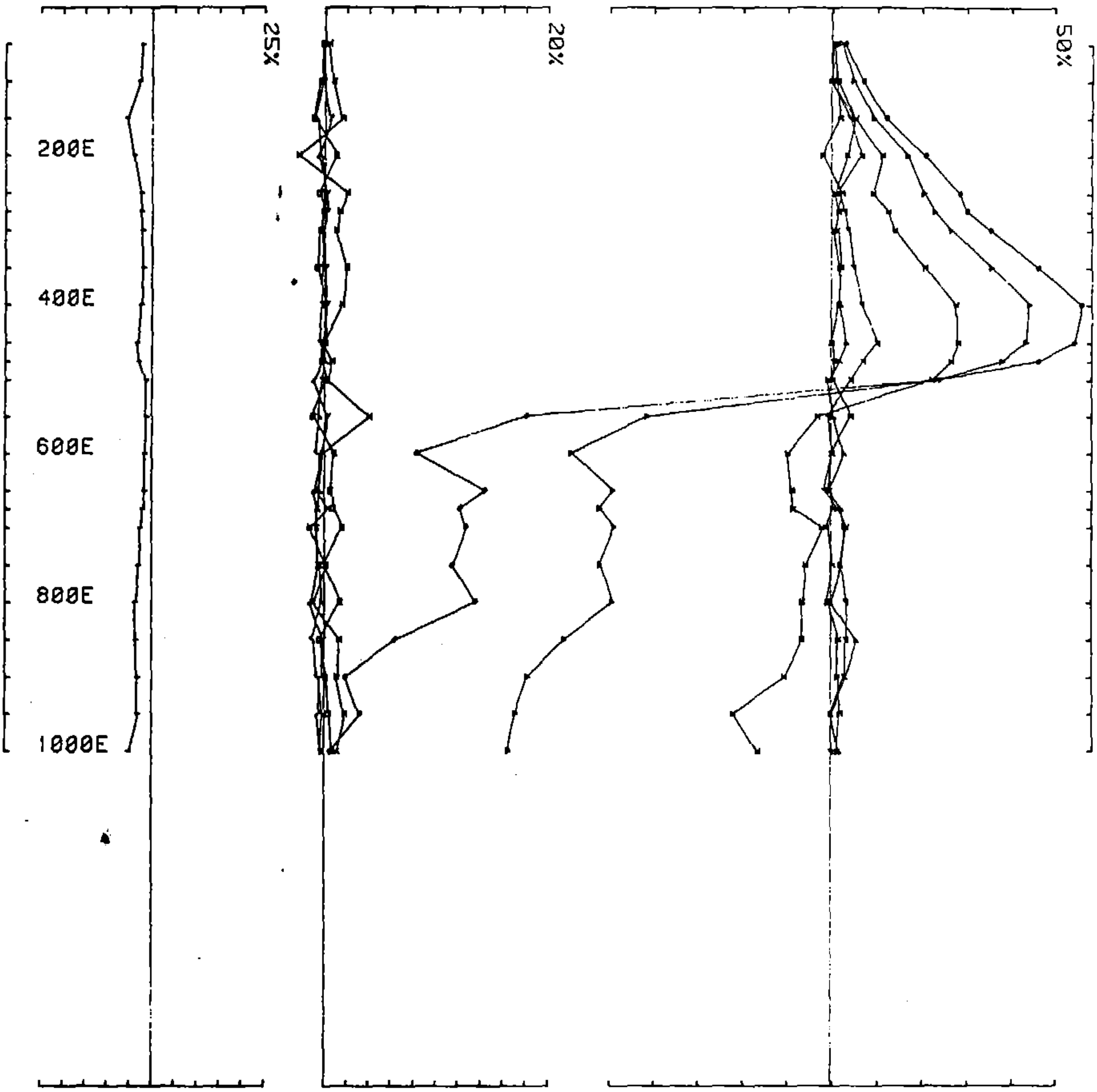


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

loop no 1
line 24S
component Hz
secondary field
Ch1 contin norm
08/12/88

952116

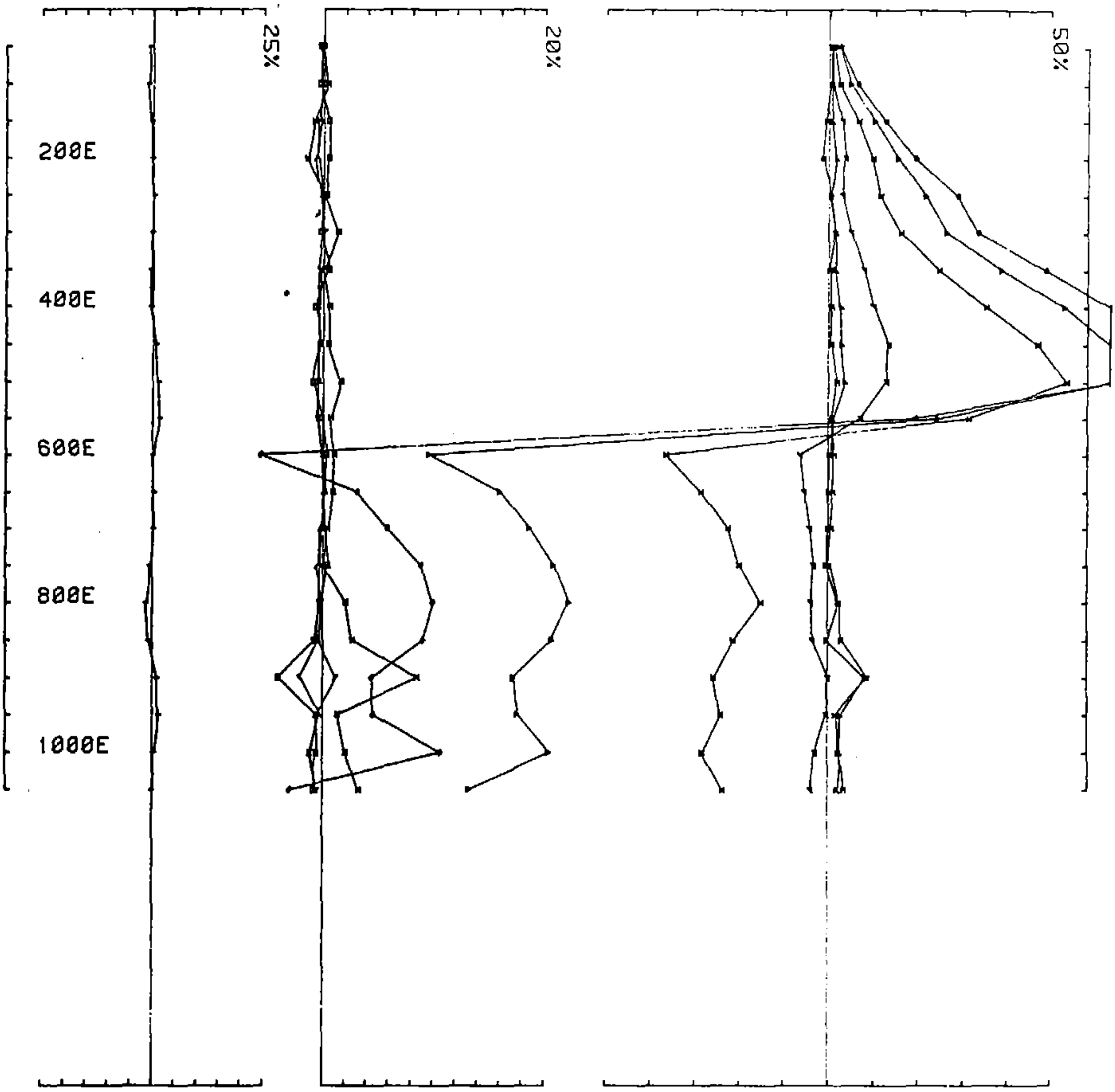


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

loop no 1
line 32S
component Hz
secondary field
Ch1 contin norm.
08/12/88

952117

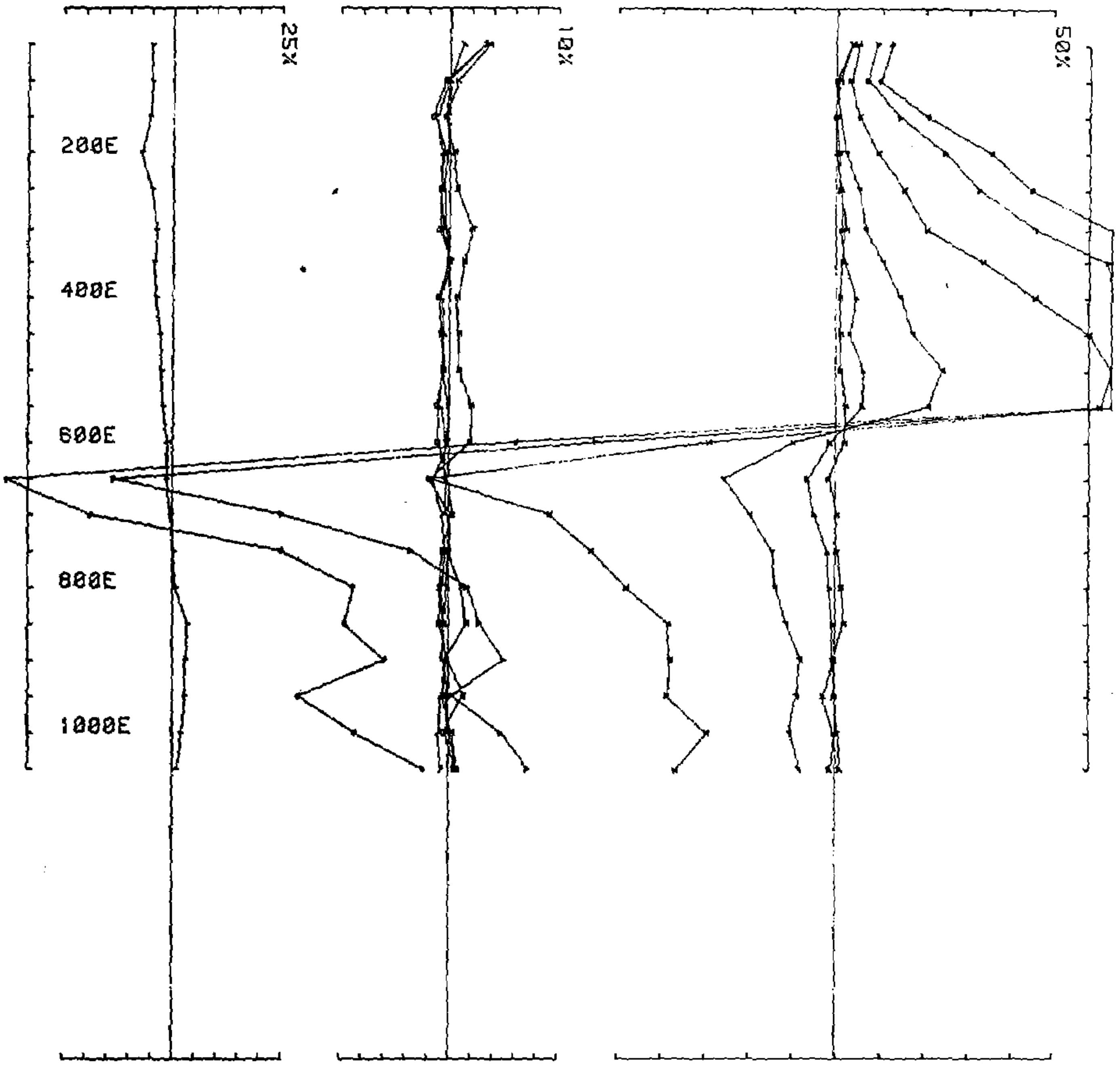


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

loop no 1
line 40S
component Hz
secondary field
Ch1 contin norm
08/12/88

952118

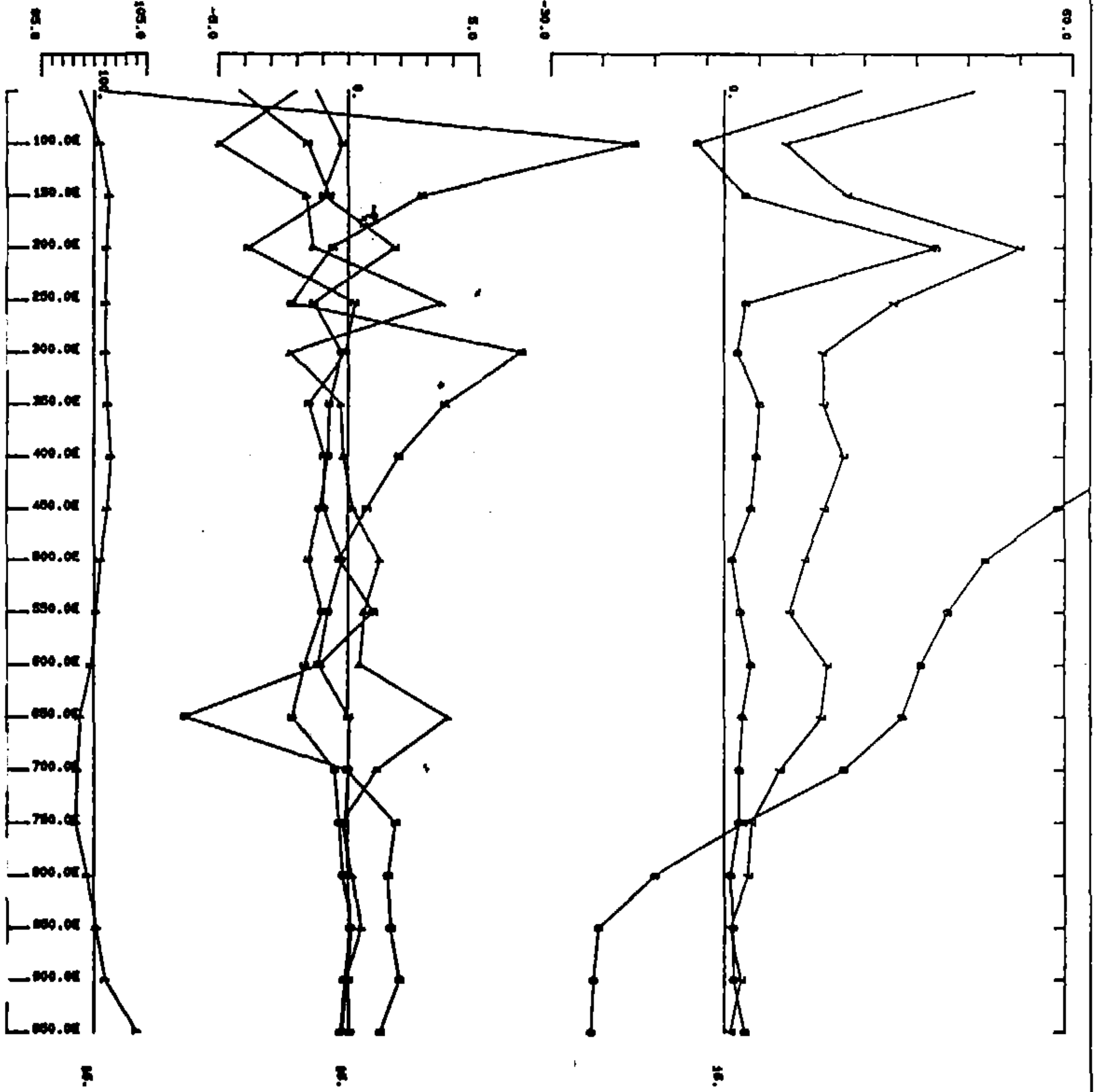


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

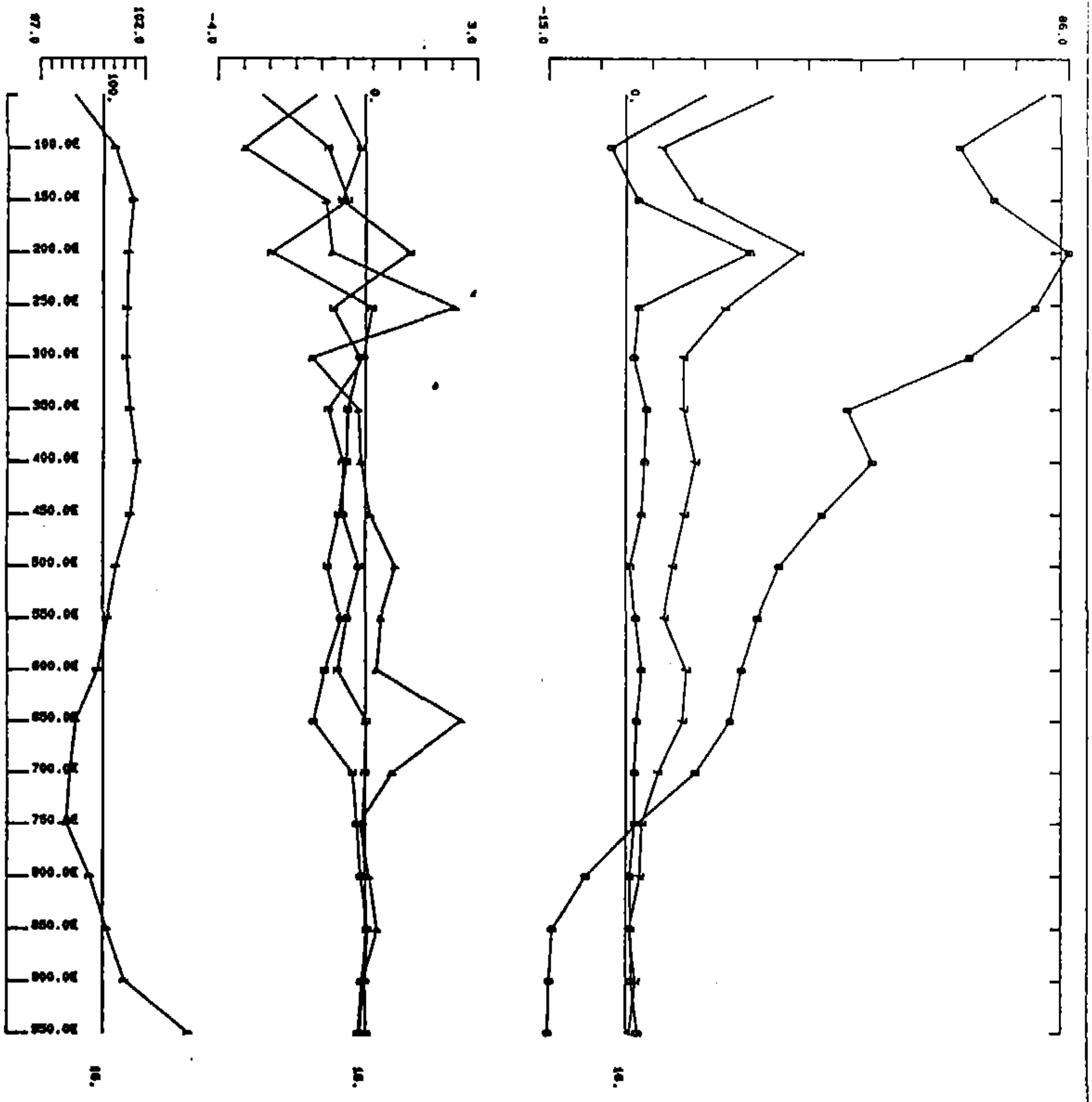
loop no 1
line 48S
component Hz
secondary field
Ch1 contin norm
10/12/88

952119



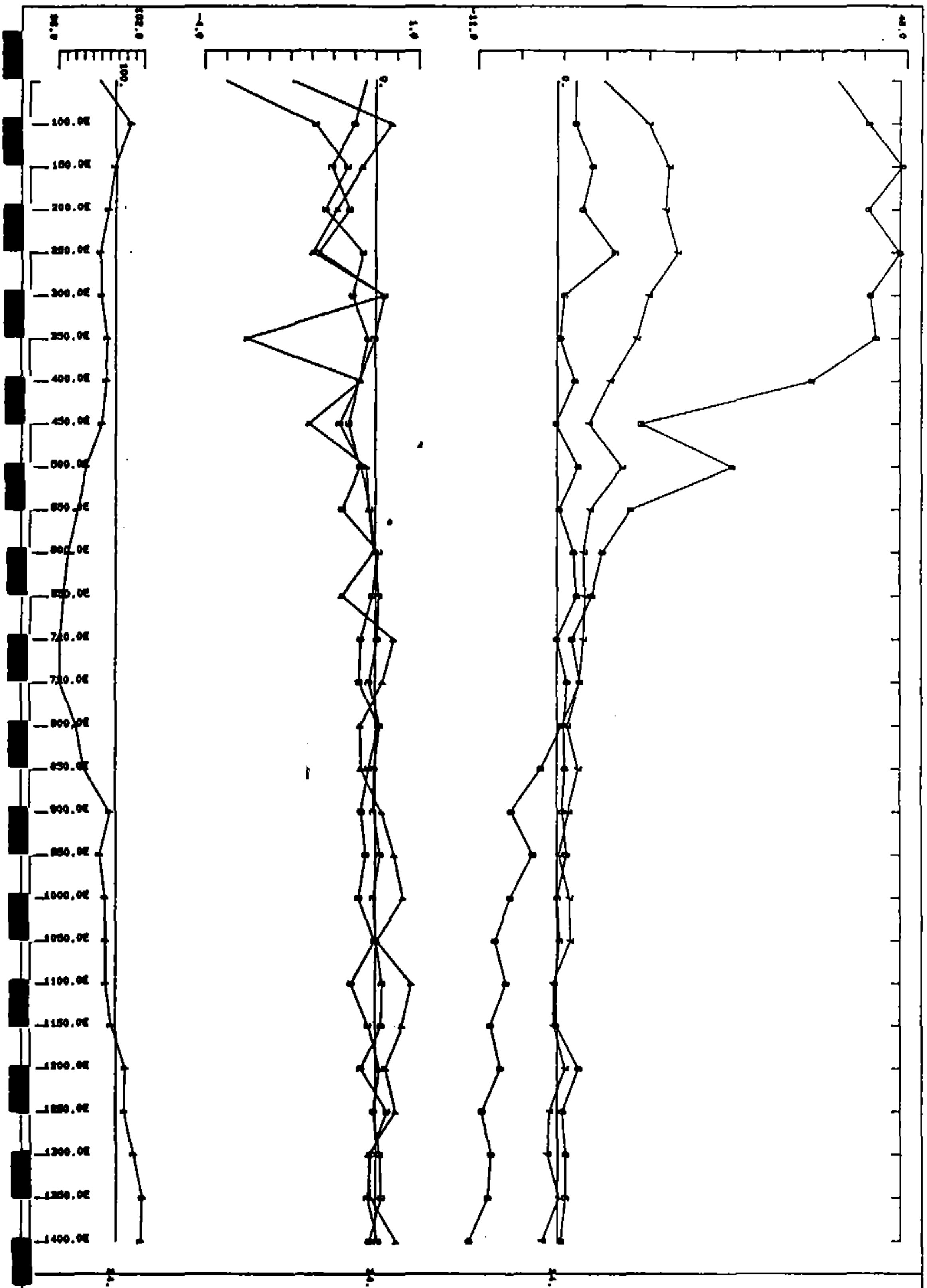
Red Hills
Loop 1
Lines 18S
component Hz Stacked Profiles (ch. 6,7)
Secondary field
Channel 1
Point norm at 750E
Option 4
19/12/88

952120



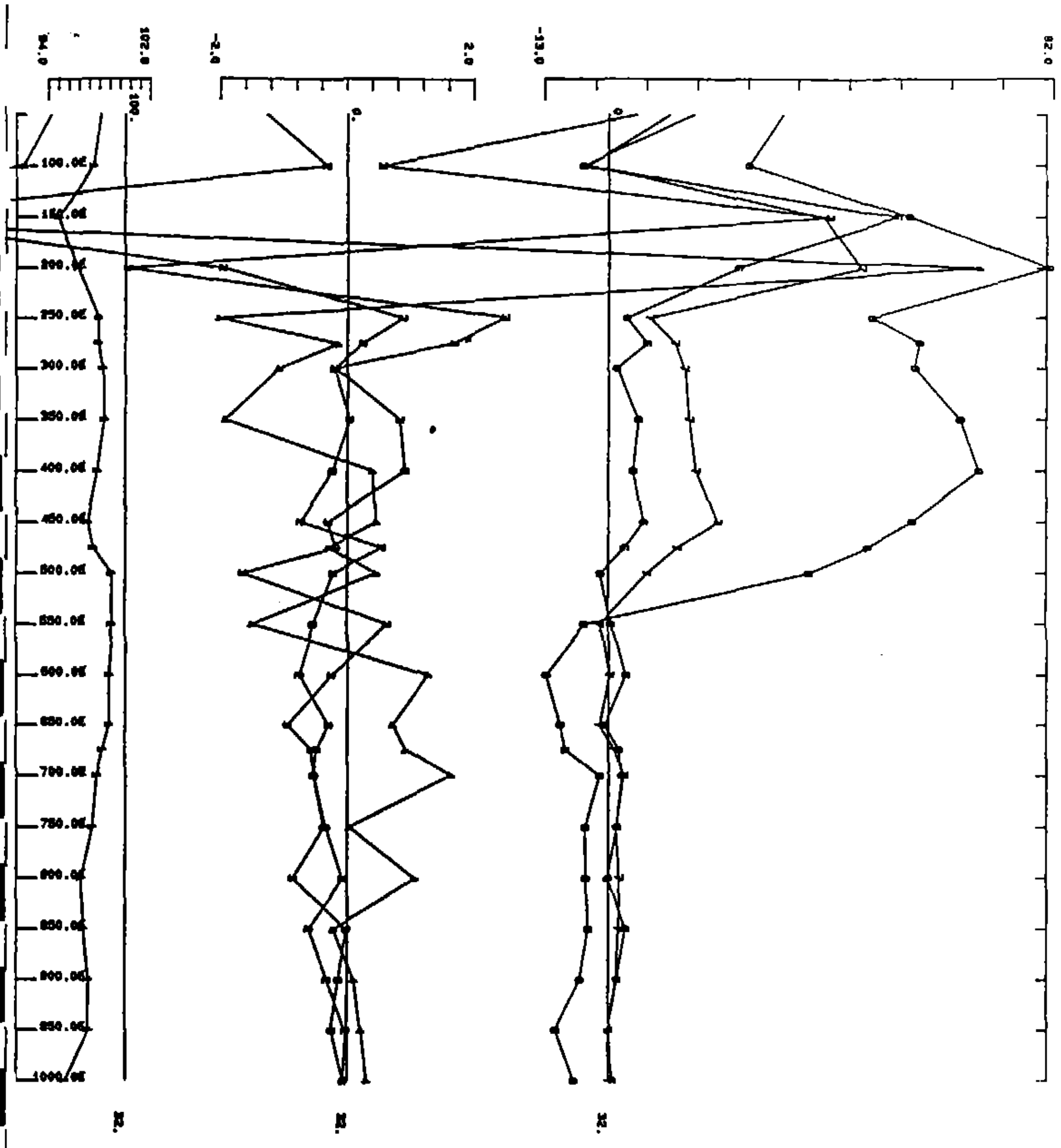
Red Hills
Loop 1
Line 16S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952121



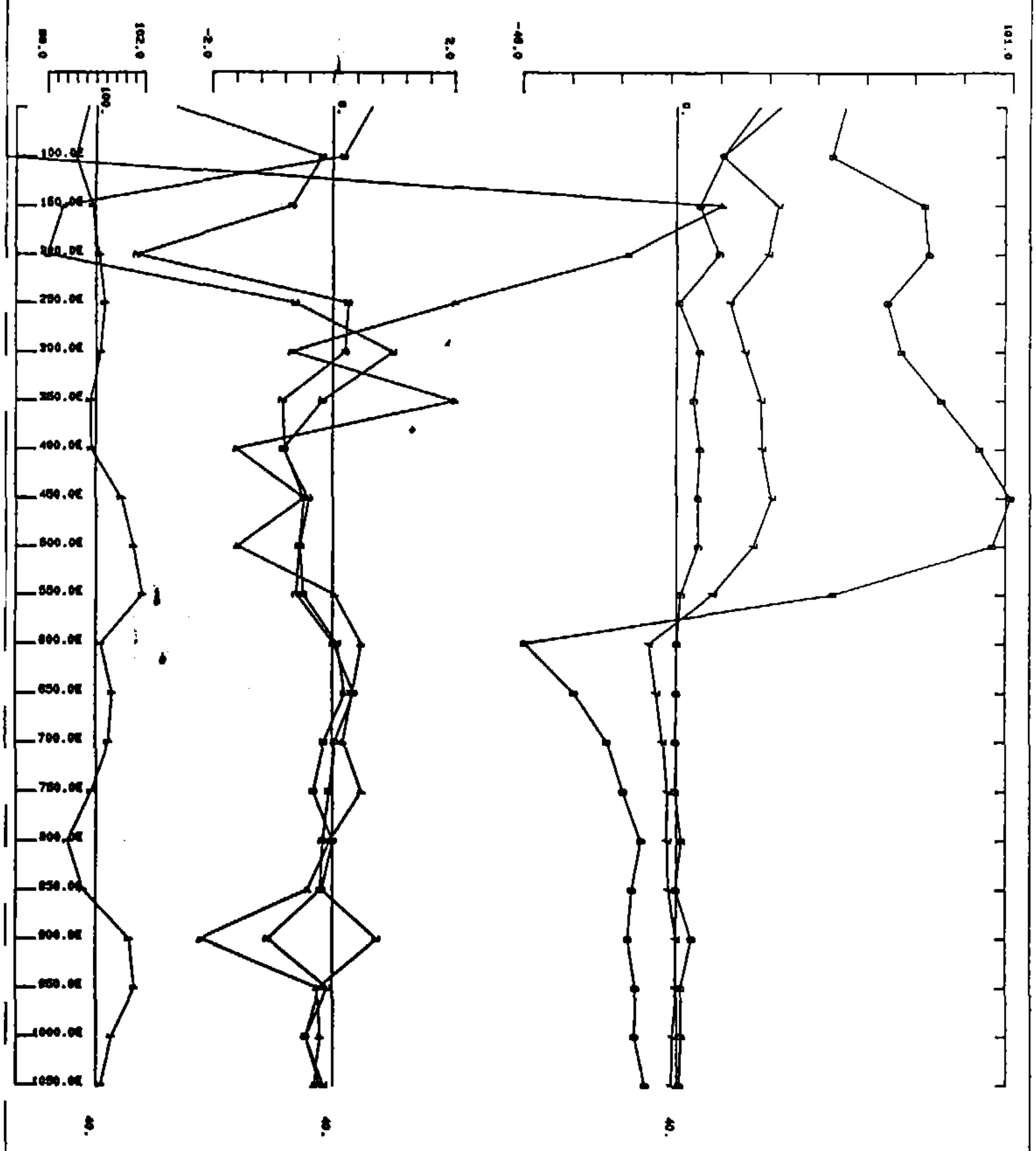
Red Hills
Loop 1
Line 24S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952122



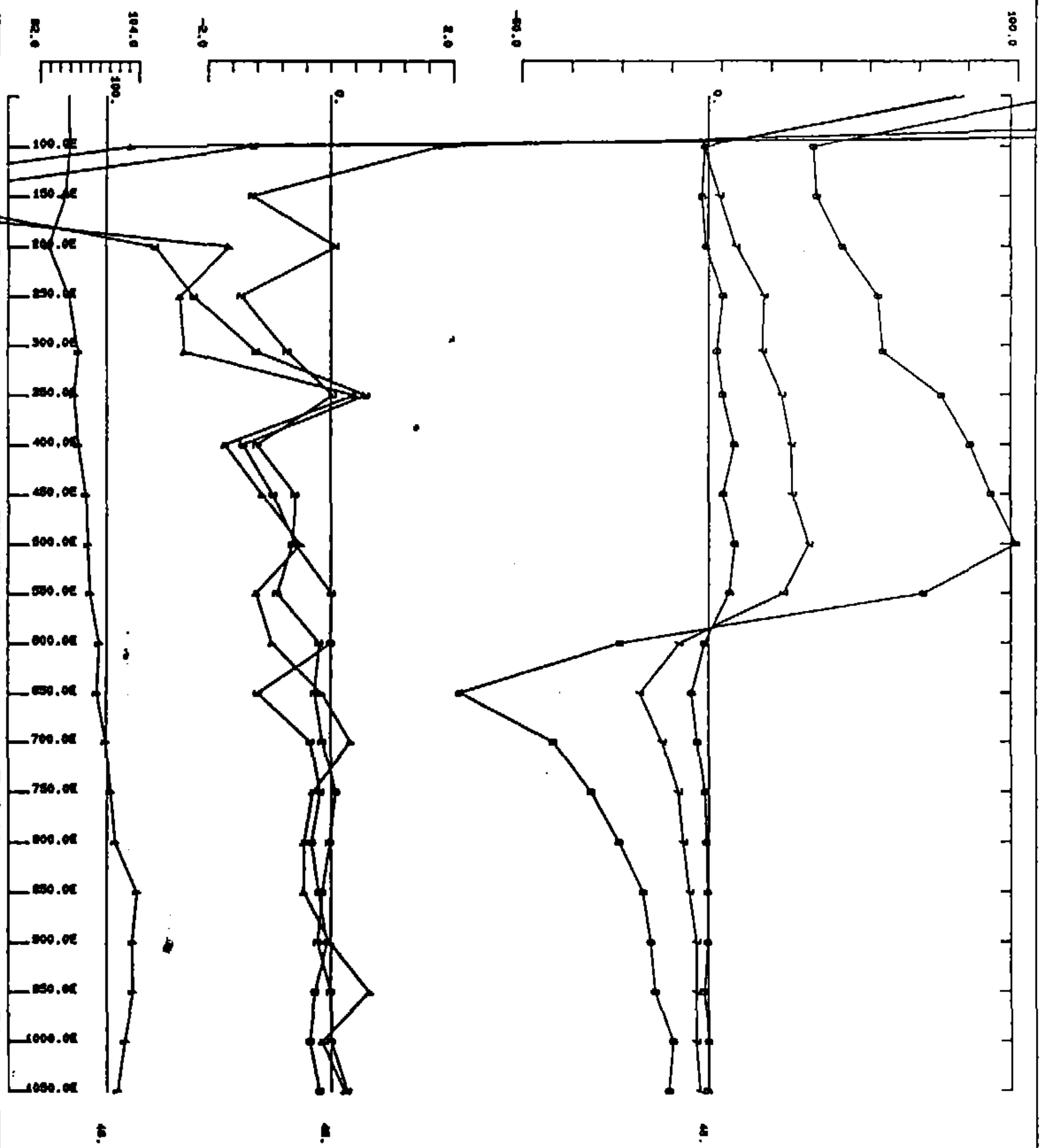
Red Hills
Loop 1
Line 32S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952123



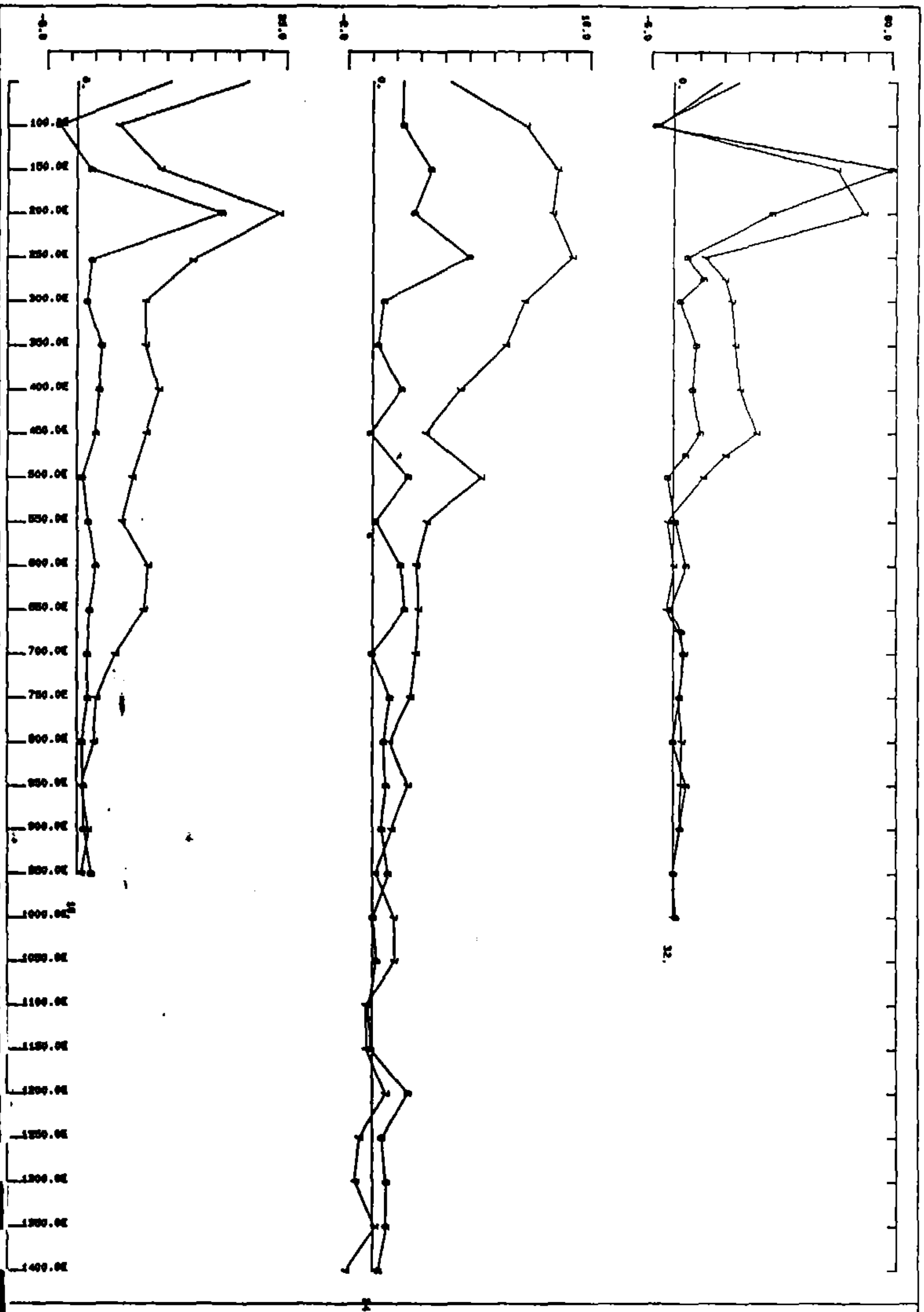
Red Hills
Loop 1
Line 40S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/86

952124



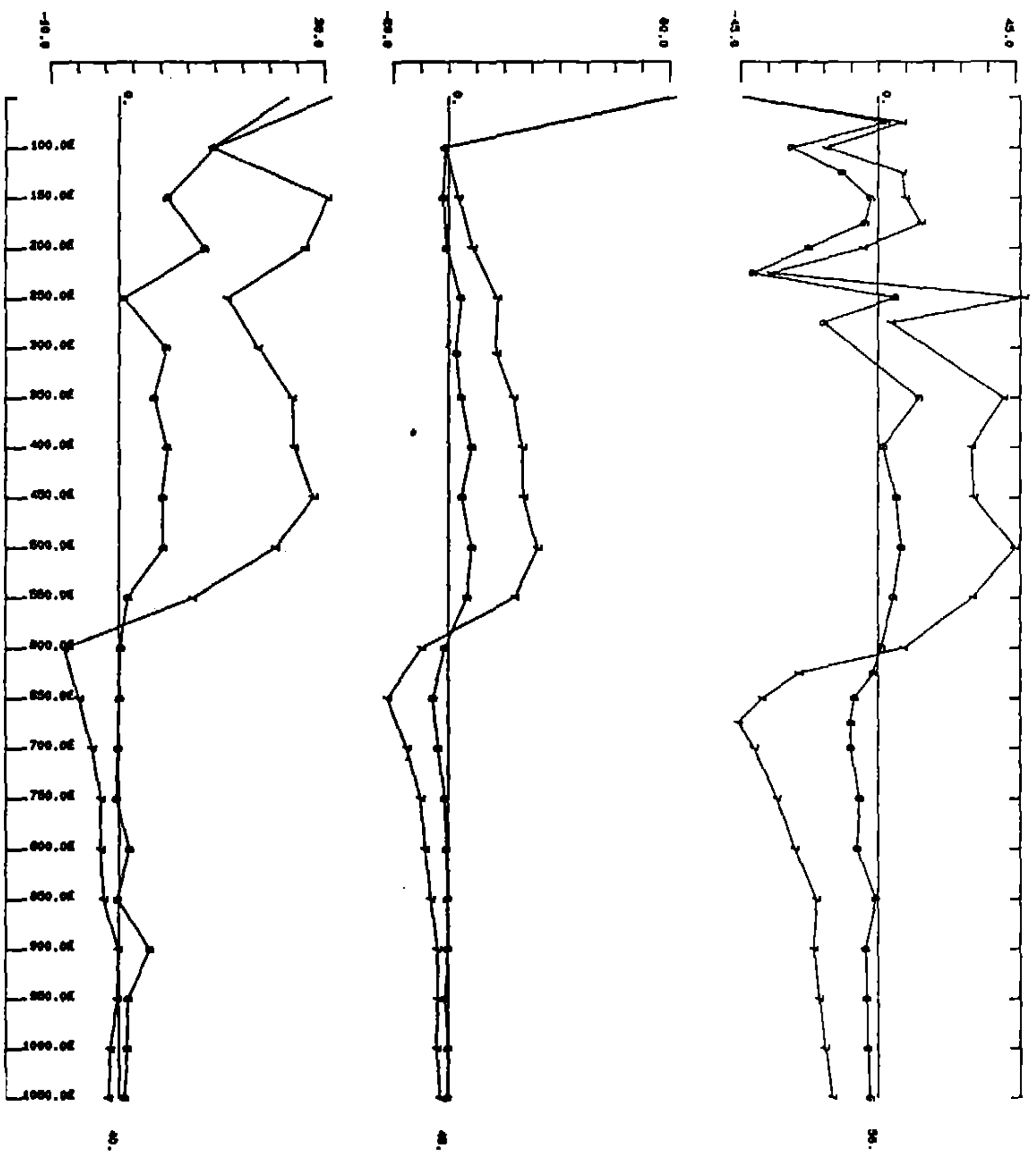
Red Hills
Loop 1
Line 48S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952125



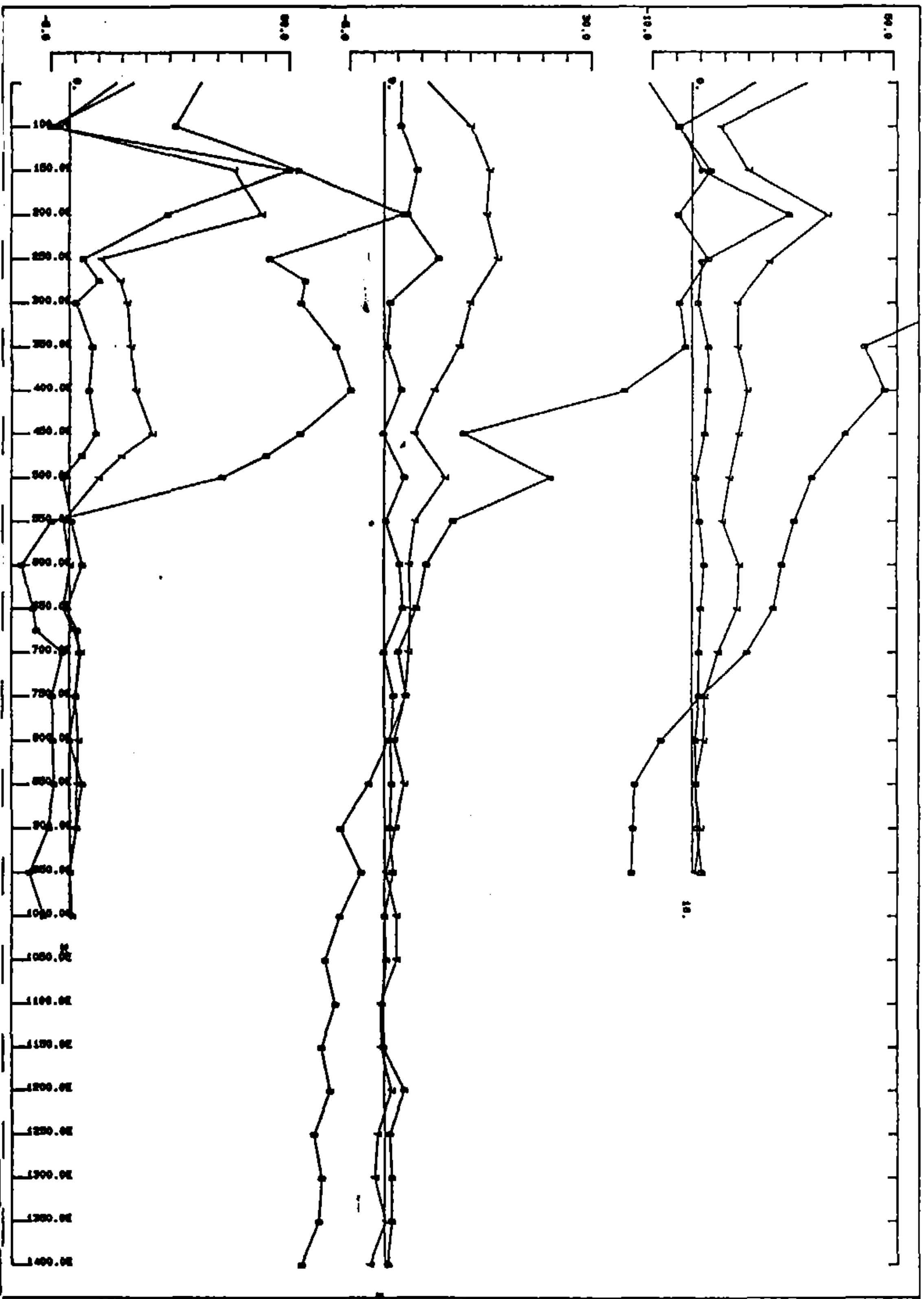
Red Hills
Loop 1
Lines 16S 24S 32S
Component Hz Stacked Profiles (ch. 6,7)
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952126

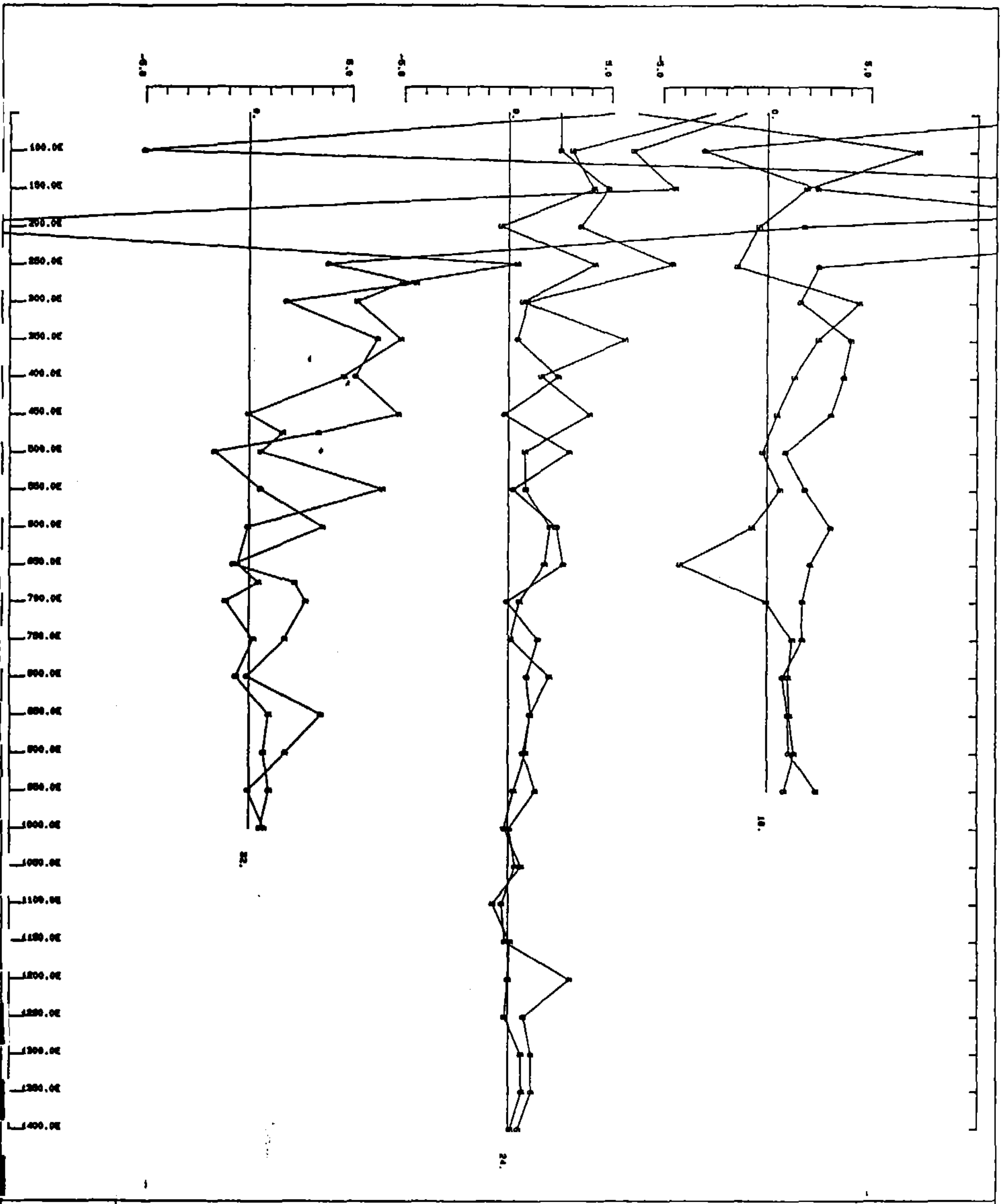


Red Hills
Loops 1 and 2
Lines 40S 48S 56S
Component Hz Stacked Profiles (ch. 6,7)
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952127



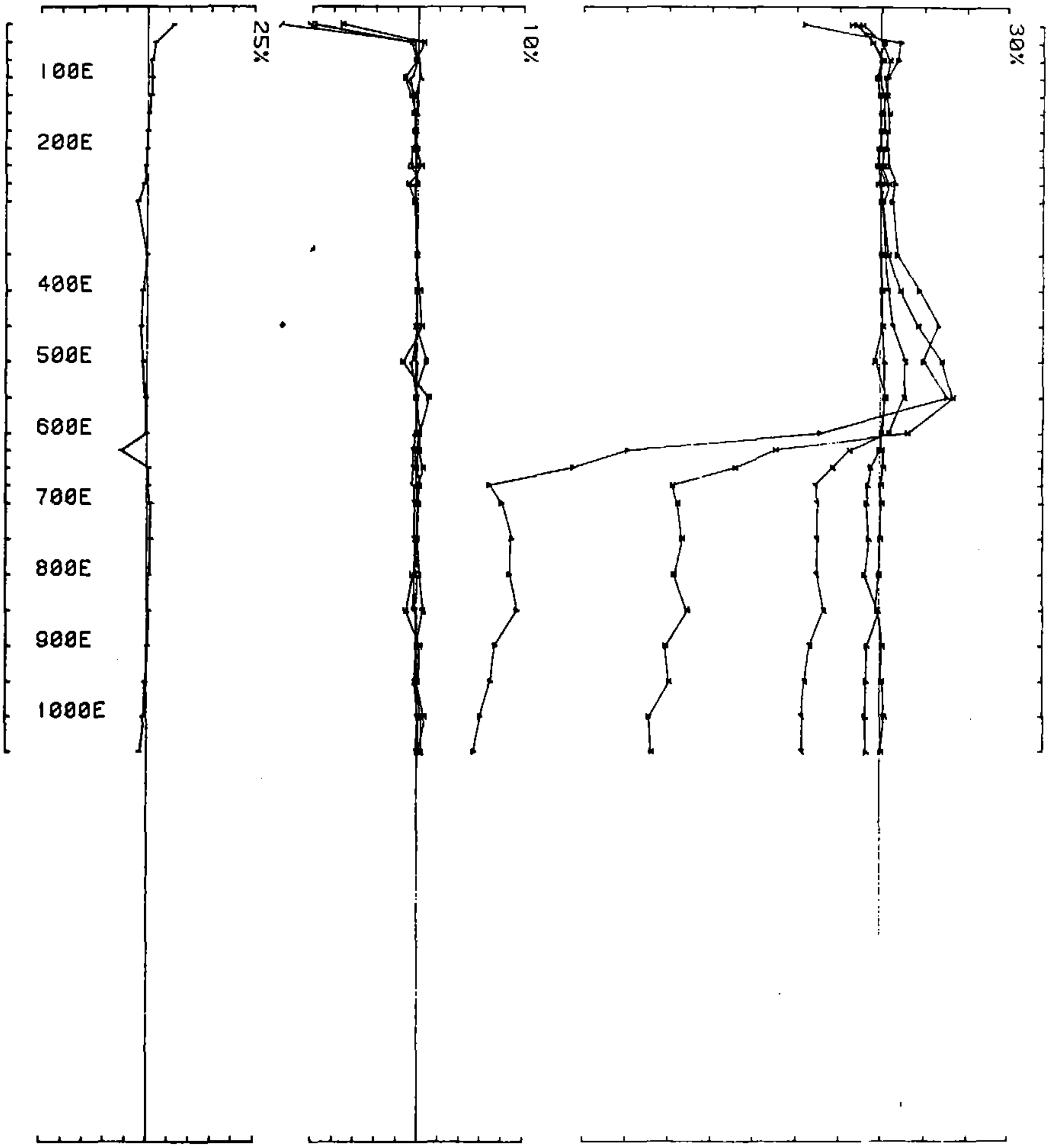
Red Hills Lake Margaret EL Tas.
Loop 1
Lines 16S 24S 32S
component Hz Stacked Profiles ch. 6,7,8
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88



Red Hills Lake Margaret EL Tas.
Loop 1
Lines 16S 24S 32S
component Hz Stacked Ptrofiles ch 5,6
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88

LOOP 2 DATA

952130

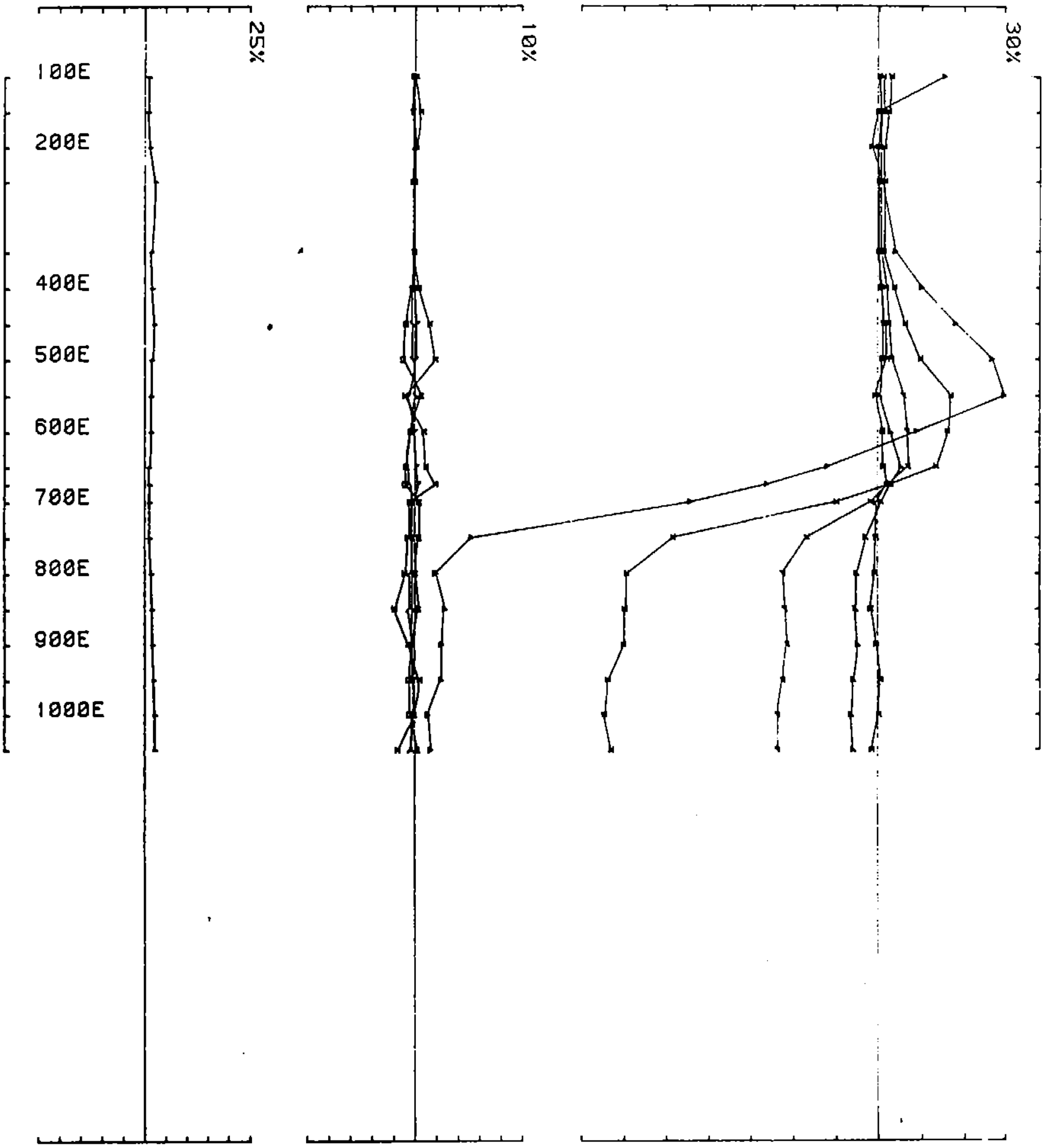


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

~~loop~~ loop no 2
line 56S
component Hz
secondary field
Ch1 contin norm.
[illegible] 88

952131

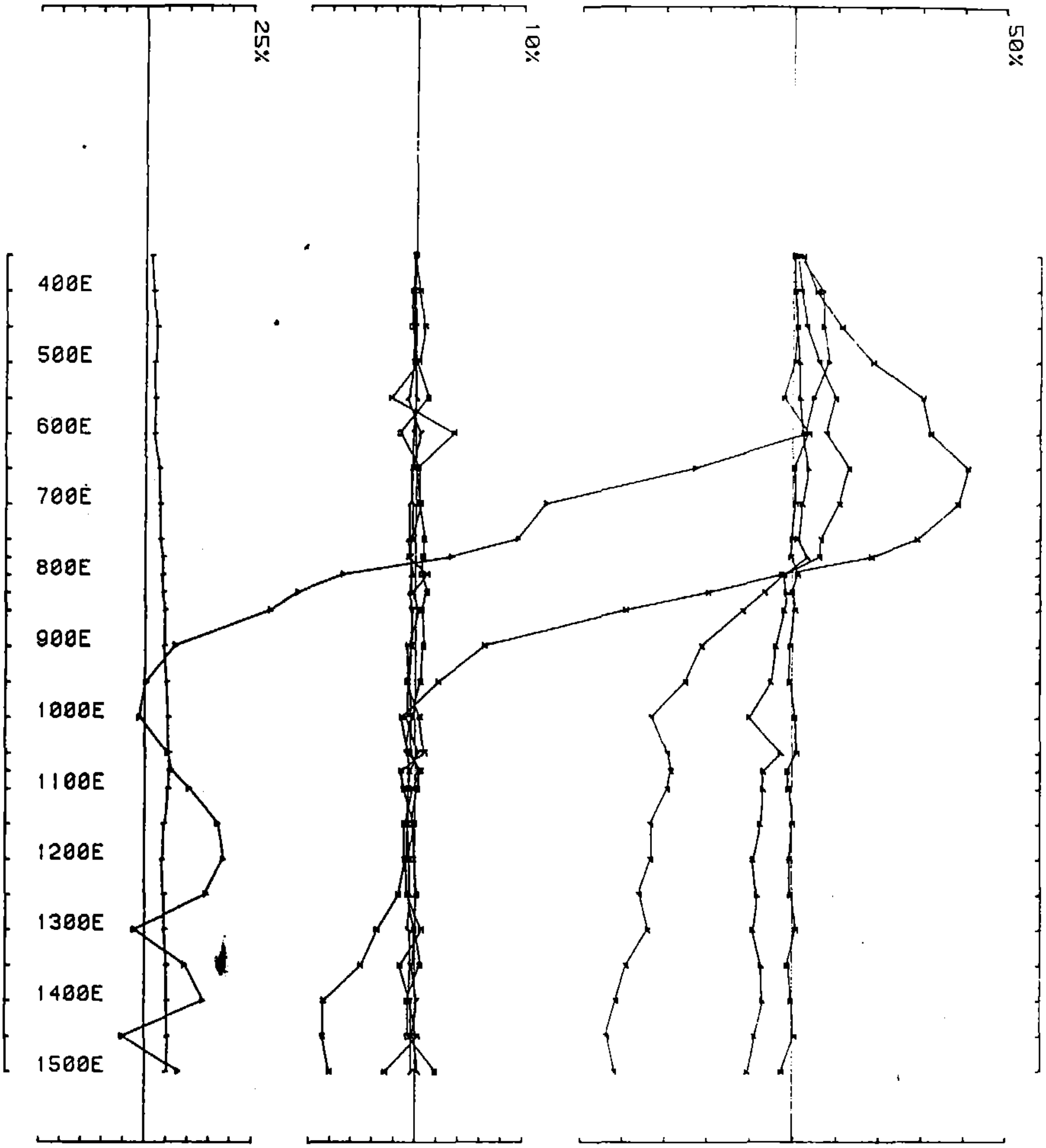


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

loop no 2
line 64S
component Hz
secondary field
Ch1 contin norm
07/12/88

952132

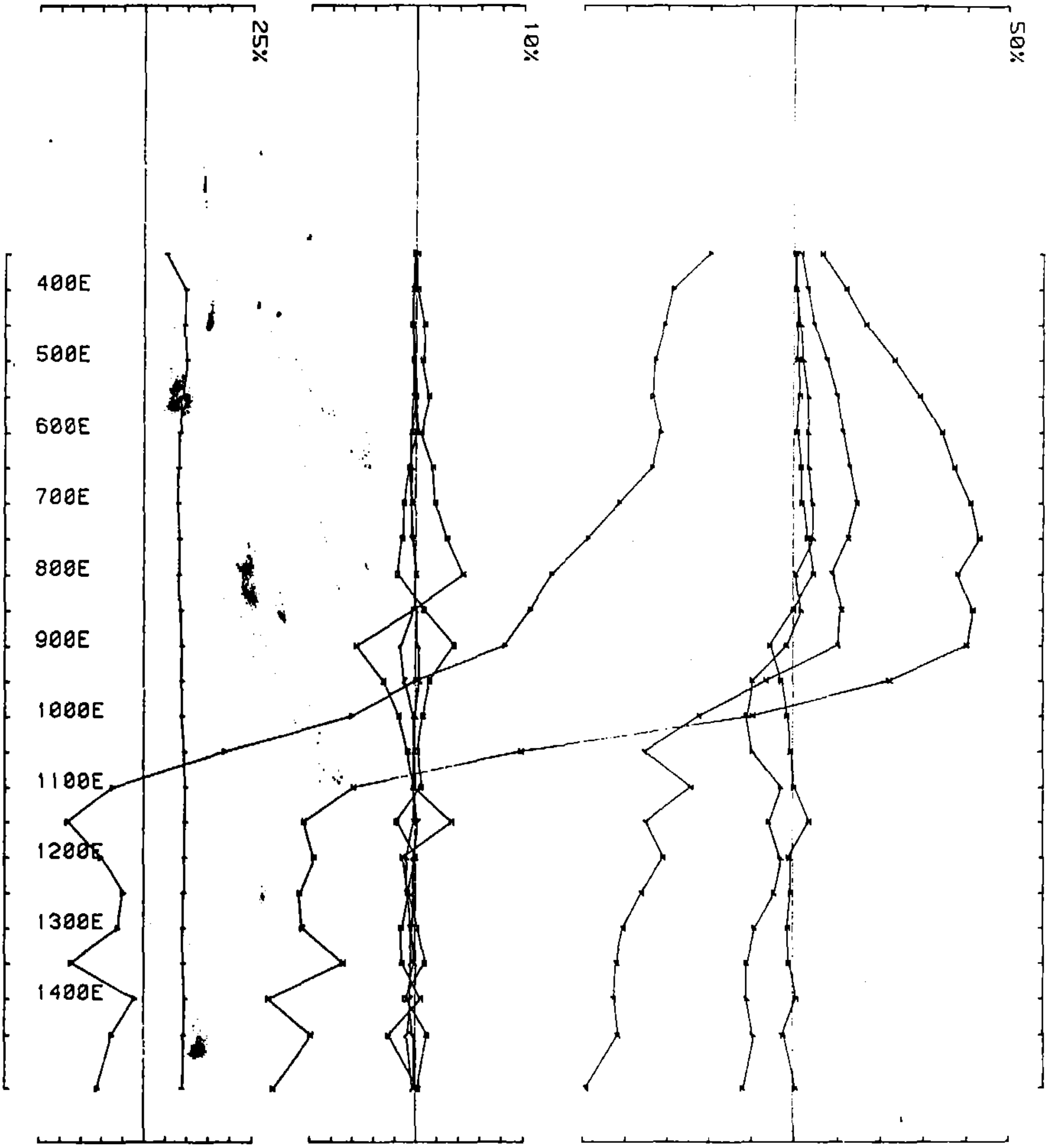


LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

loop dimensions
1000x1000m

loop no 2
line 72S
component Hz
secondary field
Ch1 contin norm
07/12/88

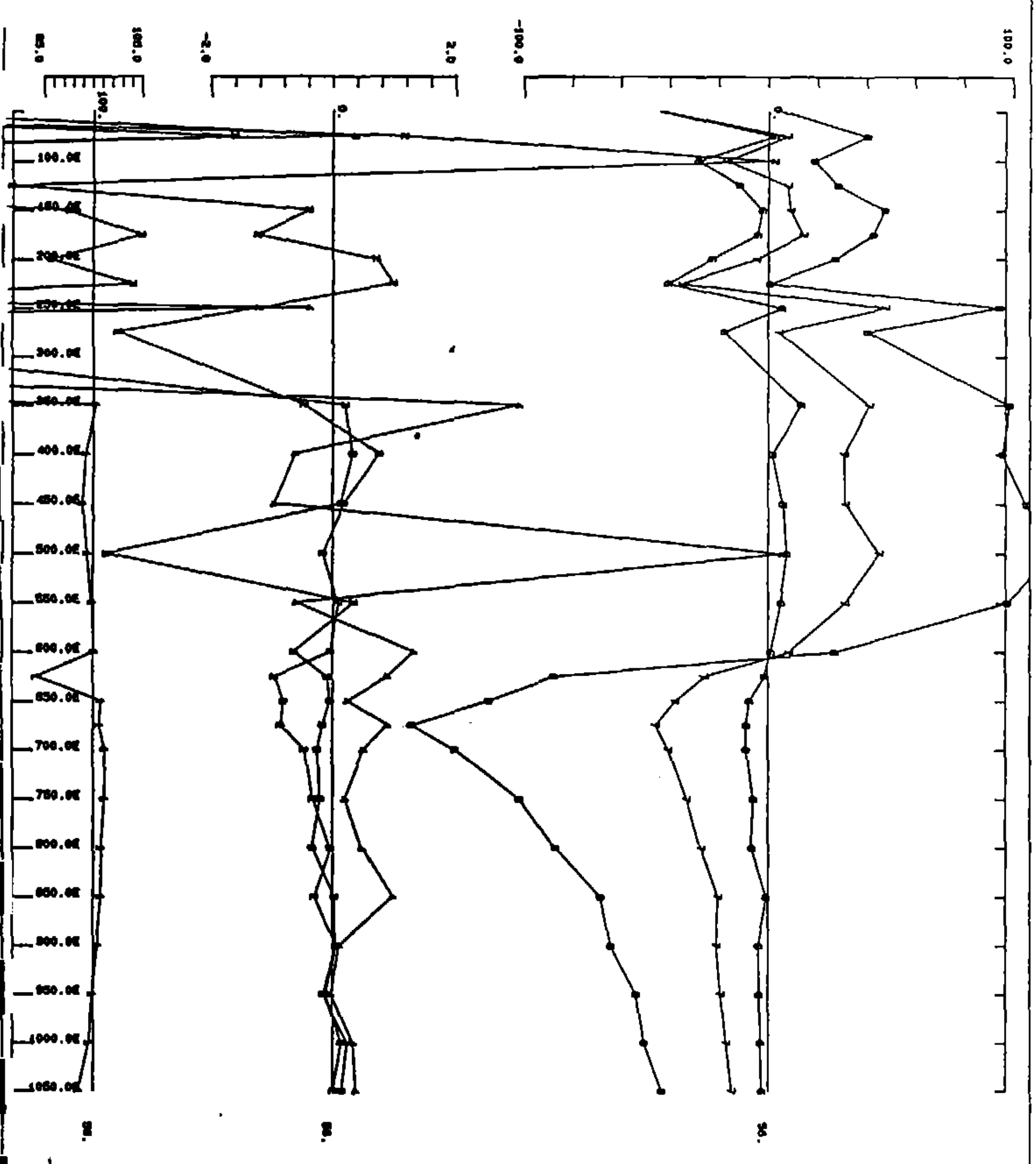
952133



LAMONTAGNE GEOPHYSICS LTD job 8863
client ABERFOYLE RESOURCES
area RED HILLS
UTEM SURVEY at base freq (hz) 26.230

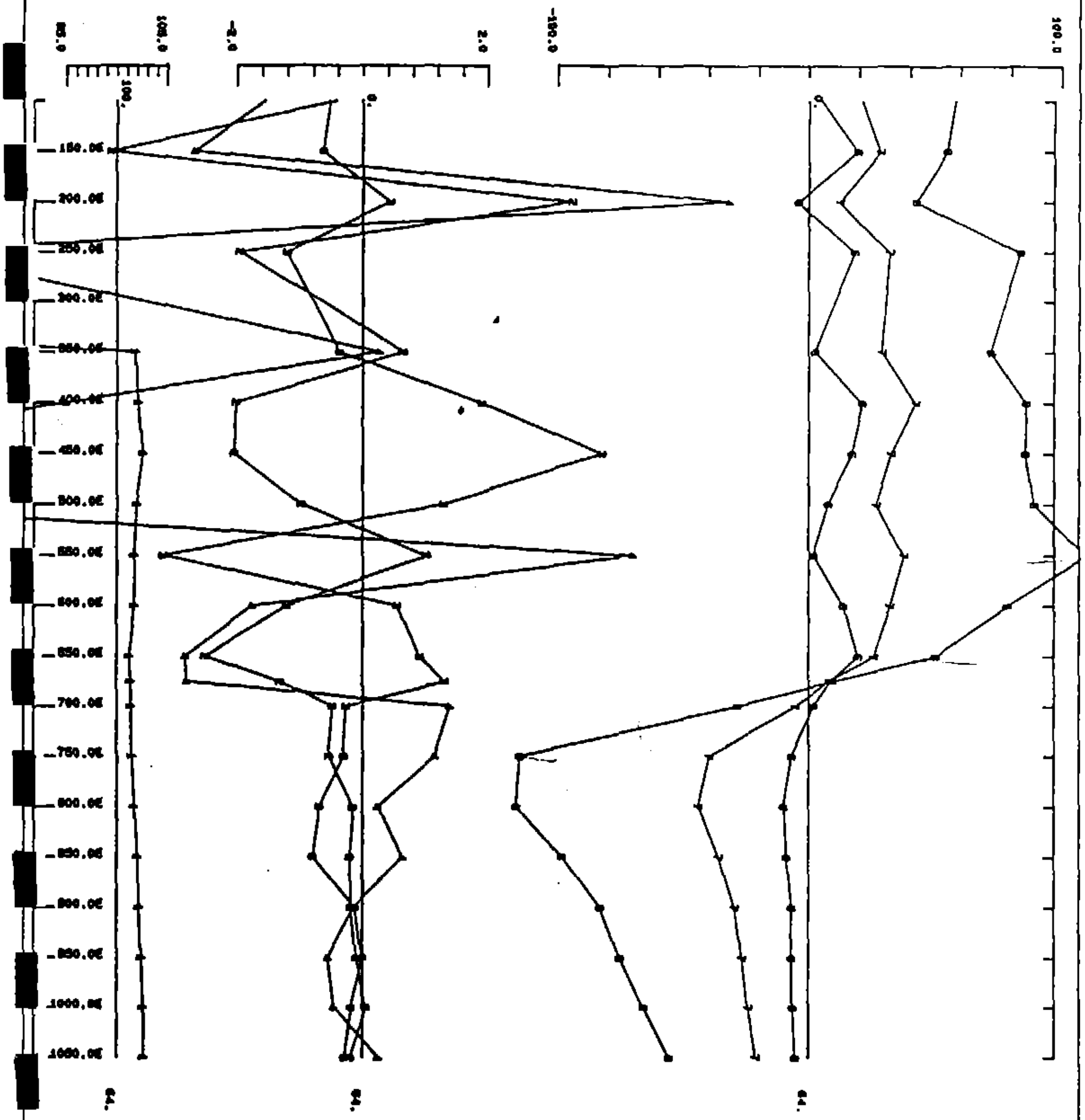
loop dimensions
1000x1000m

loop no 2
line 80S
component Hz
secondary field
Ch1 contin norm
07/12/88



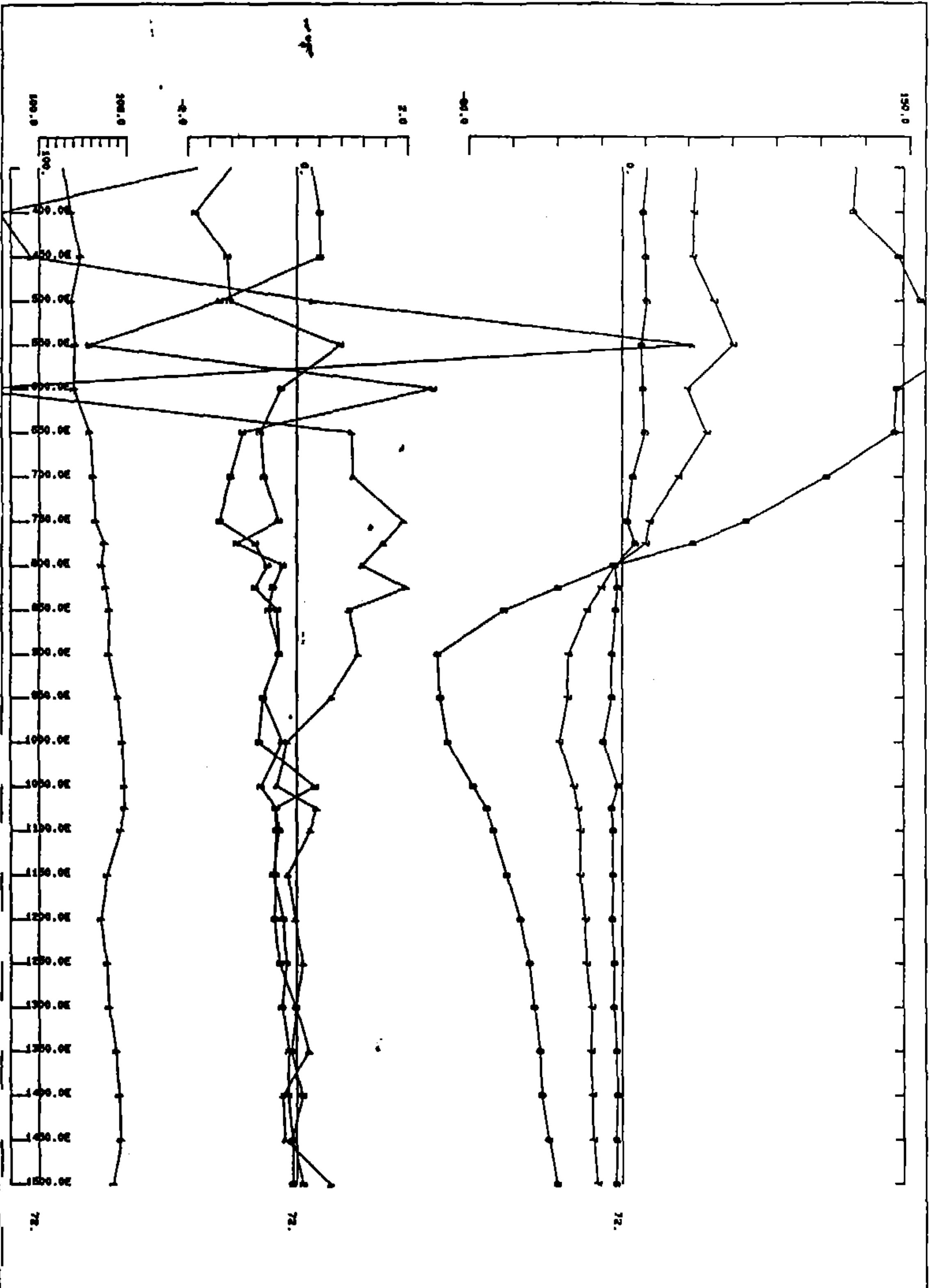
Red Hills
Loop 1
Line 583
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952135



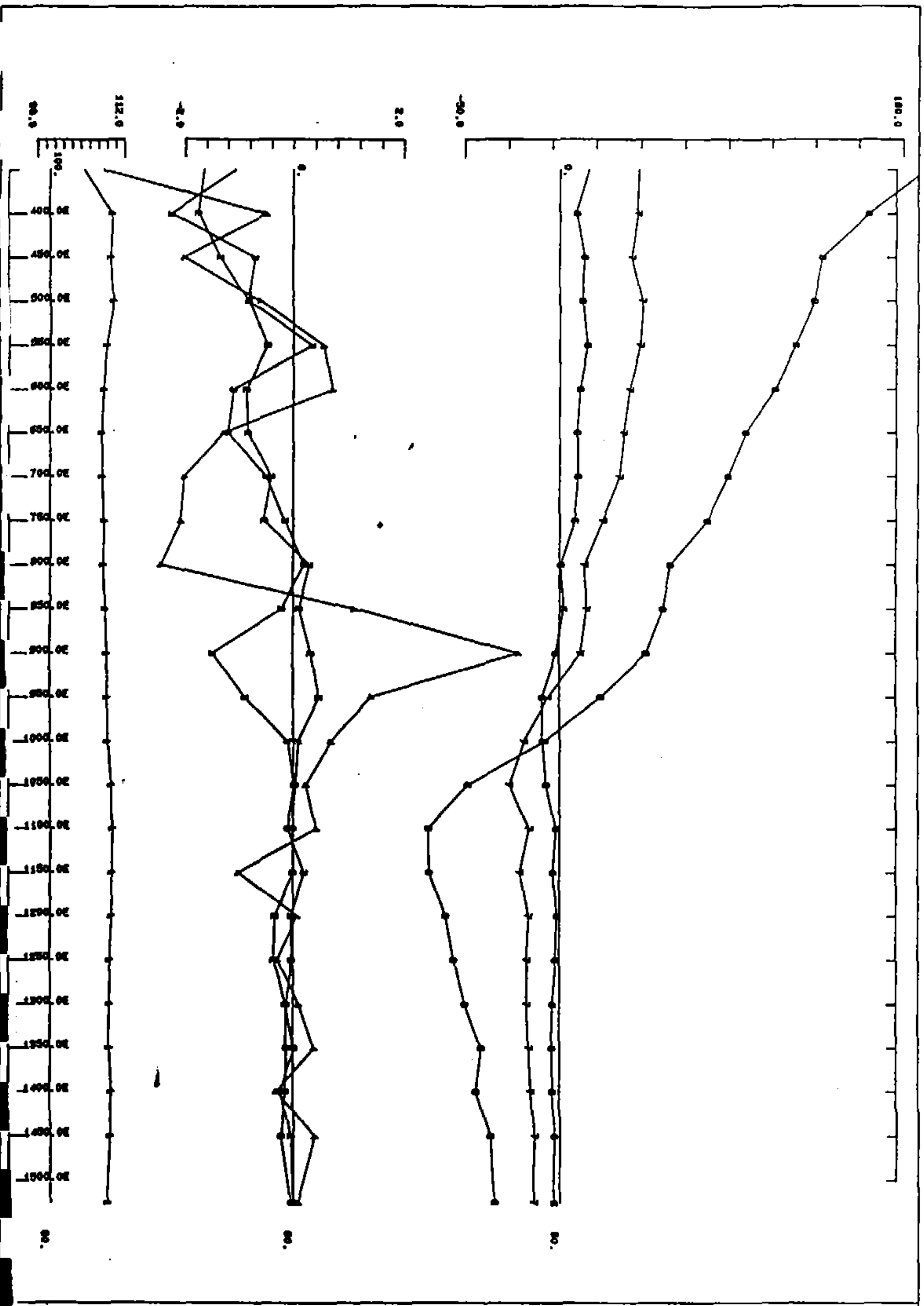
Red Hills
Loop 1
Line 64S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

952136

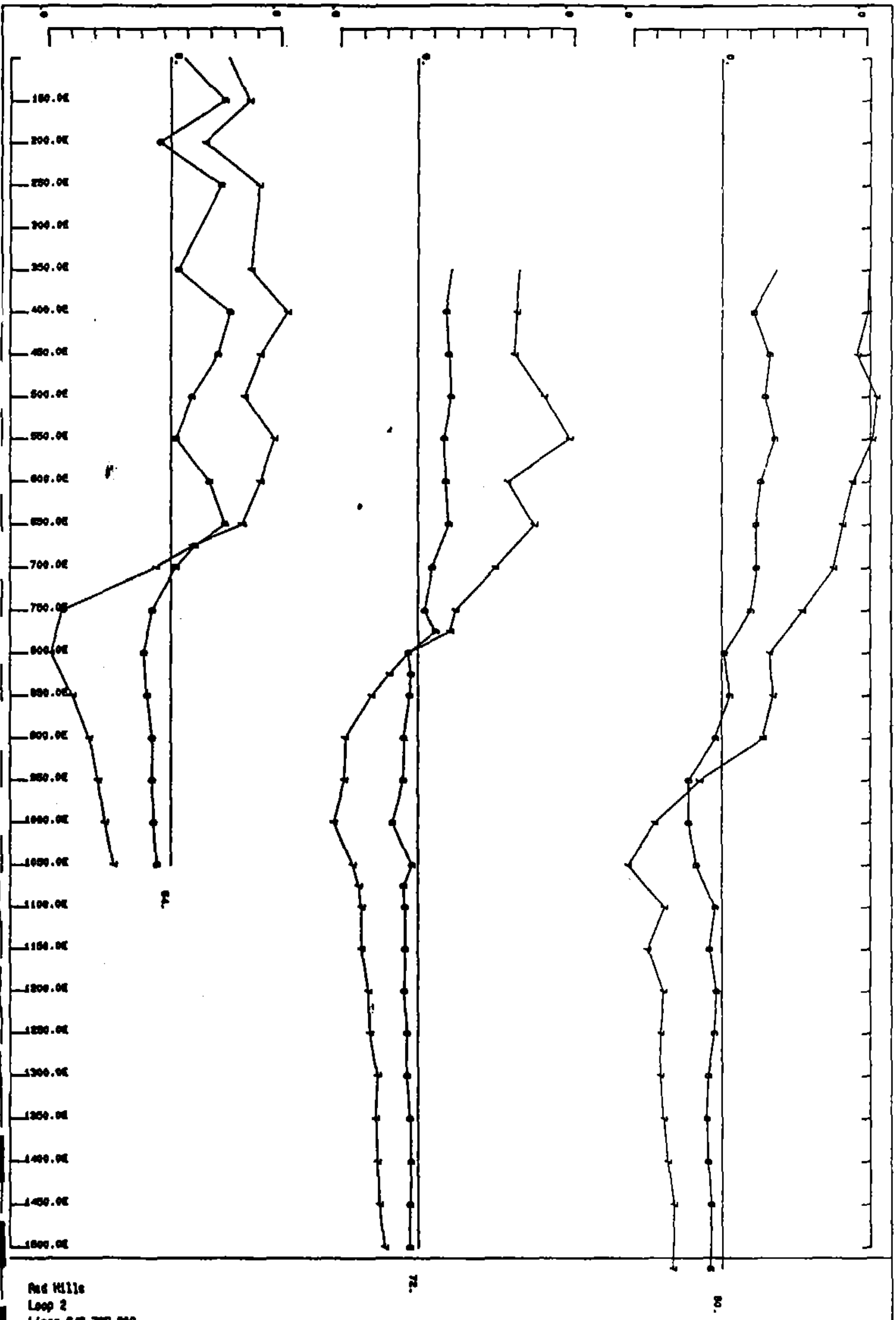


Red Hills
Loop 1
Line 72S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88

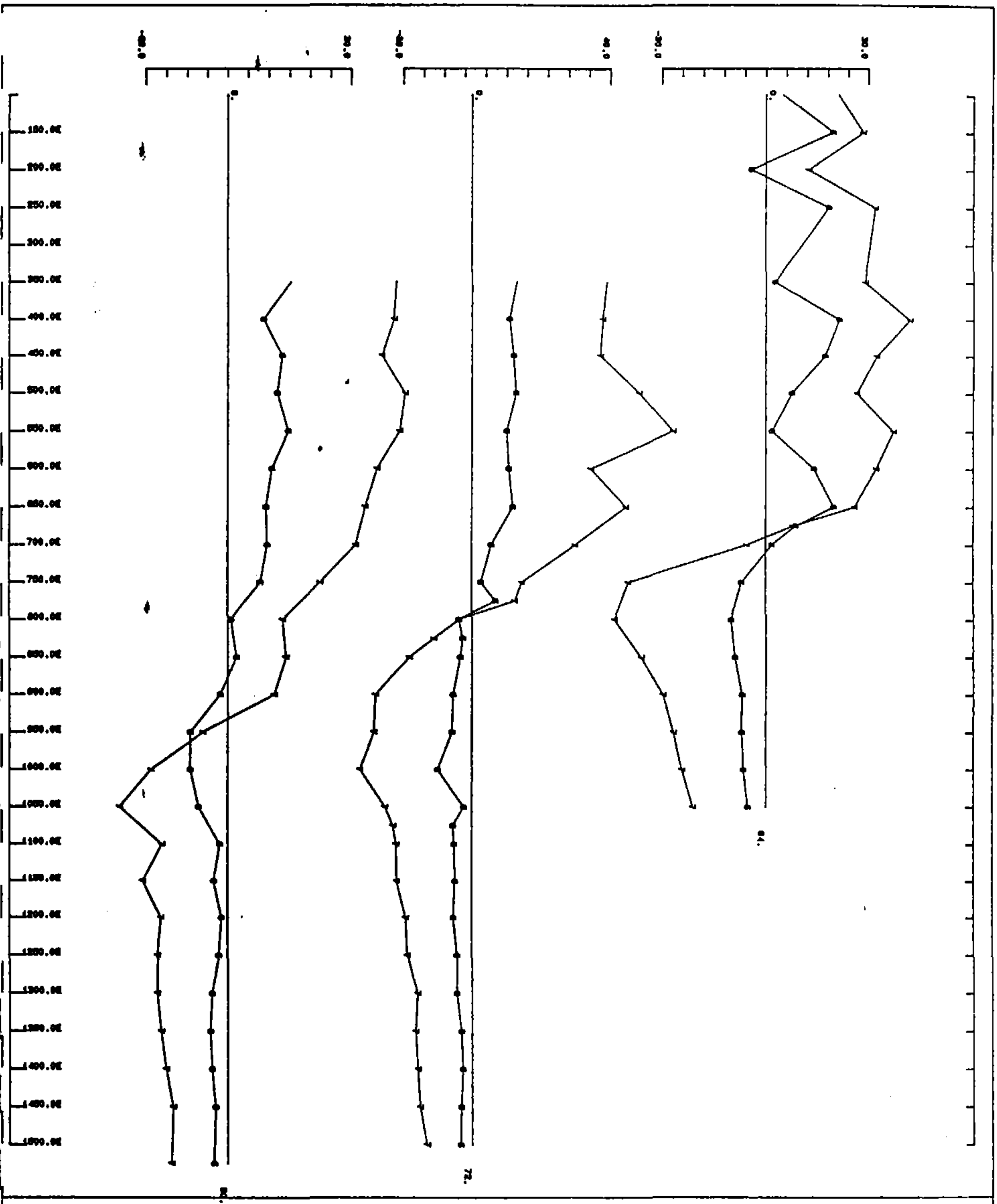
952137



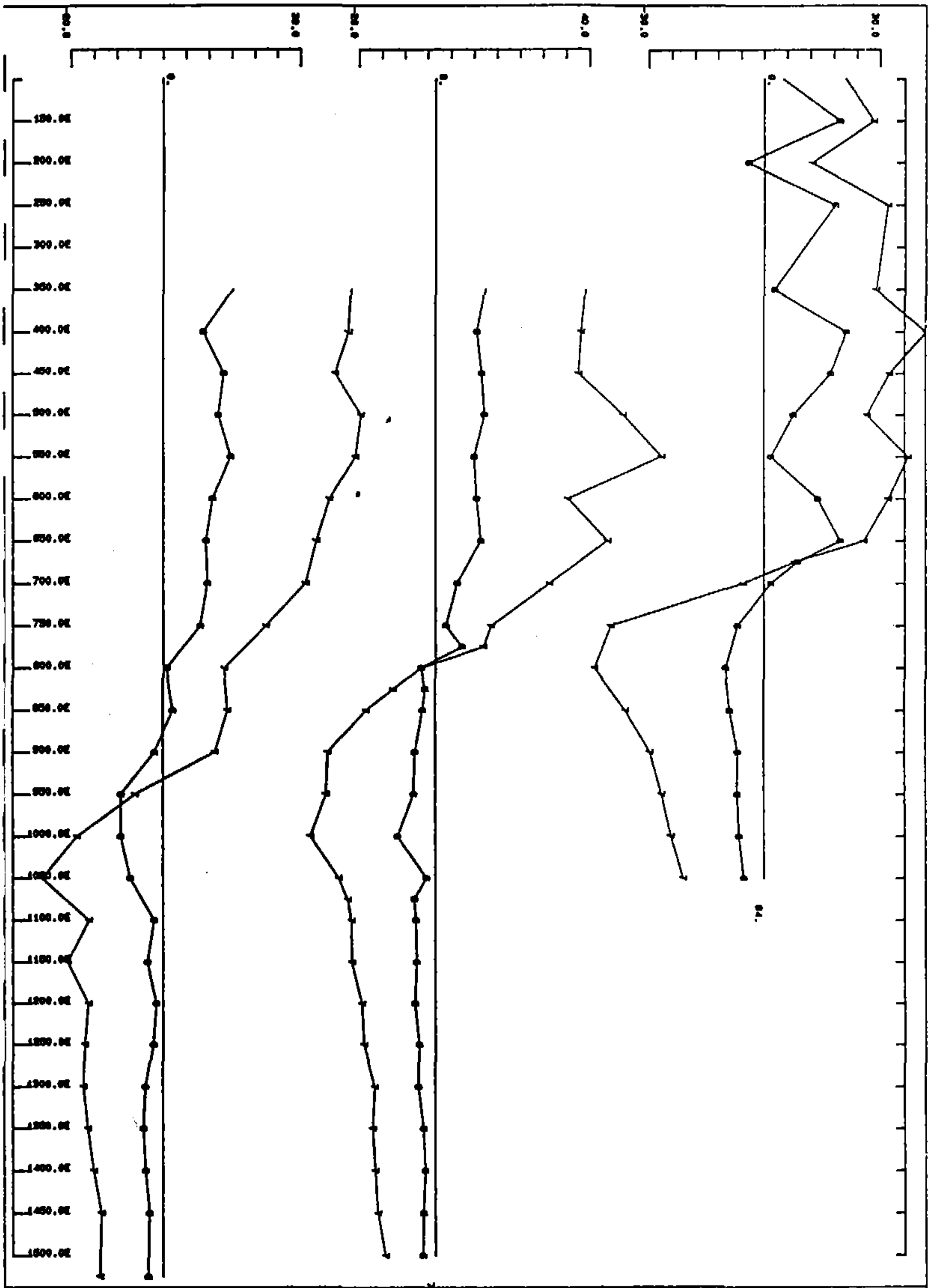
Red Hills
Loop 1
Line 80S
Component Hz
Secondary field
Channel 1
Point norm
Option 4
19/12/88



Red Hills
Loop 2
Lines 64S 72S 80S
Component Hz Stacked Profiles (ch. 6,7)
Secondary field
Channel 1
Point norm
Option 4
19/12/88

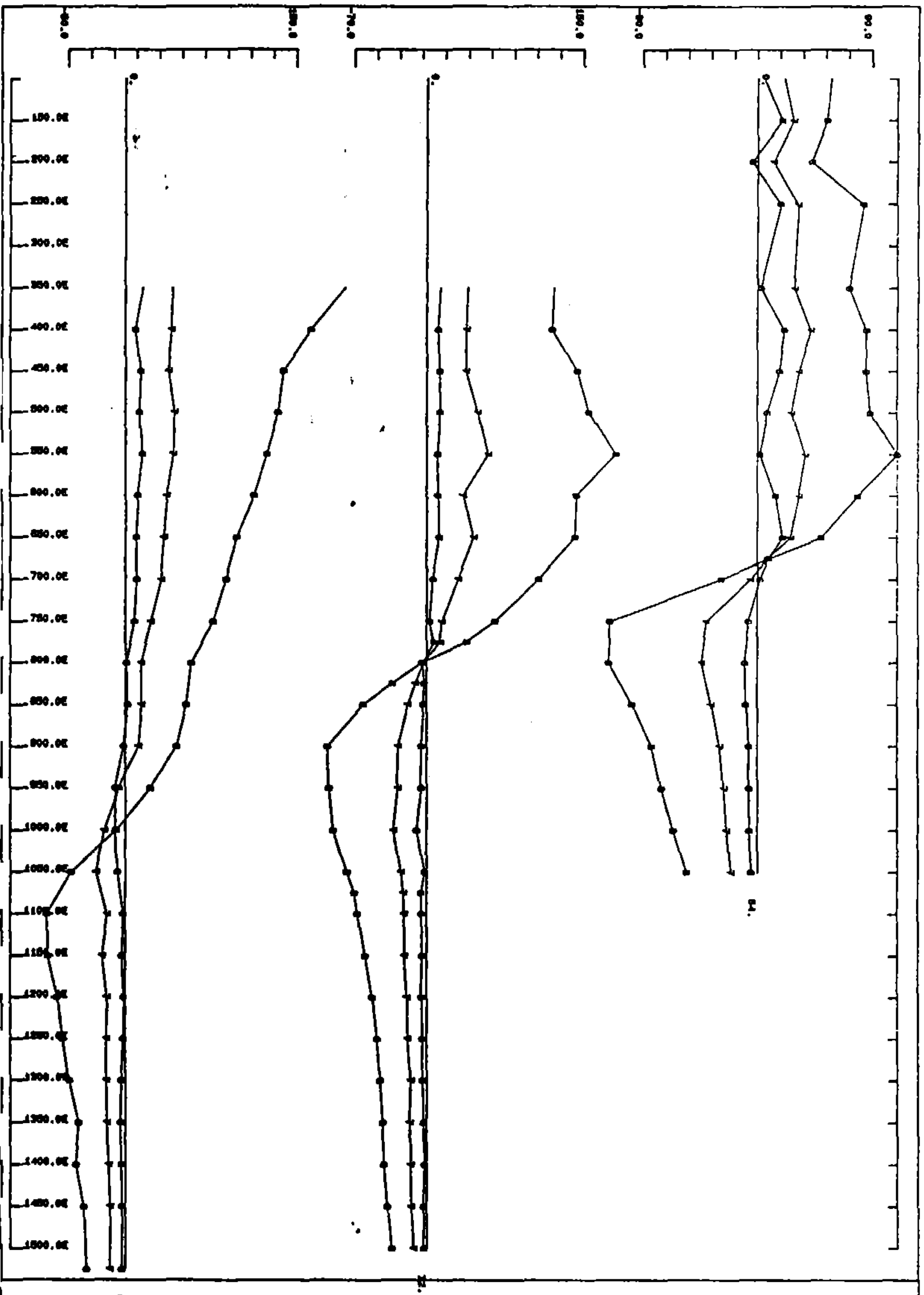


Red Hills Lake Margaret El. Tas.
Loop 1
Lines 64S 72S 80S
component Hz Stacked Profiles ch. 6,7
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88



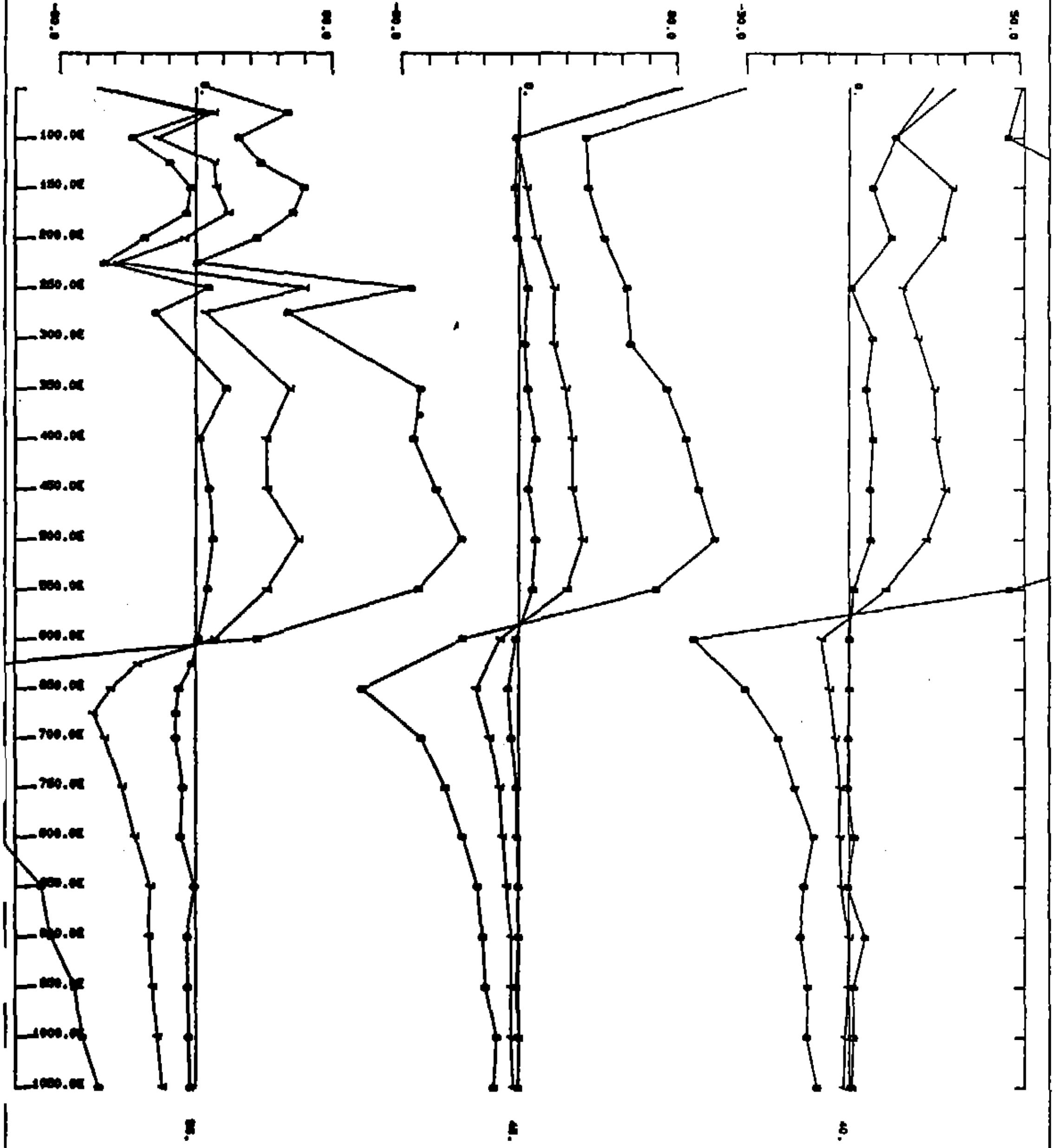
Red Hills Lake Margaret EL Tas.
Loop 1
Lines 84S 72S 80S
component Hz Stacked Profiles ch. 6,7
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88

952141



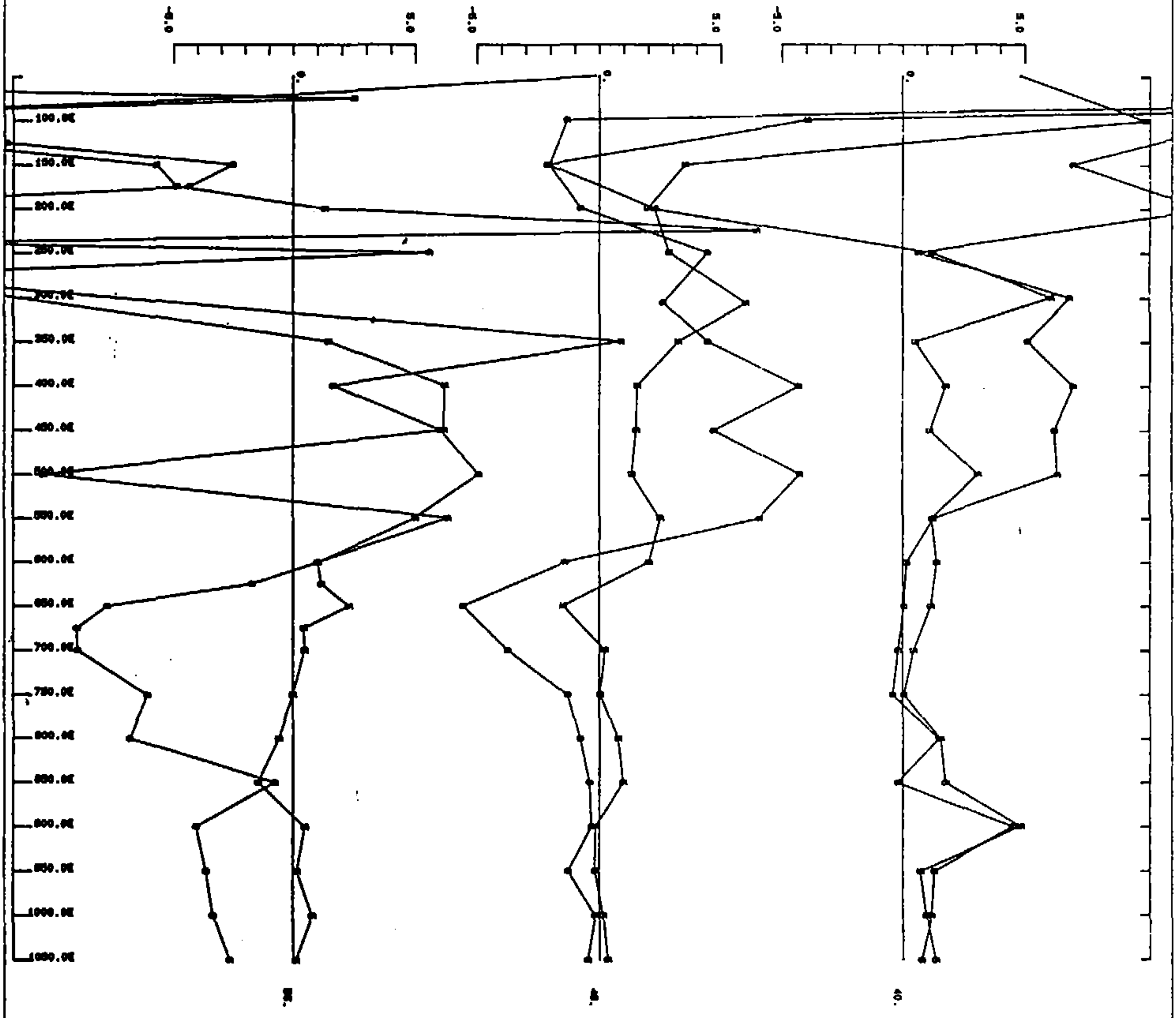
Red Hills Lake-Margaret EL Tas.
Loop 1
Lines 64S 72S 90S
component Hz Stacked Profiles ch. 6,7,8
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88

952142

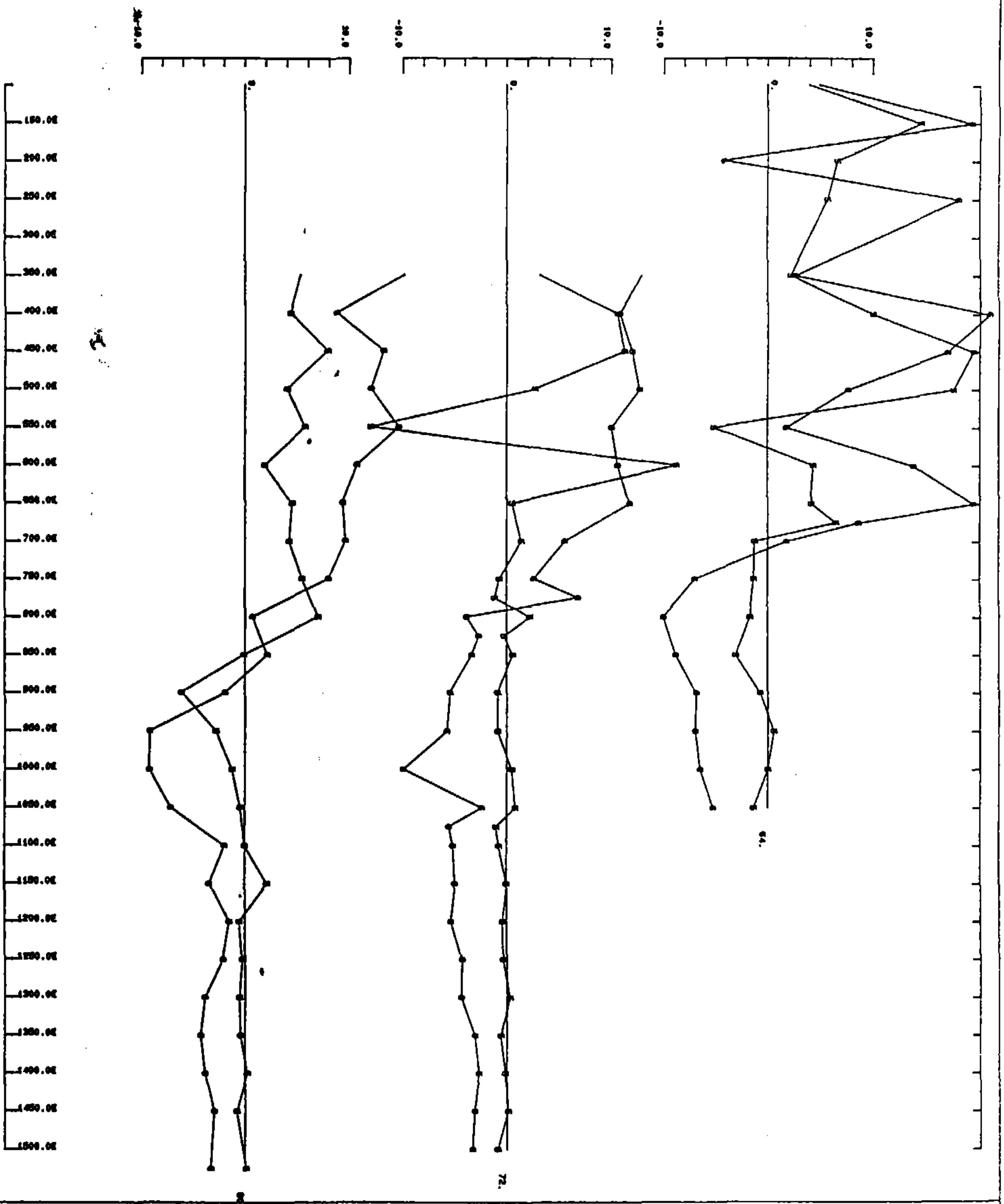


Red Hills Lake Margaret EL Tas.
Loops 1 and 2
Lines 40S 45S 50S
component Hz Stacked Profiles ch. 6,7,8
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/88

952143



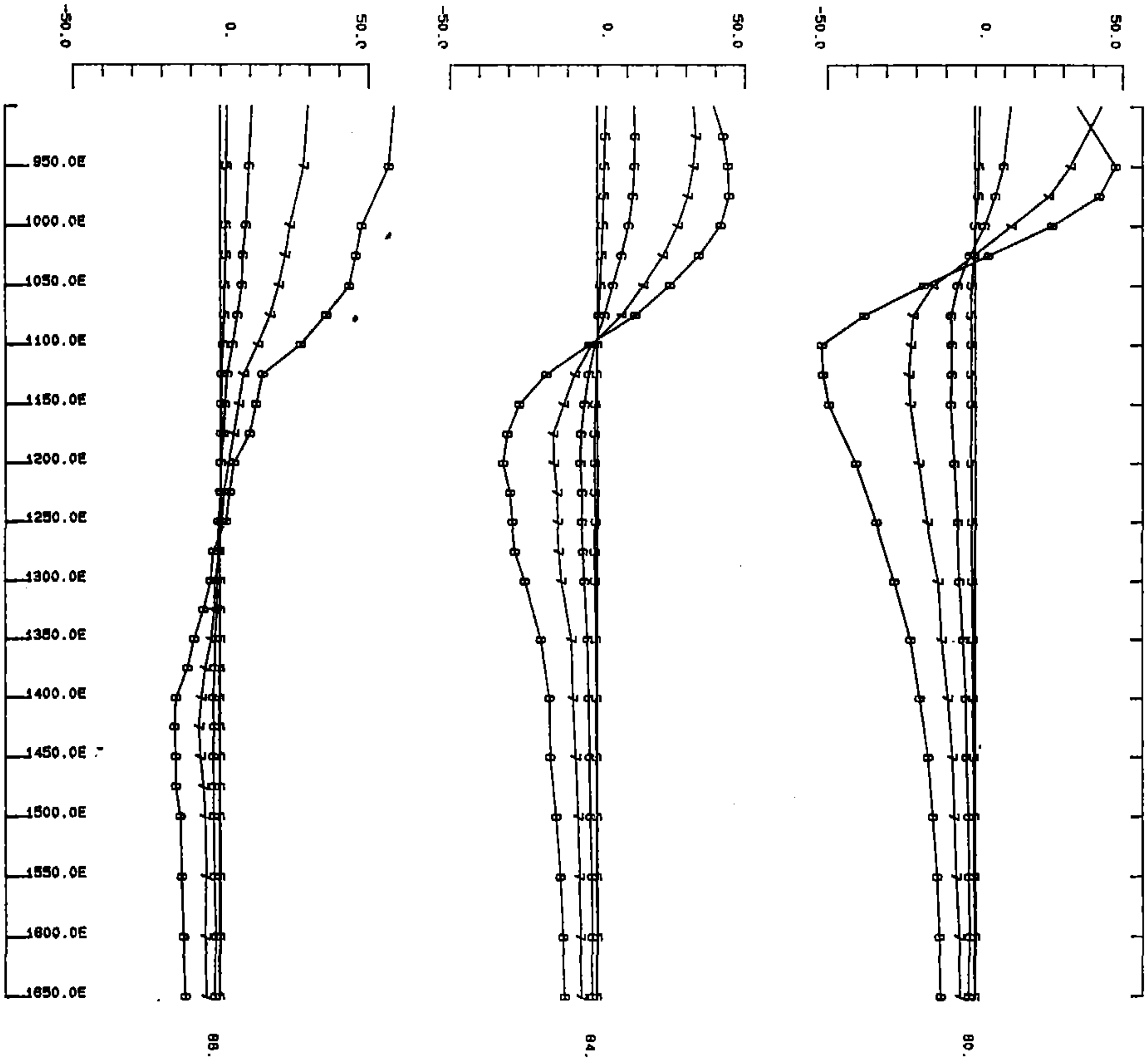
Red Hills Lake Margaret EL Tas.
Loop 1
Lines 40S 45S 50S
component Hz Stacked Profiles ch 5,6
Secondary field
Channel 1
Point norm
Option 4
Aberfoyle Resources Limited 19/12/86



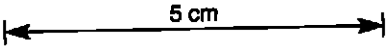
Red Hills Lake Margaret EL Tas.
Loop 1
Lines 648 728 808
Zcomponent Hz Stacked Profiles ch 5,6
Secondary field
Channel 1
Point aera
Option 4
Aberfoyle Resources Limited 18/12/88

LOOP 3 DATA

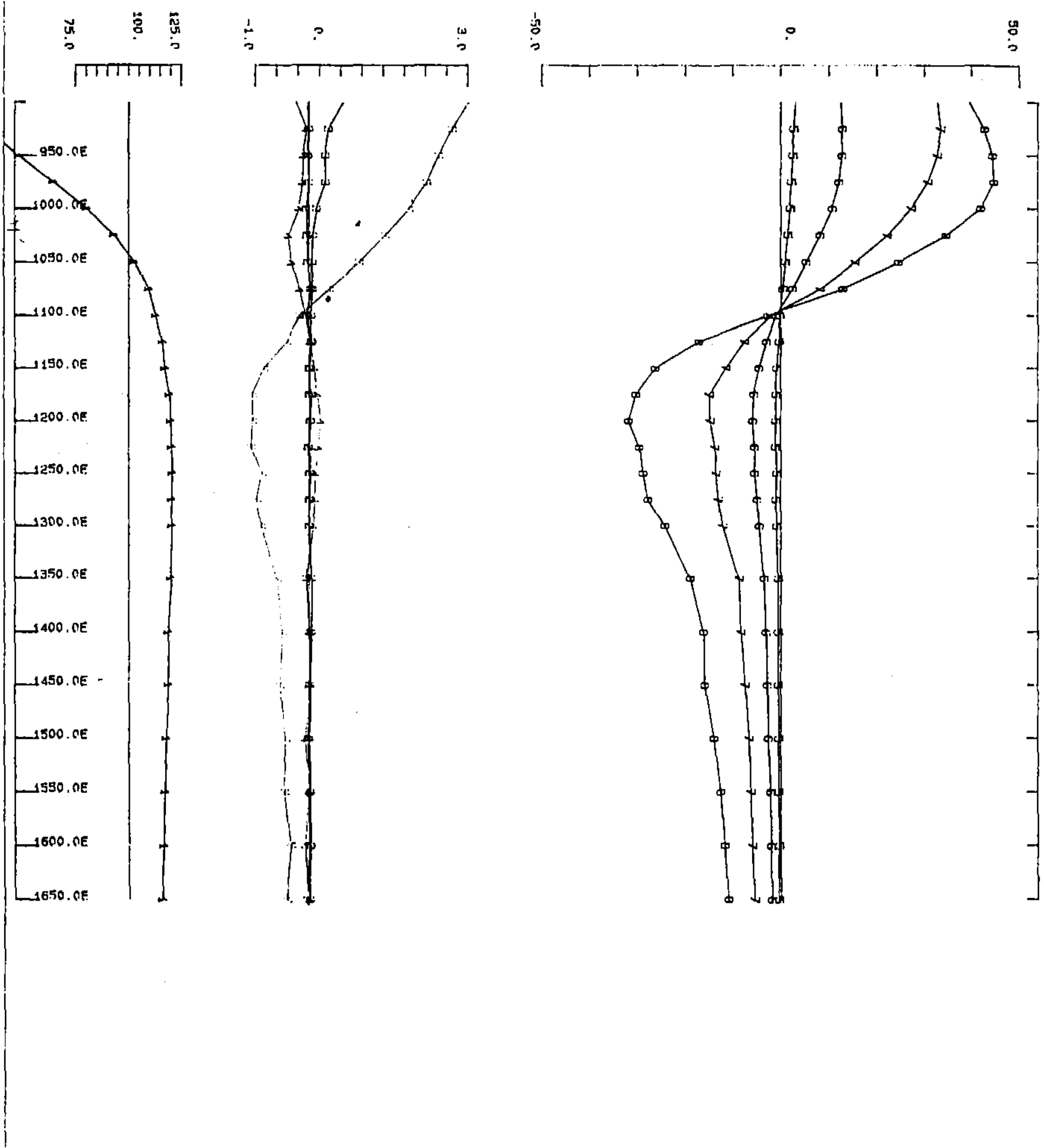
952146



Lake Margaret EL Redhills Prospect
Stacked Profiles
Loop 11 Lines 80 S 84 S 88 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0



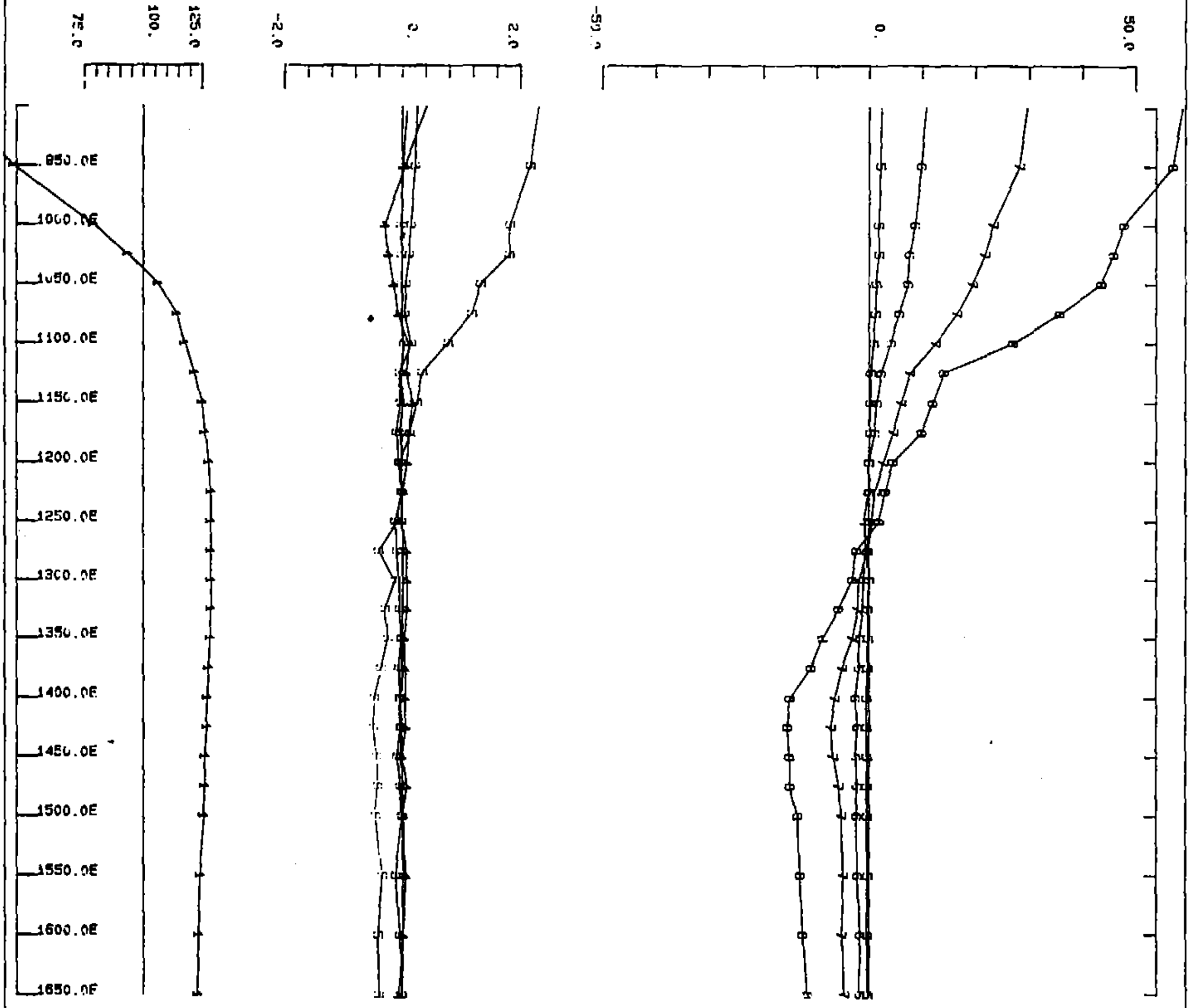
952147



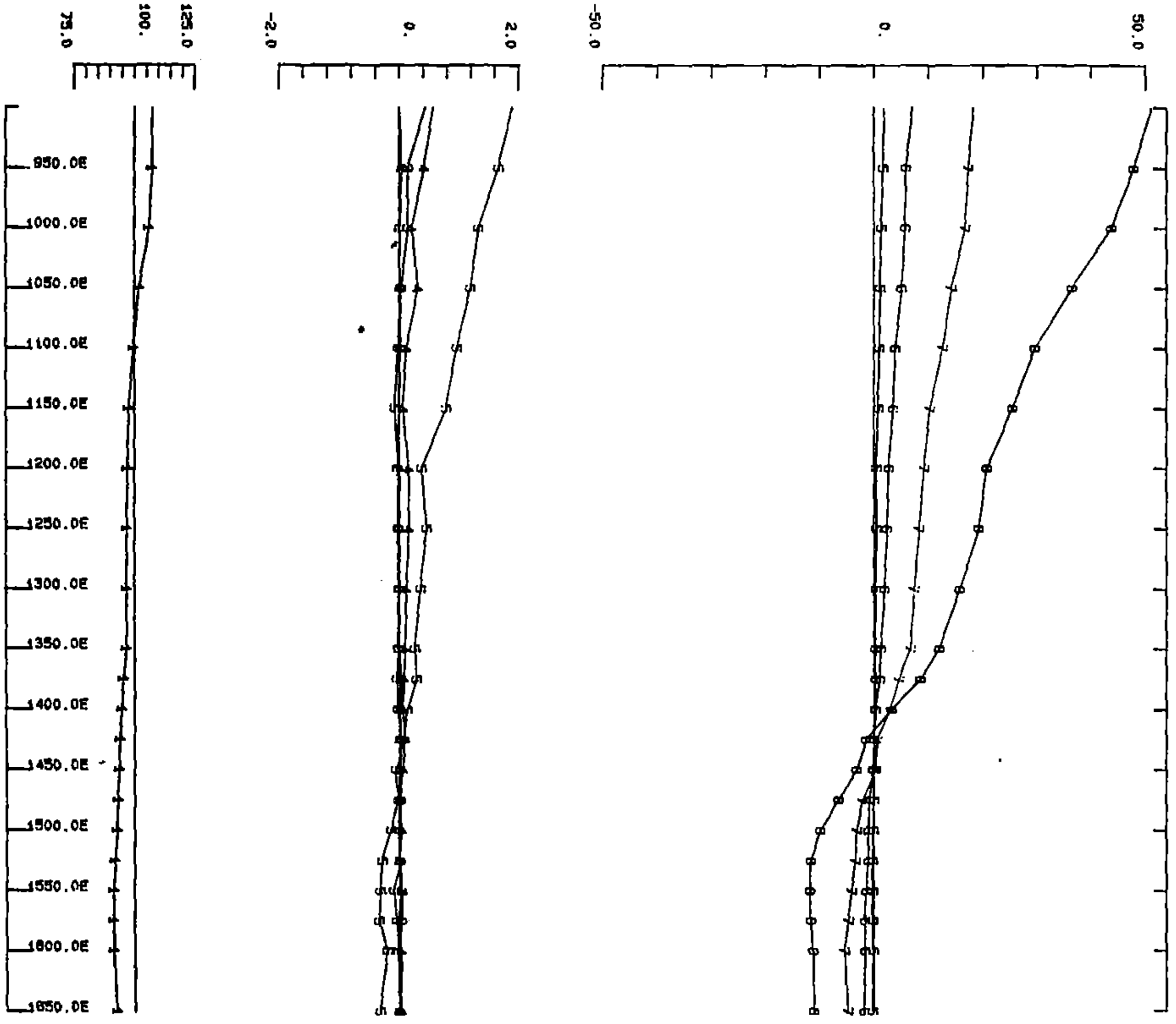
Lake Margaret EL Redhills Prospect
Loop 11 Line 64 S
Chi Point Normalization at 64 S 1000 E
Aberfoyle Resources Limited 26/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm

952148

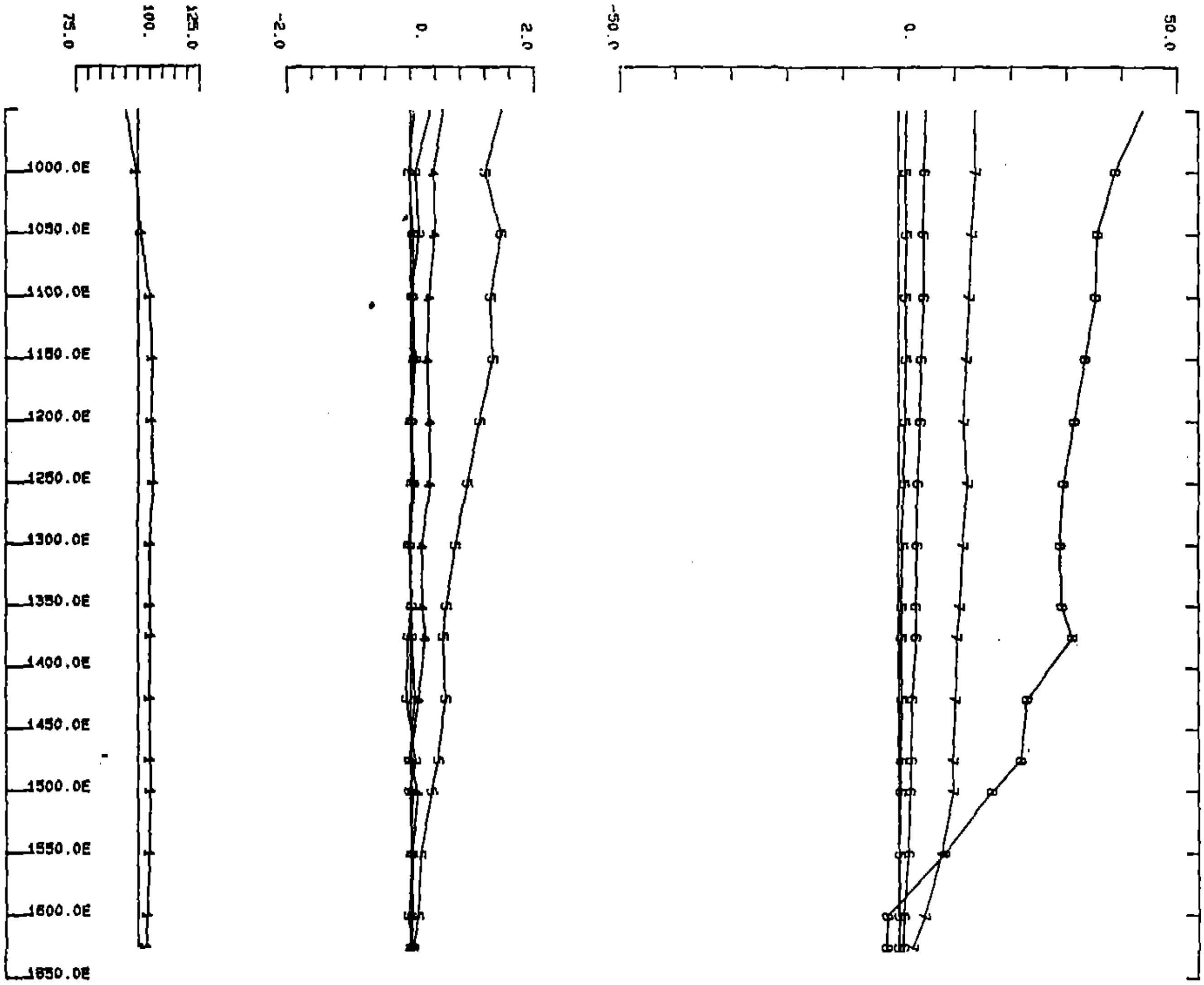


Lake Margaret EL Redhills Prospect
Loop 11 Line 88 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0



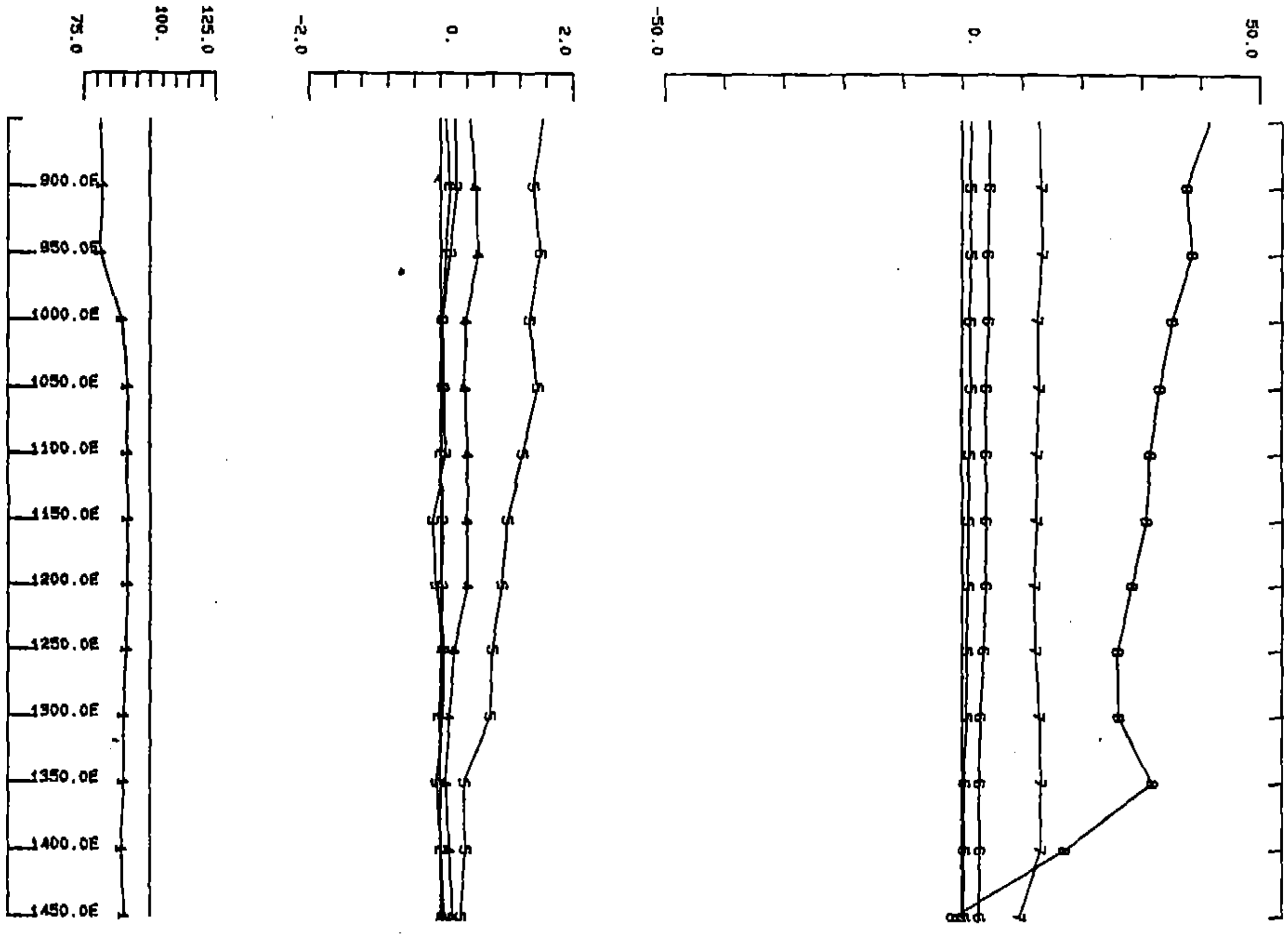
Lake Margaret EL Redhills Prospect
Loop 11 Line 96 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm



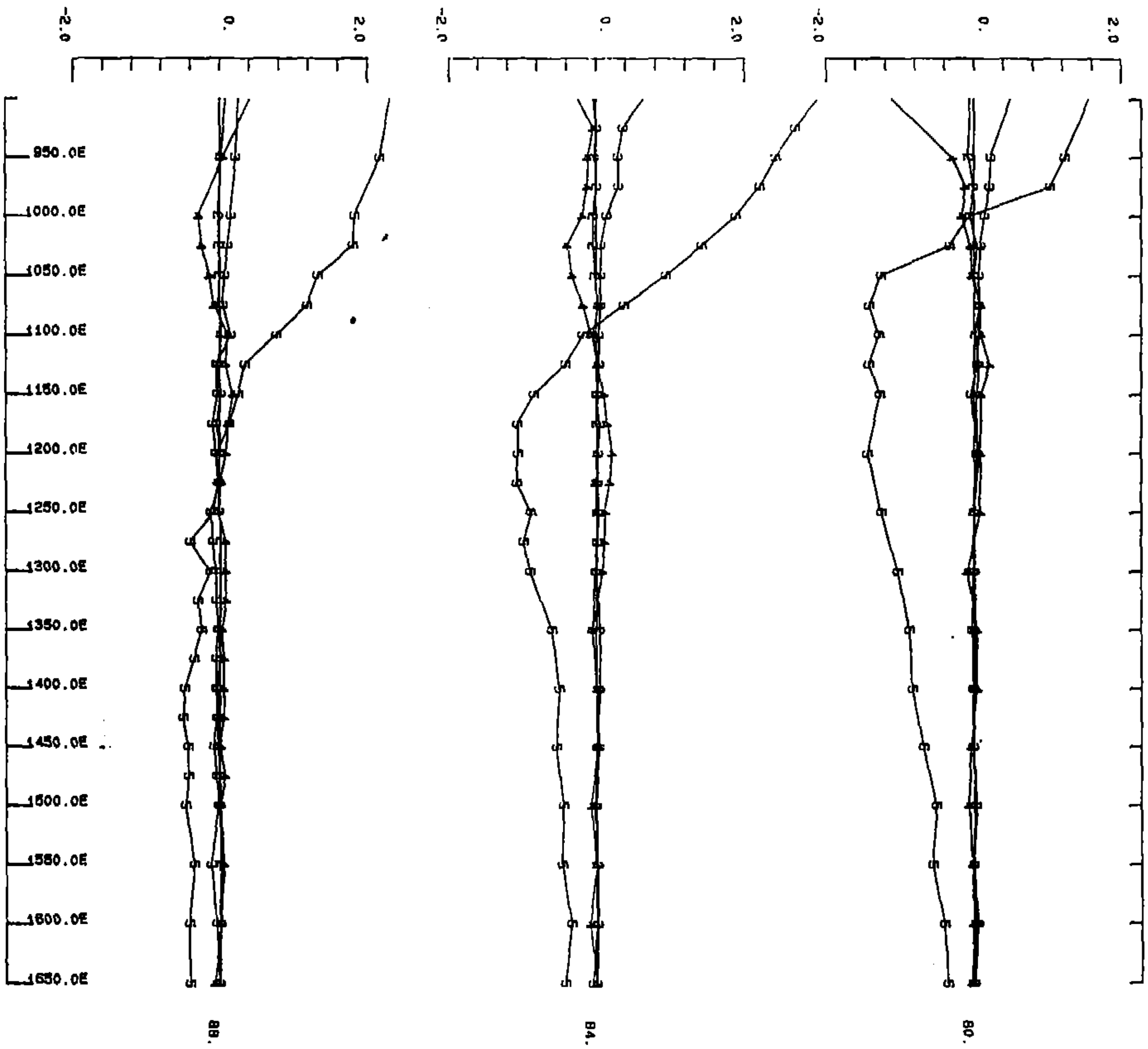
Lake Margaret EL Redhills Prospect
Loop 11 Line 104 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm



Lake Margaret EL Redhills Prospect
Loop 11 Line 112 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

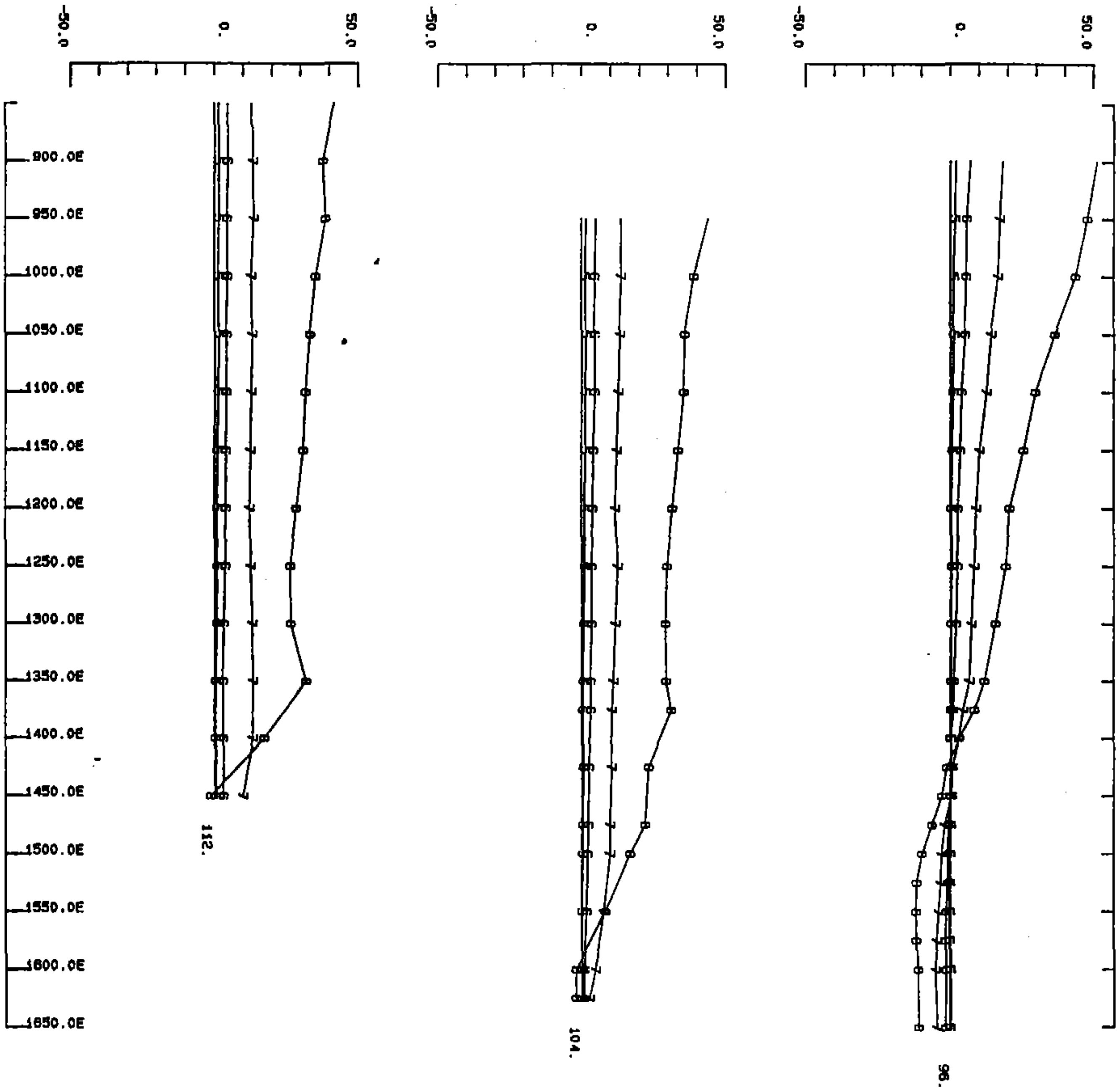
5 cm



Lake Margaret EL Redhills Prospect
Stacked Profiles
Loop 11 Lines 80 S 84 S 88 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm

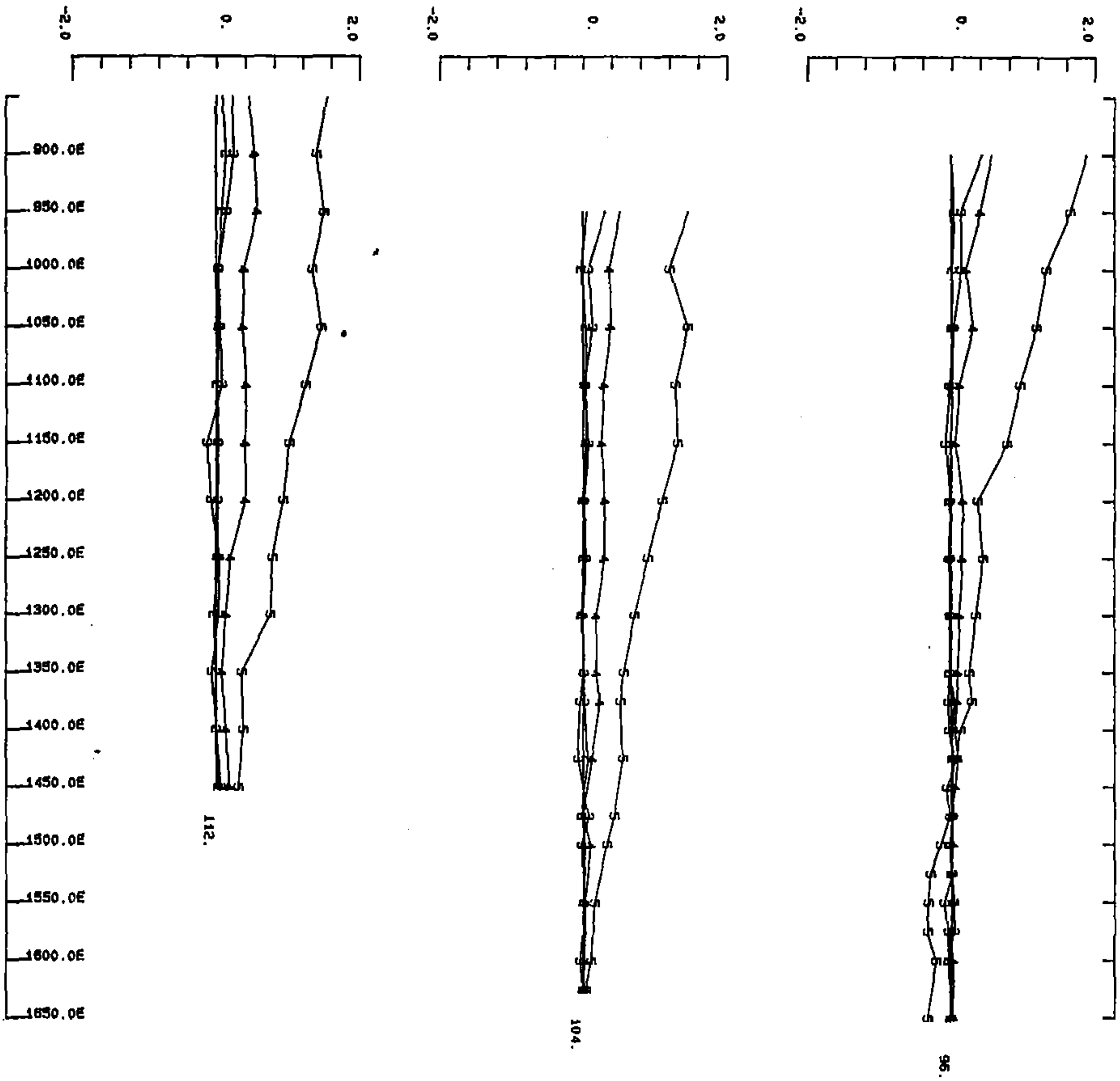
952153



Lake Margaret EL Redhills Prospect
Stacked Profiles
Loop 11 Lines 96 S 104 S 112 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm

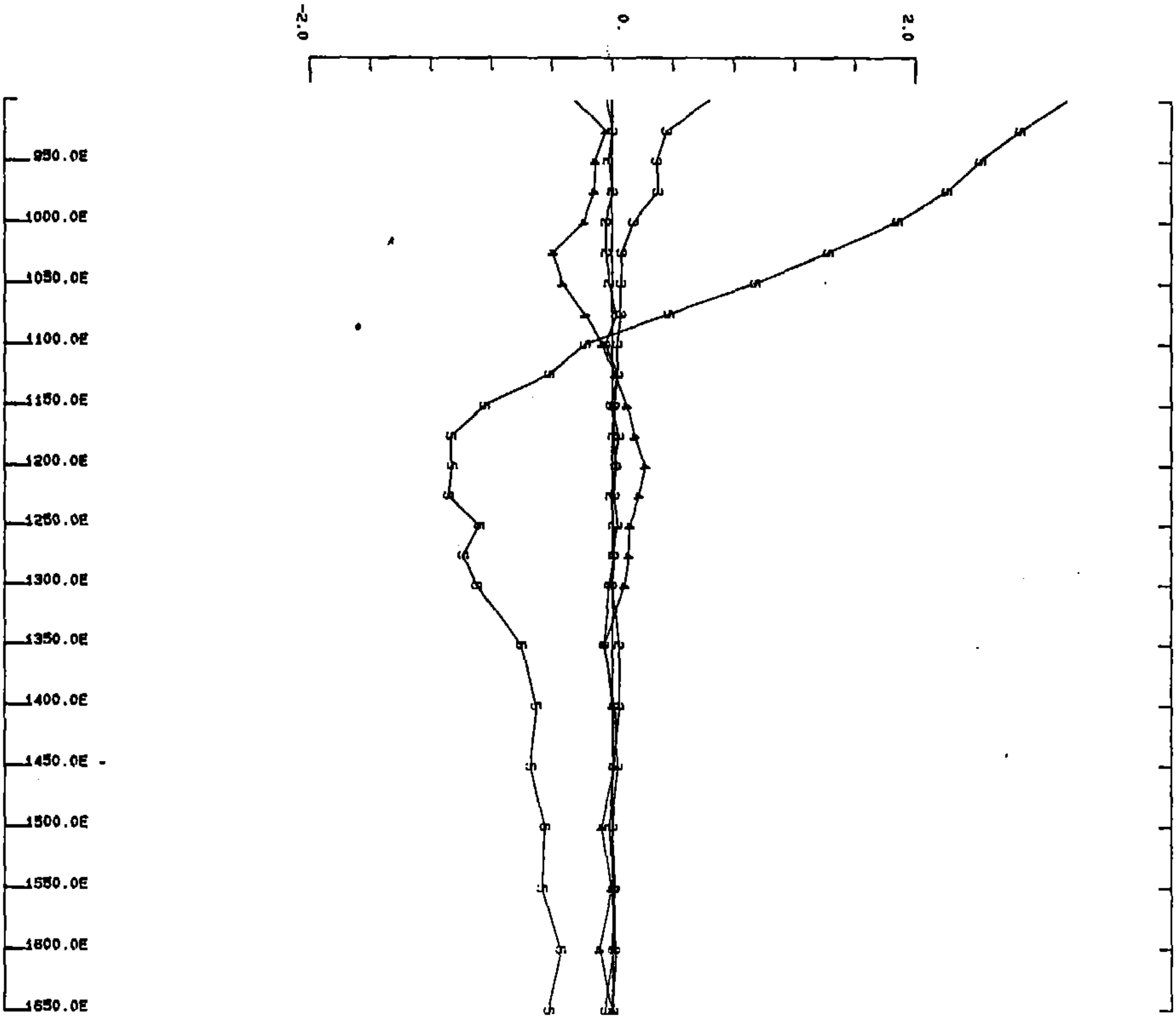
952154



Lake Margaret EL Redhills Prospect
Stacked Profiles
Loop 11 Lines 96 S 104 S 112 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

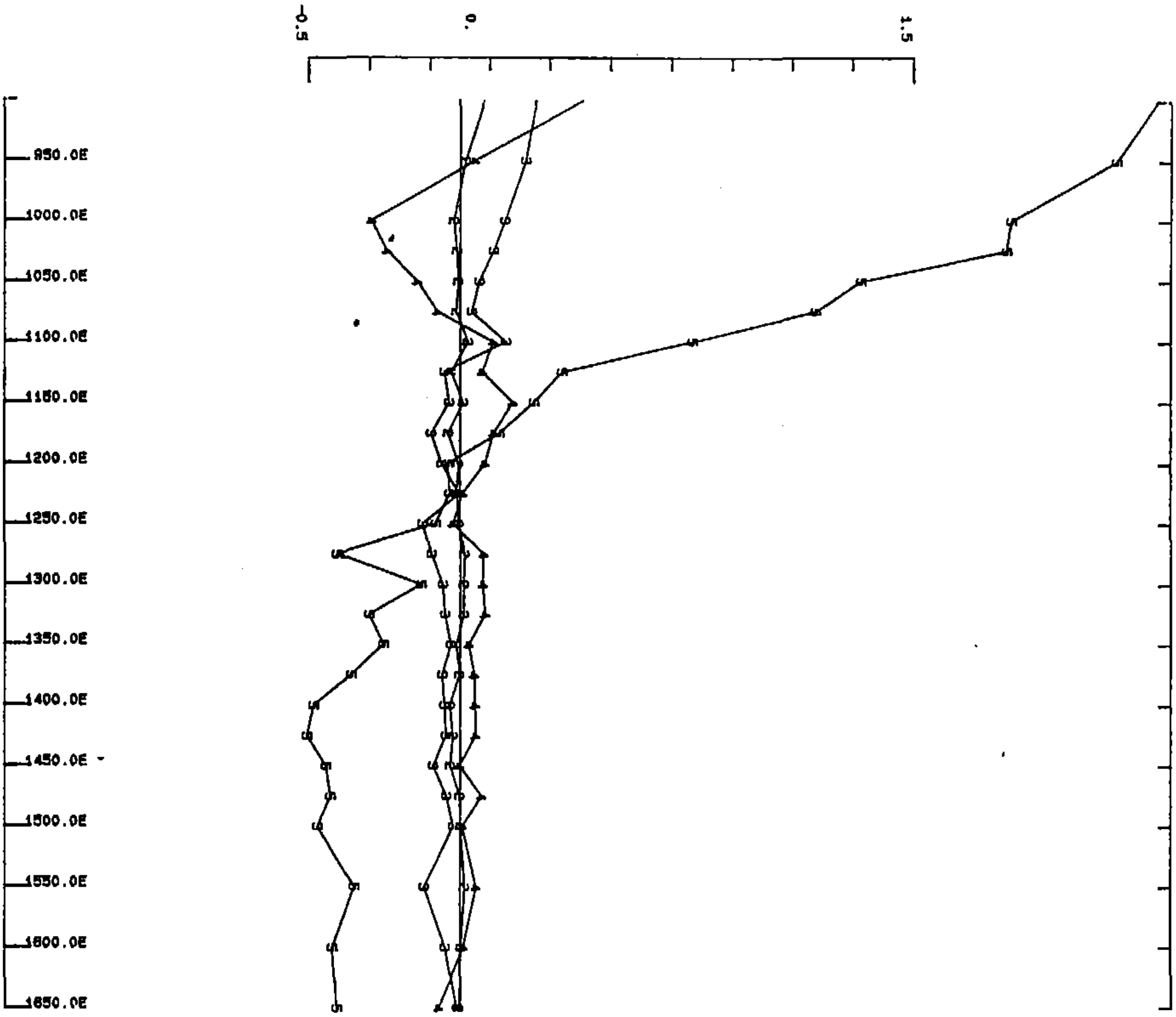
5 cm

952155

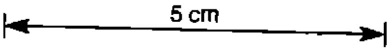


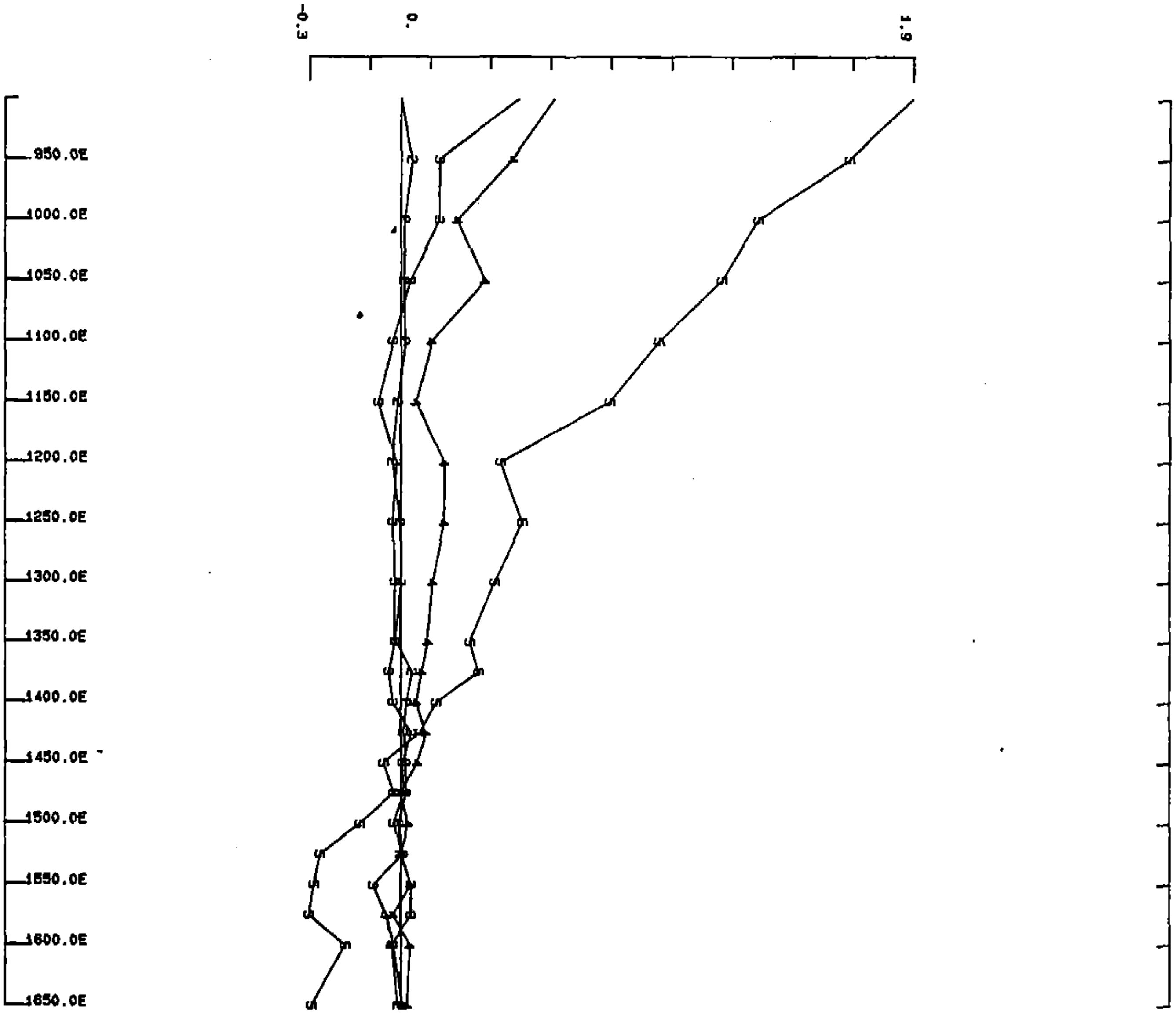
Lake Margaret EL Redhills Prospect
Line 84 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

5 cm



Lake Margaret EL Redhills Prospect
Line 88 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

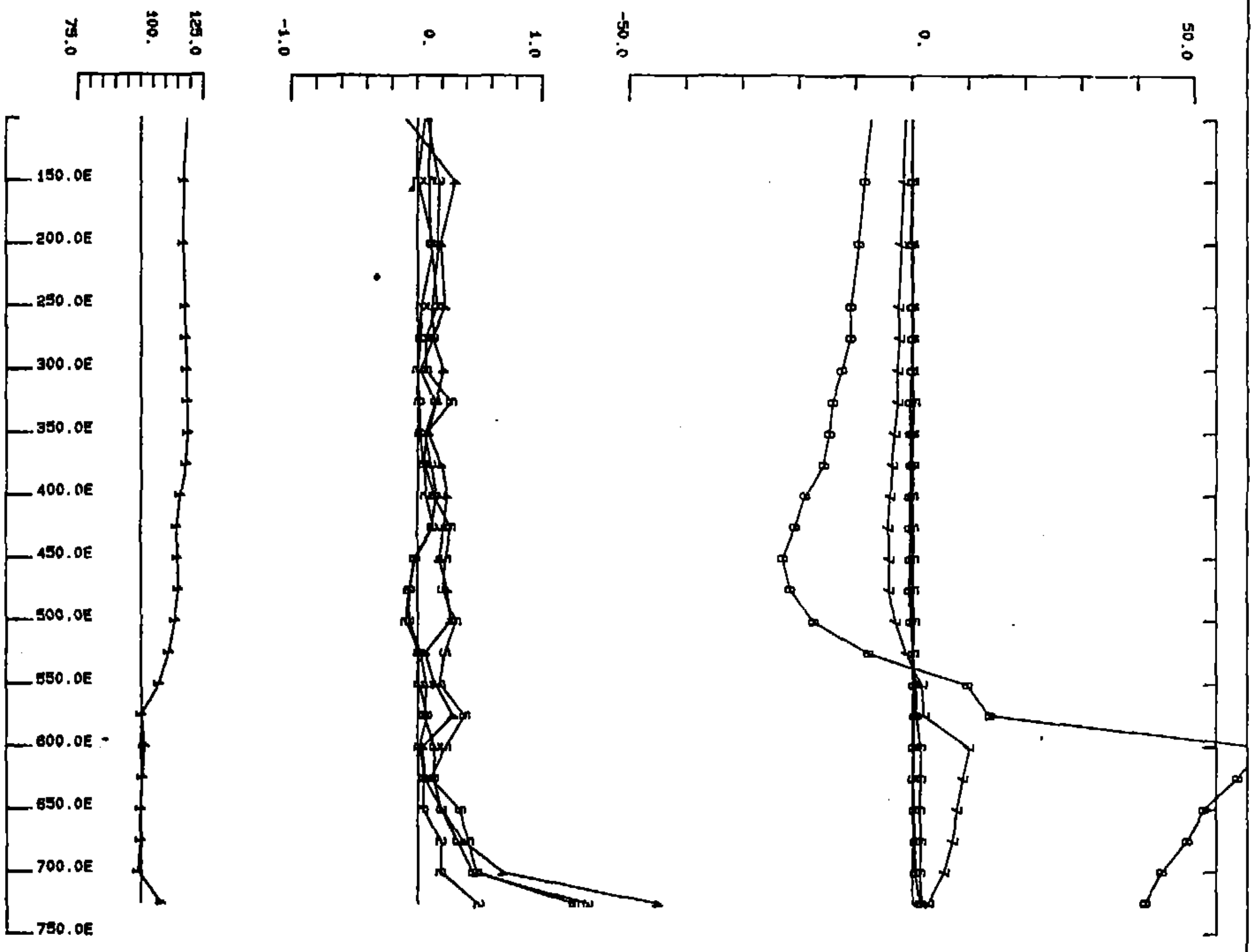




Lake Margaret EL Redhills Prospect
Line 96 S
Chi Point Normalization at 84 S 1000 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

5 cm

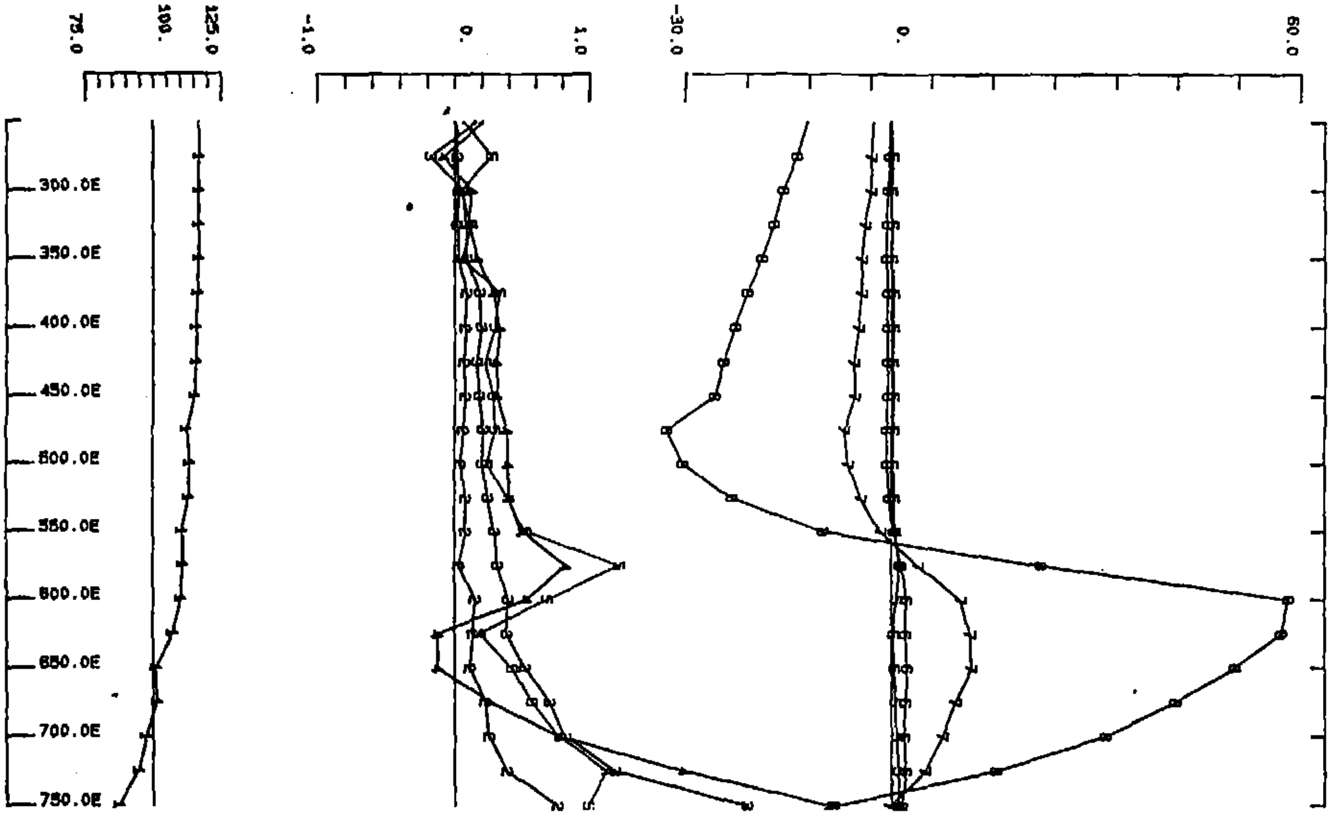
LOOP 4 DATA



Lake Margaret EL Redhills Prospect
Line 40 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

5 cm

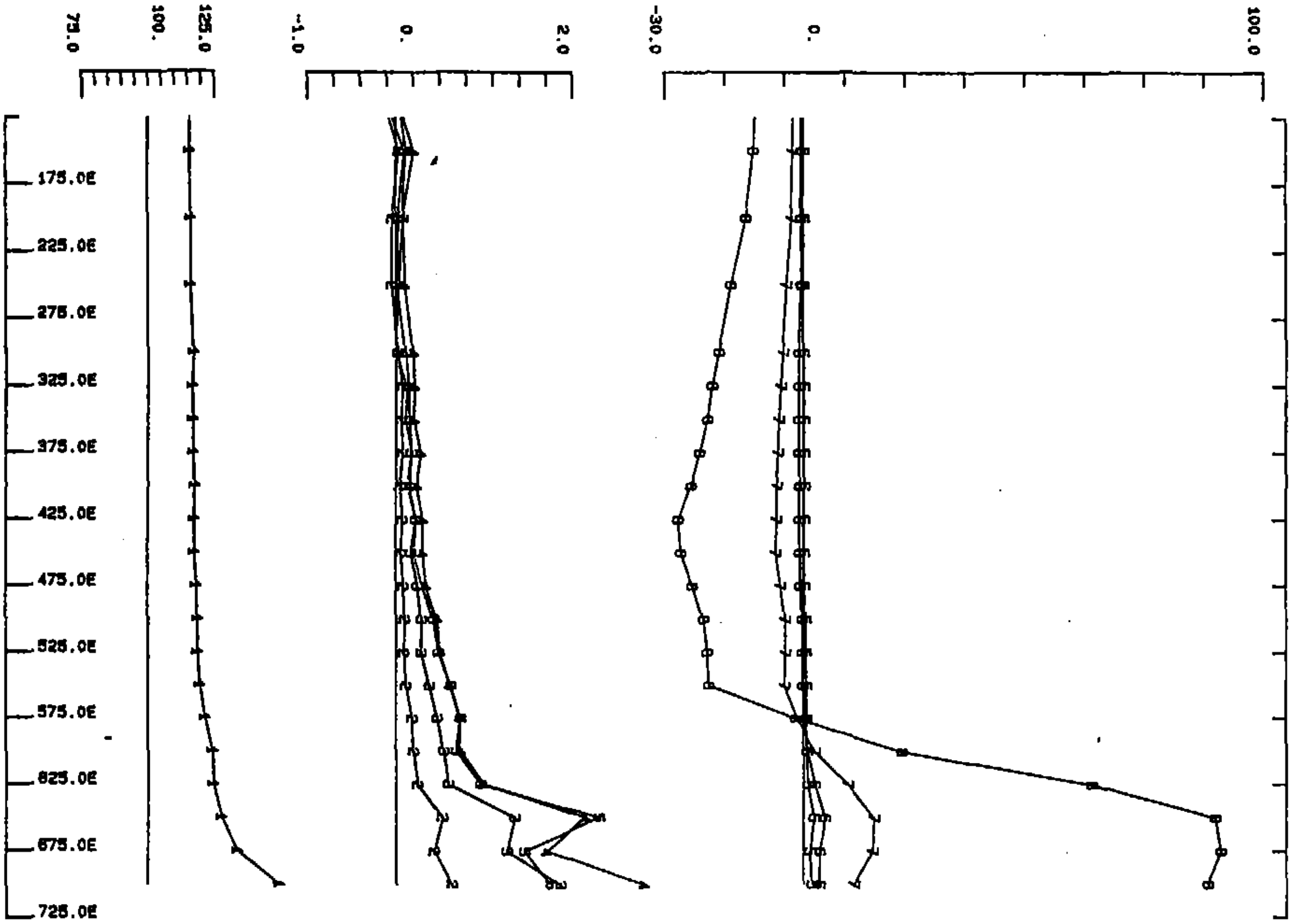
952160



Lake Margaret EL Redhills Prospect
Line 48 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

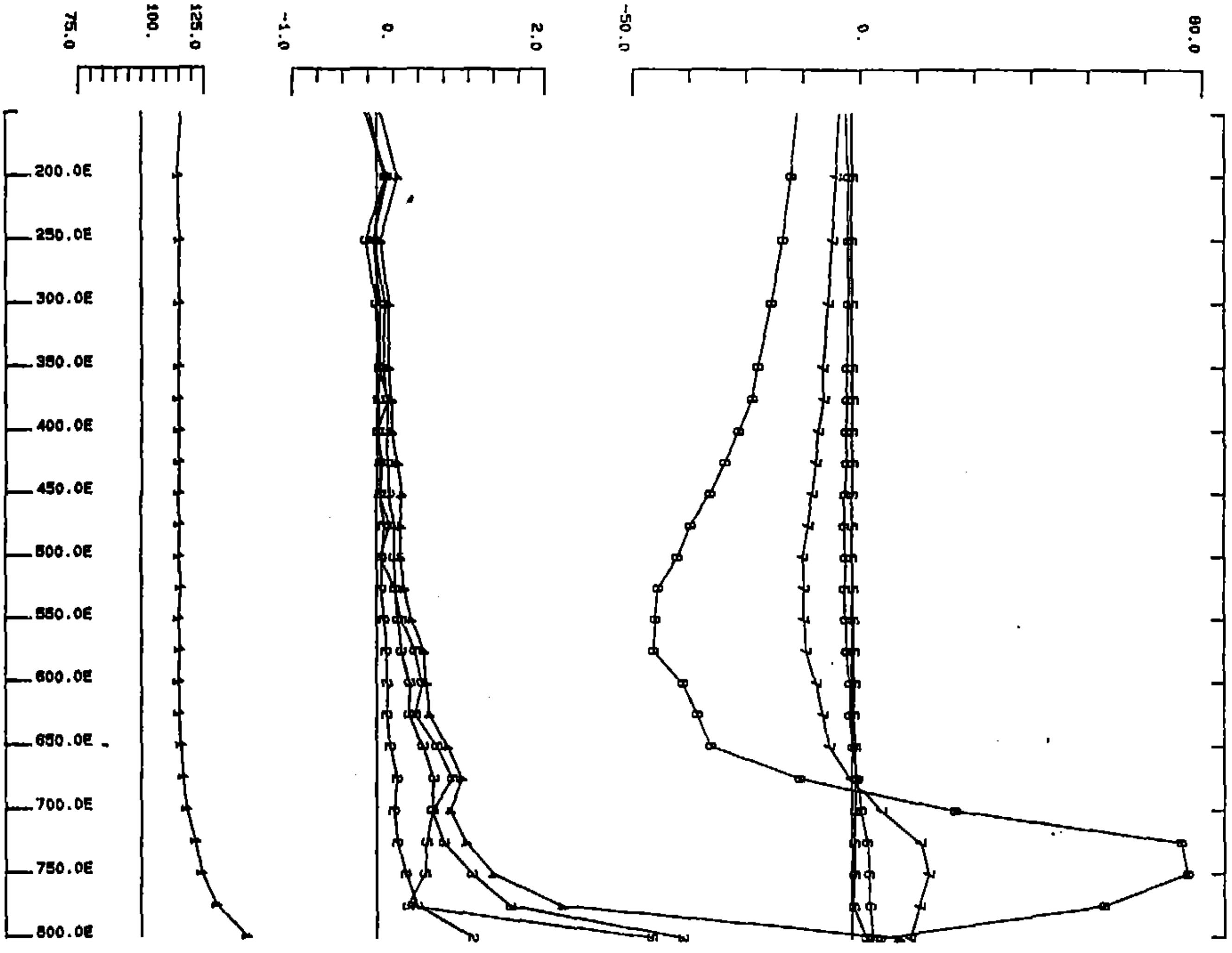
5 cm

952161



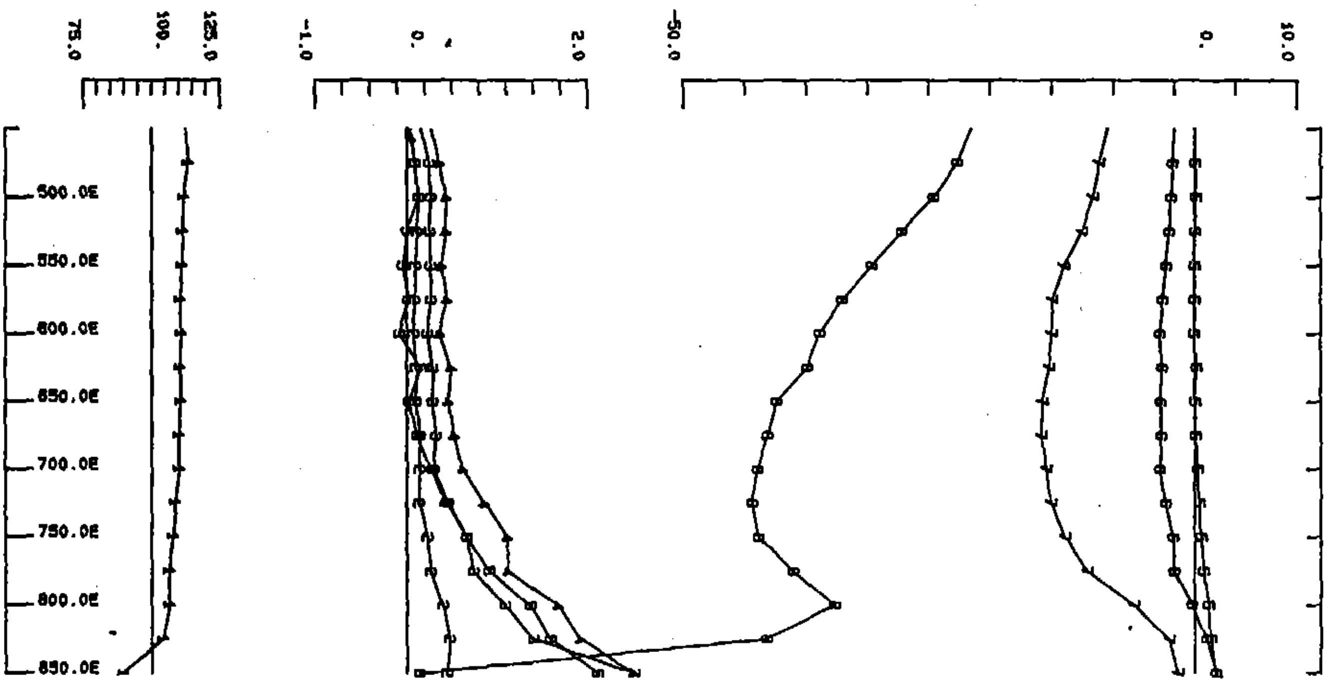
Lake Margaret EL Redhills Prospect
Line 56 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

5 cm



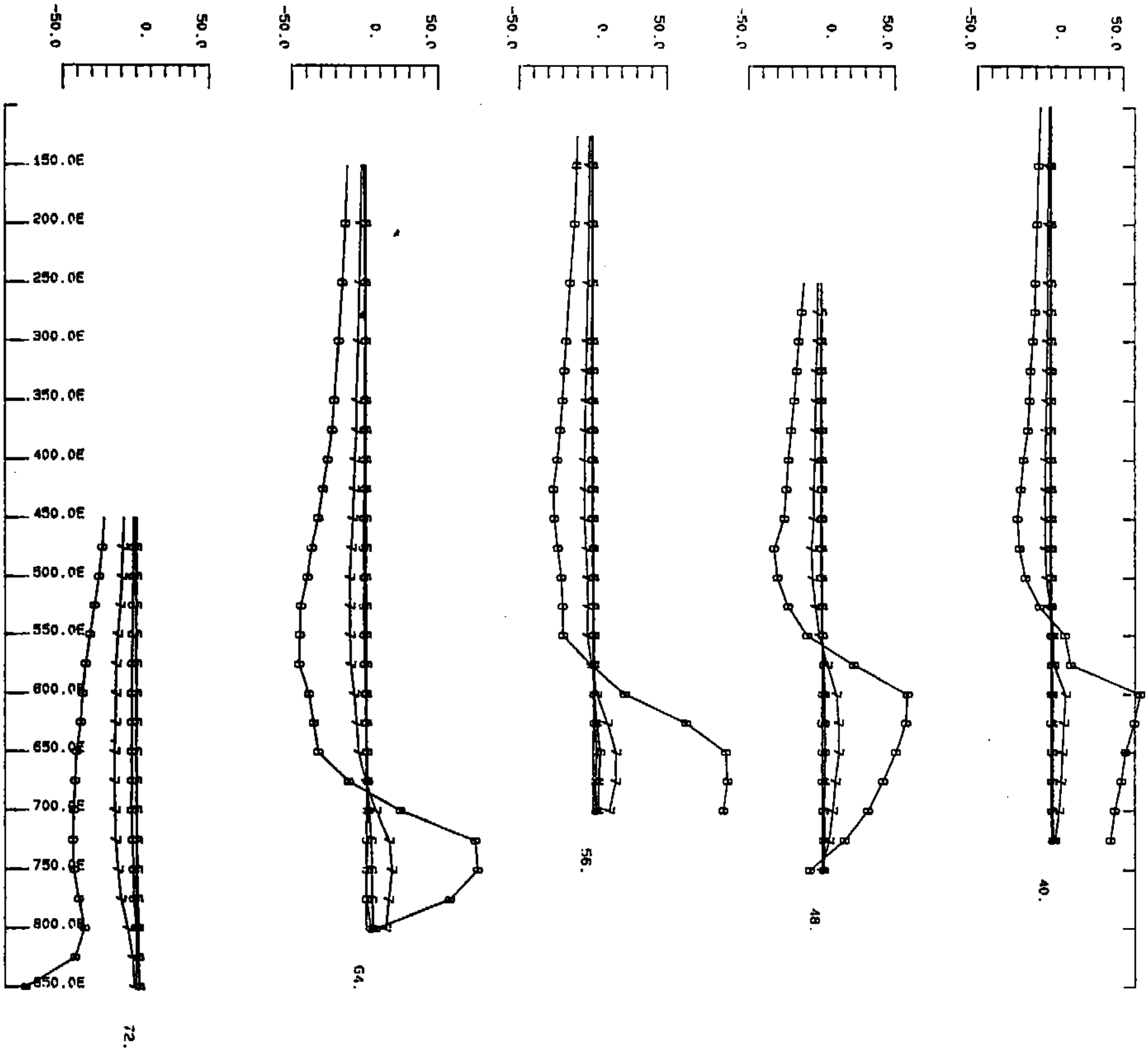
Lake Margaret EL Redhills Prospect
Line 64 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89   Horiz scale 1: 5000.0

5 cm



Lake Margaret EL Redhills Prospect
Line 72 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm



Lake Margaret EL Redhills Prospect
Stacked Profiles
Lines 40 S 48 S 56 S 64 S 72 S
Chi Point Normalization at 48 S 550 E
Aberfoyle Resources Limited 28/2/89
Plot Date :28/02/89 Horiz scale 1: 5000.0

5 cm

APPENDIX IV

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952166

PROJECT : Lake Margaret

PROSPECT: Red Hills

HOLE NO: RH-18

PAGE: 1 of 9

LOGGED: AKN

DATE: 3-7-89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY ROCK NAME	LITHOLOGY DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
2												
4												
6												
8				No Core								
10												
12												
14			14.1									
			Tyndall Group Quartz Porphyry	Quartz - feldspar (sericitised) - phyric Rhyolitic lava/intrusive. Quartz phenocrysts to 3mm diameter. Weakly sheared to massive.	Pe Hm (1-2) Pa Se (1-2)				Lch 2		HW 15.0 HQ	
16												
18								18.6 fault = 65° to CA. 18.8 fault.				
20												
22											This lithology is similar in appearance to the Tyndall Group Porphyry at the Gooseneck. Hence its assignment to the Tyndall Gp.	
24								24.9 fault = 25° to CA. 25.8 fault = 35° to CA 26.9 fault = 35° to CA. 27.2 fault.				
26						Qtz (1-2) fine						
28												
30												
32												
34												
36												
38												
40								40.0 fault 40.7 cleavage = 35° to CA				
42				Zones of massive cream-lava with intervening sheared and weakly sericite altered zones		41.6 Hm vein 0.5cm thick. fine Qtz(1-2) all parallel to cleavage						

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952167

PROJECT : Lake Hampton

PROSPECT : Red Hills

HOLE NO : RH-18

PAGE : 2 of 9

LOGGED : ARN

DATE : 3-7-89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS
				Rhyolitic lava/intrusive as above	Pat. Hmt (1-2) Pat. Se (1-2)	Q vn (1-2)		43.1 fault.			
44											
46											
48								49.6m broken & sheared core.			
50				-50m -51m Sheared lava. Not containing quartz phenos.				51.0m Fault Zone			
52											
54											HQ 54m NQ
56											
58					58.5 Hmt (2-3) diss.						57.7m 561975 petrology.
60		66%.									60.5 lost water 61.5
62		97%		Contact Not Seen - Occurs in Cavity							Cavity.
64		25%									64.5
66		15%		-65.2 Sheared mottled light-dark green Quartz-Feldspar-Phyric Rhyolitic crystal rich volcaniclastic.							
68			Rhyolitic Volcaniclastic (Contact Complex.)	67.2 Pink quartz-phyric rhyolitic lava and green Pyritic fragments, to 15 cm dia, with possible ash volcaniclastic clasts in a sheared mottled green matrix.	Se ± Cl (1) Pat. Hmt (1-2)	Q+Ca (1-2) veins sheared and undeformed Q vn (2) in cleavage					67.2m ?extensional lineation on cleavage surfaces.
70											
72											72.7m petrology 561976
74				73.6 Stretched R.L. fr. ≤ 8 cm in diameter.							
76				76.2 76.6 Thin, clean, green-grey and pink-grey ash volcaniclastic interbeds. Tectonically disrupted.				76.7m Cleavage : bedding : 40° to CA.			
78				77.5 granular pink bands (lithics - deformed clasts?							
80						Q ± Fd vn (2) at 10-20° to cleavage					
82				82.6 Q vn (1) Pink R.L. Clasts. Veins at a high angle to cleavage. Sheared. 83.6 Coarse Rhyolitic lava Clasts Disappear.			82.5 Py pat. (1).	82.6 fault = 55° to CA.			
84											

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952168

PROJECT : Lake Margaret
PROSPECT : Red Hills

HOLE NO : RH-N
PAGE : 1 of 9
LOGGED : AMN
DATE : 3-7-89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY ROCK NAME	LITHOLOGY DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS
86 88 90 92 94 96			Rhyolitic Volcaniclastic (Central Complex) 97.55	fine grained green lapilli volcaniclastic with minor rhyolitic lava clasts and dark green sericitic "flamme". Some lava fragments have obvious pull-apart features. whole strongly sheared. Clasts Coarsen below 87.5m. 91.1–91.4 grey-green ash volcaniclastic interbed Volcaniclastic appears to become weakly polymict. c̄ green-grey and dark-pink lava clasts.		Q (1-2) 96.6 Coarse Q+Ca+Cl+py vn. undeveloped. 6cm wide	Nil 90.4 py(1) diss.	87.4 fault = 65° to CA. 95.8–96m broken core + fault 97.55 Contact = 50° to CA.			96 m lose water
98 100 102 104 106 108 110			Ash Volcaniclastic 112.1	Pink siliceous very fine grained volcaniclastic with wispy sericitic patches. aphyric and weakly laminated 104m Color change to Dark green 105m Color change to pink	Si(3-4) Se(1-2)	↳ Q+Cl+py vn adjacent to contact. Q+Ca+Cl (1-2) veins often boudinaged 105.2 Q+Ca+?Ab vns (1-3) in patches 107.5 Q+Ca+py vn. 111.5 Q+Ca+py vn.	py+po (1) dominantly on fracture surfaces.	106 bedding = 90° to CA 109.1 bedding = 80° to CA. 109.9 fault = 75° to CA. 110.4 fault = 35° to CA. 110.9 fault = 65° to CA. Contact = fault = 25° to CA.			106.0 petrology 561977
112 114 116 118 120 122 124 126			Quartz-phyric ?lava.	Mottled grey to light green Quartz-phyric, phenocrysts to 0.5cm diameter, weakly sheared, siliceous lava? 113.8–114.0 10cm of infaulted black shale 114.1–114.6 intercalated sheared grey shale, ash Volcaniclastic and Quartz eye lava 114.8 – 115.5 Dominantly a coarse Q+Ca+Cl vein.	Si(2) SeCl (1)	Q+Ca (1-2) 119.5–120.4 Q+Ca+Cl+po vn. roughly parallel to core axis Q+Ca+ tr Cl (1-2)	Po(1) on fracture surfaces 114.1–114.8 trace py, sp, cpy veinlets.	115.5 fault = 65° to CA. 115.6 fault = 65° to CA. 117.1 fault = 65° to CA. 117.3 fault = 60° to CA. (Sandy pug) 126.3 fault = 80° to CA. 126.6 fault = 65° to CA			

Aberfoyle Resources Limited
EXPLORATION DIVISION
DIAMOND DRILL LOG

952169

PROJECT : Lake Margaret
PROSPECT : Red Hills

HOLE NO : RH-13
PAGE : 4 of 9
LOGGED : AMcN
DATE : 17/8/89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS
128 130 132 134			Quartz-phyric ?lava 134.2	broken Core at Contact - possibly some intercalation	Si(2-3) Sc(1)	Qz+Co+ tr Cl (1-2)	po+py(1) on fracture surfaces.	132 fault = 30° to CA. 133.9 fault = 60° to CA.			130.2 Petrology 561978 131.52 lost water
136 138 140			black shale 140.7 Basalt lava	Sheared, graphitic black Shale 136.2 minor interbedded volcanic 137.5 kink folds in S1 139.8 possible SC fabric		Co(1-2) 136.2 Qz+Co(3) in volcanic 139.2-139.3 Po vn (2)	136.2 py(3) in volcanic 139.2-139.3 py pat (2)	138.25 fault = 45° to CA 139.3 fault = 50° to CA. 140.3 fault = 75° to CA.			136.5 lost water ↓ 139.3 
142 144 146 148			140.9 black Shale 148.8	143 minor light grey cm thick fine sandstone interbeds, become more common downhole 144.4 cm thick grey-green ash volcaniclastic		Qz+Co(1-2) 144.1-144.4 py vn(3-4) 144.4 ↓ Sp vn(1-2)	py bands (1-3) py pat (1-2) po on fracture surfaces.	140.9 Contact = weakly peperitic Almost Conformable = 60° to CA			
150			149.7 ash volcaniclastic	ash volcaniclastic - green-grey, weakly laminated.		Qz+Co(1-2)	py(1)	fault Contact = 55° to CA			
152			black Shale 151.8	Sheared graphitic black Shale		Qz+Co(1-3); Qz+Co+Sp(1-2); Sp(1) Py(1-2)	Py pat (1-2) Po on fracture.	149.9 fault = 60° to CA 152.4, 152.5 fault.			
154 156			ash volcaniclastic 157.5	grey-green ash volcaniclastic, weakly devitrified from 152.8 - 157m.		Qz+Co(1-2)	Py+po on fracture surfaces	153.4m bedding = 50° to CA.			
158 160 162 164 166 168			black Shale	Sheared graphitic black Shale 160 to 160.2m light green fine lapilli volcaniclastic (was ash volcaniclastic + Rhyolitic lava clasts) interbedded		Qz+Co(1-5); Qz+Co+py(1-2); py(1-2), Qz+Co+Sp(1) - veins often disrupted by Shearing - may be boudinaged	Py pat. (1-2) diss py (1-2) 164.5 possible syngenetic Sp+py band 5mm wide.	160 → fault = 45° to CA. - folded zone ≈ 5cm wide. 164.5 fault = 60° to CA. 167 fault = pug / breccia 167.1 fault = pug at 35° to CA.			

Aberfoyle Resources Limited
EXPLORATION DIVISION
DIAMOND DRILL LOG

952170

PROJECT : Lake Margaret
PROSPECT: Red Hills

HOLE NO: RH-18
PAGE: 5 of 9
LOGGED: Amcn
DATE: 17/8/89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
170			black Shale	Sheared graphitic black Shale		Q+Co(1-2); Py(1); Q+Co+Py(1) Q+Co+Sp(1)	Py pat + diss (1-2) tr. po on fracture surfaces	169.4 fault: 50° to c.a.				
172												
174												
76				176.2		176						
178				(common, thin (1-2cm thick) siliceous ash Volcaniclastic interbeds.		Po vn (1-2) 178						
180				179.5 180.5 - 180.7 fault bounded grey-green ash volcani-clastic.		180.0 2cm Q+Co+Py vn.						
182												
184												
186												
188												
190												
192								191.6 fault = 55° to c.a. 192.25 fault pug 193 fault breccia + pug				
194												
196								195.2 fault = 45° to c.a. 196.5 fault = pug.				
198			197.9					197.2 fault = 65° to c.a.				
200			Andesitic - Dacitic lava	Mottled light green-grey feldspar-phyric lava clasts in a green chert-shale matrix. but is moderately sheared.			diss Py(1-2)	199.3 fault = 75° to c.a.			199.2 petrology 561979 brecciated part of lava texturally similar to footwall andesites at Hellyer.	
202							diss Py(1-2); diss Sp(1-2)					
204												
206				205.4-205.5 interbed of monomict fine lapilli volcaniclastic		Q+Co(1)	Py(1-2)					
208				208 lava less brecciated			Sp(1-2)					
210							Py(1)					

Aberfoyle Resources Limited
EXPLORATION DIVISION
DIAMOND DRILL LOG

052171

PROJECT : Lake Margaret
PROSPECT: Red Hills

HOLE NO: RH-18
PAGE: 6 of 9
LOGGED: A McN
DATE: 17-8-89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
212			Andesitic - Dacitic lava	212m Massive mottled light-dark green relatively phenocryst poor lava	Se Si(2)	Q+Co(1)	Py(1)					
214				brecciated in part with variable amounts of chlorite spotting.		213.5 Co+Sp Vn.	dis Sp(1-2)					
216				some feldspar phenocryst rich zones.								
218							dis Sp (2-3) (at most over small intervals)					
220												
224						Q+Co(2)						
226						Q+Co+Sp(2-3)	dis Sp(2); dis py(1)					
228						Q+Co+tr py+tr Sp vn (1-2)						
230						10cm Coarse Q+Co+Cl+tr py/Sp vn. to 230.2 low Q+Co+Sp vn	dis Sp(3) py(1) Py(2) Sp(2-3) Py(2) Po(1) no obv. Sp					
232						Q+Co(1-2); Sp+tr Gn vn(1-2)	Sp(2) Py(1-2) Sp(3) Gn(1)					
234							Sp(2-3); Gn(1) Py(2-3)					
236					Se Si(1)	Q+Co(1-2); Py(1-2)	Sp(1-2) Py(2) Gn (<1)					
238				236.9 breccia with light grey cherty matrix 237.6		Q+Co+tr Sp vn (1-2)	Sp(2) Py(1-3)	238.6 Contact ~ 55° to CA				
240						Q+Co(2)	239.4 Po+Sp(2) Py(1)				240.3 Petrology 561980	
242				Patchy Development of brown Siliceous alteration		241.5 Coarse Q+Co+tr of brown rimmed pyrite						
244						Q+Co(1-2)						
246						Coarse Q+Co+Cl+Al vn(2-3) With Q+Co+Cl+Sp+py vn. coarse grained						
248						Q+Co+tr(Cl+py) vn(1-2)	247.3 Sm of dis Sp+py(3)					
250							dis py(1)					
252												
254						Q+Co+tr py(1)						

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DIAMOND DRILL LOG

952172

PROJECT : Lake Margaret

PROSPECT: Red Hills

HOLE NO: RH-N

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DATE: 17-9-89

DEPTH	DRILL RUNS	CORE LOSS	ROCK NAME	DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS
256			Andesitic to dacitic lava.	Massive to weakly brecciated light to dark green feldspar-phyric lava with chlorite spots and patchy pink-brown alteration	Si(2)	Q+Ca(1)					
258											
260											
262				Pink alteration more intense	?Si;Fd(2)	262 Cl+Py vn.	Po(1) on fracture surfaces.				262.35 petrology 561921
264											
266											
268											
270						Q+Ca+Py(1-2) To 269.7 Q+Ca+Cl+Py vn. Q+Ca(1-2)					
272											
274											
276				Pink alteration dies out. Green, weakly feldspar-phyric, chlorite spotted lava.			Po(1) on fracture surfaces.				
278											
280						279.4 Cl+Ca+Py vn(1)					
282											
284						Q+Ca(2)					
286				286.5 lava becomes coarsely feldspar-phyric 286.9 minor shale intercalations		285.5-285.7 Q+Ca+Gn ±Cpy (2) 287 Gn+Py+Ca vn.	Sp(1-2) Py(1)				
288			287.6m black shale	Dominantly black shale with scattered feldspar-phyric lava clasts.	Cl(2) of lava fragments	Q+Ca(3) Sp+Gn+Cpy (2-3); Q+Ca(1) fine	Sp(1-4) in lava fr. Gn+Sp(1-2) in shale Py(1-3) in fr. Sp(1-4) in shale Sp+Gn(2-3) in matrix (clasts).				
290											
292				291.2 lava clasts disappear. Weakly graphitic black shale		Q+Ca+Sp(2)	Po+Py(2) Sp(1)	291.2 faults 35° to CA. 292.5 fault = 50° to CA.			292.5 Core orientation CA = 25° EA = 191° ∴ Dip: 15° to 239° mag.
294				293.4 [illegible] thick fine lapilli volcaniclastic interbed. 293.7 [illegible] thick fine lapilli volcaniclastic interbed			Po+Py(2) Sp(1-2) both veins and disseminated. Po(1) on fracture surfaces.				
296				graphitic black shale			Py+Po(2-3) vns.				*296.7m 1cm band of Sp+Gn(4) Py(1-3) – Syngenetic [illegible] in fr.

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DIAMOND DRILL LOG

952173

PROJECT: Lake Margaret
PROSPECT: Red Hills

HOLE NO: RH-N
PAGE: 8 of 9
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DATE: 14-9-89

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS
298			black shale	graphitic black shale 297.4–298 faults banded green ash volcaniclastic 298.5–298.9 faults banded green-grey ash volcaniclastic		Qtco (3) fine	Py+Po (2-3) vn. Py+po (2-3) Sp (1-2) * see also remarks.	297.4 fault = 65° to c.a. 298 fault = 65° to ca. 298.5 fault = 55° to ca. 298.9 fault: 70° to ca (1cm py)			* 298.95 1cm band of Syngenetic po ± sp py. Possible barite blebs on up-hole surface. underlain by 1.5cm of Sp+py (4) material
299.5			felsic lapilli Volcaniclastic	Lt. green medium to fine lapilli grade clasts of rhyolitic lava, ash volcaniclastic and chlorite 'fiamme', in a fine lapilli matrix. minor interbedded ash volcaniclastic.		Qtco (2)	Cpy+Po (1-2). Sp (1) Sp (1) po (1-2) Py (1) 306.6 1cm Sp+Cpy (4) Py (1) po (1)	307.5 bedding = 60° to ca			
309.1			ash volcaniclastic	laminated green-grey ash volcaniclastic minor interbedded fine lapilli volcaniclastic. – Considerable soft sediment deformation. Flame structures suggest facing up-hole 315.5 interbedded ash and fine lapilli volcaniclastic	Ser (1-2)	Qtco ± cl (1-2)	Py (1) po (1) Py (1)	310.4 bedding = 65° to ca. 311.4 fault = 65° to ca.			310.3 petrology 561982
316.5			felsic lapilli Volcaniclastic	green fine lapilli volcaniclastic, weakly sheared c clasts of pink rhyolitic lava, green andesitic–dacitic lava and pink volcaniclastic fiamme like clasts appear at 319 m. 326 weakly pink and green banded 327.4 fiamme volcaniclastic 328.3 abrupt contact to siliceous mottled green–pink ash volcaniclastic At 329.1m [illegible] Qtco vn to medium lapilli volcaniclastic. Clast types as above. Common 'fiamme'. Minor ash volcaniclastic interbeds. Clast size increases down-hole. 336.6 clasts of Rhyolitic lava to 3cm dia. appear. 337.4–339 fine lapilli [illegible].		Qtco (1) 319.2 Qtco + tr cl (2-3) over 15cm 328.5 Qtcarb (2) + fine grey sulfide veins (1-2) 329.1–329.6 Qtco + [illegible] vn. 335–335.3m Qtco+Ab + tr Cpy vn (5)	Py (1) 323 Py (2) over 10cm. 325.4 Py (2) over 10cm. Py (1)	326.4 bedding = 57° to ca 331.5m Cleavage: 40° to ca. 334.5 S1 deformed by kink style folds. 337.9 bedding = 45° to ca.			322.65 Petrology 561983

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DIAMOND DRILL LOG

952174

PROJECT : Lake Margaret

PROSPECT: Red Hills

HOLE NO: RH-18

PAGE: 9 of 9

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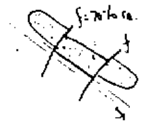
DATE: 20-9-89

DEPTH	DRILL RUNS	CORE LOSS	ROCK NAME	DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
340 342 344 346 348			felsic (Rhyolite?) lapilli Volcaniclastic (polymict)	fine to medium lapilli volcaniclastic. 339.7 Appearance of Rhyolite lava clasts to 12 cm dia. fine to medium lapilli volcaniclastic c̄ scattered Rhyolitic lava clasts to 15cm diameter. 344.3 Becomes coarsening to medium lapilli volcaniclastic with minor fine lapilli interbeds. 346.6 Rhyolitic lava clast ≥ 20 cm in diameter. 347.1		Qt(o(1-2))	Py(1) Py(1-2) Cp(1) 346.4-346.5 diss py (2-3)	339.6 S₁ kinked 342.6 fault. 346.7 kink style folds in S₁			342.5 Small scale faults cut ash volcaniclastic clast	
348 350 352 354 356			356.8m EOH.	green-pink fine lapilli volcaniclastic 350.3 Medium to coarse lapilli volcaniclastic with clasts of chloritic 'flamme', ash volcaniclastic, green feldspar phyric andesitic - dacitic lava, Rhyolitic lava. Clasts to 15cm diameter. Some 'ash volcaniclastic' clasts intensely Cb altered. 356.3-356.5 grey-green sheared ash volcaniclastic interbed		348.3-349.5 Qt-Cb+ fr(ab-kl-cp) Cb(2) Qt(o(1))	Po(1) on fractures.				352.15 petrology 561984.	
358 360 362 364 366 368 370 372 374 376												



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APPENDIX V

952177

PETROGRAPHIC REPORT

ROCKS FROM RED HILLS PROSPECT DDH RH-18

FOR ABERFOYLE RESOURCES LTD

attn ANDREW McNEILL

by

Anthony J. CRAWFORD
Geology Department
Uni of Tasmania
16/12/89

SAMPLE NUMBER: 561975

SUMMARY:

This is a weakly foliated, strongly sericitic quartz-phyric rhyolitic lava with a notable absence of feldspar phenocrysts, and is almost certainly Tyndall Group.

HAND SPECIMEN:

This is a pale grey, quartz-phyric felsic volcanic or shallow intrusive rock with a weak foliation defined by sericite.

THIN SECTION:

This sample is clearly either a rhyolitic lava or rhyolitic dome-plug/shallow dyke intrusive rock. It consists of about 5-8 modal % of quartz phenocrysts that range up to at least 4mm across. These are generally entire, euhedral to subhedral, and frequently somewhat resorbed and reacted around their margins. Many contain devitrified small melt inclusions that have partially crystallized to quartz and albite (?). The sample is most unusual in that it shows no evidence at all for the former existence of feldspar phenocrysts. A few small almost prismatic sericite-rich areas streaked out into the foliation may have been former albite microphenocrysts, although this is by no means certain. FeTi oxide microphenocrysts and mafic silicate phenocrysts were apparently not present in this sample.

The groundmass of this sample is pervaded by a mesh of sericite that defines the weak foliation present. The original texture of the groundmass is very difficult to discern. I suggest that small domains of less altered and less foliated groundmass have textures suggestive of relatively fine-grained mosaic intergrowths of quartz-albite±sericite, typically derived from crystallization of devitrified rhyolitic glass. Occasional streaks of secondary quartz and intergrown hematite(?) parallel the foliation. Chlorite and calcite are virtually absent in this sample.

The non-broken quartz phenocrysts and the relic groundmass textures mentioned above suggest to me that this sample was unlikely to be a rhyolitic crystal tuff, but rather that it was probably a rhyolitic lava or shallow intrusive. In my experience, shallow intrusives of broadly rhyolitic composition often contain minor biotite, and have small prismatic albite grains intergrown with anhedral quartz in the groundmass. Since neither of these features are present in this sample, I suggest that it was an extremely evolved rhyolitic lava. The mineralogy is certainly more typical of Tyndall Group lavas than Central Volcanic Complex lavas.

SAMPLE NUMBER: 561976

SUMMARY:

This is a foliated quartz-feldspar crystal lithic tuff that has undergone strong sericite-chlorite-calcite alteration. It could be either Tyndall Group or Central Volcanic Complex.

HAND SPECIMEN:

This is a grey strongly sheared and foliated chloritic felsic lava or tuff with distinct pink feldspathic (?) augen up to 2cm long.

THIN SECTION:

In thin section, this sample is clearly a former crystal lithic tuff. It consists of around 5-8 modal% of dispersed angular fragments of quartz crystals of clear volcanic derivation, and much less abundant albite phenocrysts, FeTi oxide microphenocrysts and felsic volcanic fragments. The quartz phenocryst fragments show occasional crystal faces and common rounded, devitrified melt inclusions. Albite crystal fragments probably form 1-2 modal% of the sample and are partially altered to sericite. FeTi oxide microphenocrysts were slightly less abundant than albite, and have all altered to chlorite-leucoxene-magnetite aggregates that subsequently sheared out into black-speckled streaks up to 1mm long.

Former felsic volcanic fragments appear to be the component making up the pink augen notable in hand specimen. Two of the three examples of relatively large (>1mm long) lithic fragments present in this section appear to be aphyric, totally devitrified rhyolitic glass that has crystallized as a very fine-grained quartz-albite-sericite admixture. It is not possible with the textural reconstitution due to foliation development whether these lithic fragments were pumiceous, or massive glassy (obsidian) lava. The augen-shape of the fragments is obviously deformation-related. The third lithic fragment present in this sample is probably an epiclastic siltstone.

The groundmass of this sample is strongly sheared and foliated. The foliation is quite intense, and discrete sericite-rich, and subordinate chlorite-rich layers, as well as stretched fragments, define the foliation. Calcite is common as tiny dpots throughout the sample, and as larger streaks and trains that parallel the foliation.

This is a quartz-feldspar crystal lithic tuff of rhyolitic composition that has suffered strong sericite-chlorite-calcite alteration and shows a pronounced foliation. It could equally as well be Tyndall Group based on the mineralogy, as Central Volcanic Complex.

SAMPLE NUMBER: 561977

SUMMARY:

This is a weakly foliated quartz-feldspar crystal tuff that lacks the chloritic alteration notable in the previous rock (561976).

HAND SPECIMEN:

This is a fine-grained, foliated felsic lava or tuff with well-developed minerogical layering of darker bands and lighter, sericite-rich bands.

THIN SECTION:

This sample is very similar to the preceding sample, but differs in the following respects.

1. This rock does not contain the large pink (formerly pumiceous?) augen that were a notable component of the preceding sample. Lithic fragments are present but are generally smaller than 0.5mm, and not very abundant.
2. This rock contains much more albite, mainly as broken crystal fragments that are only slightly sericitized.
3. Chlorite is a very minor component of this sample

The groundmass of this sample is composed dominantly of recrystallized fine-grained quartz and albite and is slightly foliated, with bands of wispy sericite and trains of multi-crystalline calcite defining the foliation. A second, poorly developed foliation crosscuts the primary foliation at about 30^{o}, and is also defined by weak sericite and minor chlorite kinking out of the dominant cleavage direction.

This is a fine-grained rhyolitic quartz-feldspar crystal tuff that lacks the strong chloritic alteration of the previous sample.

SAMPLE NUMBER: 561978

SUMMARY:

This is a weakly foliated quartz-phyric rhyolitic lava very similar to 561975.

HAND SPECIMEN:

This is a pale grey foliated quartz-phyric felsic lava or tuff with a few narrow, cleaved calcite veins.

THIN SECTION:

This sample is a rhyolitic lava dominated by around 10 modal% of euhedral to slightly rounded and reacted quartz phenocrysts that contain small rounded melt inclusions and internal strain features, and fractures filled with calcite and fine-grained secondary quartz aggregates. Former FeTi oxide phenocrysts or microphenocrysts are more abundant than the relatively uncommon partially sericitized albite phenocrysts, and have altered to chlorite, granular magnetite and possibly leucoxene(sphene?); they have been stretched into the foliation.

The groundmass of this rock is a fine-grained quartz-feldspar mosaic, probably crystallized from devitrified glass, although recrystallization associated with the weak foliation-forming event might be expected. The foliation is defined by variably intense meshworks of sericite that pervade the groundmass, and many quartz phenocrysts have well-developed pressure fringes of sericite. One calcite veinlet 2-3mm thick shows pronounced recrystallization in the foliation direction as curved elongate blades. Chlorite is a very minor phase in this sample.

This is a quartz-phyric rhyolitic lava, that shows only minimal difference from sample 561975, and therefore could equally well be Tyndall Group as CVC.

SAMPLE NUMBER: 561979

SUMMARY:

This is a weakly foliated, formerly glassy plagioclase-phyric dacitic lava that has suffered fairly strong calcite-sericite ± chlorite alteration, and developed a very heterogeneous-textured quartz-albite groundmass.

HAND SPECIMEN:

This is a grey-green mottled (pepperitic?) weakly foliated felsic volcanic with paler grey sericitic patches up to a cm across.

THIN SECTION:

Beyond being fairly sure that this sample was originally a plagioclase-phyric dacitic volcanic (lava or tuff?), this is a difficult sample to diagnose with certainty. It consists of single crystals and crystal clots of euhedral, rather ragged-edged albite up to 2mm long that make up about 2-4 modal% of the rock, set in a very altered and recrystallized groundmass. FeTi oxide microphenocrysts were not uncommon, and have altered to magnetite-chlorite-calcite-sphene intergrowths.

The groundmass of this sample is exceptionally heterogeneous in texture and difficult to interpret. Besides a strong calcite overprint and a weak sericite-defined foliation, the groundmass shows rapid changes in grainsize over short distances and a very patchy texture of fine- and somewhat coarser-grained granular mosaic textures dominated by quartz and albite. Boundaries of coarser-grained domains are mainly diffuse and gradual, and do not appear to be as sharp as would be expected if the coarser areas represented lithic fragments. Calcite is abundant as irregular coarse-grained patches and veinlets, as well as small rhombs scattered through the groundmass and in albite crystals. A few large crystals of pyrite are associated with the calcite. Chlorite is relatively common in this rock, as streaks along the weak foliation, mainly intergrown with sericite.

I think that this rock was a glassy plagioclase-phyric dacitic lava, although I have no idea why the devitrification and foliation-induced (re)crystallization should have produced such a heterogeneous texture. The relationships of this sample with surrounding rocks might be informative.

SAMPLE NUMBER: 561980

SUMMARY:

This rock was a glassy, sparsely plagioclase-phyric dacitic lava that has a heterogeneous groundmass texture formed by blebs of secondary quartz crystallizing from a dusty quartz-sericite-calcite matrix.

HAND SPECIMEN:

This is a massive dark grey, altered plagioclase-phyric dacitic lava with calcite veinlets but no apparent foliation.

THIN SECTION:

This is a relatively sparsely plagioclase-phyric dacitic lava with around 3-5 modal% of plagioclase phenocrysts set in an altered and recrystallized groundmass. The plagioclase phenocrysts are mainly fairly blocky, ragged-edged prisms, less than 1mm long, often gathered in multi-crystal clots, that are partially altered to fine-grained sericite and small pools and spots of calcite. Former FeTi oxide microphenocrysts are not uncommon, and are altered to aggregates of fine-grained magnetite, chlorite, sphene(?) and possibly quartz. Mafic silicate phenocrysts were absent from this sample.

The groundmass of this rock is highly altered and recrystallized, with a rather unusual texture. Although it is difficult to say with certainty, it appears to have been a very glassy-rich groundmass that has devitrified and recrystallized extensively, producing a rather unusual texture that resembles at first glance an epiclastic sediment or crystal tuff. The groundmass is dominated by discrete ragged patches and blebs of clear secondary quartz averaging around 0.2mm across, that look like detrital grains at first. Between these is a dusty matrix composed of fine-grained quartz and albite extensively replaced by sericite and calcite. Pale green chlorite forms a few tiny patches and discontinuous veinlets, but is volumetrically insignificant. A few calcite veinlets transect the sample.

This was certainly a plagioclase-phyric dacitic lava; it probably had a glassy groundmass that has devitrified and recrystallized in a rather patchy, heterogeneous manner relative to the usual uniform quartz-albite mosaics replacing glass in MRV dacites.

SAMPLE NUMBER: 561981

SUMMARY:

This is a formerly glassy almost aphyric dacitic lava that has the same unusual groundmass recrystallization texture as the preceding rock.

HAND SPECIMEN:

This is a dark grey massive aphyric dacitic lava with a faint suggestion of a cleavage.

THIN SECTION:

Although this rock is unlikely tobe from the same flow unit as the previous sample, it is very similar in most respects, especially with regards the unusual-textured groundmass. The major difference from the preceding sample is that this rock is almost aphyric. It contains less than 1 modal% of sericitized plagioclase phenocrysts that are difficult to discern from the altered groundmass. Also, this rock contains at least 10 relatively large zircon euhedra not noted in 561980.

The groundmass of this rock is essentially identical to the previous sample. It was almost certainly glassy and devitrified, bur has crystallized to an unusual texture that resembles a crystal tuff. Abundant small blebs and patches of secondary quartz, many of which are compound grains with diffuse extinction, are scattered through a sericite+calcite-dominated matrix. The sericite forms wispy trains that define a very weak foliation, not shown in 561980. Small patches and streaks of calcite are distributed throughout the rock.

SAMPLE NUMBER: 561982

SUMMARY:

This sample was a relatively fine-grained crystal-poor tuff or epiclastic siltstone that has suffered a strong cleavage-producing event in a high-strain zone relative to the previous few rocks in this set. It is strobgly sericitic and contains a late- or post-cleavage veinlet dominated by calcite and sphalerite.

HAND SPECIMEN:

This is a pale grey banded and foliated fine-grained tuff or epiclastic sediment.

THIN SECTION:

This sample is a crystal tuff or fine-grained epiclastic sediment that has a quite strong fine-grained foliation. Occasional narrow bands (<2mm thick) containing relatively abundant crystal fragments of albitized plagioclase to about 0.5mm across are set in a much finer-grained matrix that contains sparse, generally smaller albite fragments in a strongly cleaved sericitic matrix. Strongly flattened lenses of finely-crystalline quartz-sericite-calcite-chlorite are quite common, and may be boudinaged microlayers. Also paralleling the cleavage are:

1. microlayers of dirty brown leucoxene material, possibly produced by concentration of less soluble FeTi oxides during dissolution associated with cleavage development, and
2. microlayers dominated by abundant tiny cubic magnetite(?) crystals that have undoubtedly crystallized during the cleavage-producing event. In the thickest of these bands (~1mm), magnetite euhedra are intergrown with ribbon quartz.

A 1mm thick band that broadly parallels cleavage but crosscuts its locally, and is clearly late- or post-cleavage, is composed of more equigranular quartz, minor magnetite (or pyrite?), fairly abundant yellowish sphalerite and abundant calcite.

SAMPLE NUMBER: 561983

SUMMARY:

This is a weakly foliated, formerly glassy crystal-lithic tuff of dacitic composition, dominated by albite crystal fragments and dacitic lava and shallow intrusive rock fragments. It contains sphalerite in a calcite vein subparallel with the foliation.

HAND SPECIMEN:

This is a mid-grey foliated volcaniclastic rock (tuff or epiclastic?) containing some lithic fragments up to 3mm long.

THIN SECTION:

This sample is probably a medium-grained crystal lithic tuff. It is dominated by angular crystal fragments of albite, only very slightly sericitized, that average around 0.5mm across. They are often partially replaced by calcite. Altered FeTi oxide microphenocrysts are quite common. Almost as abundant as the crystal fragments, but much less easily discerned in the altered groundmass, are sand-sized lithic fragments that are all of felsic lavas or shallow intrusive rocks. The great majority of felsic lithic fragments appear to have been glassy dacitic lavas that have recrystallized glass as albite-quartz mosaics. A few lithic fragments have textures composed essentially of intergrown stubby laths of albite and anhedral quartz; these are probably subvolcanic dykes or plugs od dacite derived from the same source as the formerly glassy lavas.

The matrix of this sample was either a welded glass or glassy ash that has altered and totally recrystallized to a very fine-grained albite-quartz-sericite mixture that is rather heterogeneous texturally. It is pervaded by a mesh of sericite that forms a weak foliation. Minor amounts of green chlorite are scattered throughout the rock, mainly streaked out parallel to the foliation.

Calcite forms some veins up to almost 1cm thick in this sample, and in at least one of these calcite is intergrown with yellowish sphalerite.

The lack of any sign of rounding on the albite crystal fragments and the decidedly non-detrital appearance of the matrix of this rock argue that it was a crystal-lithic tuff rather than an epiclastic sediment.

SAMPLE NUMBER: 561984

SUMMARY:

This is a relatively coarse-grained lithic tuff or epiclastic sandstone derived from a dacite-dominated volcanic event/terrain.

HAND SPECIMEN:

This is a grey-green relatively coarse-grained polymict tuff or epiclastic sediment that contains a diverse assemblage of lithic fragments up to almost 1cm long, and abundant pinkish feldspar crystals mainly less than 1mm across.

THIN SECTION:

This sample is essentially a slightly coarser-grained version of the preceding sample. It is certainly richer in lithic fragments than 561983, although the broad range of textures (and original lithologies) represented in this fragment population is basically across the same range as for 561983. A few decidedly holocrystalline fragments composed of interlocking elongate albite laths are almost certainly intrusive dacite dykes. Many formerly glassy dacitic lava fragments show unusual groundmass textures similar to 561980 and 561982, with small blebs of secondary quartz growing in a dirty sericitic groundmass.

Sericite meshworks pervade parts of the section more strongly than other parts, and define a very poorly-developed foliation. The matrix of this sample was largely glassy and has extensively altered and crystallized as fine-grained albite, quartz and sericite. It is extremely difficult to decide whether this rock was a lithic tuff or an epiclastic sediment. The implications of either are so similar that it probably doesn't matter. The main point is that it is derived from dacitic volcanism probably more explosive, but otherwise similar to that which yielded the dacitic lavas such as 561980 and 561981.

SAMPLE NUMBER:

SUMMARY:

HAND SPECIMEN:

THIN SECTION:

SAMPLE NUMBER:

SUMMARY:

HAND SPECIMEN:

Attachment:

DDH RH-18

Sample No:	Depth	Logged Description
561975	57.7m	Quartz-feldspar porphyry-Tyndall Group.
561976	72.7m	Sheared rhyolitic lapilli volcaniclastic-Central Complex.
561977	106.0m	Ash volcaniclastic.
561978	130.2m	Sheared quartz-phyric lava.
561979	199.2m	Andesitic-dacitic lava-pepperitic.
561980	240.3m	Andesitic-dacitic lava-massive.
561981	262.35m	Andesitic-dacitic lava-massive.
561982	310.3m	Ash volcaniclastic.
561983	322.65m	Polymict lapilli volcaniclastic.
561984	352.15m	Polymict lapilli volcaniclastic.

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16/11/89	ASAP

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1	06/12/89	1	10

STATE OF SAMPLES REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	561975/984	SC Prep: 006,010,011,012,013,016							Cu,Pb,Zn,Ag/101		
	561975/984	SC							Ba,As,Cr,Zr,Ti/401		

RESULTS TO
R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

RH 18

Petrology

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

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A Division of Inchcape Inspection and Testing Services Australia Pty Ltd

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06666	06/12/89	7389	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ba	As	Cr	Zr	Ti
1	561975	5	20	60	0.5	810	3	<5	220	1050
2	561976	20	10	90	0.5	740	<2	25	160	2700
3	561977	20	15	80	1.0	1200	<2	<5	200	1200
4	561978	10	<5	130	<0.5	760	<2	10	220	1800
5	561979	15	50	430	0.5	680	3	<5	180	1500
6	561980	30	5	65	<0.5	1850	2	15	230	1950
7	561981	60	20	115	<0.5	1550	<2	5	230	1950
8	561982	15	70	245	0.5	1050	<2	<5	310	1550
9	561983	20	100	980	0.5	480	<2	<5	230	1350
10	561984	25	20	115	0.5	2250	<2	<5	260	1400
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	10	2	5	5	50
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	101	101	101	101	401	401	401	401	401

Results in ppm unless otherwise specified
T = element present but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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APPENDIX VI

DDH RH-18

```
Area  Output Grid  Dataset                    Report Date
----  -----------  -------------------------  ----------------------------
Img   AMG          Geochemical data set       1:49 PM  MON., 22  NOV., 1993
```

From	To	Sample	Type
14.10	24.10	517901	cgri
24.10	34.10	517902	cgri
34.10	44.10	517903	cgri
44.10	54.10	517904	cgri
54.10	63.00	517905	cgri
63.00	73.00	517906	cgri
73.00	83.00	517907	cgri
83.00	97.50	517908	cgri
97.50	107.50	517909	cgri
107.50	112.10	517910	cgri
112.10	122.10	517912	cgri
122.10	134.20	517913	cgri
134.20	140.70	517914	cgri
140.70	140.90	517915	scor
140.90	148.80	517916	cgri
148.80	152.80	517917	cgri
152.80	157.50	517918	cgri
157.50	167.50	517919	cgri
167.50	176.20	517920	cgri
176.20	186.20	517921	cgri
186.20	197.90	517922	cgri
197.90	207.90	517923	cgri
207.90	217.90	517924	cgri
217.90	225.00	517925	cgri
225.00	229.00	517926	cgri
229.00	230.00	517928	scor
230.00	231.00	517929	scor
231.00	232.00	517930	scor
232.00	233.00	517931	scor
233.00	234.00	517932	scor
234.00	235.00	517933	scor
235.00	236.00	517934	scor
236.00	237.00	517935	scor
237.00	238.00	517936	scor
238.00	239.00	517937	scor
239.00	249.00	517938	cgri
249.00	259.00	517939	cgri
259.00	269.00	517940	cgri
269.00	279.00	517941	cgri
279.00	287.60	517943	cgri
287.60	288.60	517944	scor
288.60	289.60	517945	scor
289.60	290.60	517946	scor
290.60	291.20	517947	scor

DDH RH-18

291.20	296.00	517948 cgri				
296.00	297.00	517949 scor				
297.00	298.00	517950 scor				
298.00	299.50	517951 scor				
299.50	300.50	517952 scor				
300.50	301.50	517953 scor				
301.50	302.50	517954 scor				
302.50	312.50	517955 cgri				
312.50	322.50	517956 cgri				
322.50	332.50	517957 cgri				
332.50	342.50	517958 cgri				
342.50	352.50	517959 cgri				
352.50	356.80	517960 cgri				

952194

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999
52 Murray Road, Welshpool, W.A. 6106
Telex AA92560
FAX: 004 31 8890

ANALYTICAL REPORT No. 23.3.08.06665

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
7388	

DATE RECEIVED	RESULTS REQUIRED
16/11/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
6	12/12/89	1	60

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	517901/960	SC	Prep: 006,010,011,012,013,016						Cu,Pb,Zn,Ag/101		
	517901/960	SC							Au,AuChk/309		
	517901/960	SC							Ba,As,Cr,Zr,Ti/401		
	517915	SC							Y/401		
	517901/960	SC							Ti/403,Ba/404		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

RH 18

Core Grind Geochemistry

STATE OF SAMPLES

whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION

perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD

atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

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A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7308	1 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	Ba	As
1	517901	10	20	75	<0.5	0.036	<0.008	850	–	<2
2	517902	10	10	70	<0.5	<0.009	–	830	–	<2
3	517903	10	35	85	<0.5	<0.008	–	860	–	<2
4	517904	10	15	75	<0.5	<0.008	–	760	–	<2
5	517905	10	10	80	<0.5	<0.008	–	760	–	<2
6	517906	25	15	145	<0.5	<0.008	–	870	–	5
7	517907	25	<5	140	<0.5	<0.008	–	590	–	<2
8	517908	15	5	220	<0.5	<0.008	–	640	–	<2
9	517909	30	20	105	<0.5	<0.008	–	1750	–	<2
10	517910	90	10	120	<0.5	<0.008	–	970	–	<2
STD	517911	140	200	2350	0.5	<0.008	–	1150	–	15
12	517912	15	110	255	<0.5	<0.008	–	660	–	<2
13	517913	10	65	145	<0.5	<0.008	–	800	–	<2
14	517914	60	135	335	0.5	<0.008	–	620	–	25
15	517915	55	5	150	<0.5	<0.008	–	120	–	80
16	517916	110	550	730	1.0	<0.008	–	1000	–	35
17	517917	45	500	2000	1.5	0.008	–	1250	–	10
18	517918	35	220	390	0.5	<0.008	–	1250	–	8
19	517919	65	400	1600	1.5	0.009	–	860	–	30
20	517920	65	1650	2300	2.0	0.009	–	1250	–	3
21	517921	60	1300	1700	2.0	<0.008	–	940	–	10
22	517922	90	720	1550	1.5	0.008	–	800	–	20
23	517923	30	135	320	0.5	<0.008	–	1050	–	4
24	517924	30	155	375	1.0	<0.008	–	750	–	<2
25	517925	25	300	490	1.0	<0.008	–	900	–	<2

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7388	2 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	Ba	As
1	517926	55	450	1200	0.5	<0.008	–	1050	–	<2
SJ)	517927 *	125	195	2350	1.0	<0.008	–	1200	–	15
3	517928	40	350	1550	0.5	0.014	–	1950	–	<2
4	517929	30	65	135	0.5	<0.008	–	2500	–	<2
5	517930	75 -	1250	2050	1.0	0.010	0.013	>2500	0.31	<2
6	517931	130	4100	5550	1.5	0.018	–	>2500	0.36	<2
7	517932	95	4350	4950	2.0	0.018	–	>2500	0.37	<2
8	517933	55	4450	6650	1.5	0.014	–	>2500	0.31	<2
9	517934	20	3750	3350	1.5	0.021	–	>2500	0.32	<2
10	517935	30	555	340	3.0	<0.008	–	>2500	0.30	<2
11	517936	25	1500	1650	1.0	0.010	–	1750	–	<2
12	517937	25	700	1150	0.5	<0.008	–	1350	–	<2
13	517938	50	410	1150	0.5	<0.008	–	1650	–	<2
14	517939	45	460	995	0.5	<0.008	–	1900	–	<2
15	517940	30	160	150	0.5	<0.008	–	1200	–	<2
16	517941	38	10	85	<0.5	<0.008	–	1200	–	<2
SR	517942 *A	134	230	2300	0.5	<0.008	–	1100	–	15
18	517943	40	750	215	0.5	0.018	–	1250	–	<2
19	517944	30	3000	1900	1.5	<0.008	–	340	–	<2
20	517945	30	3050	3500	1.0	<0.008	–	760	–	<2
21	517946	55	5900	4950	3.0	<0.008	–	510	–	3
22	517947	100	2050	6350	1.5	0.010	–	870	–	4
23	517948	90	3600	7650	2.5	0.022	–	580	–	40
24	517949	130	3150	9100	3.0	0.152	0.223	420	–	180
25	517950	105	570	7700	2.0	0.035	0.038	720	–	15

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7388	3 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	Ba	As
1	517951	125	1350	4650	2.0	0.021	–	810	–	<2
2	517952	800	235	350	1.0	0.014	–	900	–	7
3	517953	110	195	275	<0.5	0.017	–	870	–	9
4	517954	430	630	4800	3.5	0.027	–	1050	–	7
5	517955	15	95	180	0.5	<0.008	–	1300	–	<2
6	517956	15	125	210	<0.5	<0.008	–	970	–	<2
7	517957	15	65	600	<0.5	<0.008	–	860	–	<2
8	517958	20	315	275	<0.5	<0.008	–	2050	–	<2
9	517959	50	40	90	<0.5	<0.008	–	>2500	0.36	<2
10	517960	120	250	95	<0.5	<0.008	–	>2500	0.43	<2
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.008	10	0.01	2
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
25	METHOD	101	101	101	101	309	309	401	404	401

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7388	4 OF 6

TUBE No.	SAMPLE No.	Cr	Zr	Ti	Ti	Y				
1	517901	<5	240	1000	--	--				
2	517902	6	230	1050	--	--				
3	517903	<5	210	990	--	--				
4	517904	5	230	1100	--	--				
5	517905	<5	220	1150	--	--				
6	517906	30	170	3000	--	--				
7	517907	20	160	4100	--	--				
8	517908	35	170	4400	--	--				
9	517909	<5	190	1500	--	--				
10	517910	<5	120	610	--	--				
11	517911	980	85	2400	--	--				
12	517912	10	180	1550	--	--				
13	517913	15	220	1750	--	--				
14	517914	140	160	2400	--	--				
15	517915	140	250	>10000	1.45	40				
16	517916	140	140	2600	--	--				
17	517917	70	140	2400	--	--				
18	517918	50	190	2800	--	--				
19	517919	100	150	2400	--	--				
20	517920	95	120	2250	--	--				
21	517921	85	130	2100	--	--				
22	517922	100	140	2250	--	--				
23	517923	6	250	2250	--	--				
24	517924	10	240	2250	--	--				
25	517925	7	240	2200	--	--				

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7388	5 OF 6

TUBE No.	SAMPLE No.	Cr	Zr	Ti	Ti	Y				
1	517926	10	210	2050	–	–				
2	517927	980	80	2450	–	–				
3	517928	15	250	2250	–	–				
4	517929	8	300	2550	–	–				
5	517930	15	210	1800	–	–				
6	517931	<5	210	1600	–	–				
7	517932	15	210	1600	–	–				
8	517933	6	200	1550	–	–				
9	517934	6	200	1600	–	–				
10	517935	15	190	1700	–	–				
11	517936	7	190	1600	–	–				
12	517937	10	240	2100	–	–				
13	517938	<5	220	1950	–	–				
14	517939	30	230	2050	–	–				
15	517940	5	220	2050	–	–				
16	517941	5	220	2000	–	–				
1(	517942	980	80	2450	–	–				
18	517943	7	220	2000	–	–				
19	517944	30	100	1050	–	–				
20	517945	30	230	2050	–	–				
21	517946	30	140	1400	–	–				
22	517947	30	260	2250	–	–				
23	517948	65	140	1800	–	–				
24	517949	90	120	1700	–	–				
25	517950	75	190	2250	–	–				

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

952200

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06665	12/12/89	7388	6 OF 6

TUBE No.	SAMPLE No.	Cr	Zr	Ti	Ti	Y				
1	517951	50	170	1750	—	—				
2	517952	<5	270	1700	—	—				
3	517953	8	240	1800	—	—				
4	517954	<5	270	1750	—	—				
5	517955	<5	310	1850	—	—				
6	517956	<5	310	1900	—	—				
7	517957	<5	280	1700	—	—				
8	517958	<5	320	1850	—	—				
9	517959	<5	270	1700	—	—				
10	517960	<5	260	1500	—	—				
11										
12										
13										
14										
15										
16										
1(										
18										
19										
20										
21										
22										
23	DETECTION	5	5	50	0.01	5				
24	UNITS	ppm	ppm	ppm	%	ppm				
25	METHOD	401	401	401	403	401				

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

APPENDIX VII

952202

ABERFOYLE RESOURCES LIMITED

EXPLORATION LICENCE 5/85

LAKE MARGARET

TECHNICAL REPORT

DHEM SURVEYS DDH RH-18 1989

Prepared by:

J J Read
Geophysicist

Distribution

1. Aberfoyle Resources Limited, Burnie
2. Aberfoyle Resources Limited, Hawthorn

Issued By:

Jovan Silic
J Silic
Chief Geophysicist

CONTENTS

Figures

APPENDICES

952205

1. Summary

A UTEM survey conducted at the Red Hills Prospect in 1988-89, identified a conductor adjacent to the western edge of a black shale horizon from 72S to 104S. DDH RH-18 drilled on line 84S to test this anomaly, failed to intersect economic mineralisation. Sirotem and Em-37 DHEM surveys conducted in DDH RH-18 led to the interpretation of a flat lying conductor occurring below and west of DDH RH-18. DDH RH-19 drilled to test this conductor intersected a shallowly dipping shale horizon at the conductor position. The down-hole and surface EM anomalies have now been satisfactorily explained in terms of the shale horizon and no further exploration can be recommended on geophysical grounds, at the Red Hills Prospect.

2. Introduction

EL 5/85 covers an area of 140 km ^{2}, from north and east of Queenstown to north of Red Hills. This EL is currently the subject of a joint venture agreement between CRA Exploration and Aberfoyle Resources Limited. Aberfoyle Resources manage exploration of the licence. With the inception of the joint venture the Red Hills Prospect, in the NW corner of the EL, became the focus of Aberfoyles initial exploration (see figure 1).

The geology of the Red Hills Prospect is dominated by an elongate lens of rhyolitic to rhyodactic lava, that forms the Red Hills lava dome. Flanking the dome to the west, is a basinal sequence of felsic volcanoclastics. Within this sequence is a steeply west dipping, thick black shale unit. This black shale thins considerably at depth. Unconformably overlying the lava dome to the east are correlates of the Middle Ordovician Owen Conglomerate. McNeill (1987) suggests the volcanoclastic sequence is repeated on the east side of the lava dome, but is covered by approximately 300m of conglomerate.

A four loop UTEM program was conducted over the western volcaniclastic sequence during December 1988 and January 1989 (Read 1989). This survey identified a current gathering UTEM anomaly occuring over a 2.2 km strike length, from 16S to 104S. This UTEM anomaly was closely associated with the black shale unit within the volcaniclastics. North of line 72S, the observed UTEM anomaly could be adequately explained by the current gathering EM effects of the conductive black shale. From 72S to 104S the UTEM anomaly did not exhibit the EM characteristics expected from a wide block of conductive shale. Consequently it was concluded that there were three possible causative sources for the UTEM anomaly:

(1) Thickening of the shale body at depth
(2) Increase in the shale conductivity at depth, thereby giving the effect of a conductive body at depth.
(3) Conductive body, adjacent to the base the black shale.

952206

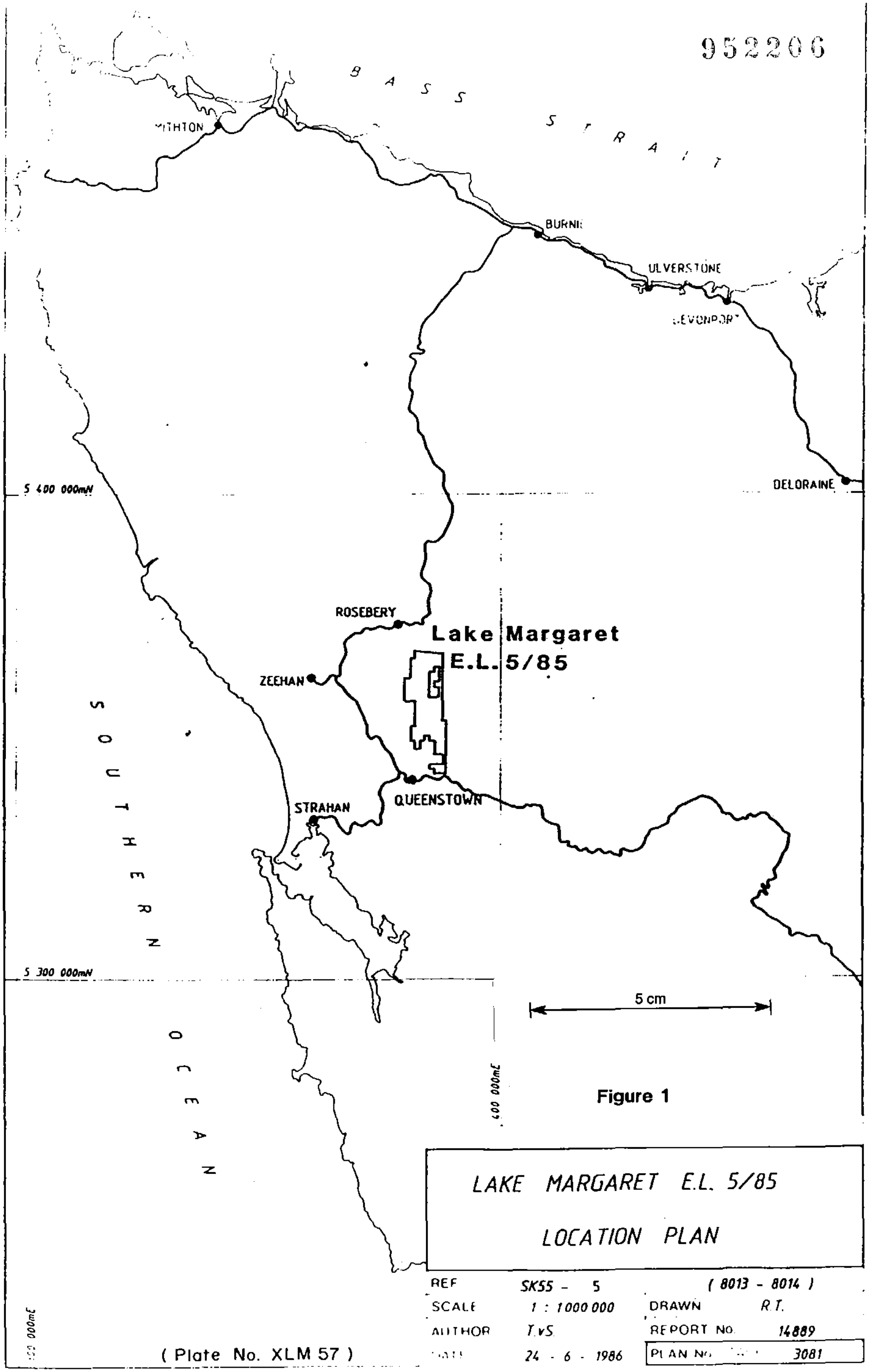


Figure 1

LAKE MARGARET E.L. 5/85

LOCATION PLAN

REF	SK55 - 5	(8013 - 8014)	
SCALE	1 : 1000 000	DRAWN	R.T.
AUTHOR	T.vS.	REPORT NO.	14889
DATE	24 - 6 - 1986	PLAN NO.	3081

(Plate No. XLM 57)

Possibility (1) was considered geologically unlikely as previous drilling had shown a wedging out of the shale at depth. Drilling was recommended on line 84S, to test for a conductive body occurring west of the shale from 1050-1075E, at a depth of approximately 220M. DDH RH-18 testing this anomaly did not intersect any significant mineralisation. Two black shale horizons were intersected at the following down-hole depths , 134-198m and 291-299m. In order to determine if the interpreted conductor occurred further west, and at a shallower depth than expected, a DHEM survey was conducted. The results of this survey are presented in this report.

It was considered highly probable that the conductor did occur further west than initially interpreted as the geological dip measured in DDH RH-18, was significantly shallower that the 80-90 ^{O}W dip, assumed when modelling the line 84S UTEM anomaly. A lesser dip, would place the conductor at a shallower depth.

3. DHEM Surveys in DDH RH-18

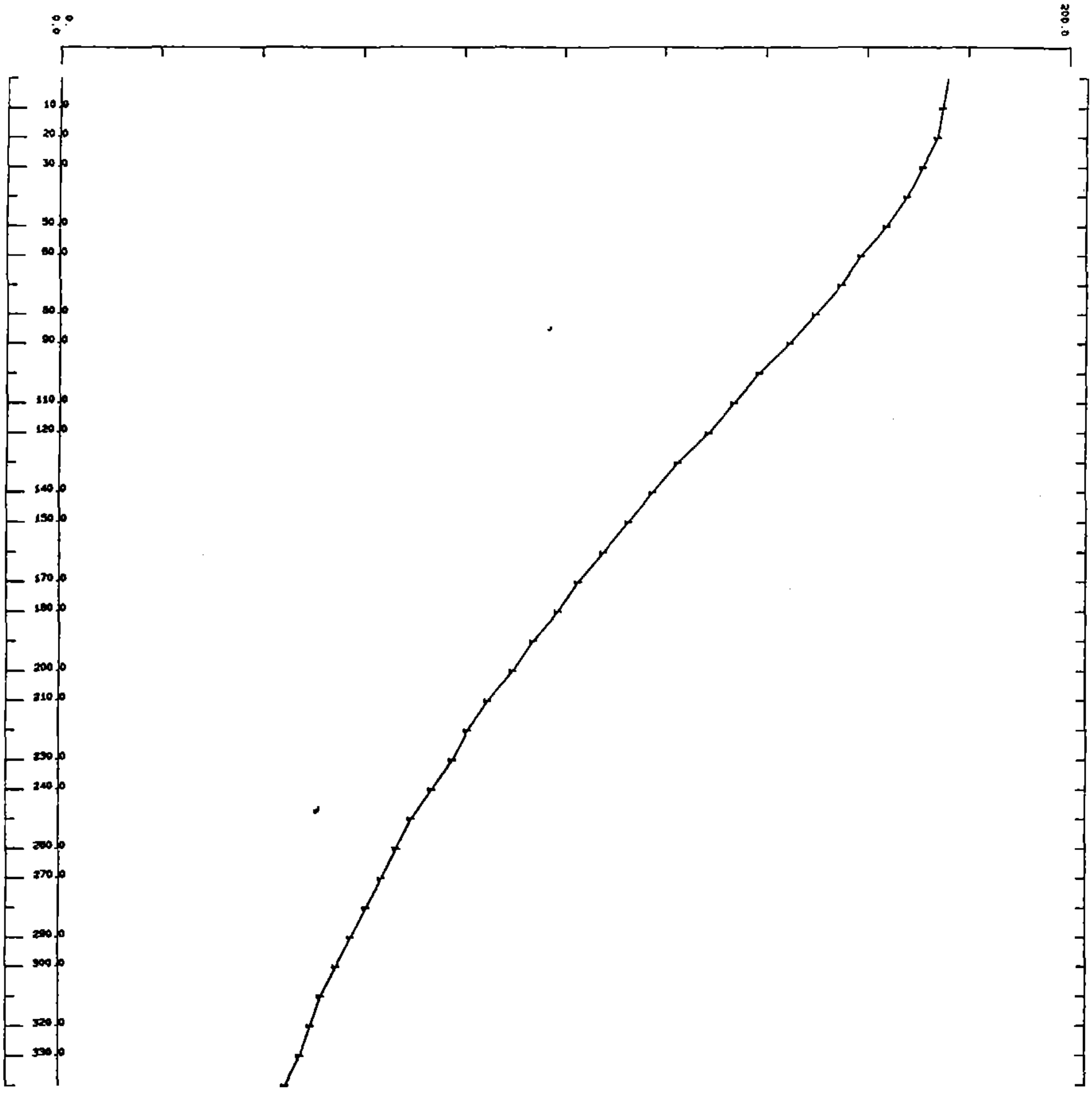
3.1 Sirotem Survey RH-18

Before DHEM surveying of RH-18 commenced, the half-space EM response of the volcaniclastic sequence was calculated using the computer program GRENDL. I.P data previously collected at Red Hills showed that the resistivity of the volcaniclastics varied from 1000 to 3000 ohms. For these resistivities, the late-time half-space response would range from 0.25 to 0.1 micro volts/amp. The self-response of the Sirotem probe down DDH RH-18 was also calculated using GRENDL and is given in figure 2.

The contract for the initial DHEM investigation of DDH RH-18 was awarded to McSkimming Geophysics of 35 The Boulevard, Boulevard Heights, Adelaide. One loop (loop 13, see Figure 3) of Sirotem data was collected on the 7th September 1989, using a medium power Sirotem Mk II transmitter and a Sirotem slimline down-hole probe. Due to the fast decaying, current-gathering nature of the UTEM anomaly, 10 channels of Sirotem early-time data were collected, in addition to 10 channels of standard time data. Hence, data was obtained over a delay time range of 0.049-5.779 ms. The down hole Sirotem data is given in Appendix 1.

The Sirotem data revealed the presence of an anomaly indicative of an off-hole conductor, reaching a maximum 170m down-hole. The anomalous response changed sign from early to late-time, indicative of current gathering processes dominating at early-time and vortex eddy-currents dominating at late-time. For the configuration of loop 13 and DDH RH-18, the response polarity change indicated an anomaly source below DDH RH-18.

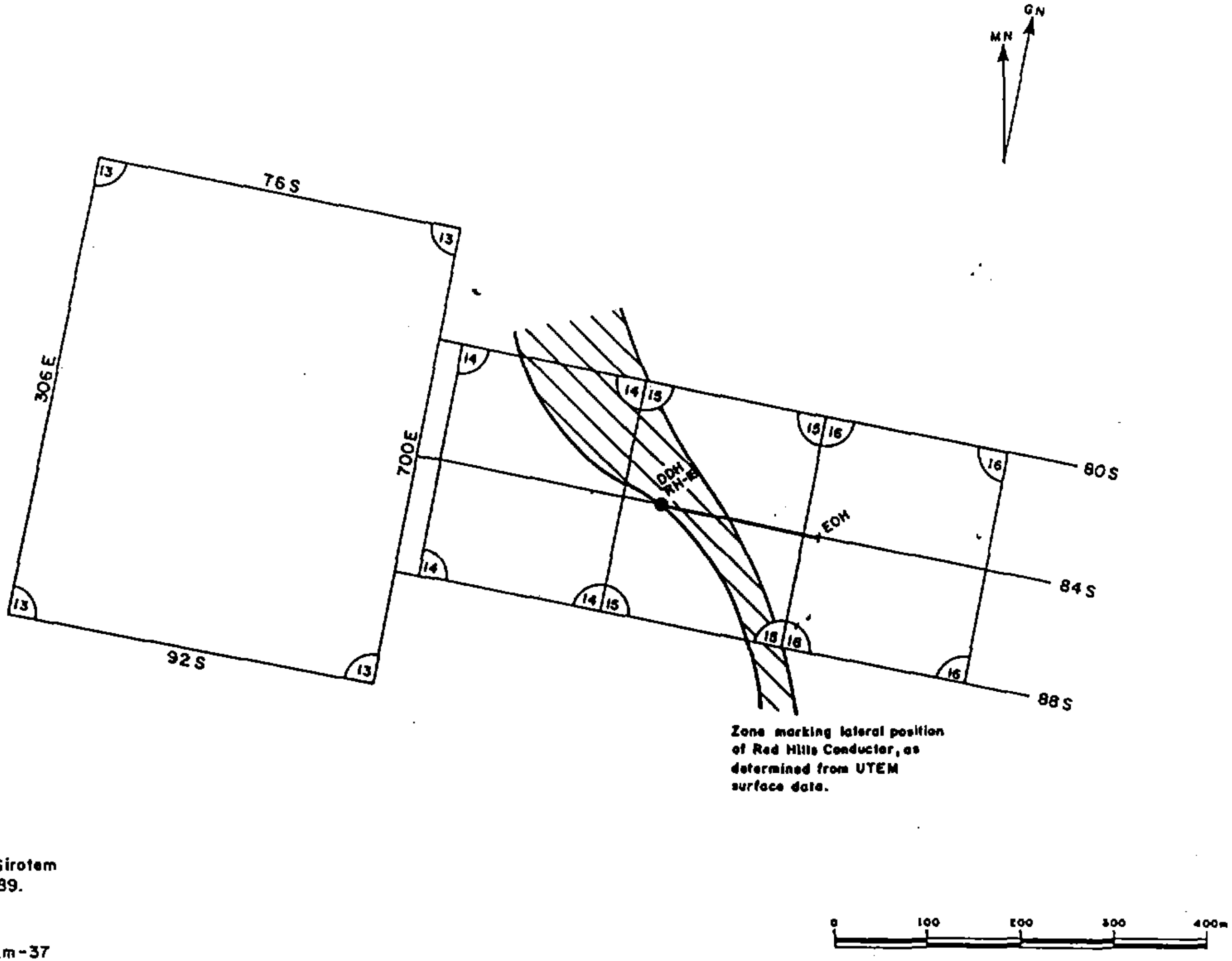
952208



RED HILLS PROSPECT LAKE MARGARET EL.
DHEM SURVEY DDH 18
SELF RESPONSE FROM LOOP 13
Aberfoyle Resources Limited September 1989
Plot Date :04/09/89 Horiz scale 1: 1500.0Plot number : 51

5 cm

FIG. 2 - Sirotem Probe Self-Response DDH RH-18.



952209

Loop 13	Used for Down-Hole Sirotem Survey, September 1989.
Loop 14-16	Used for Down-Hole Em-37 Survey, October 1989.
14	Loop corner and loop number.

5 cm

Figure 3

Aberfoyle Resources Limited

EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

Location Code :

TASMANIA

E.L. 5/85 RED HILLS PROSPECT
DHEM LOOP POSITIONS, 1989 SURVEYS

Scale 1:5000

Date FEB. 1990

Compiled : JJR
Drawn : JJR
Traced : RKW
Checked : JJR
Plate No

Due to the noisy nature of the Sirotem profiles, and the possibility of significant interaction between the interpreted off-hole conductor and the conductive shale, a further three loops of DHEM data were recommended in order to clarify the interpretation.

3.2 Em-37 Survey DDH RH-18

The contract for the follow-up DHEM survey in DDH RH-18 was awarded to Geoterrex Pty Ltd of 13 Whiting Street, Artarmon N.S.W. Three loops of down hole and surface H_z component EM data, were collected on the 20th and 21st October 1989. This data was collected using the Em-37 TDEM system operating at a frequency of $25H_z$, allowing the collection of data until 7.157ms delay time.

The surface EM data was collected in addition to the DHEM data in order to investigate the interaction between the conductive black shale and the interpreted western conductor. Using two data sets for interpretation, the position of the western conductor could be better constrained.

The general features the two data sets showed were as follows:

(1) The DHEM data indicated a conductor was intersected in DDH RH-18 at 165m.

(2) The in-hole conductor produced an early-time response, but there was a clear transition to a late-time off-hole response of opposite sign.

(3) The late-time DHEM anomaly reached a maximum amplitude when the target zone was situated beneath loop 15.

(4) The late-time DHEM response was negative for loops 14 and 15, but positive for loop 16.

(5) The shape of the DHEM anomaly was distinctly asymmetrical.

(6) The amplitude of the surface Em-37 anomaly was a maximum from loop 15

(7) The surface anomaly was positive from loops 14 and 15, but negative from loop 16.

The change in sign of both the surface and down-hole anomalies, from loop 15 to loop 16, was interpreted as indicating the conductor lay between these loops. As loop 15 produced the largest amplitude response, the conductor must have occurred closer to the middle of this loop than loop 16. The assymetrical form of the surface and down-hole anomalies was interpreted to indicate the conductor has a shallow dip.

4. Modelling the Em-37 Data

Due to the down-hole and surface Em-37 data exhibiting similar loop-to-loop variations, it was initially, and logically, assumed that both EM anomalies were due to the same conductive source. Despite extensive modelling using the computer program OZPLATE, a single conductor could not be obtained whose EM response reproduced the features of the surface and down-hole anomalies listed in section 3.2.

Consequently it was postulated that the down-hole and surface data represented responses from different conductors or different segments of the same conductor. Supporting evidence for this hypothesis was obtained by calculating the Exponential Time Constant and Power Law Decay Constant for the surface and down-hole anomalies. The following constants were obtained from the loop 15 data:

Down-Hole Data: Exponential Time Constant - 1.3ms
Power Law Decay Constant - 3.8

Surface Data: Exponential Time Constant - 0.22ms
Power Law Decay Constant - 6.0

The differences in these constants, suggested the surface data responded to a less conductive source, producing faster decaying currents, than did the down-hole data. The interaction between the two responses, decaying at different rates, produced an overall response that was neither current gathering nor true vortex eddy current flow.

Modelling the Red Hills Em-37 data proceeded in the following manner:

(1) A model was produced to match the down-hole data

(2) A model was produced to match the surface data, that included the response obtained from (1)

(3) The result from (2) was compared to the DHEM data and step (1) repeated.

This iterative procedure continued for each loop until the major features of both data sets were reproduced.

In order to produce the gradual increase in the down-hole late-time anomaly seen from loops 14 and 16, and a maximum anomaly response on loop 15, a shallowly east dipping conductor was required. The best-fit model profiles for loops 14, 15, and 16 are given in figures 4a, 5a and 6a, with the corresponding observed profiles in figures 4b, 5b, and 6b.

Changes in the conductivity, dip, down-dip extent and strike length of the best fit DHEM conductor could not generate the observed surface profiles. To reproduce the surface data a moderately west dipping conductor, of significant down-dip extent was required. The best fit model surface data, combining the effects of the two conductors are given in figures 7a, 8a, and 9a with the corresponding observed data given in figures 7b, 8b, and 9b.

The best fit between the model data and the field data occurs for loop 14. The configuration of conductors shown in figure 10 reproduced the unusually fast decay, shown by the surface data, for this loop. This was due to conductor 1 producing a dominantly negative response from loop 14, while conductor two produced a dominantly positive response. At early times the response of conductor 1 dominated the surface response, but with increasing time the more slowly decaying response of conductor two became dominant. The superposition of these two responses of opposite polarity and different decay rates produced the overall, fast decaying response.

The dominating of the early to mid-time surface response by conductor two, was partly due to the two conductors differing decay rates and partly due to conductor two being closer to the surface receiver than conductor one. With DDH RH-18 situated between the two conductors the DHEM data primarily showed the effects of the different decay rates of the two conductors.

Conductor two was interpreted to occur within the black shale unit, representing a local region of increased conductivity. The shale was known not to be homogeneously conductive, as although DDH RH-18 entered the black shale at 134 m little EM response was measured until a thin conductor was intersected at 165m.

It was concluded that the two interpreted off-hole conductors and the conductor intersected by RH-18, were part of the same geological horizon folded into a synform as represented in figure 10. As the conceptual target at Red Hills was sulfide mineralisation occurring at the base of the shale horizon, it was recommended Conductor 1 be diamond drill tested, as due to its significant conductivity, it was potentially sulfide mineralisation. DDH RH-19 drilled to test this conductor, did not intersect any base metal mineralisation, but intersected a black shale unit between 192-206m. This shale, intersected 30m below the modelled sulfide position, is equated as being the

952213

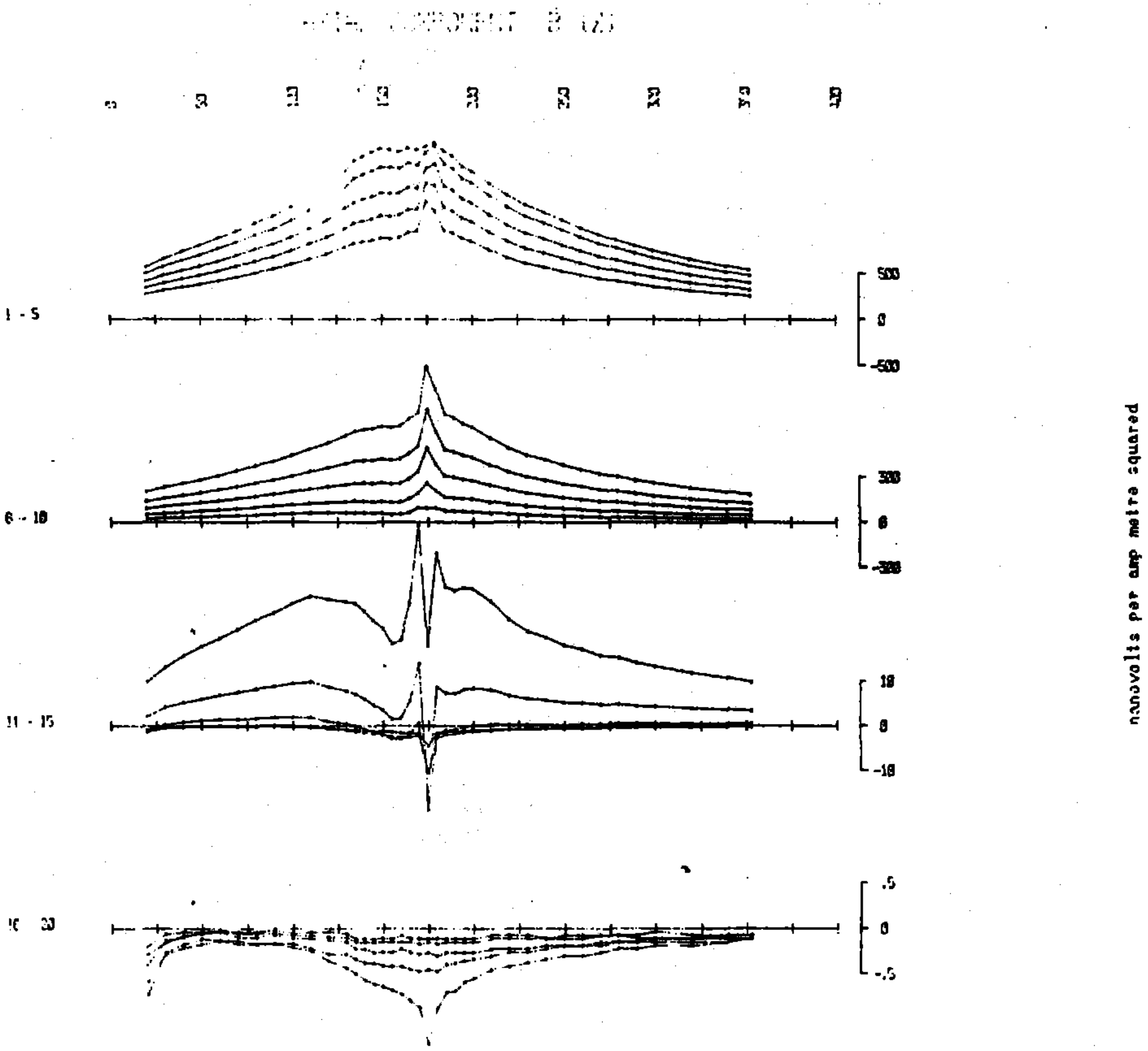


Figure 4A

EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 09S 725E
: 09S 925E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 147 microsecs.
FIRST GATE TIME : 99.5 microsecs.
CURRENT : 15.7 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : RJL
DATE : 28/10/[illegible]

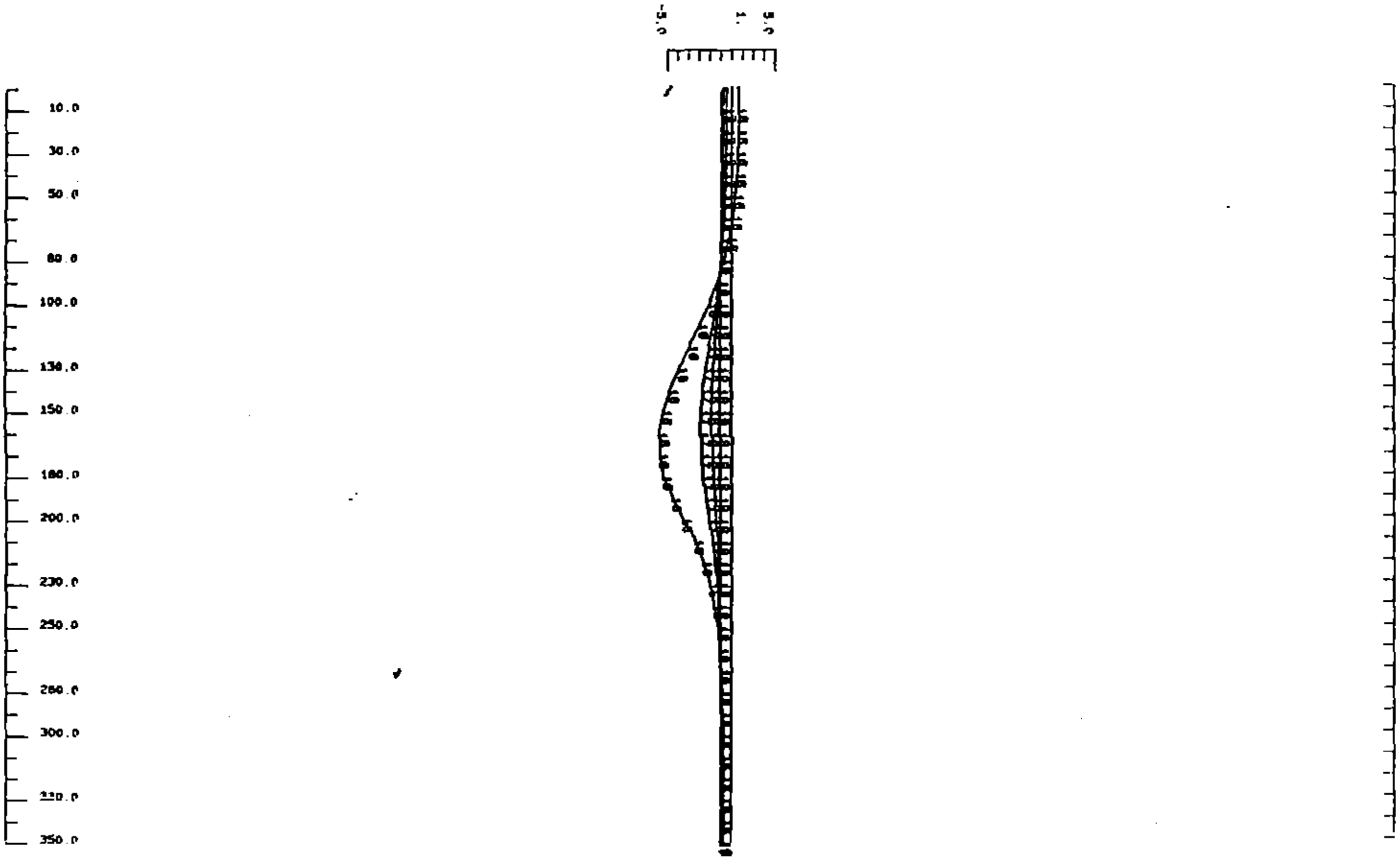
SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO
4-143

CLIENT : Aberfoyle Resources Ltd
PROJECT :
AREA : RED HILLS
BOREHOLE : RH10 A
TX LOOP : [illegible]

952214

Figure 4B



RED HILLS PROSPECT LAKE MARGARET EL
OZPLATE MODEL EM-37 DATA (late time anomaly)
DHEM DATA DDH RH-18 LOOP 14
CONDUCTOR 1 X, Y, Z 850E, 10600S, 160m DIP 1E
STRIKE LENGTH 800m width/strike 0.10 s-t 80
CONDUCTOR 2 X, Y, Z 1100E, 10600S, 80m DIP 70W
STRIKE LENGTH 800m width/strike 0.10 s-t 50
Aberfoyle Resources Limited 1989 JJR
Plot Date 27/11/89 Horiz scale 1: 2500.0 Plot number : 13

5 cm

952215

AXIAL COMPONENT B (Z)

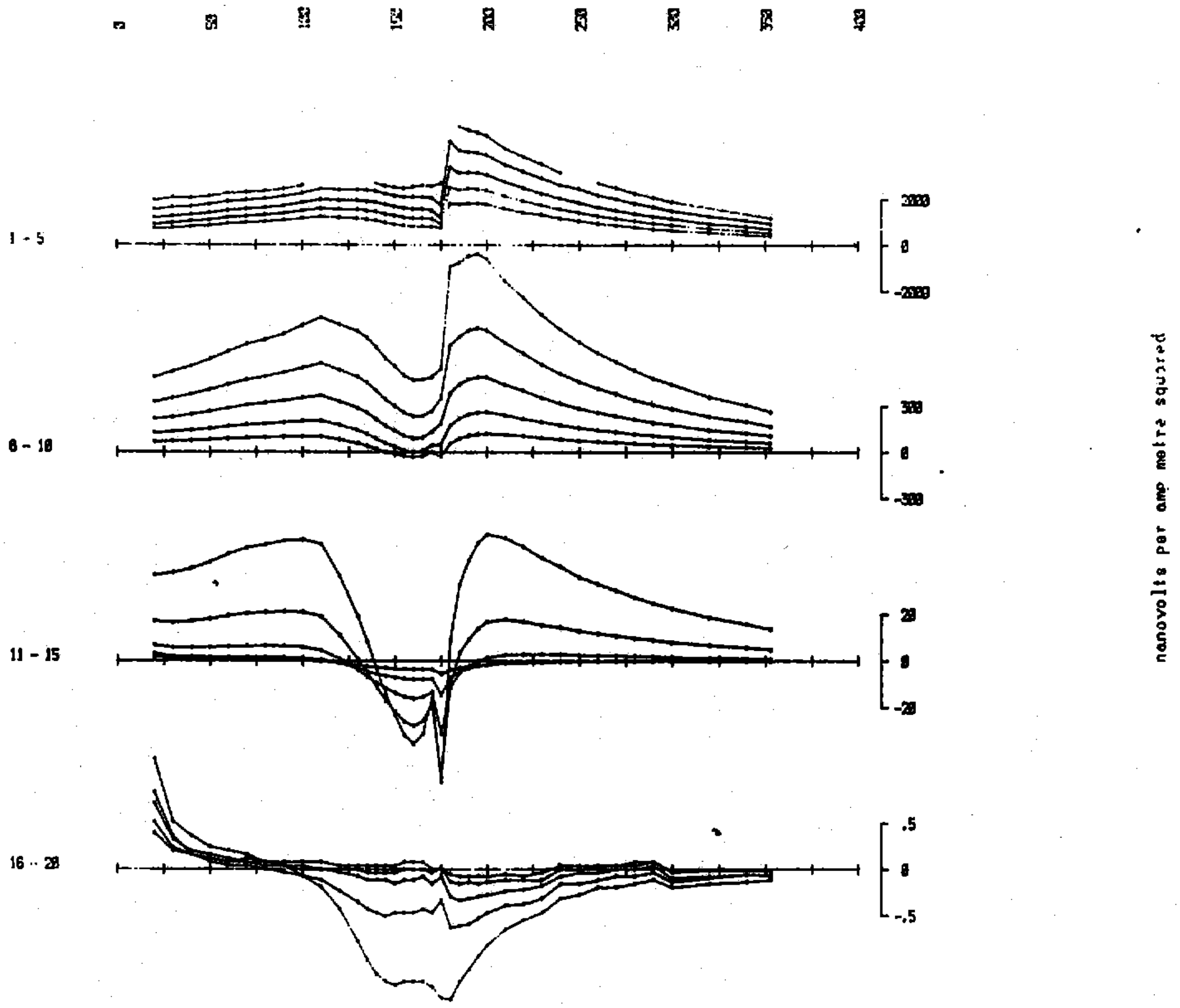


Figure 5A

EM-37

BOREHOLE
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

5 cm

TX LOOP SIDES	:	82S	925E
	:	89S	1125E
TX LOOP SIZE	:	200 m X 200 m	
TX TURN OFF TIME	:	140 microsecs.	
FIRST GATE TIME	:	80.5 microsecs.	
CURRENT	:	15.2 amps	
FREQUENCY	:	25 Hz.	
INTEGRATION TIME	:	1024 cycles	
SYNC MODE	:	CRYSTAL	
HORIZONTAL SCALE	:	1:2500	
SURVEYED BY	:	RJL	
DATE	:	20/10/1909	

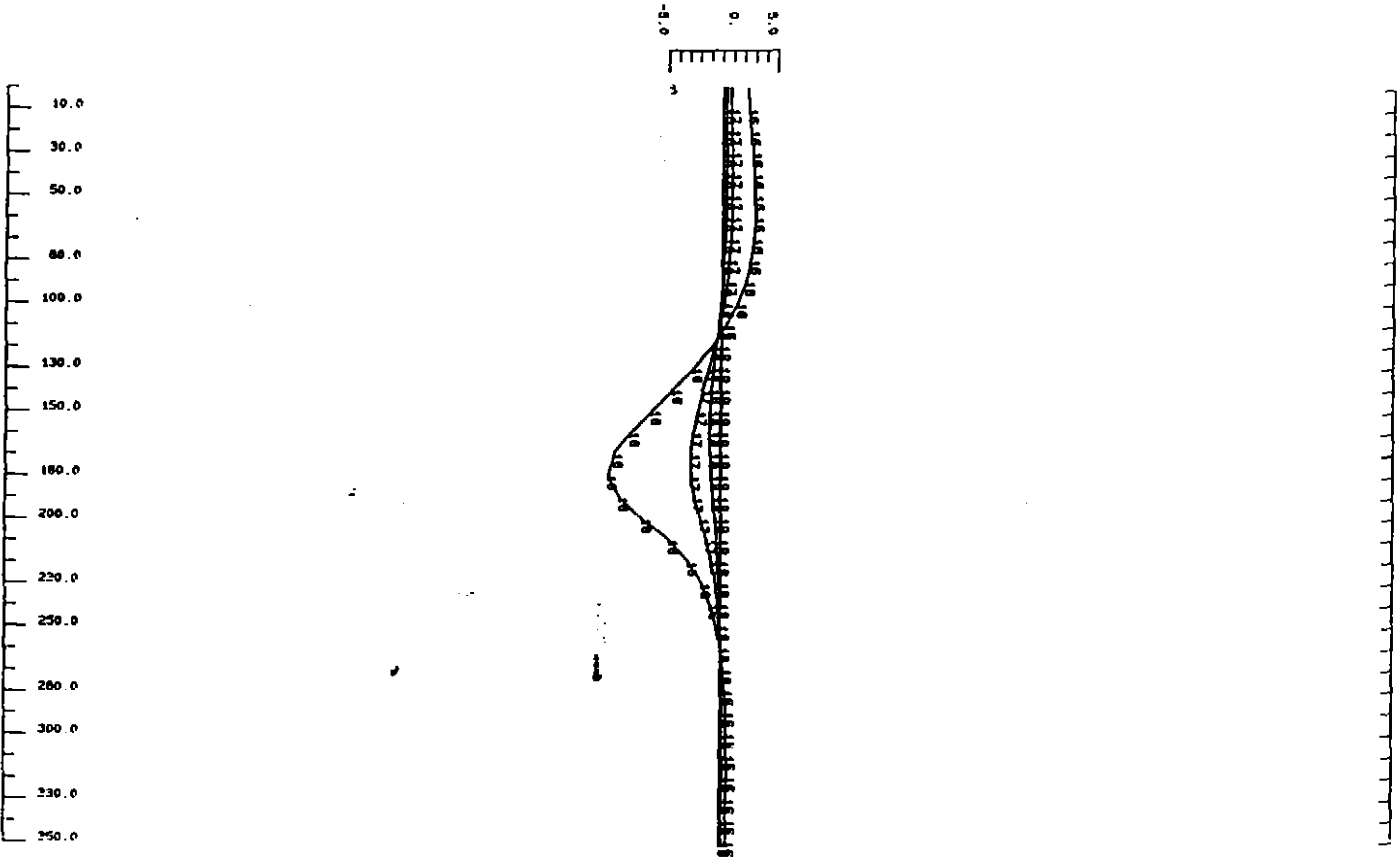
SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
J-143

CLIENT	:	Aberfoyle Resources Lt
PROJECT	:	I
AREA	.	RED HILLS
BOREHOLE	:	RH19 6
TX LOOP	:	15

Figure 5B

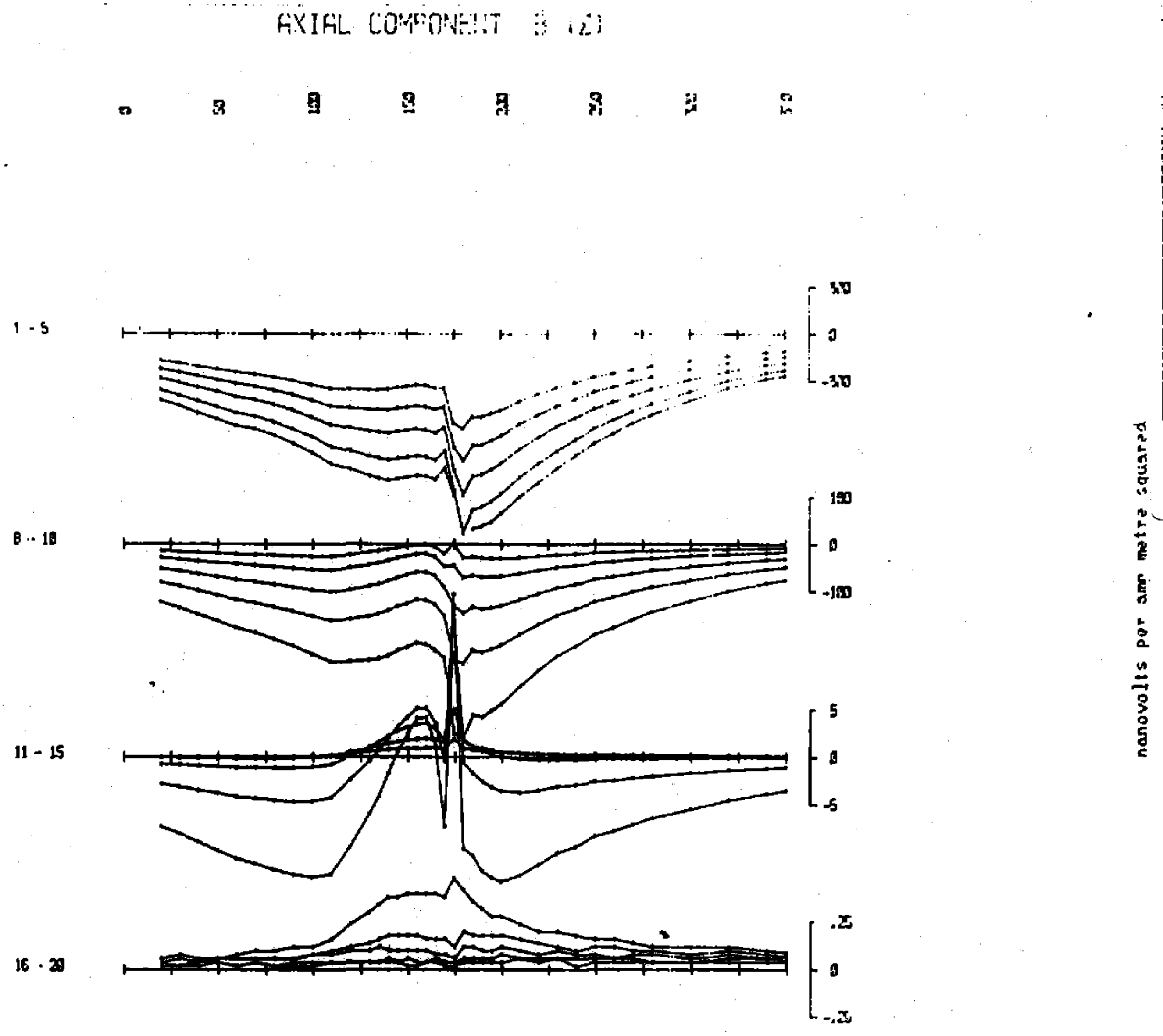
952216



RED HILLS PROSPECT LAKE MARGARET EL
DZPLATE MODEL EM-37 DATA (late time anomaly)
DHEM DATA DDH RH-18 LOOP 15
CONDUCTOR 1 X, Y, Z 850E, 10600S, 160m DIP 1E
STRIKE LENGTH 800m width/strike 0.10 s-t 80
CONDUCTOR 2 X, Y, Z 1100E, 10600S, 80m DIP 70W
STRIKE LENGTH 800m width/strike 0.10 s-t 50
Aberfoyle Resources Limited 1989 JJR
Plot Date 27/11/89 Horiz scale 1: 2500.0 Plot number : 14

5 cm

952217



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

5 cm

TX LOOP SIDES : 925 1125E
: 095 1325E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 138 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 21/10/1989

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.

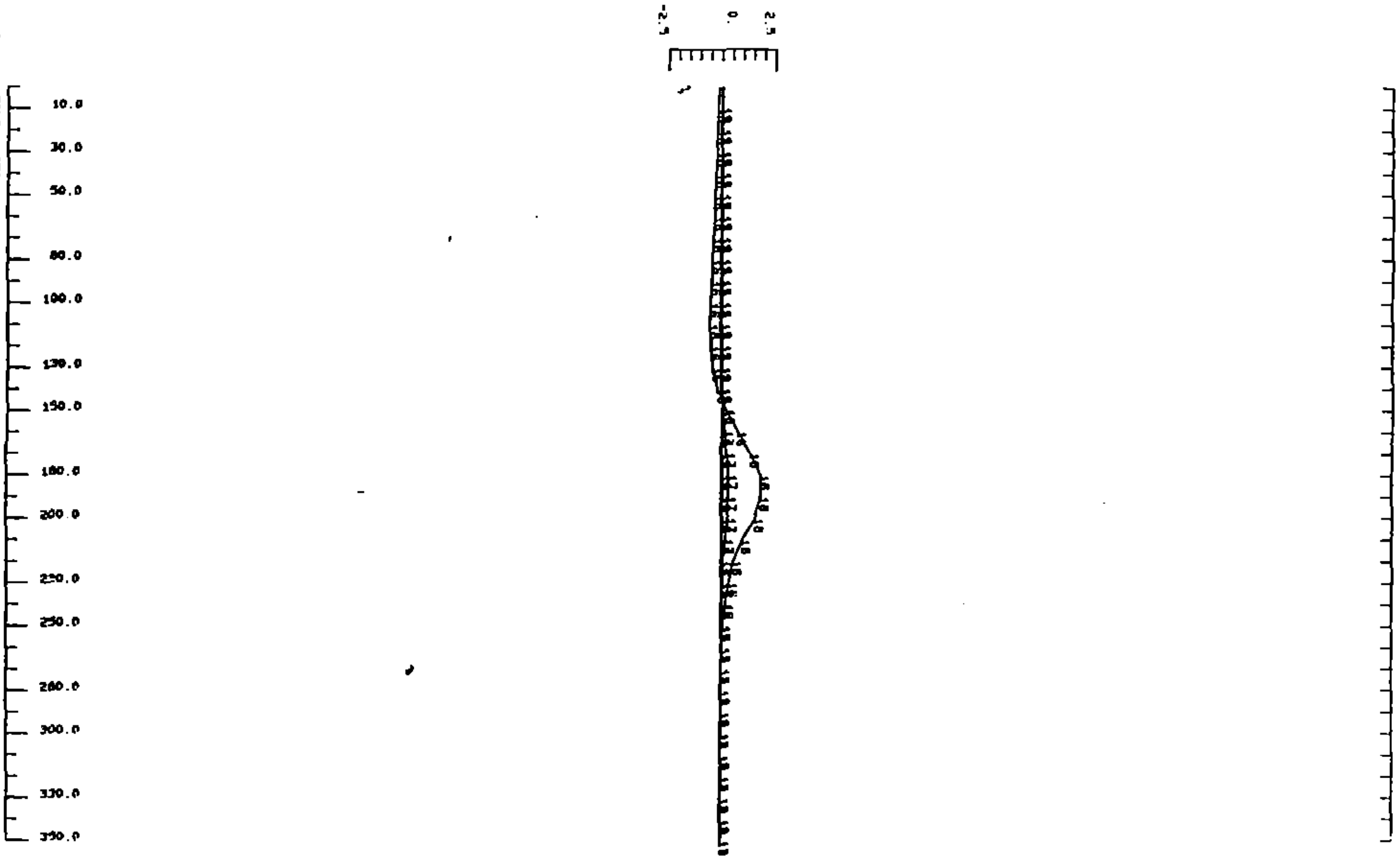
PROJECT NO. 4-143

CLIENT : Aberfoyle Resources Lt
PROJECT : 1
AREA : RED HILLS
BOREHOLE : RHI8 A
TX LOOP : 1C

Figure 6A

Figure 6B

952218



RED HILLS PROSPECT LAKE MARGARET EL
OZPLATE MODEL EM-37 DATA (late time anomaly)
DHEM DATA DDH RH-18 LOOP 16
CONDUCTOR 1 X, Y, Z 850E, 10600S, 160m DIP 1E
STRIKE LENGTH 800m width/strike 0.10 s-t 80
CONDUCTOR 2 X, Y, Z 1100E, 10600S, 80m DIP 70W
STRIKE LENGTH 800m width/strike 0.10 s-t 50
Aberfoyle Resources Limited 1989 JJR
Plot Date :27/11/89 Horiz scale 1: 2500.0 Plot number : 16

5 cm

952219

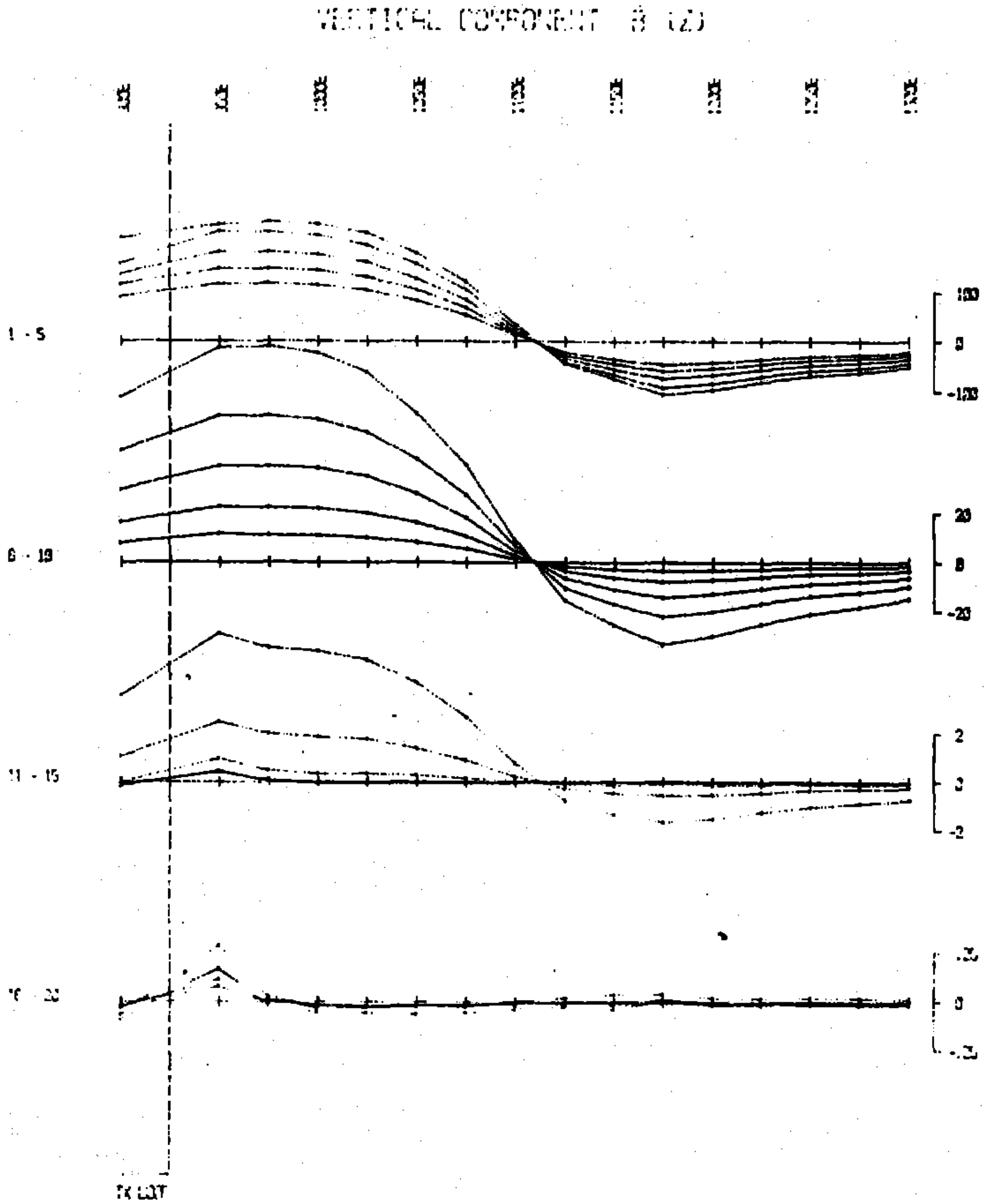


Figure 7A

nanovolts per amp met

5 cm

FIXED
TRANSMITTER
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

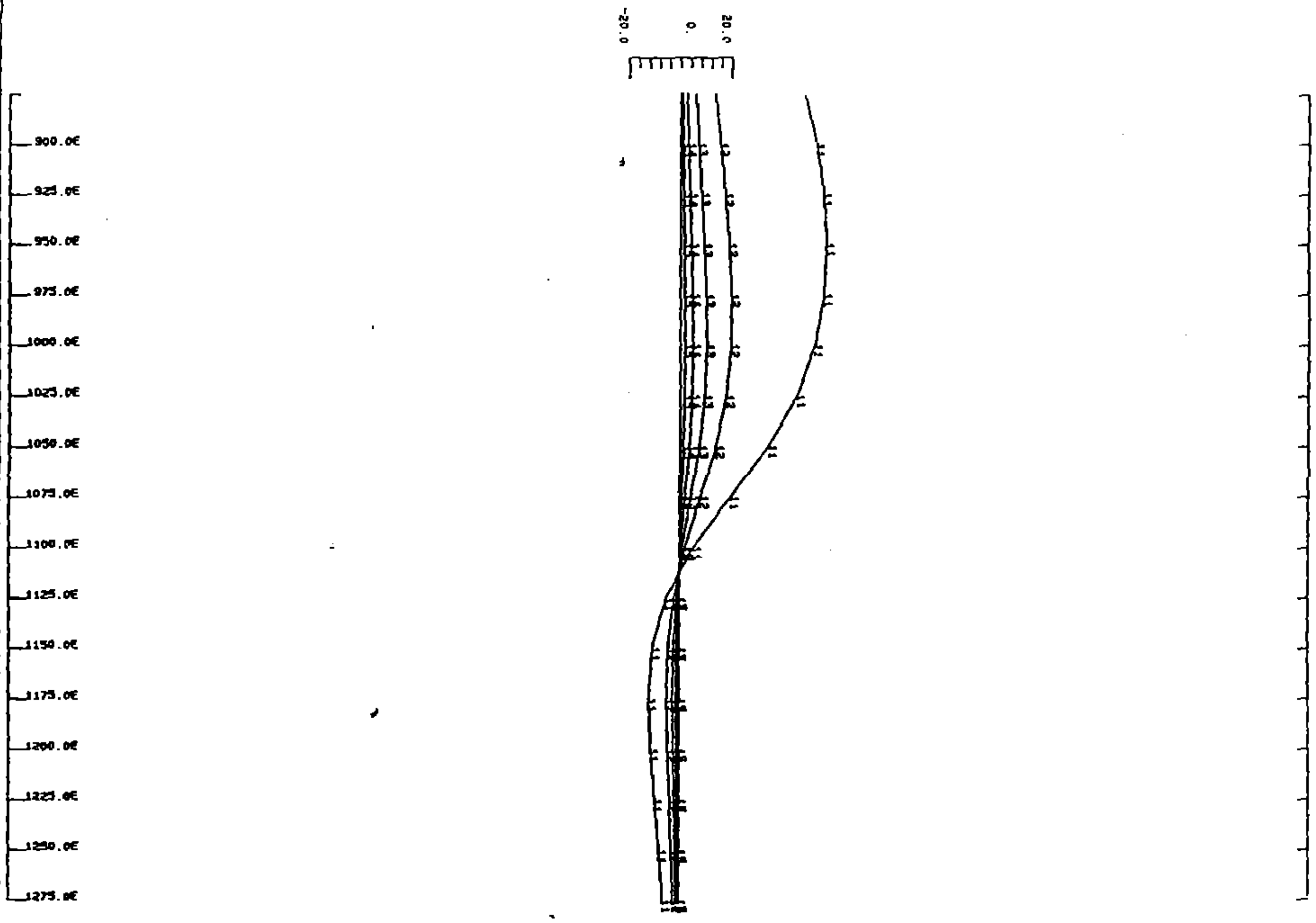
TX LOOP SIDES	: 99S	725E
	: 725	025E
TX LOOP SIZE	: 200 m X 200 m	
TX TURN OFF TIME	: 142 micro sec	
FIRST GATE TIME	: 89.5 micro sec	
CURRENT	: 15.7 amp	
FREQUENCY	: 25 Hz	
INTEGRATION TIME	: 1024 cycles	
SYNC MODE	:	
HORIZONTAL SCALE	: 1:2500	
SURVEYED BY	: PF	
DATE	: 20/10/1990	

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-145

CLIENT : [illegible]
PROJECT :
AREA : RED HILLS
LINE : [illegible]
TX LOOP : [illegible]

Figure 7B



RED HILLS PROSPECT LAKE MARGARET EL
OZPLATE MODEL EM-37 DATA (late time anomaly)
SURFACE DATA LINE 84S LOOP 14
CONDUCTOR 1 X, Y, Z 850E, 10600S, 160m DIP 1E
STRIKE LENGTH 800m SIGMA-T 30 W/S 0.10
CONDUCTOR 2 X, Y, Z 1100E, 10600S, 80m DIP 70W
STRIKE LENGTH 800m SIGMA-T 50 W/S 0.10
Aberfoyle Resources Limited 1989 JJR
Plot Date .17/11/89 Horiz scale 1: 2500.0 Plot number . 10

5 cm

952221

VERTICAL COMPONENT B (Z)

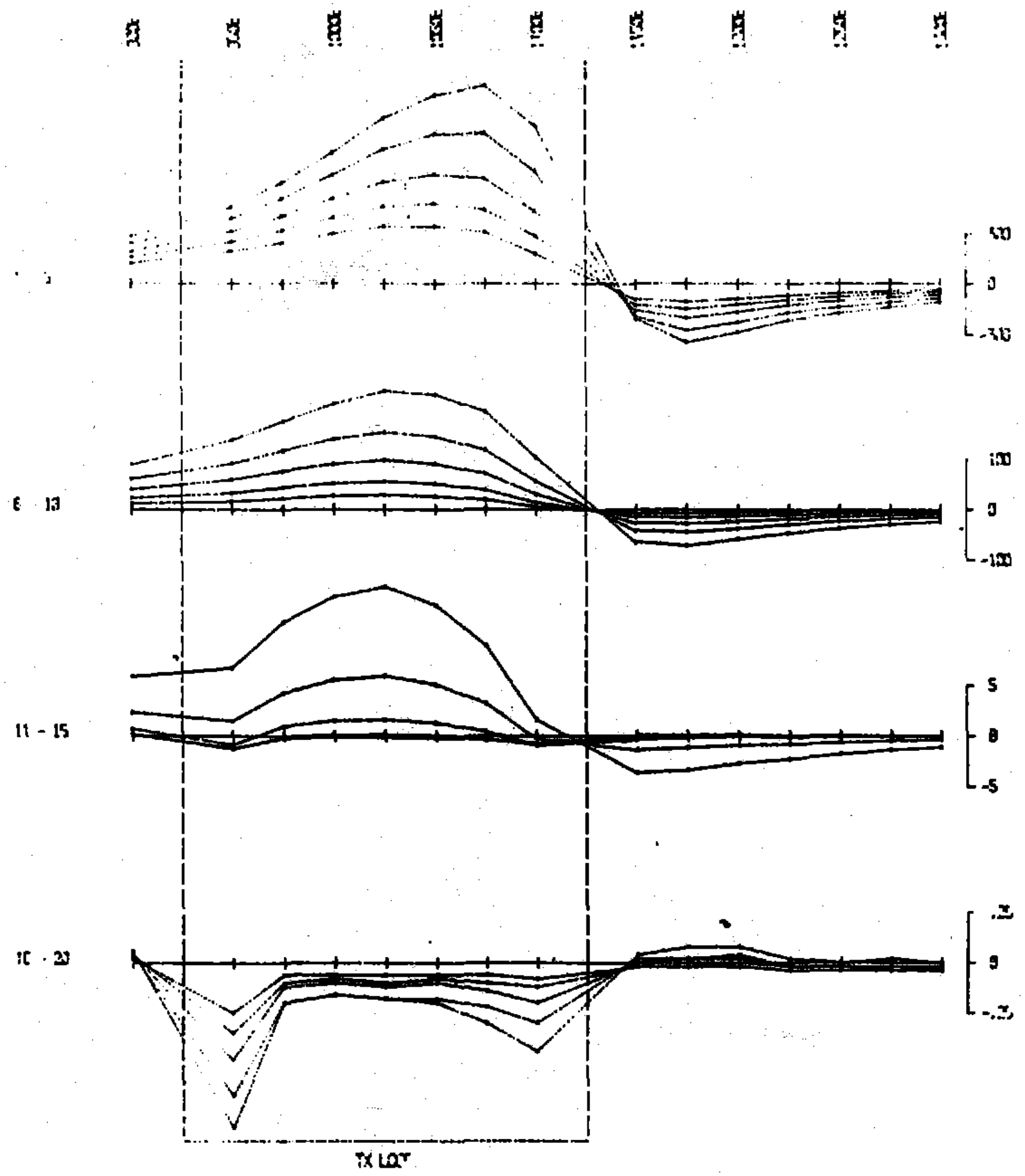


Figure 8A

[illegible]

FIXED
TRANSMITTER
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

5 cm

nanovolts per amp metre

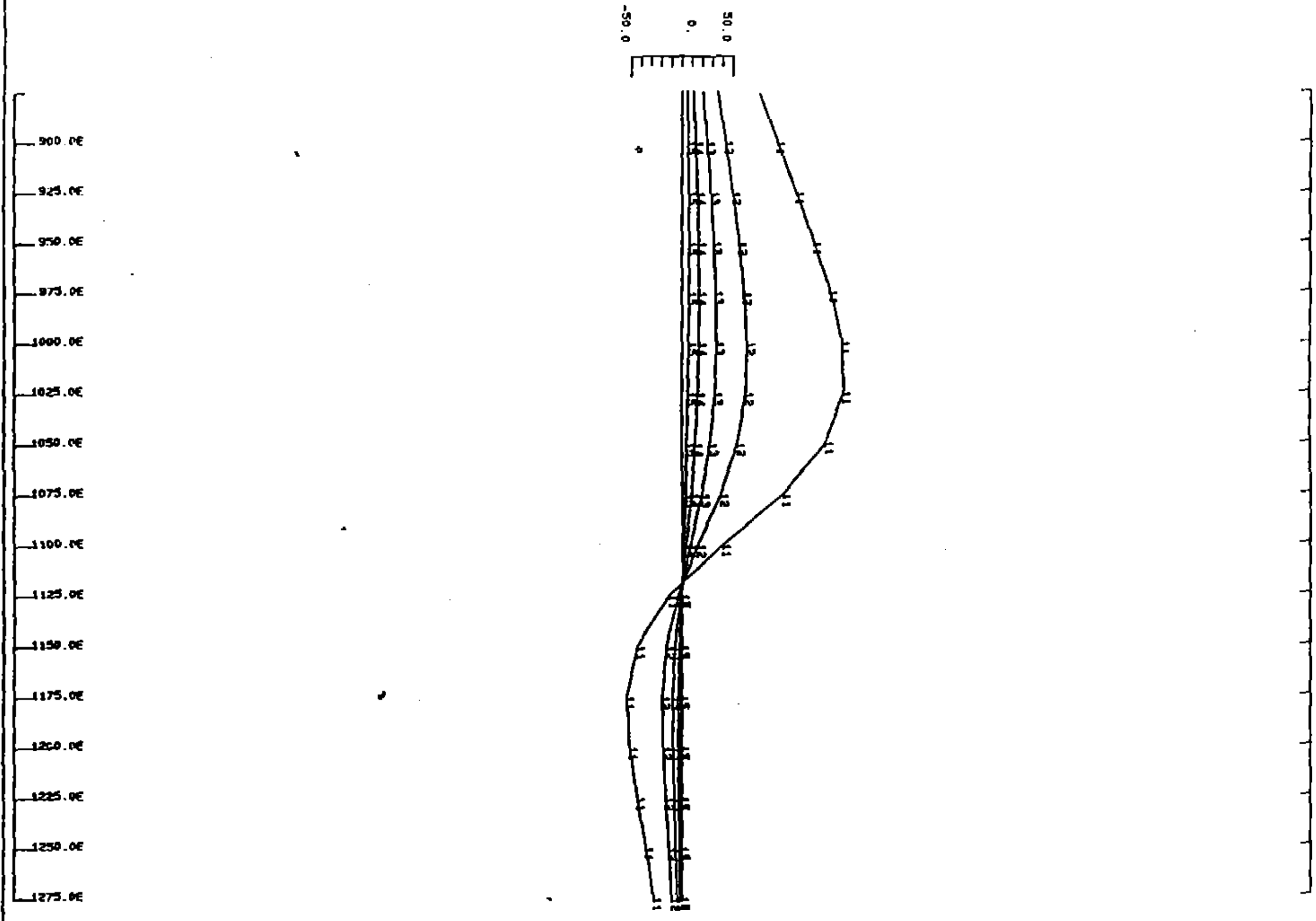
TX LOOP SIDES : 925 925E
: 935 1125E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 135 microsecs.
FIRST GATE TIME : 99.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 21/10/1989

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.
PROJECT NO 4-143

CLIENT : Aberfoyle Resources Ltd
PROJECT : :
AREA : RED HILLS
LINE : 945 2
TX LOOP : 15

952222

Figure 8B



RED HILLS PROSPECT LAKE MARGARET EL
OZPLATE MODEL EM-37 DATA (late time anomaly)
SURFACE DATA LINE 84S LOOP 15
CONDUCTOR 1 X, Y, Z 850E, 10600S, 160m DIP 1E
STRIKE LENGTH 800m SIGMA-T 30 W/S 0.10
CONDUCTOR 2 X, Y, Z 1100E, 10600S, 80m DIP 70W
STRIKE LENGTH 800m SIGMA-T 50 W/S 0.10
Aberfoyle Resources Limited 1989 JJR
Plot Date :27/11/89 Horiz scale 1: 2500.0Plot number 20

5 cm

952223

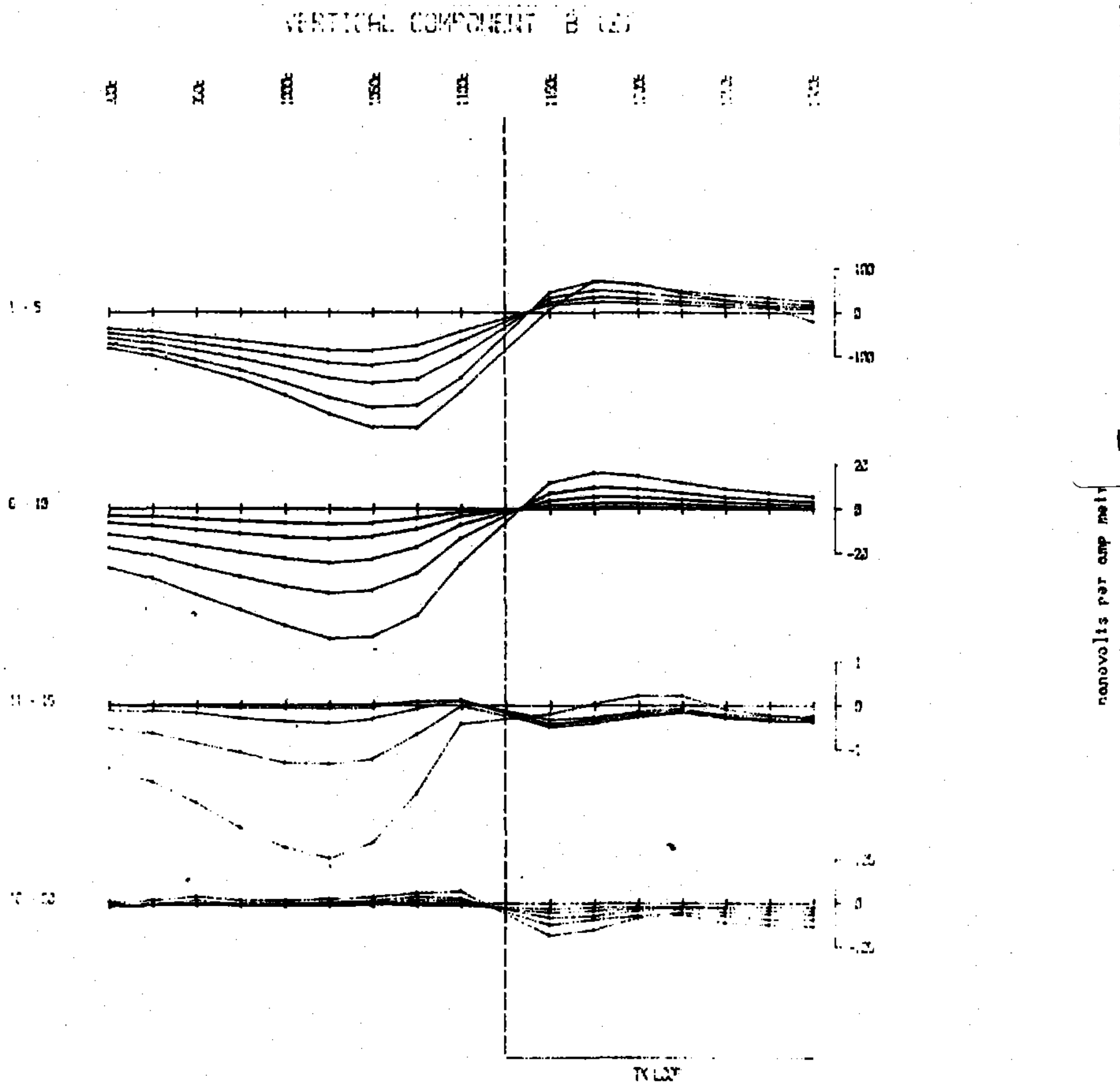


Figure 9A

EM-37

FIXED TRANSMITTER SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

5 cm

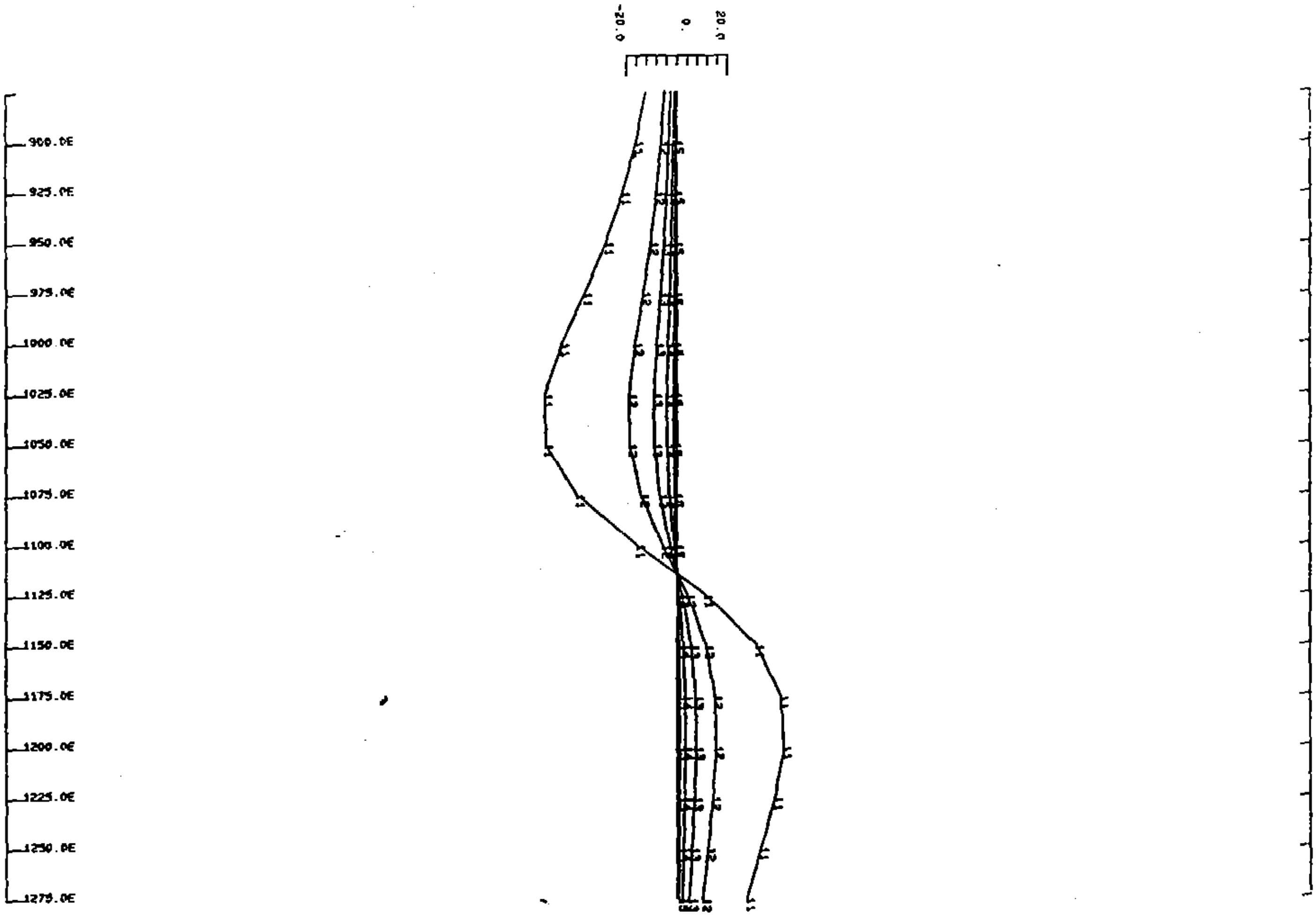
TX LOOP SIDES : 92S 1125E
: 90S 1325E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 130 microsecs.
FIRST GATE TIME : 89.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 21/10/1993

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.
PROJECT NO. 4-145

CLIENT : Aberfoyle Resources Lt
PROJECT : 1
AREA : RED HILLS
LINE : [illegible] 2
TX LOOP : 1E

Figure 9B

952224



RED HILLS PROSPECT LAKE MARGARET EL
OZPLATE MODEL EM-37 DATA (late time anomaly)
SURFACE DATA LINE 84S LOOP 16
CONDUCTOR 1 X,Y,Z 850E,10600S,160m DIP 1E
STRIKE LENGTH 800m SIGMA-T 30 W/S 0.10
CONDUCTOR 2 X,Y,Z 1100E,10600S,80m DIP 70W
STRIKE LENGTH 800m SIGMA-T 50 W/S 0.10
Aberfoyle Resources Limited 1989 JJR
Plot Date .27/11/89 Horiz scale 1: 2500.0 Plot number : 17

5 cm

952225

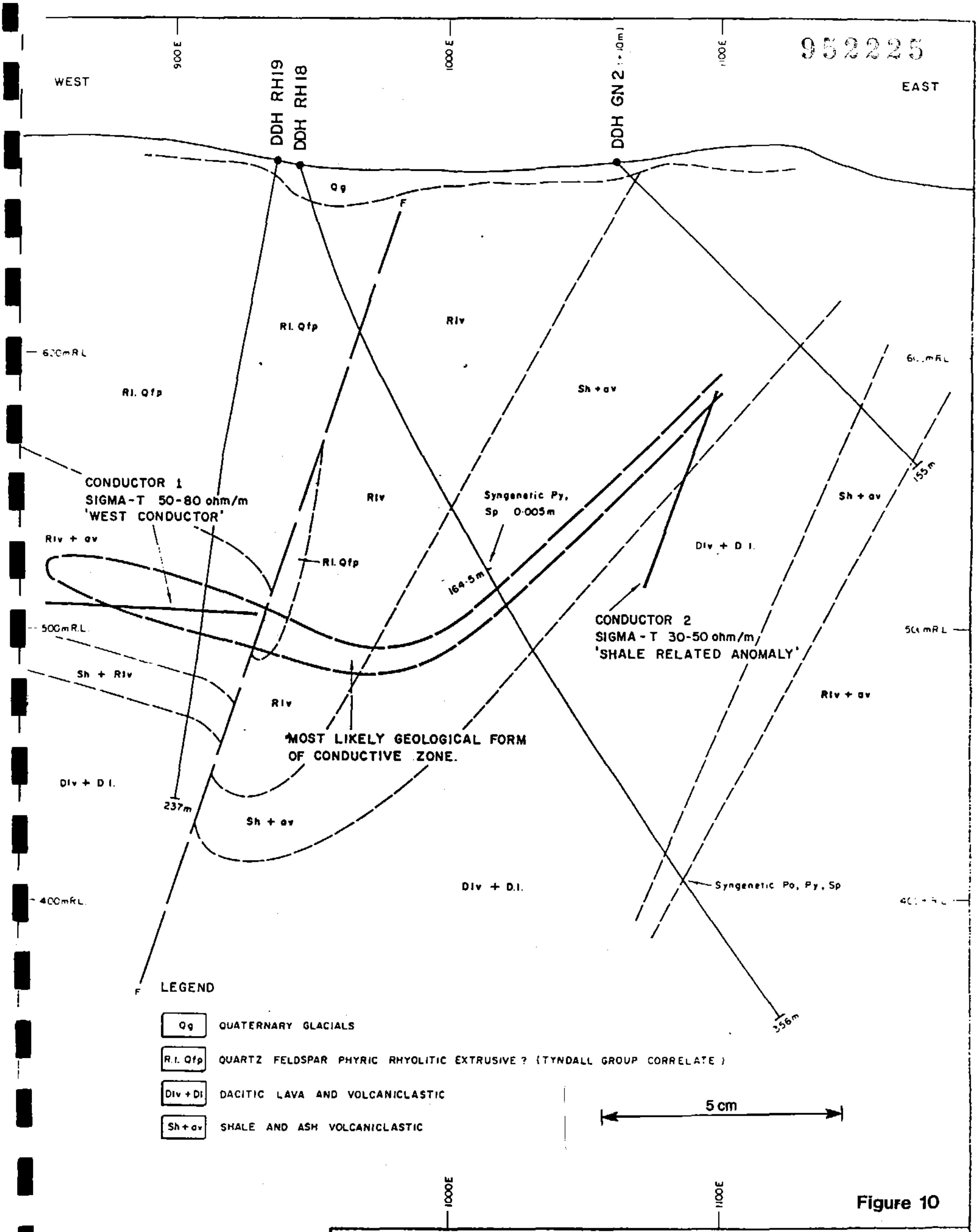


Figure 10

Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date
OJN/jmo	30-1-90		

Location Code :

NORTH WEST TASMANIA
LAKE MARGARET E.L. - RED HILLS PROSPECT
SECTION 84 S
INTERPRETATION OF DHEM DATA DDH - RH 18
INTERPRETATION OF SURFACE Em 37 DATA

Scale 1:1250 (A4)=1:2500
Date December 1989

Compiled JRR, [illegible], DJN
Drawn
Traced JMS
Checked
Plan No.

interpreted western conductor. Hence, this shale must represent an area of increased local conductivity, similar to that intersected in DDH RH-18.

The flat dip of the main western conductor was only interpreted after a distinct asymmetry was noted in the DHEM data for DDH RH-18. The asymmetry the 1988-89 UTEM anomaly exhibited was initially explained by suggesting a half-space response was superimposed on the deep conductors response, causing the cross-over point of the anomaly to separate from the zero level, producing the anomalies asymmetry. If no half-space response is present , the cross-over point and zero level, of an anomaly, are coincident. The effect of the half space response could have been investigated by energising the conductors from a loop on the opposite side of the conductors to the initial loop. If the resulting UTEM anomaly had a larger positive response, than negative response, a strong half space response could be assumed. If the large positive response of the initial anomaly, was matched by a large negative response, then the conductor could have been interpreted as shallowly dipping.

5. Conclusions

DDH RH-18 was drilled to test a conductor, interpreted from the 1988-89 UTEM data, to occur west of the shale horizon. This hole failed to intersect base metal mineralisation. A Sirotem survey conducted in DDH RH-18 suggested a conductor occurred off-hole from DDH RH-18 and consequently a 3 loop follow-up Em-37 survey was conducted. Interpretation of the DHEM survey and surface Em-37 data suggested two off-hole conductors were present. The eastern conductor was interpreted as being non prospective, due to it occurring within the shale, while the western conductor was interpreted as being potentially sulfides due to its significant conductivity. DDH RH-19 drilled to test the western conductor, intersected a shallowly dipping black shale horizon that was correlated with the interpreted conductor. This shale horizon must represent an area of increased conductivity within the shale. The synformal nature of the conductive zone, interpreted from the DHEM was confirmed by the geological interpretation of DDH RH-18 and DDH RH-19.

The UTEM and DHEM anomalies identified at the Red Hills Prospect have been explained by a flat lying block of shale occurring at depth, and to the west of the main shale horizon. Consequently no further exploration of the Red Hills Prospect can be recommended.

6. References

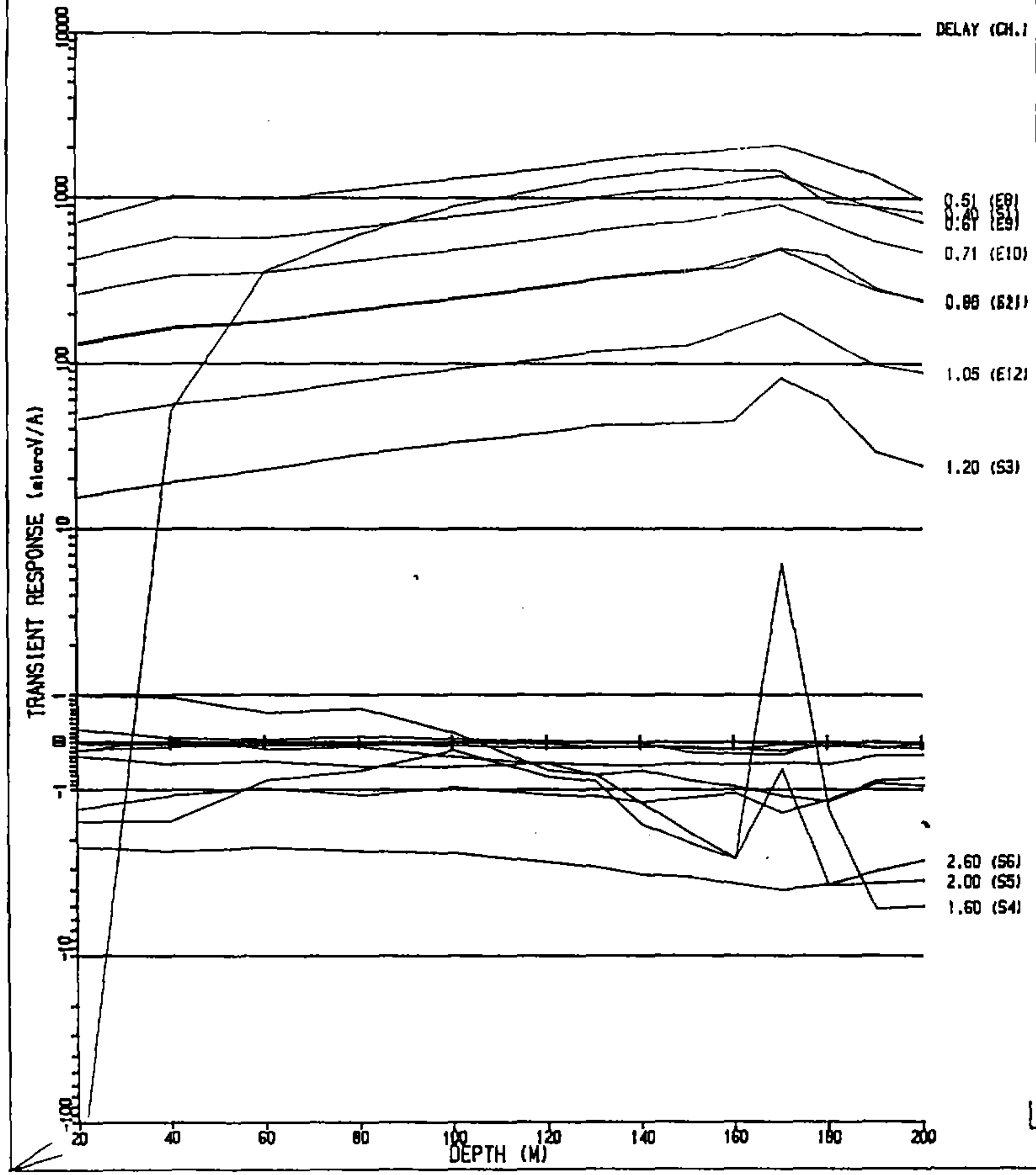
McNeill, A W, (1987), Geology of the Mt Murchison Area, Mt Read Volcanics Project Map 4, Department of Mines Tasmania

Read, J J, (1989), Exploration Licence 5/85, Lake Margaret Technical Report Reconnaissance UTEM Program December 1988, Aberfoyle Resources Limited Internal Report.

McNeill A W, (1989), Lake Margaret El 5/85 Tasmania Technical Progress Report for the Period August 1988 to September 1989. Aberfoyle Resources Limited Internal Report No. Lake Margaret 2.

Appendix 1

DDH RH-18 DHEM SIROTEM DATA



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS
SURVEY DATE : 05-09-89
CONFIGURATION : 500M SQUARE TX. LOOP,
DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1237
CURRENT : 7.0 AMPS
OPERATOR : MICHAEL ROSE

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN
-1 AND +1

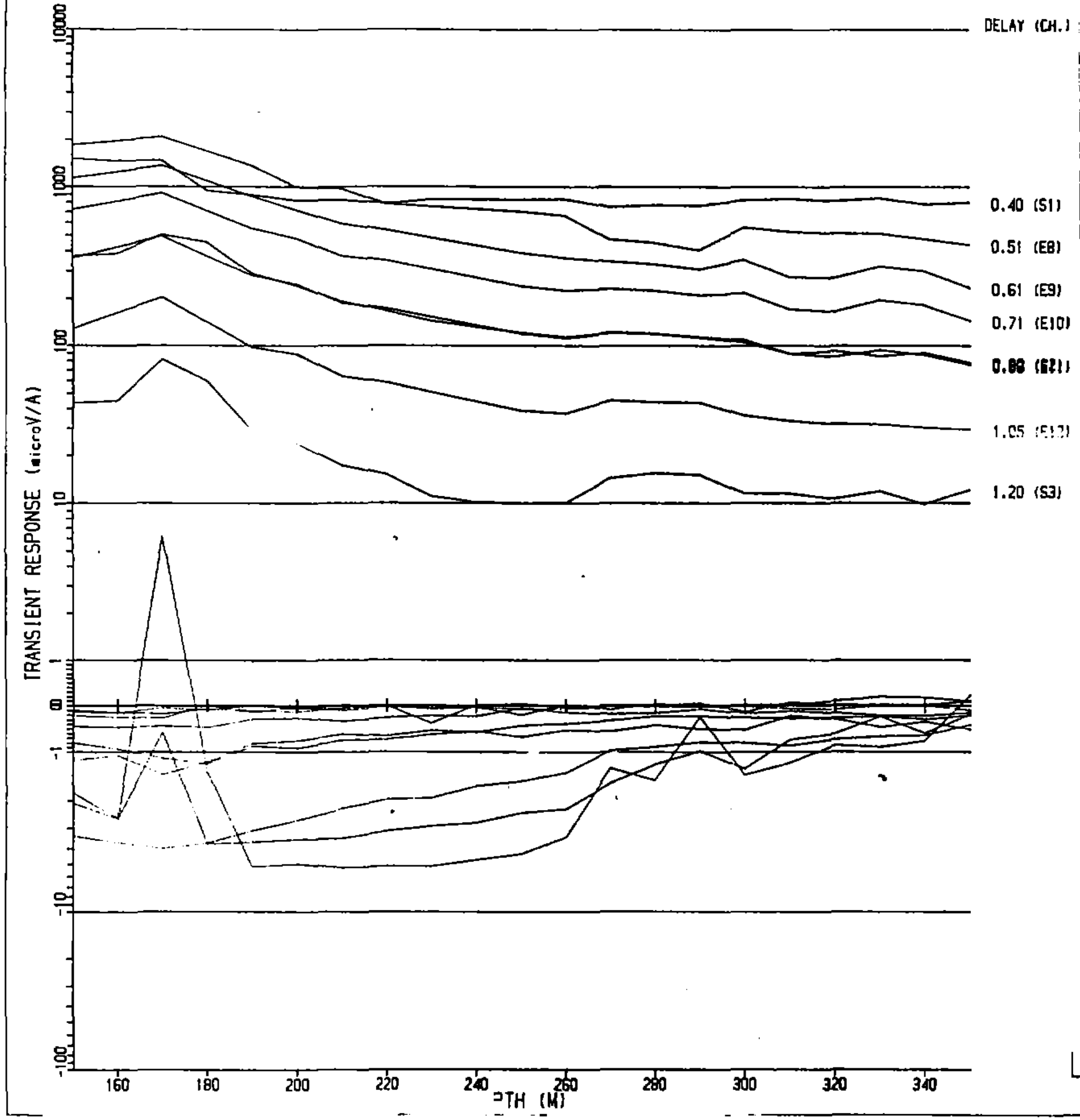
TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

5 cm

ABERFOYLE EXPLN

TASMANIA
RED HILLS
SIROTEM PROFILE
LINE HOLE18 LOOP 13

SCALE - 1:1000



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : 05-09-89
CONFIGURATION : 500M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1237
CURRENT : 7.0 AMPS
OPERATOR : MICHAEL ROSE

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:1000
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN
-1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

5 cm

ABERFOYLE EXPLN

TASMANIA
RED HILLS

SIROTEM PROFILE
LINE HOLE18 LOOP 13

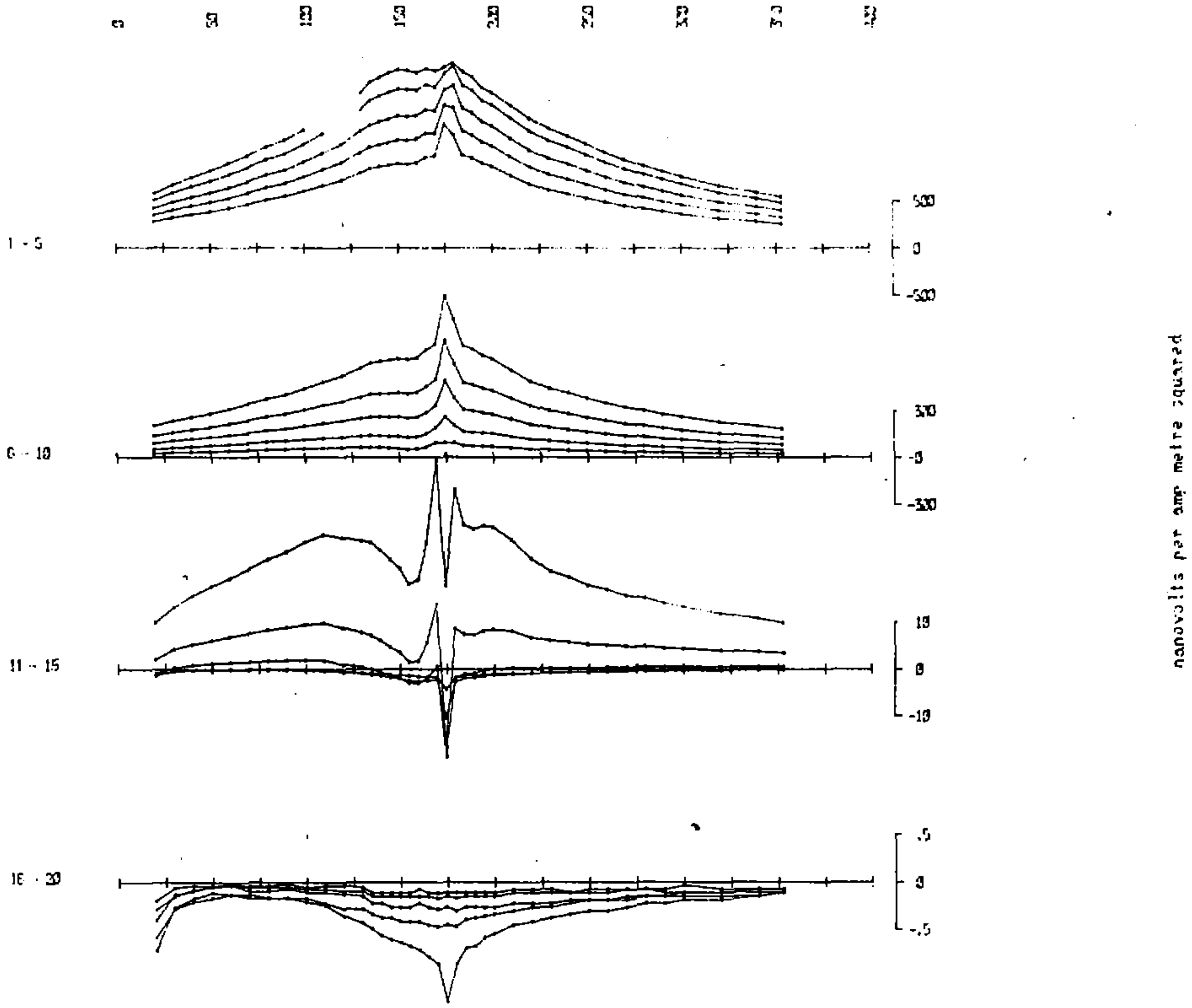
SCALE - 1:1000

002256

Appendix 2

DDH RH-18 DHEM EM-37 DATA

AXIAL COMPONENT B (Z)



EM-57

BOREHOLE
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (Z)

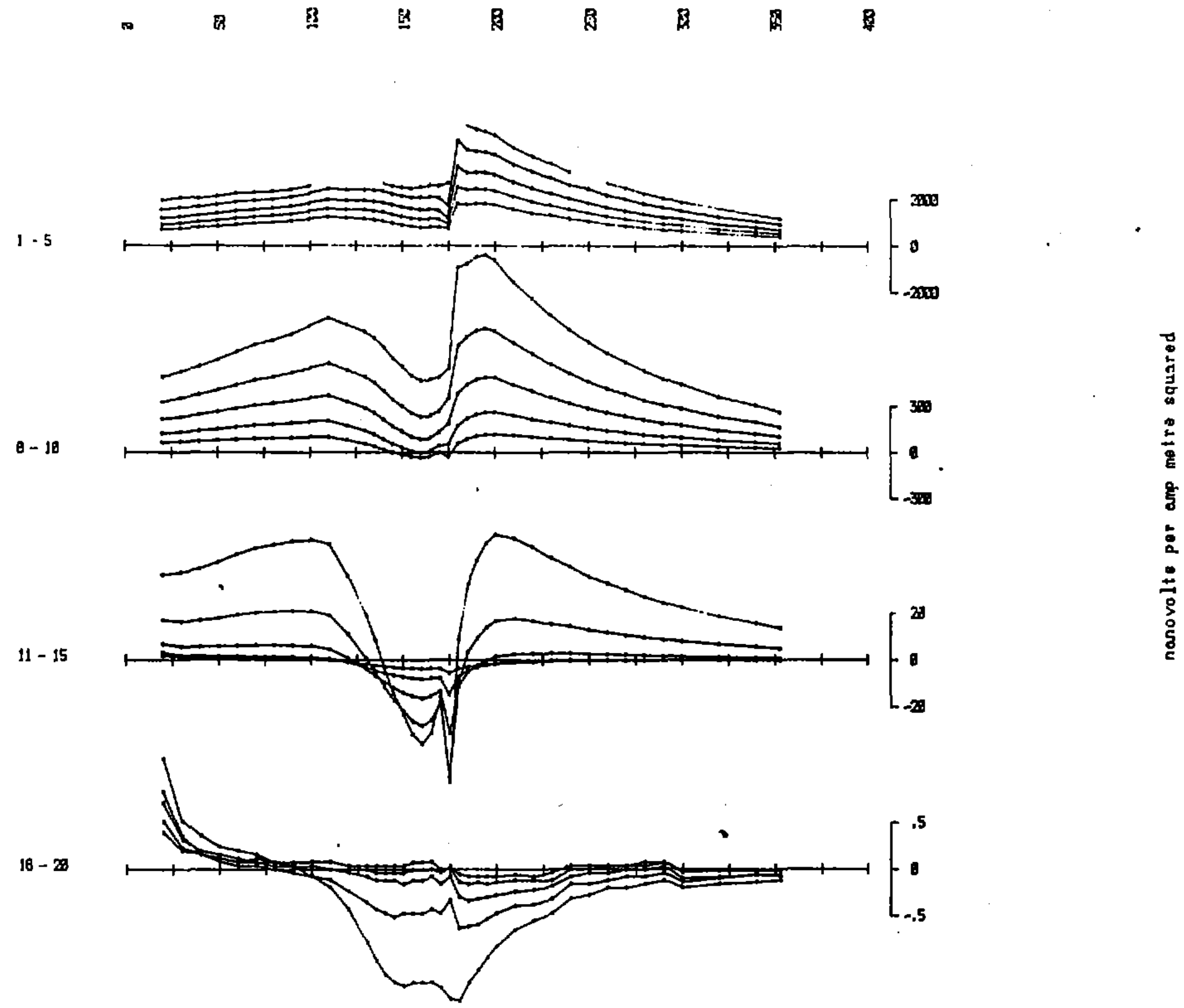
TX LOOP SIDES . 39S 725E
: 39S 925E
TX LOOP SIZE 200 m X 200 m
TX TURN OFF TIME : 147 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 15.7 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : RJL
DATE : 20/10/1989

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.	PROJECT NO. 4-143

CLIENT : Aberfoyle Resources Lt
PROJECT :
AREA . RED HILLS
BOREHOLE . RHID 6
TX LOOP 14

5 cm

AXIAL COMPONENT B (Z)



EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

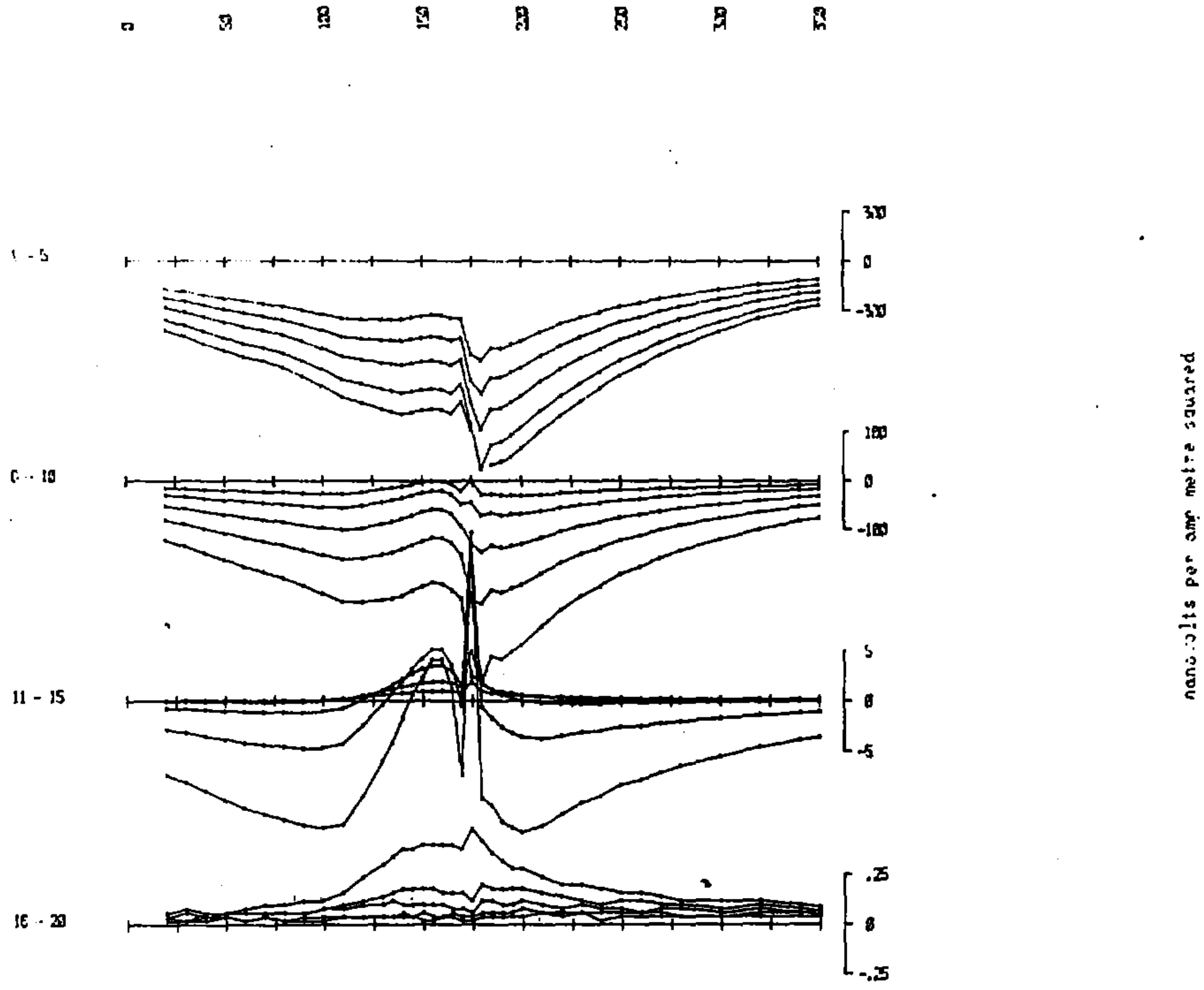
TX LOOP SIDES : 82S 925E
: 88S 1125E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 140 microsecs.
FIRST GATE TIME : 88.5 microsecs.
CURRENT : 15.2 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:2500
SURVEYED BY : RJL
DATE : 28/10/1989

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD. | PROJECT NO. 4-143

CLIENT : Aberfoyle Resources Lt
PROJECT : I
AREA : RED HILLS
BOREHOLE : RH18 A
TX LOOP : 15

5 cm

AXIAL COMPONENT Ḃ (Z)



EM-37

BOREHOLE
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (Ḃ)

TX LOOP SIDES : 92S 1125E
: 99S 1325E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 135 microsecs.
FIRST GATE TIME : 99.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 21/10/1999

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
4-143

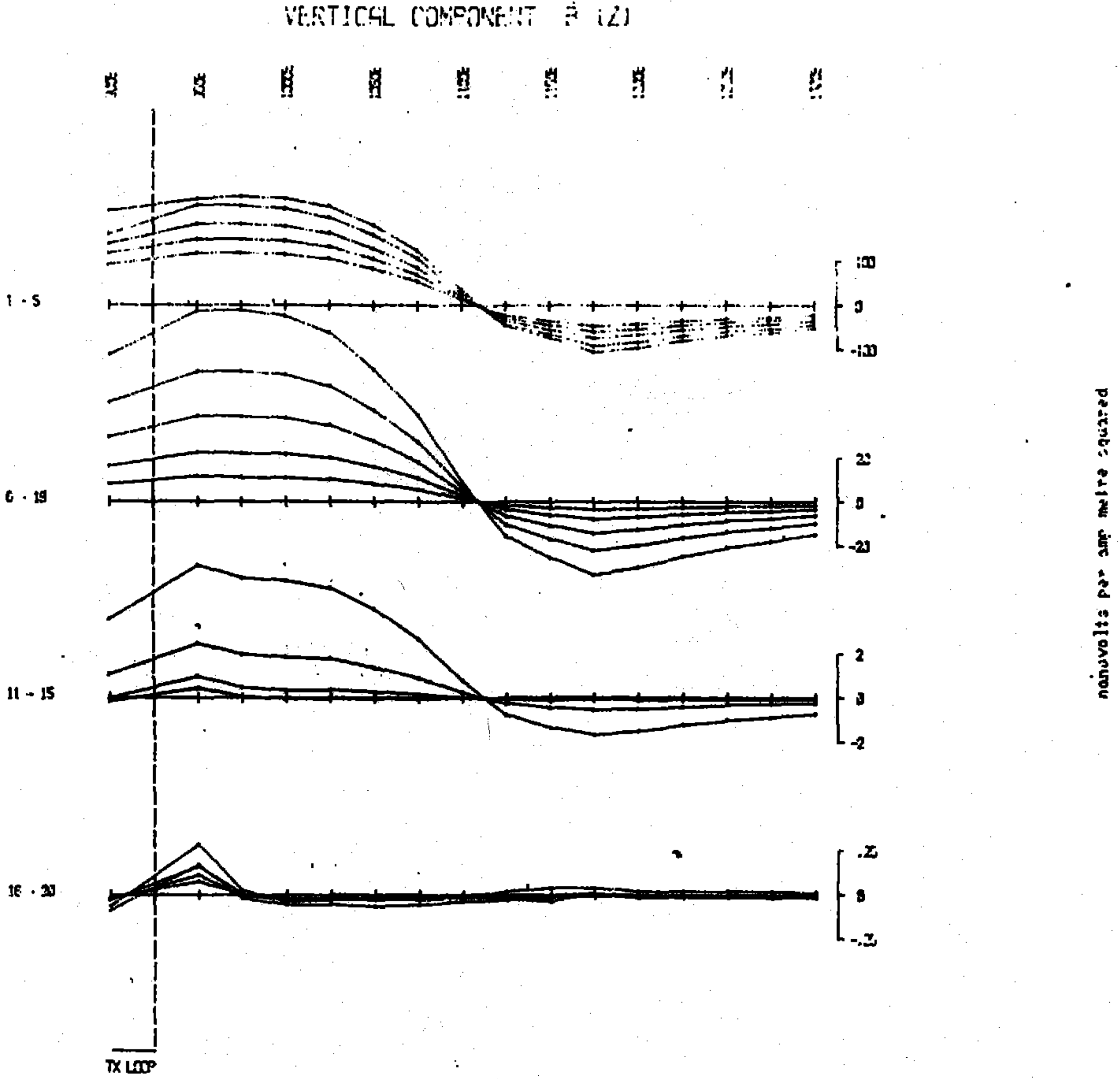
CLIENT : Aberfoyle Resources Lt
PROJECT : 1
AREA : RED HILLS
BOREHOLE : RH12 6
TX LOOP 1C

962234

5 cm

Appendix 3

LINE 84S SURFACE EM-37 DATA



EM-57

FIXED TRANSMITTER SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 98S 725E
: 98S 925E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 147 microsecs.
FIRST GATE TIME : 90.5 microsecs.
CURRENT : 15.2 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 23/10/1990

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

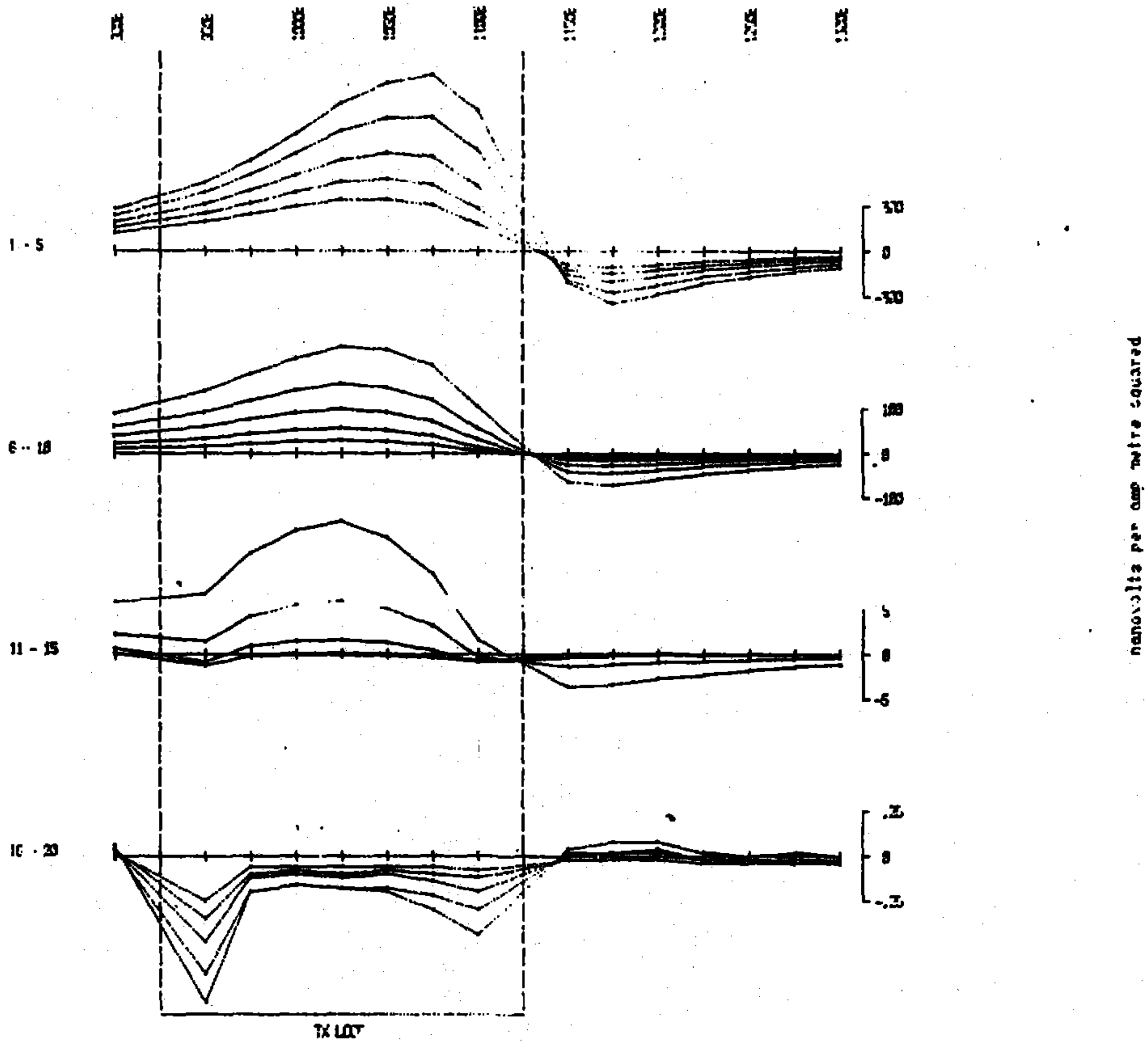
PROJECT NO.
A-145

CLIENT : Aberfoyle Resources Lt
PROJECT :
AREA . RED HILLS
LINE : 045 Z
TX LOOP 14

952236

5 cm

VERTICAL COMPONENT B (Z)



FIXED TRANSMITTER SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 925 1025E
: 935 1125E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 139 microsecs.
FIRST GATE TIME : 99.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE : CRYSTAL
HORIZONTAL SCALE : 1:2500
SURVEYED BY : PF
DATE : 21/10/19[illegible]

SURVEYED AND COMPILED BY GEOTERREX PTY. LTD.

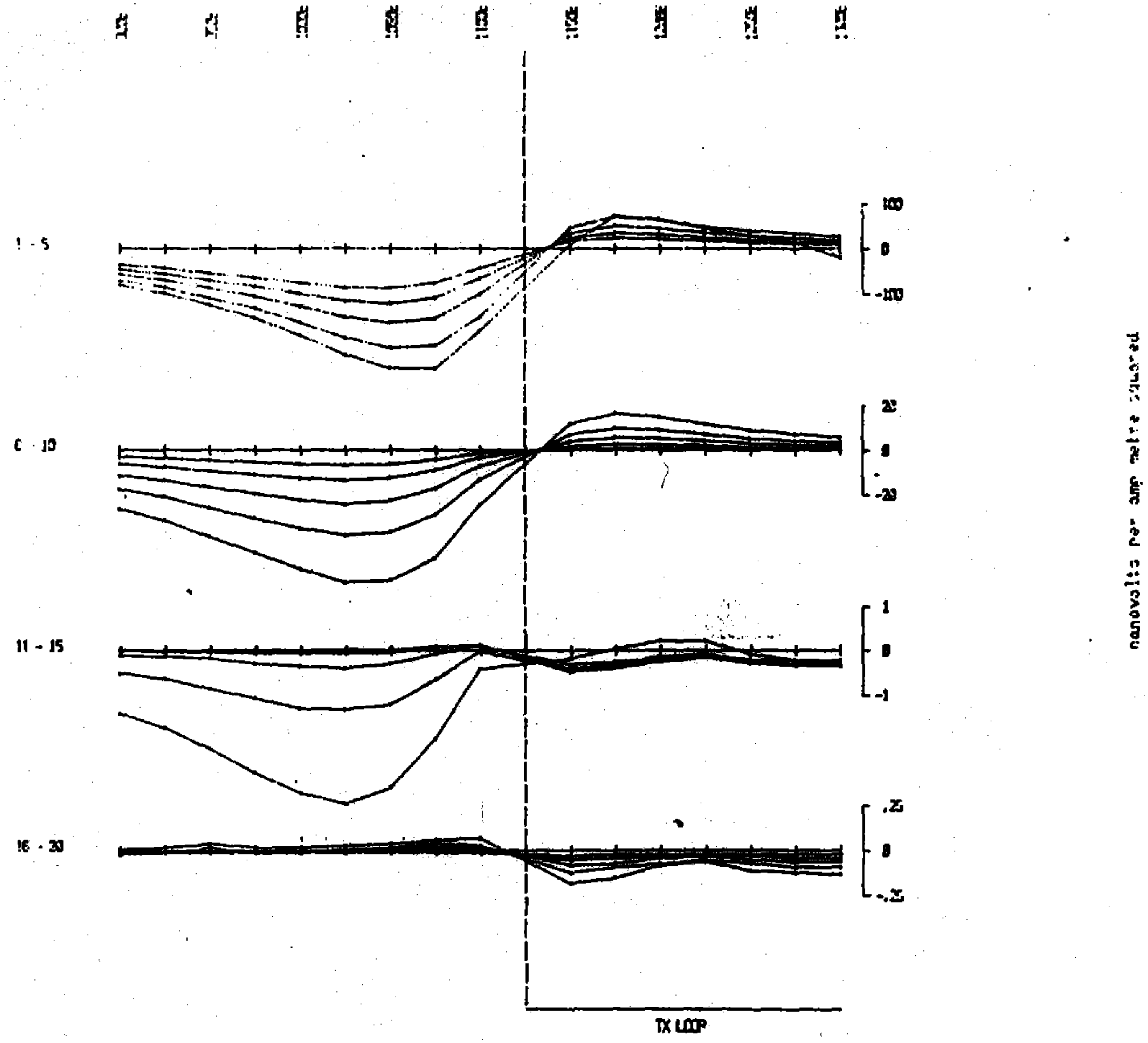
PROJECT NO. 4-143

CLIENT : [illegible] Resources Lt
PROJECT : 1
AREA : RED HILLS
LINE 945 2
TX LOOP 15

952237

5 cm

VERTICAL COMPONENT B (Z)



[illegible]

FIXED
TRANSMITTER
SURVEY

ELECTROMOTIVE FORCE INDUCED BY
SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY [illegible]

TX LOOP SIDES : 32S 1125E
: 39S 1325E
TX LOOP SIZE : 200 m X 200 m
TX TURN OFF TIME : 130 microsecs.
FIRST GATE TIME : 39.5 microsecs.
CURRENT : 15.0 amps
FREQUENCY : 25 Hz.
INTEGRATION TIME : 1024 cycles
SYNC MODE :
HORIZONTAL SCALE : 1:2500
SURVEYED BY : MF
DATE : 21/10/1991

SURVEYED AND COMPILED BY
GEOTERREX PTY. LTD.

PROJECT NO.
A-143

CLIENT : [illegible] Resources Lt
PROJECT : :
AREA : RED HILLS
LINE : [illegible] 2
TX LOOP : [illegible]

952238

5 cm

APPENDIX VIII

Aberfoyle Resources Limited
EXPLORATION DIVISION
DIAMOND DRILL LOG

952240

PROJECT : LAKE MARGARET

PROSPECT: RED HILLS

HOLE NO: RH 19

PAGE: 1 of

LOGGED: DJN

DATE: 25/5/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY ROCK NAME	LITHOLOGY DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
0.0			Qgt	Tricone precollar in surficial glacialtill Cover Minor recovery of ~~fractured~~ glacial till fragments from 5.3-5.5m. Dominately fragments of Owen Conglomerate and sandstone.	—	—	—	—			Hw tricone 0.0-5.3m. ~~Euhedral clear xline quartz phenocrysts upto 4mm.~~ HQ coring 5.3m →	
5.5m			gygn QFP Por? with 2-3	A somewhat weathered/leached interval of gygnwh QFP Por?, In places gy Se flecks after Fd?. Former F.g. glassy or Xlline mtx highly weathered to Se. Possibly intrusive Porphyry or Rhyolitic lava.	odd mnr fleck of Fe stain after haematite?						Core somewhat fractured, possibly drill induced, but also some fracture planes lined with Se developed at 0-15° to CA and at 55 & 75° to CA. Euhedral clear Xline quartz phenocrysts upto 4mm.	
15.7m 16.5m			CrbrgyQFP Por?	A haematite stained interval of QFP Por? In places mnr flecks of ~~Se~~ possibly after Fd?				Joints 16.9m @ 30° to CA. 17.2m @ 15° to CA 17.3m @ 35° to CA 17.7m @ 40° to CA 15.4 @ 35° to CA 19.0 @ 35° to CA 20.4 @ 20° to CA 21.0 @ 65° to CA 21.3 @ 60° to CA 21.4 @ 60° to CA 24.8 @ 30° to CA			Fe stain after Hmt forms an irregular vein like network throughout.	
			gywhgn QFP Por?/R.1?	A somewhat weathered/leached interval of massive QFP Por?/R.1. In places flecks of Se after Fd? Minor patches of Fe stain after patches & veinlets of Hmt.		Mnr whQ vn (1-10mm) developed from 19.6-19.7m & @ 22.0-22.1m. At 21.1m 5-10mm whQ vn @ 20° to CA.					Fracturing commonly drill induced, with some jointing.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT:

952241

HOLE NO: RH 19
PAGE: 2 of
LOGGED: DJN
DATE: 25/5/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
15·7m 26·7m			gygnyl QFPBr?	A somewhat faulted & brec. weathered/leached gygnyl QFP Por?/R.I. In places Se flecks after Fd. mtx somewhat Sericitised. In places much of the mtx is highly leached along frac.				A possible Faulted interval.			At 25·7m frac plain @ 10° to CA & @ 26·7m frac plain @ 20° to CA. Elsewhere core highly brkn & frac ≡ substantial leaching & disolution.	
			gygn QFPPor? -crbr (26·7–44·4m)	A more massive & competent interval of gygn QFP Por?/R.P. Q phenocrysts euhedral ≤5mm. Mnr Se patches after Fd? In places Fe stained by flecks patches & irregular Hmt veinlets		At 41·3m mnr wht Q vn (1–4mm) @ 90° to CA.		Some jointing @ 50–70° to CA. & 25, 30, 35 & 40° to CA.			At 29·2m a semblance of banding @ 15° to CA. possibly a response to Hmt & Se rich bands. Mnr frac. developed @ 0–5° to CA from 37·1–38·8m. Also some irregular fracturing is drill induced.	
40												
43												

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT :

952242

HOLE NO: RH19
PAGE: 3 of
LOGGED: DJN
DATE: 25/5/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY ROCK NAME	LITHOLOGY DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
44												
49.4			gygrylQfp Por? (49.4-51.5)	A slightly more altered & frac. interval gygrylcr Qfp Por?/R.1? In places mtx modeately Sericitised, with sericite/clay pug lining several fractures.	Se. patchy masses modrately altering mtx. Generally less sericitised towards the base of the interval.			Frac 5° to CA pug lined. Joint set 13-15° to CA c̄ ∩ set @ 50-60° to CA.			Degree of Fe stain after Hmt patches & venlets. Much of the fracturing drill induced, but several intersecting jt sets evident. Core increasingly brkn downhole.	
51.5			gygnbrcr QFP Por?	A mildly sericitised & Hmt stained gygnbrcr Qfp Por/R1? c̄ euhedral 1-4mm Q phenocrysts	Mild sericitisation of the mtx, in places after Fd also. Minor banding & patches of crbr Fe stn after Hmt?						Mnr frac lined by sericite & Fe stained in places. @ 7, 10, 15 & 80° to CA.	
56.9			whorbrgyQFP Por? wk 3	A highly leached & weathered interval of QFP Por/R.1? Spotting & irregular venlets & frac. linings of Fe. Some degree of sericitisation of mtx (se.1.2 por) c̄ some se after Fd?	Fe stn becomes more pervasive downhole. Some per Sericitisation of mtx.						The interval is modeately jointed c̄ jts @ 10, 25, 40, 60 & 70°	
62.9			gyylorQfp Por?	A gyylor Qfp Por/R.1 Seper 3. an interval c̄ highly sericitised mtx, some Fe stn of frac. & as spots. Interval mildly shd.				Mild cleavage @ 10° to CA. Joints @ 25 & 50° to CA.				
64.1												

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952243

PROJECT :
PROSPECT :

HOLE NO: RH19
PAGE: 4 of
LOGGED: DJN
DATE: 25/5/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
		05	whgybr QFP por?	An interval of mildly leached whgybr QFP por?/R.1? In places mildly shd @ 10-15° to CA.	Some sericitisation. & leaching of mtx			Some jointing @ 0,25, 70 & 80° to CA. Shearing @ 10-15° to CA.			From 66·3 - 67·3m an interval of highly frac. & brkn & puggy porphyry. Possibly Fault related. Possibly some core loss assoc c̄ Flt interval. Possibly sheared or flted @ 10° to CA.	
57·6–79.4			pper whgygn QFP Por.	An interval of mildly leached and Hmt stained crpp-whgygn QFP Por /R.1?, Qp generally euhedral. (1-3mm) (Fd generally sericitised). Progressively less Hmt feln downhole generally more leached. c̄ odd larger 2-5mm subround Qp appearing.	Some sericitisation assoc c̄ leached nature of mtx. Some banding & pper colouration possibly assoc c̄ Hmt			The Hmt bands define fol'n @ 10-15° to CA.			Mnr frac. @ 30° to CA lined c̄ Se.	
79·4–83·5			whgygn-pper QFP Por?	A generally more leached interval of whgygn-crpp QFP Por/R.1?, mnr wispy Hmt bands. (Fd are sericitised) ~~S~~ Qp 1-3mm euhedral - subrounded. Interval more brkn & leached than preceding interval.	Some sericitisation of mtx assoc. c̄ leached, wth? appearance.			Hmt bands → possible fol'n 20-27° to CA.			core somewhat frac. dominately drill induced & @ 10, 25, 40° to CA. In places drilling has reduced core to a no. of fragments.	
83·5–84		05	whgygn QFP Por?	A highly leached interval of whgygn QFP Por/R.1? Core highly brkn, dominately drill induced. (Fd sericitised) (phenocrysts 1-3mm)	Core highly leached appearance, mtx altered to sericite.			A semblance of fol'n @ 20° to CA.			Core highly brkn by failure along phyllosilicate planes during drilling, c̄ fracturing @ ~~10~~ 40° to CA.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952244

PROJECT :

PROSPECT :

HOLE NO : RH 19

PAGE : 5 of

LOGGED : DJN

DATE : 27/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
84·05 -85·55			Whgygn-ppcr QFP Por?	A highly sericitised & Hmt stained Whgygn-crpp QFP Por? (Fd - sericitised) Qp (1-5mm) euhedral - subrounded.	Highly sericitised mtx, c̄ intense patches cr, pp Hmt.			Hmt bands → fol^n @ 20° to CA				
85·55-87·75			whgygn QFP Por?	A massive mildly sericitised whgygn QFP Por / Rl? Qp (1-3mm) euhedral occasionally subrounded.	mildly sericitised mtx, Fd, phenocrysts sericitised. Odd Hmt pat. Sericitisation increases downhole.			Some drill induced frac. @ 40°, 20° + subll to CA.			86·6m reduce from HQ to NQ. Core more highly brkn. + frac following reduction to NQ.	
87·75 -91·1m			gn whgy QFP Por?	A mildly leached + wth gnwhgy QFP Por? (Qp (1-5mm) euhedral & subrounded in places. (Fd sericitised)	Some Sericitisation of mtx, mild Se bands developed. Some or br Fe Stn.	Some mnr Q veinlets subll to inferred fol^n @ 25° to CA.		Possible fol^n @ 25° to CA defined by Se bands.			At 90·5m a fracture cavity c̄ some assoc. dissolution.	
91·1-92·7m			whgn-br QFPor?	A mildly leached & sericitised wh gn-br QFPPor? (Qp 1-4mm, Fd 1-3mm (plagioclase?)) In places residual felsic patches, possibly represent less altered rock. An anastomosing network (Fishnet) of or-br Fe stained veinlets or cleavage infills wrapping phenocrysts	In places mtx more sericitised			Fe^stn or br veinlets or cleavage seams @ 10 & 25° to CA.				

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT :

952245

HOLE NO: RH19
PAGE: 6 of
LOGGED: DJN
DATE: 27/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
92.7 - 98.4			gngy QFP Por?	A more massive gngy QFP Por/Rl? (Fd - sericitised) (Qp 1 - 5mm) In places more felsic whpk br zones of massive mottled Por.	In places mildly sericitised mtx.	V. minor whQ veinlets @ 25° to CA.		Folⁿ defined by wispy Fe stn veinlets @ 25° to CA.			Minor Fe stn surfaces & minor wispy veinlets. aligned along cleavage. At 97.8m mnr disolution cavity. & assoc frac. @ high ∠ to CA.	
98.4 - 100.95			gngy br Qp Por?	A massive gngy brwn Qp Por?/Rl? Qp (1-4mm) euhedral - subrounded. Core becomes more pk br downhole.	Mnr Hmt pat. minor gnwh Se pat	In places whQ vns crosscut CA @ 50 & 67° to CA c̄ some assoc blebs. Some felsic patches assoc. c̄ whQvns.					Core Orientation @ 100.7m: Se folⁿ @ 20° to CA. At 100.7m R.L.D. = 255 So = 25° => 68° -> 340°	
100.95 - 102.0m			Fault.	A WhQ veined interval sealing a Fault. From 100.95 - 101.1m pkbr QFP Por Intense whQvns. 101.1 - 101.2m whgygn sericitised QFP. 101.2 - 102m dominantly whQ vns mnr pk felsic patches & highly leached areas of residual rock.			V. mnr dis Py assoc whQvns on frac & in dissolution cavity @ 101.45m.					
102 - 139.4			gygn wh-ppcr QFP Por	A massive to variably altered or leached interval gngy-wh to ppcr QFP Por / Rl.? Minor dissolution cavities @ 132.7m. Qp prevalent 1 - 5mm euhedral - subrounded.	In places ppcr c̄ per Hmt to Hmt pat In other areas pat gngy Se occasionally developing weak folⁿ.	Mnr whQvn @ 123.7m @ 33°.	V. mnr dis blebs of Py 139-139.4m. Mnr blebs Py assoc. c̄ Hmt @ 137.1m.	A possible folⁿ => Hmt/Se bands @ 35° to CA.			At 122m a frac. lined c̄ Fe stn @ 15° to CA. From 126 - 131m mnr frac 10 & 25° to CA often Fe stn. 131 - 139.4m frac 30-35° to CA.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT:

952246

HOLE NO: RH19
PAGE: 7 of
LOGGED: DJN
DATE: 27/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
139.4 -140.2			gywh-gygn av/slt	A variably carbonate veined gywh-gygn av or slt. Possibly some leaching along upper contact c̄ R1/Por from 139.4-139.6m where tends to be gywh slt.	Co. alt or blebs throughout moderately developed	Co rich Q vns & veinlets throughout. @ 30-40° to CA subll to fol^{n} also irregular Xcutting vn @ 139.7m		Bedding @ 30-35° to CA.			Contact b/w app Py/R1 @ ash vol./slt is conformable mnr interfinguring. Contact @ 28° to CA.	
140.2 -140.9m			gygn-wh av/blu.	Dominately gygn av with numerous Co blebs & veinlets & possibly wh Co. alt'd slt bands subll fol^{n}. In places mnr lv bands Qp (0.5-1mm) lv bands rarely exceed 1-5mm.	Co. poss intense patches developed after av? as bands & blebs subll to CA.	Numerous small Co, Q veinlets Subll fol'n.		Fol^{n} ≈ So @ 25° to CA.				
140.9m -147.35			gngywh lv ibd gygnav	Dominately gngywh lvQp lh.fr (gyav clasts) mnr ibd bands gy-gygn av/sh or slt. Possibly some Chl fragments after glassy fragments?	Se pat 3, as bands also. Co pat, blebs & veinlets. mod to Intense.	Co vns developed subll to fol^{n}.	Mnr blebs of Py Sporadically distributed.	Fol^{n} or So @ 35° to CA.				
147.35 -147.95			gygn lv Qp	Ap'gy gn lv Qp mnr fd flecks? & mnr av fragments as lh.fr. Possibly mnr av bands.	Intense Co blebs & vns.	Co vns Xcut CA subll to a low ∠ to the fol^{n}.	Mnr dis blebs of Py.	Fol^{n} or So @ 25° to CA.				
147.95 -151.2			gn-dkgn lv ibd av	An interval dominated by gn-dkgn lv Qp lh.fr (felsic clasts & gngyav). ibd mnr gn-gngy av/slt bands. Mnr gygn bk clustered glassy fragments?	Co vns & blebs mod-intensely developed	Co, Q vns & veinlets throughout.	Mnr Py blebs & narrow 1-2mm band @ 149.95m. In places assoc c̄ Co,Q vns.	Fol^{n} or So @ 35° to CA.			Mnr Mt throughout c̄ response to magnet moderate to strong	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT :

952247

HOLE NO: RH1A
PAGE: 8 of
LOGGED: DJN
DATE: 27/6/90

DEPTH	DRILL RUNS	CORE LOSS	ROCK NAME	DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
154.2 -154.3			gngylv Qp.	An interval dominated by gngylvQ fp Px/lhfr (av.clsts, felsic clsts.) mnr ibd gngyav & slt.	Se per throughout mtx. Co blebs & vns moderate development.	Co vns & blebs throughout.		Fol'n => So @ 27° to CA.			pk br felsic clsts of R.I / Por Qp. Moderate strong Mt response possibly related to the proliferation of felsic clasts.	
154.3 -154.6			gngyav	An interval dominated by gngyav mnr ibd gn lvQp lhfr (felsic, pkbr Qp Por, gngysh) fp (sericitised).		mod Co vn development as blebs & irregular veinlets.		Fol'n => So @ 35° to CA.				
154.6 -158.8			gngywh lv	An interval dominated by gngywh lv Qfp, lh.fr (felsic R.I Qp clsts, Qtz.clsts, sh/av clsts).	Some mod Se per of mtx.	Irregular Co vns blebs & pat occur throughout. Also mnr Q assoc c Co vns.	157.8 - 158.8m mnr dis blebs of Py.	Fol'n => So @ 20° to CA.			Abundant Mt throughout to produce strong magnetic response.	
158.8 - 159.75			gygn av/Sh	An interval Dominated by gy-gygn av/slt c mnr ibd lv Qp, fp lhfr (R.I, sh).	Some Sericitisation of mtx of lv.	mnr veinlets & blebs of Co.	Dis blebs of Py occur throughout lv, mnr Py bands c in gyav/sh along c mnr band of gn @ 159.1m.				Strong Mt response as a result to Mt assoc c lv.	
159.75 -166.0m			gn-dkgn lv	An interval dominated by gn-dkgn lv Qfp lhfr (felsic R.I Qp, sh.frag.) felsic lava clsts more prolific downhole core frac subll fol'n from 162.4 - 163.7 dominately drill induced.	Some Sericitisation of mtx, mod. Some Cl assoc c Se.	Numerous Co vns & veinlets & blebs.	mnr wispy veinlets of Px @ 165.25m Mnr dis Py throughout	Fol'n => So @ 30° to CA. => 35° to CA downhole.			Strong magnetic response as a result to Mt. Some frac subll to fol'n, c some Cl/se png lining frac.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952245

PROJECT :

PROSPECT:

HOLE NO: RH 19

PAGE: 9 of

LOGGED: DJN

DATE: 27/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
166.0 –166.4			grgy au	An interval dominated by grgy au/silt mnr Cc vns or bands subll foln & mnr wispy bands w/Qp.fp lhfr. (felsic lt).		Co vns & blebs subll to So. Mnr Hmt assoc c̄ Co vns @ 166.05m.		Foln => So @ 35-40° to CA.				
166.4 –168.5m			gn lv	gn-gygn lv Qp.fp lhfrl pkor R.1Qp, Moderate frac subll to foln in places more intensely frac drill induced.	Some Cl flecking of mtx along c̄ mild per sericitisation.	Co vns, veinlets well developed esp. in assoc. c̄ felsic lhfr.		Foln => So @ 33-43° to CA.			mod - intense magnetic response, mt possibly assoc c̄ or related to occurrence of felsic lhfr.	
168.5– 169.0m			gn lv	gn-dkgn lv Qp fp only v. mnr sporadically distributed felsic lhfr R.1Qp, also occur.	mnr wispy Cl veinlets. Some sericitisation of mtx mild.	Irregular Co blebs & veinlets.	mnr Py assoc c̄ wispy Cl veinlets & patches.					
169.0 - 169.5			gn lv	A possible fault zone with intense Chloritisation of gn-dkgn lv QFP c̄ some assoc. pug development & chl on Shd plains. Core highly brkn, with the possibility of drill induced frac. also rods may have been pulled to Δ bit allowed some over coring of cave material.	Cl per moderate - intense.	Intense Co & mnr assoc. Q vns & veinlets.	mnr dis Py blebs assoc. c̄ Cl. Possibly some small Hmt spt (strongly resemble Cass.) (in habit)	Upper shear contact @ 17° to CA. Dominate frac. @ 40° & 17° to CA.			0.2m coreloss.	

Aberfoyle Resources Limited
EXPLORATION DIVISION
DIAMOND DRILL LOG

PROJECT : ______

PROSPECT: ______

952249

HOLE NO: RA19
PAGE: 10 of
LOGGED: DJN
DATE: 28/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY: ROCK NAME	LITHOLOGY: DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
169.5 -172.9			gn Rvl.?	An almost banded gn-wh Rvl. fp cl.per with bands or zones of residual pk brwn felsic R.1/Por.? Qp. (Hmt stn often intense in felsic bands).	Cl per b/w residual zones of felsic lava.	Co vns less prevelant mainly assoc ē felsic areas. Some whQ, Co & Cl vns.	In places felsic lava has dis to per Py min^n & mnr blebs of cp assoc. ē Py. 172.5-172.6m.				Mt dis throughout ē mod. strong magnetic response. Some drill induced frac. & over coring from 170.2-170.4m. 170.7-170.9 core highly brkn ē some over coring	
172.9 -173.1			gn lv?	A highly brkn frac. interval gn-dkgn lv fp in places shd.	Cl. per mod-intense mnr pat Hmt.	Intense whQ. Co vns ē some assoc. Cl.		@ 173.1m a shear @ 25° to CA ē some assoc crenulation			dis Mt throughout. Frac generally irregular ē some regular frac @ 25, 60 & 70° to CA.	
173.1 -177.15			gn lv?	gngy lv fp. Co spt possibly some Qp. essentially massive ē some Cl-Se per mtx. v.mnr frgs. felsic lava	Co. spt mod. Cl-Se per mtx mod. Cl spt sporadic.	Co. vns irregular & subll to fol^n In places Hmt assoc. ē Co vns	174.85m mnr Py band	Possible fol^n S_1 @ 40° to CA			Core Orientation @ 175.7m. Mt. throughout ē strong magnetic response.	
177.15 -178.6			gn lv	gngy-brwnpk lv ē abundant felsic clasts RI (Qp Hmt por) Similar to 169.5-172.9 may represent Cl alt^n of RI/Por? Felsic zones commonly define bands subll fol^n.	Cl. per mod in places intensely developed upon frac.	Irregular Co vns throughout, in particular assoc ē felsic clasts. Some veins/veinlets subll to fol^n.		Fol^n S_1 ? 40-43° to CA. Some frac. subll to fol^n @ 40-45° to CA.			Mt throughout ē strong magnetic response.	
178.6 -180.8			gn lv/av	A possible gn lv fp. felsic frag, Co spt ītē gn av/slt mnr. i.e. mnr av/slt bands 1-20mm ītē lv ē mnr areas of felsic lava clsts/bands.	Cl. Se per mtx moderate. Co. spt mnr Hmt spt assoc ē felsic clsts.	Co veinlets & vns sporadically distributed. Some Q, Co. Cl vns		Fol^n possibly S_0 @ 25° ē some alignment of S_1? @ 35° to CA			Mt throughout ē strong magnetic response.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

952250

PROJECT :

PROSPECT :

HOLE NO: RH19

PAGE: 11 of

LOGGED: DJN

DATE: 28/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
180·8 - 188·25			gn bxlv	An interval that is dominated by large masses or bands of orpk to felsic lava uphole that progress to smaller subrounded clsts of felsic lava and finally to gywh felsic lava clsts + slt clasts downhole. gngywh lv/bx lhfr (felsic lava (R.l), slt, Qtz?). Qfp.	Cl flecks spt throughout mod. Cl-Se pvr mtx mod.	Irregular Co vns, veinlets & blebs throughout.	Mnr dis blebs & wispy veinlets of Py more prevalent down hole.	Banding @ 20-30° to CA ⇒ S0 or S1, Possibly represents compositional differences ⇒ S0.			Becomes less magnetic downhole.	
188·25 - 192·45			gy slt ibd gy ss ibd gylv	An interval of interbedded gybk slt c̄ gywh Ss c̄ gngy lv Qfp c̄ mnr wispy slt bnds. The Ss → Qtz. (Lv : Ss : Slt = 3 : 2 : 2)	Mnr Cl.Se pvr mtx of lv. In places Cl spt assoc c̄ ss & commonly c̄ lv.	Mnr Co veinlets sporadically distributed dominately assoc c̄ lv.	Mnr Py bands & blebs assoc. c̄ Ss bands.	well defined bedding @ 25-30° to CA.				
192·45 - 194·05			blk sh/slate	Dominately blk Sh/slate c̄ mnr ibd gy Slt/ss. Highly frac., somewhat graphitic upon frac. plains.		Mnr Co vns & veinlets.	Mnr blebs of Py assoc c̄ Co vns. Some Py lining frac plains.	well defined bedding @ 30-25° to CA.			well developed cleavage sub// to foln c̄ core highly frac along cleavage.	
194·05 - 199·8			gy QpR.l	gy-p'gy QpR.l, coarse 1-6mm Qp. massive. Somewhat leached paler grey 199.3-199.8m possibly assoc c̄ Q vn development may be some sericitisation.	v.mnr Cl? infilling wispy veinlets frac? Some Cl assoc c̄ intense wh Q veining towards the base of the interval.	V.mnr Co veins & veinlets sporadically distributed. In places well developed whQ mnr Co vns 199.3-199.8m c̄ some assoc. leaching.						

Aberfoyle Resources Limited
EXPLORATION DIVISION

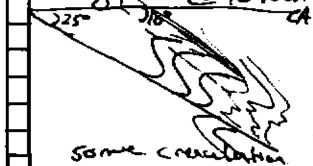
DIAMOND DRILL LOG

PROJECT :

PROSPECT:

952251

HOLE NO: RH19
PAGE: 12 of
LOGGED: DJN
DATE: 28/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
199.8–206.25			gy blk Sh.	An interval dominately of gy blk Sh ē mnr ibd gy Slt. In places ⇒ silty sh. in other areas highly graphitic blk Sh. Some Syngenetic Py. From Core orientation sequence appears to dip towards S.W.		Irregular blebs & veinlets of Co & whQ.	Dis Py & mnr Py veinlets throughout. Py also lines bedding plains & lines frac. Minor veinlets of Mt. 200.2–200.3m. Minor bleb Sp on lower contact.	Bedding @ 30° to CA. ⇒ 15° to CA downhole. ⇒ 30° by base of interval. At 202.3m R.L.D = 230° So = 21° ⇒ 74° → 043 At 201.9m RLD = 10° So = 22° ⇒ 60° → 186°			Conformable upper contact, faulted lower contact. At 206.15m highly broken pug sheared blk Sh. ē frac @ 40 & 65° to CA. At 205.65m mnr Shd zone ē pug & Co lining frac. @ 40° to CA.  some crenulation & shearing of blk sh.	
206.25–207.8			gy Qp R.1 (FAULT)	A Fault sealed zone of intensely whQ veined interval with some irregular clasts of gy Qp R.1 in places intensely Cl altered.	Some Cl. por in places, particularly downhole. A residual lava frag. intensely altered.	Intense whQ vn development as F/t seal ē mnr assoc. Co.		Lower contact @ 45° to CA upper contact more irregular but approx 45° to CA.			Core Orientation @ 202.3m.	
207.8–213.7			gy Qp R.1	A gy Qp R.1 massive cut by numerous whQ vns. In places some leaching & possible Se alt. Ranging zones of intense whQ vn development esp 212.4–213.7m.	V. mnr pert Se alt. mild.	Intense whQ veining mnr assoc. Co veinlets & blebs in places Vns 45–55° to CA 0.5 – 100mm wide.					Possible Fault Seal zone 211.9–212.4 ie. intense whQ vned zone ē mnr residual blocks of gyQp R.1	
213.7–214.15			gnav	A highly chloritised interval possibly gnav or former aphyric R.1? (Fault Seal ?)	Cl alt intense & pervasive Mnr Se flecks?	In places intense whQ vn development 214.06–214.15m.					May simply represent ci. Ca vn or F/t Seal from 213.6–214.15m.	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :

PROSPECT:

952252

HOLE NO: RH19
PAGE: 13 of
LOGGED: DJN
DATE: 28/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY ROCK NAME	LITHOLOGY DESCRIPTION	ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
214.15 -217.4			grgyQpR.I	A grgy QpR.I interval massive but c̄ a grgy colouration resulting from mild pervasive Se alteration. Again Coarse Qp (1-5mm).	Mild Se. per.	Moderate whQ ±Co, Cl vn development throughout c̄ vns @45,55,60,70° & irregularly subll to x cutting CA.						
217.4 -219.0			gyQpR.I	Similar to previous interval gy QpR.I, c̄ generally finer (0.5-3mm) Qp. gy somewhat sericitised mtx	per Se. mod. mnr Cl. pat.	A no. of broad 5-15cm whQ vn zones. vns @35,55,65,80° to CA. Mnr Co and Cl assoc c̄ whQ vns.						
219.0 -232.5m			gyQpR.I	A massive gyQpR.I little whQ.Co veinlet development.	Mnr Se per, but generally massive unaltered.	Only v. mnr short veinlets & narrow irregular whQ vn development. Mnr veinlets & blebs of Co. Mnr broader 1-2cm vns; veinlets of whQ downhole.					219.9m banding 27° to CA	

Aberfoyle Resources Limited
EXPLORATION DIVISION

DIAMOND DRILL LOG

PROJECT :
PROSPECT :

952253

HOLE NO: RH19
PAGE: 14 of
LOGGED: DJN
DATE: 28/6/90

DEPTH	DRILL RUNS	CORE LOSS	LITHOLOGY		ALTERATION	VEINING	MINERALISATION	STRUCTURE	WEATHERING	VISUAL LOG	REMARKS	DEPTH
			ROCK NAME	DESCRIPTION								
232.5 -234.3			gygr Qp R.I	A highly brkn interval of gygr Qp R.I. (Qp 1-5mm).	Mild Se alt pervasively through mtx. Also some Se lining frac surfaces.	mnr Co, Q veinlet development sporadically throughout.		Highly fractured, fractures irregular in places lined c̄ Sericite-pug. Frac 10,20, 35, 45° to CA.			Core highly brkn, to a degree drill induced, also some jamming & result breaking during extraction from core barrel. Possibly some low ∠ shear fol^{n} as plain of weakness @ a low ∠ to CA.	
234.3 -237.3			gygr QpRI	Similar to preceding intervals gygr QpRI (Qp 1-5mm) but generally less brkn.	V. mild Se per alteration of mtx. but generally massive unaltered.	Minor wh Q, Co veinlets sporadically developed.		Some low ∠ frac development @15, 20, 35° tc to CA often at oblique ∠s to each other.			Some Se to sericite pug lining frac surfaces.	
				EOH 237.3m								

APPENDIX IX

DDH RH-19

Area Output Grid Dataset Report Date

---- ----------- ------------------------ ------------------------------

Img AMG Geochemical data set 1:48 PM MON., 22 NOV., 1993

From	To	Sample	Type
98.40	100.95	564970	scor
100.95	102.00	564971	scor
102.00	112.00	564972	cgri
112.00	122.00	564973	cgri
122.00	132.00	564974	cgri
132.00	139.40	564975	cgri
139.40	140.90	564976	scor
140.90	147.35	564977	cgri
147.35	159.75	564978	cgri
159.75	169.50	564979	cgri
169.75	172.90	564980	cgri
172.90	177.15	564981	cgri
177.15	178.60	564982	scor
178.60	180.80	564983	scor
180.80	188.25	564984	cgri
188.25	192.45	564985	cgri
192.45	194.05	564986	scor
194.05	199.80	564987	cgri
199.80	206.25	564988	cgri
206.25	207.80	564989	scor
207.80	213.70	564990	cgri
213.70	214.15	564991	scor
214.15	219.00	564992	cgri
219.00	232.50	564993	cgri
232.50	237.30	564994	cgri

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

A Division of Inchcape Inspection & Testing Services Aust PL

Phn: (004) 316 837

14 Thirkell St Cooee Tas 7320

Fax: (004) 318 890

ANALYTICAL REPORT No. 100560.60.07496

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

ORDER No.	PROJECT
11004	RH-19

DATE RECEIVED	RESULTS REQUIRED
07/11/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
2	21/11/90	1	26

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
<564,970/995	CG Prep: GP018	Cu,Pb,Zn,Ag/GA101
<564,970/995	CG	Au,Au(R),Au(S)/GG309,Au/RAW,Au/WT

RESULTS TO

Mr R de Bomford
Aberfoyle Resources Limited
Exploration Division
P O Box 952
Burnie Tas 7320

RESULTS TO

RESULTS TO

REMARKS

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	100560.60.07496	21/11/90	11004	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au				
1	564970	35	10	60	<0.5	<0.008				
2	564971	5	10	40	<0.5	<0.008				
3	564972	10	10	35	<0.5	<0.008				
4	564973	10	<5	30	<0.5	<0.008				
5	564974	15	<5	35	<0.5	<0.008				
6	564975	10	<5	35	<0.5	<0.008				
7	564976	10	215	490	<0.5	<0.008				
8	564977	15	50	300	<0.5	<0.008				
9	564978	15	90	145	<0.5	<0.008				
10	564979	25	<5	155	<0.5	<0.008				
11	564980	45	10	220	<0.5	<0.008				
12	564981	25	25	155	<0.5	<0.008				
13	564982	15	75	210	<0.5	<0.008				
14	564983	15	5	245	<0.5	<0.008				
15	564984	15	<5	140	<0.5	<0.008				
16	564985	30	20	155	<0.5	<0.008				
(	564986	30	320	255	<0.5	<0.008				
18	564987	35	400	165	<0.5	<0.008				
19	564988	50	325	710	<0.5	<0.008				
20	564989	5	10	50	<0.5	<0.008				
21	564990	55	<5	115	<0.5	<0.008				
22	564991	5	<5	270	<0.5	<0.008				
23	564992	75	<5	115	<0.5	<0.008				
24	564993	10	5	115	<0.5	<0.008				
25	564994	35	<5	90	<0.5	<0.008				

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	100560.60.07496	21/11/90	11004	2 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au				
1	564995	115	190	2150	<0.5	<0.008			X STD.	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008				
24	UNITS	ppm	ppm	ppm	ppm	ppm				
25	METHOD	GA101	GA101	GA101	GA101	GG309				

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

APPENDIX X

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

PROJECT: N. SELINA S.SED.

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T : TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT: YES ☐ NO ☐
VERIFY: YES ☐ NO ☐

DATE: 15/1/90

SHEET: 1

EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH in CMS		SIZE FRACTION	Sample Type		METAL VALUES PPM	GEOLOGICAL LOG
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
387192	5366155	482770			-80#	SS		Cu, Pb, Zn, Ag, As, Au, Ba	
385862	5364227	771			-80	SS		〃	
387236	5367267	772			-80	SS		〃	

OPERATOR COMPUTER CHECK PLOTTER DATE

953261

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999
52 Murray Road, Welshpool, W.A. 6106
FAX: 004 31 8890
Telex AA92560

ANALYTICAL REPORT No. 23.3.08.06793

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
9376	Lke Margaret

DATE RECEIVED	RESULTS REQUIRED
15/01/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	23/01/90	1	3

STATE OF SAMPLES REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	482770/772	SS Prep: 006,007,016							Cu,Pb,Zn,Ag/101,Wt/9807		
	482770/772	SS							Au,AuChk/309		
	482770/772	SS							Ba,As/401		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

S/SC-DS.

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUO
inductively coupled plasma	IC

AUTHORISED OFFICER

ANALABS

Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06793	23/01/90	9376	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	Ba	As	Wt	
1	482770	15	40	140	<0.5	0.015	950	4	31.4	
2	482771	20	30	115	<0.5	<0.008	740	60	58.5	
3	482772	25	40	70	<0.5	<0.008	360	4	27.0	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	10	2	0.1	
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	
25	METHOD	101	101	101	101	307	401	401	9807	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

A 33340

PROJECT
NORTH SELINA
STREAM SEDIMENT

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT: YES ☐ NO ☐
VERIFY: YES ☐ NO ☐

DATE 18/12/89

SHEET 3

EASTINGS (1-7)	NORTHINGS (8-14)	SAMPLE NUMBER (15-20)	DEPTH In CMS (21-24)	SIZE FRACTION (28-31)	Sample Type (32-33)	METAL VALUES PPM (37-60)	GEOLOGICAL LOG (61-80)
386529	5366054	482760		-80#	SS	Cu, Pb, Zn, Ag, Au, As, Ba	
386525	5366042	761			SS	"	
386614	5365879	762			SS	"	
386547	5365854	763			SS	"	
386614	5365865	764			SS	"	
386696	5365709	765			SS	"	
387479	5366909	766			SS	"	
387518	5366942	767			SS	"	
387378	5367238	768			SS	"	
387331	5367213	769			SS	"	

OPERATOR COMPUTER CHECK PLOTTER DATE

952264

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560

ANALYTICAL REPORT No. 23.3.08.06741

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
9304	

DATE RECEIVED	RESULTS REQUIRED
19/12/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	05/01/89	1	10

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	<4827,60/69	SS	Prep: 006,016						Cu,Pb,Zn,Ag/101,Wt/9B07		
	<4827,60/69	SS							Au,AuChk/309		
	<4827,60/69	SS							Ba,As/401		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06741	05/01/89	9304	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	As	Wt
1	482760	10	60	105	<0.5	0.017	-	1200	10	54.4
2	482761	10	85	105	<0.5	<0.008	-	870	6	34.9
3	482762	15	45	110	<0.5	<0.008	-	1000	4	34.9
4	482763	5	15	60	<0.5	<0.008	-	270	3	42.2
5	482764	20	100	130	<0.5	<0.008	-	1000	3	34.3
6	482765	5	5	80	<0.5	<0.008	<0.008	240	2	64.3
7	482766	<5	20	75	<0.5	0.018	-	430	4	52.8
8	482767	20	30	90	<0.5	IS	IS	510	3	17.6
9	482768	15	35	75	<0.5	<0.008	-	670	2	37.2
10	482769	5	25	70	<0.5	<0.008	-	330	4	32.2
11										
12										
13										
14										
15										
16										
18										
19										
20	Wt of samples for Au analysis were as follows:-									
21	Sample 482761 - 10gms, 482762 - 10gms, 482763 - 15gms, 482764 - 10gms,									
22	482768 - 12gms, 482769 - 8gms.									
23	DETECTION	5	5	5	0.5	0.008	0.008	10	2	0.1
24	UNITS	PPM	PPM	PPM	PPM	ppm	ppm	ppm	ppm	GSM
25	METHOD	101	101	101	101	309	309	401	401	9807

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

Aberfoyle Exploration GEOCHEMICAL SAMPLE LEDGER

PROJECT NORTH SELINA STREAM SEDIMENT

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT YES ☐ NO ☐ VERIFY YES ☐ NO ☐

DATE 25/11/89

SHEET 2

EASTINGS (1–7)	NORTHINGS (8–14)	SAMPLE NUMBER (15–20)	DEPTH in CMS (21–24)	(25–27)	SIZE FRACTION (28–31)	Sample Type (32–33)	(34–36)	METAL VALUES PPM (37–60)	GEOLOGICAL LOG (61–80)
386286	5364792	482754			-80#	SS		Cu, Pb, Zn, Ag, Au, As, Ba	
386430	5364830	755			〃	SS		〃	
386502	5364858	756			〃	SS		〃	
386736	5364636	757			〃	SS		〃	
386726	5364672	758			〃	SS		〃	
386517	5364588	759			〃	SS		〃	

OPERATOR COMPUTER CHECK PLOTTER DATE

952267

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999 52 Murray Road, Welshpool W.A. 6106 Telex AA92560

ANALYTICAL REPORT No. 23.3.08.06687

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
7418	

DATE RECEIVED	RESULTS REQUIRED
27/11/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	12/12/89	1	6

STATE OF SAMPLES REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT							ANALYSIS			
		DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE		REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	482,754/759	SS Prep: 005,016							Cu,Pb,Zn,Ag/101			
	482,754/759	SS							Au,AuChk/309			
	482,754/759	SS							Ba,As/401			
	482,754/759	SS Prep: 005,016							Wt/9807			

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

NORTH SELINA
S/SEDS

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUO
inductively coupled plasma	ICP

AUTHORISED OFFICER

952268

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE OF
	23.3.08.04687	12/12/89	7418	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuWt	Ba	As	Wt
1	482754	20	135	360	1.0	0.091	10.23	400	5	16.80
2	482755	10	55	125	<0.5	<0.008	15.19	590	<2	23.94
3	482756	10	35	100	<0.5	<0.008	11.82	620	2	18.45
4	482757	10	45	115	<0.5	<0.008	20.75	850	<2	28.61
5	482758	10	5	40	<0.5	<0.008	17.36	450	<2	24.04
6	482759	15	50	95	<0.5	0.009	25.08	770	<2	44.72
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.01	10	2	0.01
24	UNITS	ppm	ppm	ppm	ppm	ppm	gms	ppm	ppm	gms
25	METHOD	101	101	101	101	309	9807	401	401	9807

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

Aberfoyle Exploration GEOCHEMICAL SAMPLE LEDGER STREAM SEDIMENTS

PROJECT LAKE MARGARET NORTH SELINA

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT YES ☐ NO ☐ VERIFY YES ☐ NO ☐

DATE 18/11/89

SHEET 1

EASTINGS 1–7	NORTHINGS 8–14	SAMPLE NUMBER 15–20	DEPTH in CMS 21–24	25–27	SIZE FRACTION 28–31	Sample Type 32–33	34–36	METAL VALUES PPM 37–60	GEOLOGICAL LOG 61–80
385602	5366269	482751				SS		Cu, Pb, Zn, Ag, As, Ba, Au	80# Samples.
385822	5366168	752				SS		"	Screened to ¼"
385770	5366145	753				SS		"	

OPERATOR COMPUTER CHECK PLOTTER DATE

952299

952270

[illegible]

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999
52 Murray Road, Welshpool, W.A. 6106
Telex AA92560
FAX: [illegible]

ANALYTICAL REPORT No. 23.3.08.06673

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
7402	

DATE RECEIVED	RESULTS REQUIRED
20/11/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	05/12/89	1	3

STATE OF SAMPLES REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS REFER TO ANALYSIS SECTION	[illegible]	[illegible]
	K482,751/753	SS Prep: 005,016							Cu,Pb,Zn,Ag/101,Wt/9807		
	K432,751/753	SS							Au,AuChk/309		
	K482,751/753	SS							Ba,As/401		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

LAKE MARGARET
NORTH SELINA
S/SEDS.

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TITN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER

952271

ANALABS

Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06673	05/12/89	7402	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	WtAu	Ba	As	Wt
1	482751	20	10	90	<0.5	<0.008	19.34	270	<2	29.47
2	482752	10	15	85	<0.5	<0.008	17.51	140	4	58.90
3	482753	30	5	85	<0.5	0.009	26.06	460	3	23.08
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.01	10	2	0.01
24	UNITS	ppm	ppm	ppm	ppm	ppm	gms	ppm	ppm	gms
25	METHOD	101	101	101	101	309	9807	401	401	9807

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

APPENDIX XI

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

PROJECT: N. SELINA. 3615.

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT YES ☐ NO ☐
VERIFY YES ☐ NO ☐

DATE: 4/1/89

SHEET: 1

EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH in CMS	PETROLOGY	SIZE FRACTION	Sample Type	METAL VALUES PPM	GEOLOGICAL LOG
386272	5364771	482727		YES		RC	Cu Pb Zn Ag Au As Ba Cr Zr Ti	gn D.1 qfp Cl.per Py.dis
386194	5364715	482726		YES		RC	CaO MgO [illegible], K_2O, Na_2O	gn D.1 qp Co.per Py dis
386463	5364861	482729		NO		RC		gygn Dau qp ~~p~~ Sed Se per
		~~482728~~						(possibly No lithic fragments).
386369	5364798	482728		NO		RC		gnbr DIV qfp Hmt Cl uns per.
386656	5365825	482749		YES		RC		gygn DIv Qp Se Si. Cl.per Py dis.
386695	5365767	482791		YES		RC		gnbr por D. Qp aspt Co pat/uns. dis Py, Hmt?
386496	5366063	482743		NO		RC		gnbr DIU Qfp. lhfr? Se per Hmt per.
386717	5365804	482790		NO		RC		gnrdbr Dbv Qp. lhfr. Py dis Se. Cl per?
385565	5366235	482708		YES		RC		gn D1. Qp Mt. uns.
386210	5366354	482745		YES		RC		gngy D.1 fbn? Qp dis Py
386395	5366145	482741		YES		RC		gngybr DIv? Qfp per Hmt. Cl dis Py.
386630	5365854	482750		NO		RC		gnbr DIv Qp lhfr? Co uns. Cl pat
387259	5367276	482795		NO		RC		gn lv Qp lhfr? Cl Se per Co. uns sed

OPERATOR COMPUTER CHECK PLOTTER DATE

952274

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999
52 Murray Road, Welshpool, W.A. 6106
Fax [illegible]
Telex AA92560

ANALYTICAL REPORT No. 23.3.08.06774

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
9342	

DATE RECEIVED	RESULTS REQUIRED
08/01/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	15/01/90	1	13

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS SECTION	PREPARATION	METHOD
	Various	RC Prep: 006,010,011,012,013,016							Cu,Pb,Zn,Ag,/101		
	Various	RC							Au,AuChk/309		
	Various	RC							Ba,As,Cr,Zr,Ti/401		
	Various	RC							K2O,MgO,CaO,Na2O/104		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

LAKE MARGARET

N. SELINA
Rock CHIPS

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	[illegible]
colorimetry	[illegible]
chromatography	[illegible]
titration	[illegible]
other chemicals means	[illegible]
miscellaneous	[illegible]
fluorescence	[illegible]
inductively coupled plasma	[illegible]

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.05.06774	15/01/90	9342	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	As	Cr
1	482708	35	5	115	<0.5	<0.008	<0.008	170	5	25
2	482726	50	30	265	1.0	0.023	-	640	40	30
3	482727	90	60	225	1.0	<0.008	-	1200	9	35
4	482728	20	40	310	<0.5	0.009	-	2700	<2	20
5	482729	20	340	280	<0.5	0.013	-	1500	<2	<5
6	482741	20	15	225	<0.5	<0.008	<0.008	1050	2	8
7	482743	15	5	145	<0.5	<0.008	-	970	<2	25
8	482745	10	10	125	<0.5	<0.008	-	770	<2	7
9	482749	100	185	3050	1.0	<0.008	-	570	6	20
10	482750	15	5	160	<0.5	0.012	-	420	<2	9
11	482790	405	335	160	0.5	0.010	-	1000	<2	40
12	482791	25	65	90	0.5	<0.008	-	1400	<2	8
13	482795	10	5	90	<0.5	<0.008	-	910	<2	15
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.008	10	2	5
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	pp
25	METHOD	101	101	101	101	309	309	401	401	401

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06774	13/01/90	9342	1 OF 1

TUBE No.	SAMPLE No.	Zr	Ti	K2O	MgO	CaO	Na2O			
1	482708	70	1400	1.21	1.35	0.44	0.82			
2	482726	260	1950	2.84	2.21	1.11	0.04			
3	482727	120	2750	4.04	2.74	0.35	0.07			
4	482728	310	1950	6.33	1.07	0.12	0.09			
5	482729	260	1850	5.94	0.71	0.09	0.79			
6	482741	330	2800	5.92	1.69	0.13	0.31			
7	482743	260	2050	6.09	1.42	0.05	0.09			
8	482745	640	4650	6.04	1.16	0.25	0.08			
9	482749	170	760	4.00	0.92	0.04	0.03			
10	482750	300	2650	3.43	1.69	1.25	2.43			
11	482790	210	2200	5.49	1.66	0.08	0.06			
12	482791	220	2100	11.69	1.27	1.20	1.43			
13	482795	260	2550	4.87	1.24	0.53	2.14			
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	50	0.01	0.01	0.01	0.01			
24	UNITS	ppm	ppm	%	%	%	%			
25	METHOD	401	401	104	104	104	104			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

Aberfoyle Exploration GEOCHEMICAL SAMPLE LEDGER — ROCK CHIP GEOCHEM

PROJECT: LAKE MARGARET NORTH SELINA.

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT: YES ☐ NO ☐
VERIFY: YES ☐ NO ☐

DATE: 18/11/89

SHEET: 1

EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH in CMS		SIZE FRACTION	Sample Type		METAL VALUES PPM	GEOLOGICAL LOG
385600	5366591	482700				RC	P	Cu Pb Zn Ag Au As Ba Cr Zr Ti Y	pk br gf R.1 (Intrusive)
385530	5366662	710				RC			gn Qv →0.1 Clper, Pyrrho Mouns
385569	5366246	714				RC	P		gn Qt replaced by mt pe. Pyrrho
385796	5366147	717				RC		(Pyrrho irregular surface coat...)	gn or br gf R.1 Pyrrho. (Intrusive)
385867	5366135	722				RC			bk pk gf p R.1 Mt replacement ne.
385903	5366063	724				RC	P		gn or br gf R.1 (Intrusive).

MgO, CaO, Na_2O, K_2O
on Samples 482710, 482717, 482722

OPERATOR COMPUTER CHECK PLOTTER DATE

952278

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999
52 Murray Road, Welshpool, W.A. 6106
FAX) 004 31 8890
Telex AA92560

ANALYTICAL REPORT No. 23.3.08.06674

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
7403	

DATE RECEIVED	RESULTS REQUIRED
20/11/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	05/12/89	1	6

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	K482,700,710,714,717,722,724	RC	Prep: 006,010,011,012,013,016						Cu,Pb,Zn,Ag/101		
	K482,700,710,714,717,722,724	RC							Au,AuChk/309		
	K482,700,710,714,717,722,724	RC							Ba,As,Cr,Zr,Ti,Y/401		
	K482,710,717,722	RC							K2O,MgO,CaO,Na2O/104		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

LAKE MARGARET.
NORTH SELINA
ROCK CHIPS

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	[illegible]
other chemicals means	[illegible]
miscellaneous	[illegible]
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER

952279

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06674	05/12/89	7403	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	As	Cr
1	482700	15	<5	40	0.5	0.008	–	1650	<2	<5
2	482710	160	140	220	1.0	0.010	–	280	30	25
3	482714	140	<5	130	1.5	0.430	0.396	240	10	30
4	482717	360	45	120	3.5	<0.008	–	3250	65	5
5	482722	20	<5	105	<0.5	0.012	–	3150	5	30
6	482724	25	270	100	0.5	0.020	–	3250	4	<5
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.008	10	2	5
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	101	101	101	101	309	309	401	401	401

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE OF
	23.3.08.06674	05/12/89	7403	2 OF 2

TUBE No.	SAMPLE No.	Zr	Ti	Y							
1	482700	120	890	20							
2	482710	190	2150	8							
3	482714	100	2250	15							
4	482717	160	2050	10							
5	482722	160	1400	9							
6	482724	180	1100	10							
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
18											
19											
20											
21											
22											
23	DETECTION	5	50	5							
24	UNITS	ppm	ppm	ppm							
25	METHOD	401	401	401							

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.06674	05/12/89	7403	1 OF 1

TUBE No.	SAMPLE No.	K2O	MgO	CaO	Na2O					
1	482700	—	—	—	—					
2	482710	2.95	2.22	0.69	0.78					
3	482714	—	—	—	—					
4	482717	9.10	0.76	0.25	0.78					
5	482722	6.86	0.50	0.10	0.19					
6	482724	—	—	—	—					
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.01	0.01	0.01	0.01					
24	UNITS	%	%	%	%					
25	METHOD	104	104	104	104					

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER ____________

Aberfoyle Exploration — GEOCHEMICAL SAMPLE LEDGER

PROJECT: N. SELINA ROCK CHIP

SIEVE SIZE CODE: A 200 D 80 G 50 / B 150 E 60 H 20 / C 100 F 40 I Other

SAMPLE TYPE CODE:
☐ OXIDIZED PROFILES O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT YES ☐ NO ☐ VERIFY YES ☐ NO ☐

DATE: 20/3/90

SHEET: 1

		NORTHINGS		SAMPLE NUMBER	DEPTH	SIZE FRACTION		METAL VALUES PPM	GEOLOGICAL LOG
				482948	0.0		RC		gn br D.1? Qpp Cl Si per Py spr shd
				482949	16.7		RC		gn D.1 Qp Cl Si per Py dis.
				950	30.0		RC		gn D.1 Qp Cl. Si per mnr Py dis
				951	46.0		RC		gn D.1 Qp Cl. Si per Cl Se
				952	66.8		RC		gn br Por? ~~D.1~~ Qpp Cl. Si per
				953	78.0		RC		gn br D.1? Qp Cl & biotite, Si per.
				954	83.0		RC		gn gy brwh Por fQp Cl per wh Q vns wh zx.
				955	103		RC		gn rd br D.1? mas? Cl per jaspoidal.
				956	139		RC		gn gy Iv? Qpp Cl. Se per.
*			X	957	172		RC	Full Suite (Sulphide Pod)	gn gy Iv? Qpp Cl Si per abundant dis Py.
				958	172		RC		gn gy br Iv Qpp? Cl. Si per.
				959	30m across line track.				gn pk br Iv Qpp Cl. Si per (Si Pd vns)
				960	232		RC		gy wh gn Iv? Qpp Cl. Se per Shd wh Q vn
*			X	961	436		RC	Cu, Pb, Zn, Ag, As, Au, Ba, Cr, Zr, Ti, K_2O, MgO, Na_2O, CaO	gy wh HA Si Py Se per.
				962	437		RC		gy wh HA Se. Si per dis Py.
				963	438		RC		gn wh br HA Si Se dis Py.
				964	442		RC		gy wh HA Si Se per abundant Py
*			X	965	445		RC	" (No Au)	gn bl gy HA Si Cl per.
				966	447		RC		gy gn HA Si Se. Cl per tr. Py
*			X	967	450		RC	" (No Au)	gy wh HA Si Se per dis Py. Shd
				968	466		RC		gy wh HA Si Se per fine dis Py.
*			X	969	480		RC	" (No Au)	gn gy wh HA Si Se. Cl per dis Py
				970	498		RC		gy wh br HA Si Se. Per Py dis
				971	544		RC		gy wh br HA Si Se Per mnr Py dis

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

PROJECT	BSS SIEVE SIZE CODE - MESH NUMBER	SAMPLE TYPE CODE		CARD PUNCH PRINT	VERIFY	DATE	SHEET
N. SELINA.	A 200 D 80 G 30 B 150 E 60 H 20 C 100 F 40 I - FOOT	☐ OXIDIZED PRODUCTS O ☐ FRESH ROCK R ☐ STREAM SEDIMENTS S	☐ WEATHERED BEDROCK W ☐ SURFACE TRANSPORTED T ☐ RESIDUAL SOIL E ☐ MINE DUMP M	YES ☐ NO ☐	YES ☐ NO ☐	2d3/90	2

	EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH in cms	SIZE FRACTION	METAL VALUES PPM		GEOLOGICAL LOG
*			X 482972	549		Cu, Pb, Zn Ag, As, Au, Ba, Cr, Zr, Ti, K_2O, MgO, Na_2O, CaO		gngybr HA Cl Si per dis Py.
*			X 973	561		"		gngy D.1? Cl. Si per shd.
*			X 974	571		● "		gngy 1b?qCl. Si per Sespt
●			975	574		●		ppwbr Vol. Cg QFp lh fr. Hmt per.
			X 564819					Gossanous Ferricrete goethite Q5 30m South LS8 Drillpad. 21/3/90
	Mapping Red	Hills Creek	South of	line	280N 225E	(0am)		
			482977	100				gngywh lv QFp Cl per. shd
			976	103				gngy mas D.1? Qp Cl Si per
			978	354			*?	gn D.1?/por? Qp Fd? Cl. per Si per?, shd
			979	436				pkbrgngy R.1? massive feldspathic Cl. stw, Fe vein
*			X 980	464		Cu, Pb, Zn, Ag, As, Au, Ba, Cr, Zr, Ti MgO, K_2O, CaO, Na_2O	**	gygn ~~Por~~? QFp? lh.fr? Cl. per Ca spt (lh. fr felsic?) Cl after pumice?
			981	540			?	gygnwh lv QFp lh.fr. Pu.fr. Cl or vugs after Pumice?, Se. per?
			[illegible]	[illegible]				
			982	407			?	gngy R1 QFp lh fr? Cl.spt Pbl?
			983	951			?	gnbr D.1/1v? QFp Cl. spt. Pbn?
			984	946				pkbrgn R.1 frag. QFp. Cl. spt. Clus isolated to felsic fragments.
			[illegible]	[illegible]				
			985	961				gygn R.1? Qp mas Cl. spt
*			X 986	(41.74)		Cu, Pb, Zn Ag As, Au Ba Cr, Zr Ti MgO, K_2O, CaO, Na_2O	(Polished S) (Petrology).	gngy R.1? Qp mas. Cl spt dis Py wispy stringers Sp??

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

PROJECT: N. SELINA.

BSS SIEVE SIZE CODE MESH NUMBER: A 200 D 80 G 35 / B 150 E 60 H 20 / C 100 F 40

SAMPLE TYPE CODE:
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT: YES ☐ NO ☐
VERIFY: YES ☐ NO ☐

DATE: 21/3/90

SHEET: 3

	EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH	SIZE FRACTION		METAL VALUES PPM	GEOLOGICAL LOG
			482987					gygnbr lv FP felsrelhifr? shd. Se per Cl. pat.
			988					gngy D. l/lv? frag? Qp Cl. per.
			989					gngy lv Cl. s pe per. shd Qfp lhfr?
			990					gngy lv Qfp Cl. per shd.
			991					gngy lv? Qp Cl. per S. per? shd Cl ex Pummice?
			992				?	gngy lv? lllQp Se. spot, Cl. per S per shd
			993				?	gygn v? HA Qp Cl. Se per shd
			994					gngy lv? Q p Cl. per shd
*		X	995			7	Cu, Pb, Zn, Ag As, Au, Ba, Cr, Zr, Ti K2O, MgO, CaO, MnO	gngygr bv felsvclhfr. QfpA Cl. per shd di. Py
			996					gn gypp bv → Vol. Cy? lh. fr Qfp shd dis. Py Cl. Se per. jasper clasts?
*		X	997				″	gngybr bv lhfr (felsr lave, lv) shd Qfp Cl. per di. Py
*		X	998				″	gngy or br bv lhfr. Qp fp Cl. pat shd
			999	106	232N		1000E	gngy bv lhfr Qfp. Cl. pat v runs

Aberfoyle Exploration GEOCHEMICAL SAMPLE LEDGER

PROJECT	BSS SIEVE SIZE CODE MESH NUMBER	SAMPLE TYPE CODE		CARD PUNCH PRINT YES / NO	VERIFY YES / NO	DATE	SHEET
N. SELINA	A 200 D 80 G 30 B 150 E 60 H 20 C 100 F 40 I TOTAL	☐ OXIDIZED PRODUCTS O ☐ FRESH ROCK R ☐ SPECIAL ELEMENTS S	☐ WEATHERED BEDROCK W ☐ SURFACE TRANSPORTED T ☐ RESIDUAL SOIL E ☐ MINE DUMP M	☐ ☐	☐ ☐	22/3/90	4

EASTINGS	NORTHINGS	SAMPLE NUMBER	OFFSET	SIZE FRACTION	METAL VALUES PPM	GEOLOGICAL LOG
		564801	39		Traverse South Along Anthony R. From RGC line	gygn RI/Iv? Qp Cospt Cl-pat uns
	X	802	125		(East bank) (Full suite)	gygn br RI/Iv? Qfp? Cospt. Cl-pat dis Py
		803	110			gy gn wh Iv Qfp Ih fr. Cl-pat
		804	135.7		(west bank)	gn D.I Qp Cl-Si per dis Py
	X	805	139.7		(Full Suite)	gy wh br HA Si-Se per dis Py wk 1-2
		806	154			gygn HA Si per Se-Cl pat dis Py.
		807	186			gn gy HA (D.I?) Qp? Cl Si per dis Py
	X	808	199		(Full suite)	gn gy br HA Cl-Si per Cospt (felsic mass shd
		809	246			gy bk gn br bv (Vol-g) Qfp Ih fr. Hmt pat
		810	240			gn gy br HA Cl-Si per Co spt dis Py felsic massive
		811	244			gn br HA Cl. Si per (felsic pat)
		812	139.3			gn br HA Cl Si per (massive felsic pat) mn Py
		813	133			gn HA Cl Si per abundant dis Py
						(formerly Qp D.I ?)
					Track out from LS8.	
		814	123		(distances from the junction towards LS8)	gn HA Cl. Si per, pat Se shd
						(formerly Qp D I ?)
	X	815	41.5		(Full Suite)	
		~~814/5~~	~~94~~			gn br bk bv Qfp Hmt pat Cl. Si per
						dis Py.
		816	91.0			gn br Iv Qfp Cl Si per Hmt pat
						Ih. fr? dis Py
		817	43			gn gy Por. Q fp Cl pat, Cl. per.
		818	50		(distance south of junction)	gn gy HA Cl. Si per dis Py mar.

952286

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

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ANALYTICAL REPORT No. 23.3.08.07009

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
9812	

DATE RECEIVED	RESULTS REQUIRED
10/04/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	20/04/90	1	18

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	[illegible]	PREPARATION	METHOD
	Various	RC Prep: 016							Cu,Pb,Zn,Ag,/101		
	Various	RC							Au,AuChk/309		
	Various	RC							Ba,As,Cr,Zr,Ti,Y/401		
	Various	RC							K2O,MgO,CaO,Na2O/104		
	Various	RC Prep: 016							Cu,Pb,Zn,Ag,/101		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemical means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07007	20/04/90	9812	1 OF 1

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag ✓	Ag ✓	Au
1	482957	–	65	–	1900	–	6900	–	11	0.110
2	482961	55	–	10	–	35	–	0.5	–	0.010
3	482965	35	–	5	–	110	–	0.5	–	–
4	482967	10	–	5	–	10	–	1.0	–	<0.008
5	482969	95	–	15	–	60	–	0.5	–	–
6	482972	425	–	170	–	65	–	1.5	–	0.032
7	482973	10	–	15	–	170	–	0.5	–	–
8	482974	10	–	10	–	100	–	0.5	–	0.024
9	482980	15	–	25	–	80	–	0.5	–	<0.008
10	482986	250	–	555	–	7900	–	3.0	–	0.019
11	482995	85	–	195	–	210	–	1.0	–	<0.008
12	482997	40	–	145	–	150	–	0.5	–	<0.008
13	482998	40	–	195	–	105	–	1.0	–	–
14	564802	15	–	5	–	130	–	0.5	–	0.025
15	564805	275	–	20	–	70	–	1.5	–	0.014
16	564808	20	–	50	–	230	–	0.5	–	<0.008
	564815	90	–	170	–	75	–	2.5	–	0.014
18	564819	90	–	70	–	170	–	0.5	–	0.010
19										
20										
21										
22										
23	DETECTION	5	25	5	25	5	25	0.5	2	0.008
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	101	104	101	104	101	104	101	104	309

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07009	20/04/90	9812	1 OF 1

TUBE No.	SAMPLE No.	AuChk	Ba	Ba	As	Cr	Zr	Ti	Y	K2O
1	482957	0.104	700	–	120	15	110	2700	25	1.88
2	482961	–	790	–	35	40	290	1900	40	3.92
3	482965	–	620	–	35	30	180	3450	35	3.26
4	482967	–	510	–	15	7	270	1450	20	3.52
5	482969	–	930	–	10	20	220	3200	35	4.59
6	482972	–	780	–	45	9	280	1700	40	3.39
7	482973	–	1850	–	20	30	210	3800	25	4.18
8	482974	–	1400	–	20	25	240	3750	25	5.99
9	482980	–	1100	–	3	7	270	1950	40	5.71
10	482986	0.019	620	–	45	45	170	1550	35	4.46
11	482995	–	1800	–	7	25	200	2550	30	6.02
12	482997	–	1550	–	4	25	220	2400	20	5.75
13	482998	–	1700	–	4	30	220	220	30	–
14	564802	–	900	–	3	25	150	2050	35	3.16
15	564805	–	1050	–	50	25	150	2650	15	4.46
16	564808	–	1450	–	15	25	200	3050	20	5.95
(	564815	–	>2500	0.28	35	20	230	2100	30	–
18	564819	0.010	160	–	65	55	65	830	5	–
19										
20										
21										
22										
23	DETECTION	0.008	10	0.01	2	5	5	50	5	0.01
24	UNITS	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%
25	METHOD	309	401	403	401	401	401	401	401	104

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

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ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07009	20/04/90	9812	1 OF 1

TUBE No.	SAMPLE No.	MgO	CaO	Na2O						
1	482957	1.74	0.53	0.07						
2	482961	0.21	0.18	0.13						
3	482965	1.09	0.08	0.13						
4	482967	0.18	0.03	0.16						
5	482969	0.89	0.15	0.17						
6	482972	0.63	0.05	0.12						
7	482973	1.72	0.04	0.09						
8	482974	1.44	0.05	0.11						
9	482980	0.94	1.23	1.16						
10	482986	1.16	0.10	0.11						
11	482995	2.02	0.49	0.17						
12	482997	1.44	0.11	0.12						
13	482998	—	—	—						
14	564802	1.81	0.66	0.35						
15	564805	0.36	0.04	0.13						
16	564808	2.40	0.74	0.16						
	564815	—	—	—						
18	564819	—	—	—						
19										
20										
21										
22										
23	DETECTION	0.01	0.01	0.01						
24	UNITS	%	%	%						
25	METHOD	104	104	104						

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

Aberfoyle Exploration

GEOCHEMICAL SAMPLE LEDGER

A 39340

PROJECT L- MARGARET N. SELINA

BSS SIEVE SIZE CODE - MESH NUMBER
A 200 D 80 G 30
B 150 E 60 H 20
C 100 F 40 T = TOTAL

SAMPLE TYPE CODE
☐ OXIDIZED PRODUCTS O
☐ FRESH ROCK R
☐ STREAM SEDIMENTS S
☐ WEATHERED BEDROCK W
☐ SURFACE TRANSPORTED T
☐ RESIDUAL SOIL E
☐ MINE DUMP M

CARD PUNCH PRINT YES ☐ NO ☐
VERIFY YES ☐ NO ☐

DATE 6/6/90

SHEET 1

EASTINGS	NORTHINGS	SAMPLE NUMBER	DEPTH in CMS		SIZE FRACTION	Sample Type		METAL VALUES PPM	GEOLOGICAL LOG
1–7	8–14	15–20	21–24	25–27	28–31	32–33	34–36	37–60	61–80
383238	5364779	564779			M2W 655E.			Cu, Pb, Zn, Ag, As, Au, Ba Cr, Zr, Ti	gnD.1'/Po-? Gp <1per2 dia Py1 Mt veinlets Per 3.
383217	5364914	795			Creek.	([illegible] Sand)		Cu, Pb, Zn, Ag, As, Ba, Au	g ngyor Por?/Ib? Qfp felsicpa Cl-perl Mt+Py vns

OPERATOR COMPUTER CHECK PLOTTER DATE

952291

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560

FAX: 004 31 8890

ANALYTICAL REPORT No. 23.3.08.07179

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
10013	Lake M'gret

DATE RECEIVED	RESULTS REQUIRED
19/06/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	04/07/90	1	2

STATE OF SAMPLES		PRE-TREATMENT							ANALYSIS		
REFER BELOW	SAMPLE NUMBERS	[illegible]	CRUSH	SPLIT	PULVERISE	[illegible]	OTHER SEE REMARKS	NONE	[illegible]	[illegible]	[illegible]
	<5647,79,95	RC Prep: 016							Cu,Pb,Zn,Ag/101		
	<5647,79,95	RC							Au,AuChk/309		
	<5647,79,95	RC							Ba,As/401		
	<5647,79	RC							Cr,Zr,Ti/401		
	<5647,79	RC							Ti:Zr/9825		

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

N. SALINA
Rock chips

STATE OF SAMPLES	
whole core	WC
split core	SC
cutting	CU
rock	Ro
soil	SO
pulp	PU
water	WA
tissue	TI
stream sediment	SS
heavy mineral	HM

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorbtion	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	[illegible]
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER Jenkins

952292

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07179	04/07/90	10013	1 OF 1

TUBE No	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	As	Cr
1	564779	9	96	143	<0.5	<0.008	<0.008	749	~~103~~ 4	40
2	564795	40	2298	2689	7.0	0.075	-	747	7	-
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.008	10	2	5
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	101	101	101	101	309	309	401	401	401

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

952293

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07179	04/07/90	10013	1 OF 1

TUBE No.	SAMPLE No.	Zr	Ti	Ti:Zr						
1	564779	177	3270	18.5						
2	564795	—	—	—						
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	50	0.1						
24	UNITS	ppm	ppm	%						
25	METHOD	401	401	9825						

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER Jenkins

ANALABS

[illegible]

Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA9256

ANALYTICAL REPORT No. 23.3.08.07243

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

Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

ORDER No.	PROJECT
10033	Lake M'gret

DATE RECEIVED	RESULTS REQUIRED
17/07/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	30/07/90	1	12

	Various	PU	Prep: 016					K20/104			
	Various	PU	Prep: 016					K20/104			
	Various	PU						Sn,Rb/401,F/129			
	Various	PU						Sn,Rb/401,F/129			

RESULTS TO

R. de Bomford
Aberfoyle Resources Limited
Exploration Division
P.O. Box 952
Burnie Tasmania 7320

RESULTS TO

REMARKS

Re-Analyses

DATABASE UPDATED BY HAND

STATE OF SAMPLES		ANALYSIS — PREPARATION				[illegible]S — METHOD	
whole core	WC	perchloric acid	A1	cold acid	[illegible]	atomic absorbtion	AA
split core	SC	hydrochloric acid	A2	specific sulphide	SS	x-ray fluorescence	X
cutting	CU	nitric acid	A3	other mixed acids	Ma	spectrophotometry	C
rock	Ro	aqua regia	A4	alkaline attack	AA	colorimetry	L
soil	SO	nitric perchloric	A5	volatilization	VO	chromatography	HR
pulp	PU	HF mixture	A6	ignition	IG	titration	TN
water	WA	HF under pressure	A7	pressed powder (XRF)	PP	other chemical [illegible]	CHE
tissue	TI	fusion	A8	glass fusion (XRF)	GF	miscellaneous [illegible]	MIS
stream sediment	SS					fluorescence [illegible]	F
heavy mineral	HM					inductively coupled plasma	

AUTHORISED OFFICER

ANALABS

Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	23.3.08.07243	30/07/90	10033	1 OF 1

TUBE No.	SAMPLE No.	K20	Sn	Rb	F					
1	482700	8.61	<3	257	300					
2	482722	5.62	<3	157	150					
3	482741	6.99	<3	257	660					
4	482795	4.85	3	229	760					
5	482967	4.06	13	131	740					
6	482986	4.42	5	214	860					
	482995	5.84	4	227	550					
8	564779	5.14	6	329	2200					
9	564795	2.35	3	135	820					
10	564804	3.70	<3	177	660					
11	564808	5.86	754	280	640					
12	564818	5.37	<3	242	1000					
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	0.01	3	5	100					
24	UNITS	%	ppm	ppm	ppm					
25	METHOD	104	401	401	129					

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER Jenkins

APPENDIX XII

952297

Sirotope

CSIRO
AUSTRALIA

Division of Exploration Geoscience
Institute of Minerals, Energy and Construction
51 Delhi Road, North Ryde, NSW. Postal Address: PO Box 136, North Ryde, NSW 2113
Telephone: (02) 887 8666. Telex: AA25817. Fax: (02) 887 8909

Chief: Dr. B.J.J. Embleton

REPORT TO ABERFOYLE RESOURCES LTD
ON THE PROBABLE METALLOGENIC ASSOCIATIONS
OF EXPLORATION SAMPLES FROM THE
LAKE MARGARET E.L., WESTERN TASMANIA

REPORT SR 118

GRAHAM R. CARR
JUDITH A. DEAN
22/6/90

Research Advancing Australia

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SUMMARY

Exploration samples from the Lake Margaret E.L containing between 150 and 1600 ppm Pb have a narrow range of Pb isotopic compositions consistent with derivation from Cambrian hydrothermal fluids.

The variation that is apparent, especially in the $^{206}Pb/^{204}Pb$ ratio of the lowest Pb samples is probably a result of in situ addition of radiogenic Pb since the Cambrian and thus all samples probably had similar initial Pb isotope ratios.

There is a slight possibility that the variation indicates the activity of more than one Cambrian hydrothermal event. However, insufficient evidence is available to indicate whether one of these events may have been associated with the intrusion of the Murchison Granite, rather than being volcanogenic in origin.

1. AIM

A total of 10 exploration samples from the Lake Margaret E.L. to the north and east of Queenstown have been analysed for their Pb isotopic composition with the aim of determining their likely metallogenic association. In addition to discriminating between Cambrian and Devonian mineralizing events, it is pertinent to consider the possible effects of Cambrian granitoid emplacement especially in the group of samples from around Mount Selina.

2. SAMPLES

Seven samples were obtained by Danny Noonan during a creek mapping program in the area to the north of Mount Selina and an additional 3 samples were taken during a grid mapping program to the east of the Beatrice lava dome. Brief sample descriptions provided by Danny Noonan are presented in Table 1. All samples were provided as pulps.

3. METHODS

About 0.15g of each pulp was digested in a 1:1 mixture of 7N HNO_3 and 7N HCl acids in Teflon beakers. Lead was separated by anion exchange techniques in dilute HBr solutions and purified by electroplating onto Pt electrodes. Lead isotope ratios were determined on a VG ISOMASS 54E solid source thermal ionization mass spectrometer run in fully automated mode. Precision estimates, representing 2 standard deviations about the mean of over 1000 analyses of international standards and natural samples, are shown in the upper left hand corner of the following diagrams.

Although geochemical data were provided, it was decided to check Pb concentrations since some of the samples contained relatively low amounts (140 ppm). These were measured by isotope dilution by adding a known amount of ^{202}Pb spike at the initial dissolution stage.

4. TARGET SIGNATURES

The signatures of major Cambrian VMS mineralization at Rosebery, Que River and Hellyer are presented in Figures 1 and 2. The heavy dashed line is the average crustal Pb evolution curve, or growth curve, of Cumming and Richards (1975). The Rosebery signature is very homogeneous and includes other deposits in the region such as Hercules and Koonya. In contrast, the Que River and Hellyer signatures have slightly higher and more variable ^{206}Pb/^{204}Pb ratios. A simple explanation of these two apparently different signatures is that they represent regional variations in isotopic ratios related to the one major VMS metallogenic event. The variation may be due to differences in the relative U, Th and Pb contents of source rocks between localities of an essentially contemporaneous event (e.g the differences between the Central Volcanic Complex (Rosebery) and the Western Sequence/basal Dundas Group (Que River, Hellyer)). Slight time differences may be involved if, for example, the centre of hydrothermal activity was migrating across the volcanic belt(s) over the period of volcanic activity.

In some localities, for example Mt Lyell, Pinnacles, and Lake Selina, both signatures are present indicating that sulfides were deposited from two hydrothermal systems containing Pb with different isotopic compositions. These systems may have been operating essentially contemporaneously (e.g. Carr and Gulson, 1984) or sequentially. In such cases, and where Cambrian granitoids are also present, it is possible that one of the systems was associated with granite intrusion.

To discriminate which, if any, of these signatures is associated with plutonic rather than volcanogenic processes an assessment is required of:

1) Structural, textural and petrological differences between deposits, or samples within the same deposit, which show the different signatures;

2) The Pb isotope systematics of the Murchison granite compared with unaltered Mt Read Volcanics.

At this stage, insufficient evidence is available to draw conclusions concerning the significance of the two apparent Pb isotope signatures in areas such as the Lake Margaret E.L. where hydrothermal solutions may have derived from granite emplacement as well as from volcanic processes.

5. RESULTS

The Pb contents of the samples as determined by isotope dilution are given in Table 2 and compare closely with the AAS results provided by Aberfoyle.

The Pb isotope results fall into two groups (Table 2, Figs 1 and 2):

Group 1 Those samples which plot within the Rosebery 95% confidence ellipse on the $^{207}Pb/^{204}Pb$ vs $^{206}Pb/^{204}Pb$ diagram (482729, 749, 957, 986 and 564351).

Group 2 Those samples with higher $^{206}Pb/^{204}Pb$ ratios which plot within or close to the Hellyer and Que River 95% confidence ellipses. These samples tend to have lower Pb contents than Group 1 samples (Fig. 3).

On the $^{208}Pb/^{204}Pb$ vs $^{206}Pb/^{204}Pb$ diagram (Fig. 1), the samples in Group 1 have higher $^{208}Pb/^{204}Pb$ ratios than Rosebery.

6. DISCUSSION

The results confirm that the Pb in all samples probably derived from Cambrian hydrothermal activity. There is no evidence of Devonian mineralization. However, as was discussed in section 4, drawing distinctions between VMS-related and granite-related mineralization is not straightforward.

The distinction between the two groups of data may be related to different hydrothermal events, or it may be due to radiogenic addition of ^{206}Pb, ^{207}Pb and ^{208}Pb since the Cambrian, which is only apparent in the low Pb samples of Group 2.

In other datasets from the region there is a threshold Pb content, above which the majority of samples have a homogeneous Pb isotopic composition which represents the initial ratios, that is the ratios at the time of formation in the Cambrian. The thresholds for Que River and Hellyer are in the range 80-150 ppm Pb, but those for mineralization at Lake Selina, Red Hill and Henty Fault Zone tend to be less well defined and higher (approx. 500 - 1000 ppm). This almost certainly results from variable, but generally higher, U contents of this mineralization.

Thus with the present data it is likely, though not definite, that Group 2 samples had the same initial ratio as Group 1 but their Pb isotopic composition has changed due to in situ addition of radiogenic Pb.

The slightly elevated ^{208}Pb/^{204}Pb ratios of the Group 1 samples compared to Rosebery is of no great significance. Such regional variations are not uncommon between even large VMS deposits of the same metallogenic province.

There is an outside possibility that the two groups result from different Cambrian hydrothermal solutions, but at this stage, isotopic evidence is not able to discriminate between possible plutonic and volcanic processes. However, an assessment of the geological relationships, if any, between the two groups may help to resolve this complex problem.

7. CONCLUSIONS

Exploration samples from the Lake Margaret E.L. have a narrow range of Pb isotopic compositions and appear to plot in two groups both of which fall within the range for known volcanogenic mineralization. The differences between the groups probably results from in situ addition of radiogenic Pb in low-Pb samples. Thus all samples probably had the same initial isotope ratios which were very similar to the Rosebery signature.

There is a slight possibility that the two groups represent different Cambrian hydrothermal solutions, but no conclusions can be made as to whether plutonic processes were involved.

8 REFERENCES

Carr, G.R. and Gulson, B.L., 1984. Multiple lead sources in the stratiform Lady Loretta Zn-Pb-Ag deposit, Northwest Queensland. Geol. Soc. Aust., Abstracts, 12, Seventh Aust. Geol. Convention, pp. 90-92.

Cumming, G.L. and Richards, J.R., 1975. Ore lead isotope ratios in a continuously changing Earth. Earth and Planet. Sci. Letts, 28, pp. 155-171.

952304

TABLE 1. Brief sample descriptions as privided by Danny Noonan.

Sample 482710 is a ash volcaniclastic with pervasive sericite veins and lesser magnetite pyrite veinlets taken from an outcrop at the junction of Red Hills and Quinn Creeks. The mineralisation is possibly associated with the intrusion of the Murchison Granite.

Sample 482729 is a sample of pervasively sericite altered ash volcaniclastic from an outcrop within the Anthony River.

Samples 482986/482749 were taken from an outcrop of sericite, pyrite altered rhyolitic lava within Red Hills Creek.

Sample 482790 is a sample of breccia volcaniclastic with pervasive chlorite alteration and disseminated pyrite from within Red Hills Creek, the sample was taken from an outcrop approximately 100m downstream from sample 482986.

Sample 482972 is an intensely sericite, silica, pyrite altered sample taken from within the main Selina alteration zone.

Sample 482957 is a sample of a sulphide clast hosted within a volcaniclastic to the east of the main Selina alteration zone.

Sample 564351 is a sample of dacitic lava which has under gone pervasive chlorite alteration and has minor disseminated pyrite throughout.

Sample 564459 is a sulphide clast, somewhat oxidised to haematite formerly hosted within a breccia volcaniclastic. Sample 564464 is a sample of breccia volcaniclastic.

TABLE 2. LEAD CONCENTRATIONS AND Pb ISOTOPE RATIOS OF SAMPLES.

Sample	$\frac{^{208}Pb}{^{206}Pb}$	$\frac{^{207}Pb}{^{206}Pb}$	$\frac{^{206}Pb}{^{204}Pb}$	$\frac{^{207}Pb}{^{204}Pb}$	$\frac{^{208}Pb}{^{204}Pb}$	Pb(ppm)
1 482710	2.0825	0.8509	18.351	15.615	38.215	153
2 482729	2.0843	0.8530	18.267	15.581	38.073	278
3 482749	2.0870	0.8542	18.273	15.609	38.136	181
4 482790	2.0841	0.8523	18.303	15.600	38.145	330
5 482957	2.0876	0.8549	18.261	15.612	38.121	1,600
6 482957RLD	2.0882	0.8549	18.262	15.612	38.135	1,600
7 482972	2.0810	0.8509	18.334	15.600	38.153	175
8 482972R	2.0811	0.8509	18.332	15.599	38.151	178
9 482986	2.0887	0.8547	18.274	15.618	38.169	510
10 564351	2.0887	0.8549	18.260	15.610	38.139	400
11 564459	2.0724	0.8483	18.385	15.596	38.101	172
12 564464	2.0820	0.8504	18.364	15.618	38.234	250

RLD = Reload of same dissolution.
R = repeat analysis

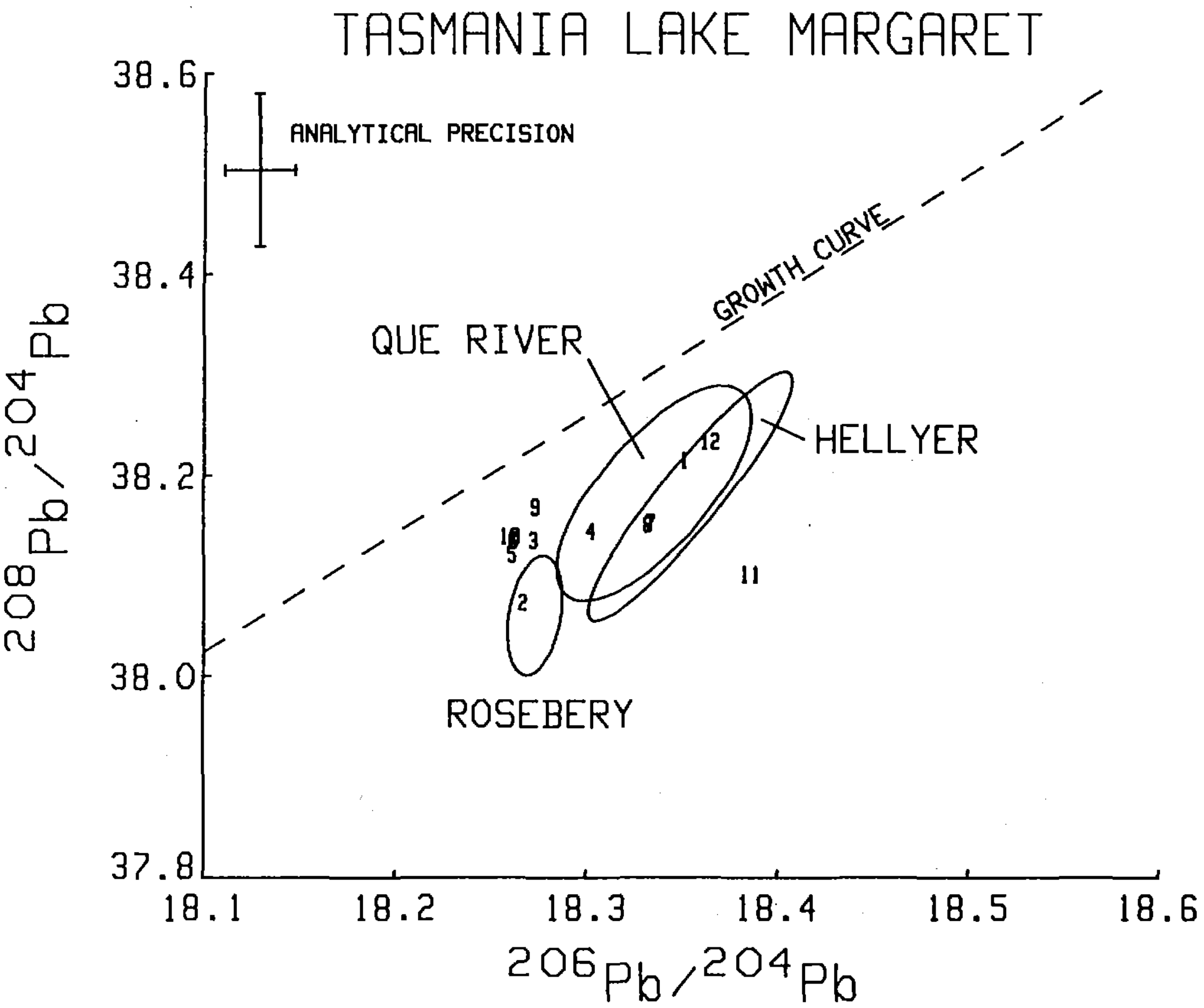


FIGURE 1 A $^{208}Pb/^{204}Pb$ vs $^{206}Pb/^{204}Pb$ diagram showing the Pb isotope ratios of Lake Margaret samples in relation to the 95% confidence ellipses for Que River, Hellyer and Rosebery. Also shown is the growth curve of Cumming and Richards, 1975.

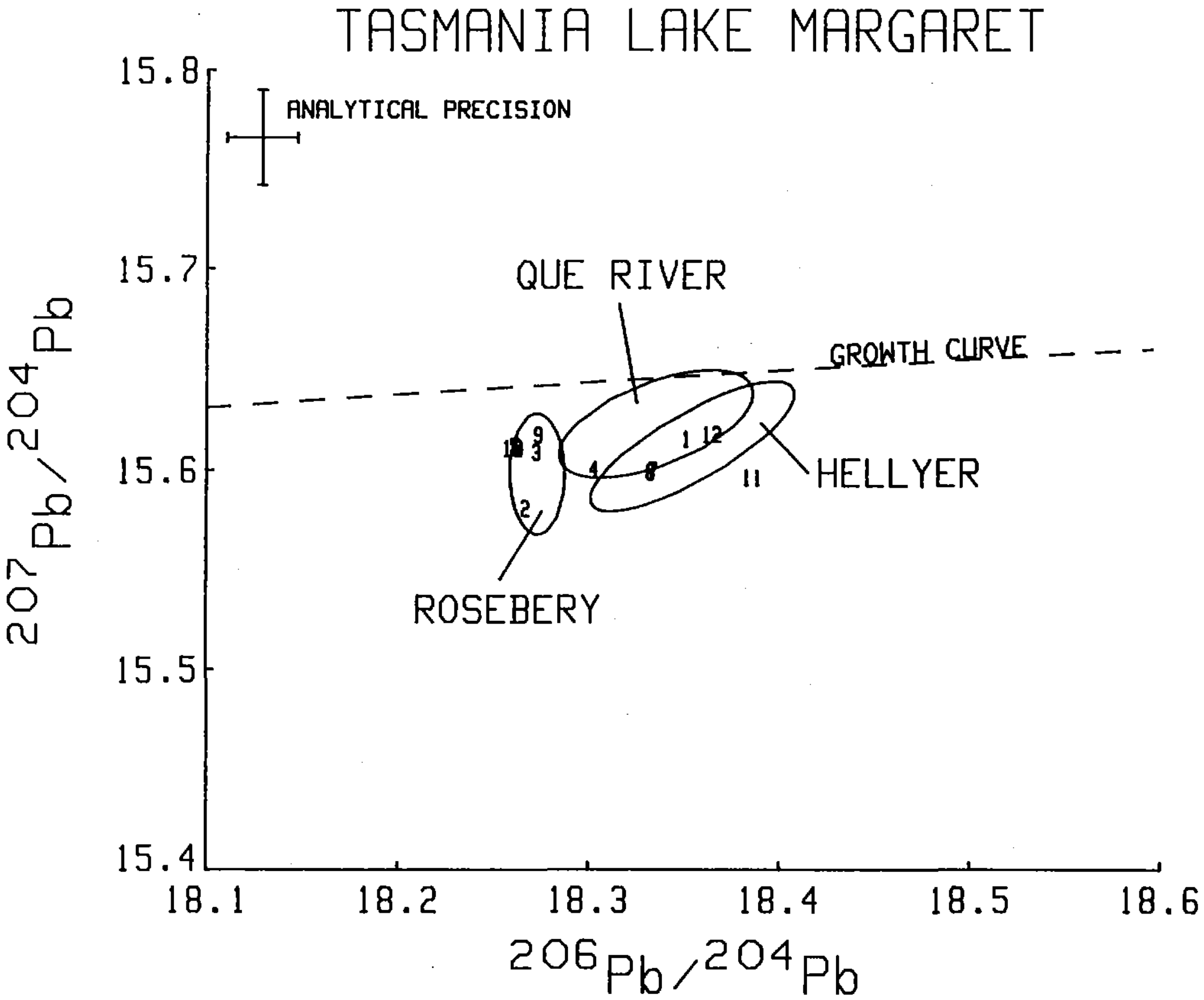


FIGURE 2 A $^{207}Pb/^{204}Pb$ vs $^{206}Pb/^{204}Pb$ diagram showing the Pb isotope ratios of Lake Margaret samples in relation to the 95% confidence ellipses for Que River, Hellyer and Rosebery. Also shown is the growth curve of Cumming and Richards, 1975.

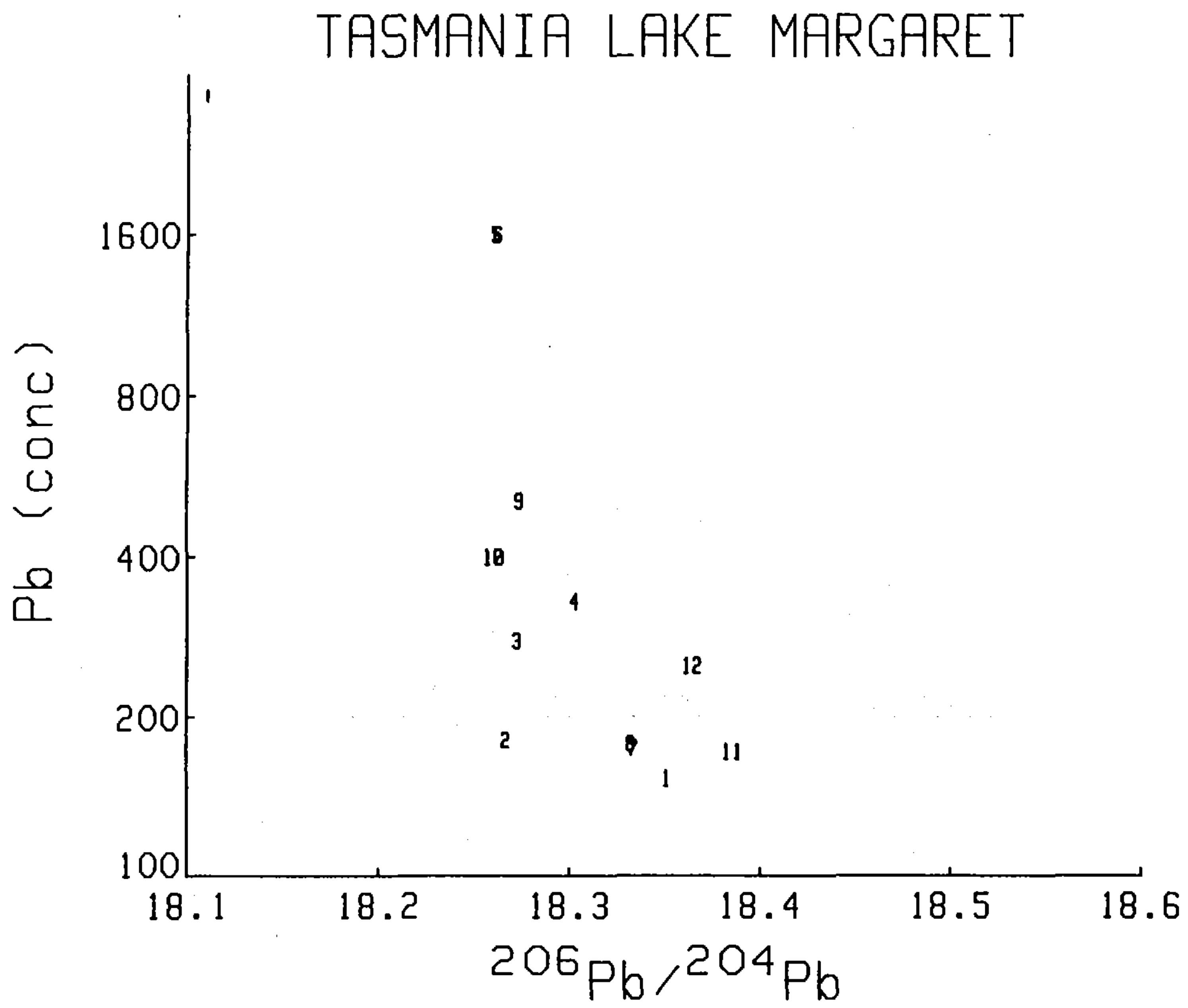


FIGURE 3 An XY plot showing the variation in $^{206}Pb/^{204}Pb$ ratio relative to the Pb content of the sample. Note that 4 out of the 5 samples with Pb less than ≈ 300 ppm have high $^{206}Pb/^{204}Pb$ ratios. These samples make up Group 2 as discussed in the text.

Co-Ordinates		Sample No:	Cu	Pb	Zn	Ag	Au	As	Ba	Cr	Zr	Ti
NORTH SELINA												
385530	5366662	482710	160	140	220	1.0	0.010	30	280	25	190	2150
386463	5364861	482729	20	340	280	X	0.013	X	1500	X	260	1850
386656	5365825	482749	100	185	3050	1.0	X	6	570	20	170	760
386717	5365804	482790	405	335	160	0.5	0.010	X	1000	40	210	2200
386210	5364930	482957	65	1900	6900	11	0.110	120	700	15	110	2700
385849	5364942	482972	425	170	65	1.5	0.032	45	780	9	280	1700
386656	5365825	482986	250	555	7900	3.0	0.019	45	620	45	170	1550
BEATRICE												
7832	7000	564351	105	370	605	X	0.011	20	380	-	240	2100
6653	6708	564459	180	170	335	X	X	50	190	-	-	-
6649	6720.4	564464	260	240	225	0.5	0.010	-	1350	-	-	-

APPENDIX XIII

ABERFOYLE

MEMORANDUM

Date	1 October, 1991	Ref	
To	D B Wallace	From	J Silic
At	Burnie	At	Hawthorn
Copies to		Keep	

Subject **NORTH SELINA UTEM SURVEY**

Survey Specifications

A three loop UTEM survey (Plate L.MARG. 41) was executed over the North Selina grid.

The data was collected at 50 metre station spacing, on lines spaced at 200 metres.

Only the vertical component of the magnetic field was measured and derivative techniques developed by Aberfoyle Resources were used to interpret the data.

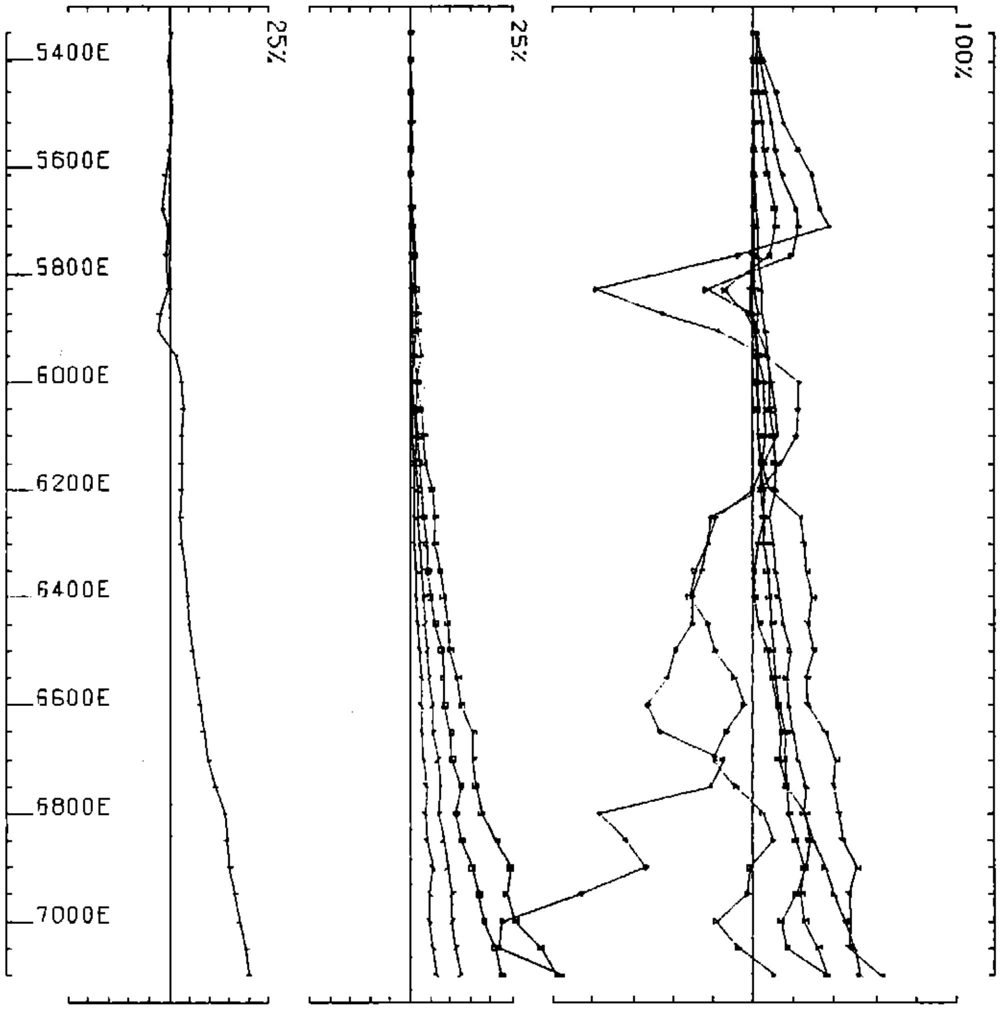
Discussion of the Results

A number of responses attributable to broad conductive outcropping sources is evident in the data. However an off line conductor on lines 4000-5400N (Loop 3) is effecting the EM response. However, only on line 5000N, can a quantitative interpretation be made, which suggests that the conductive source is at a depth of about 250 metres and has not been crossed by other lines.

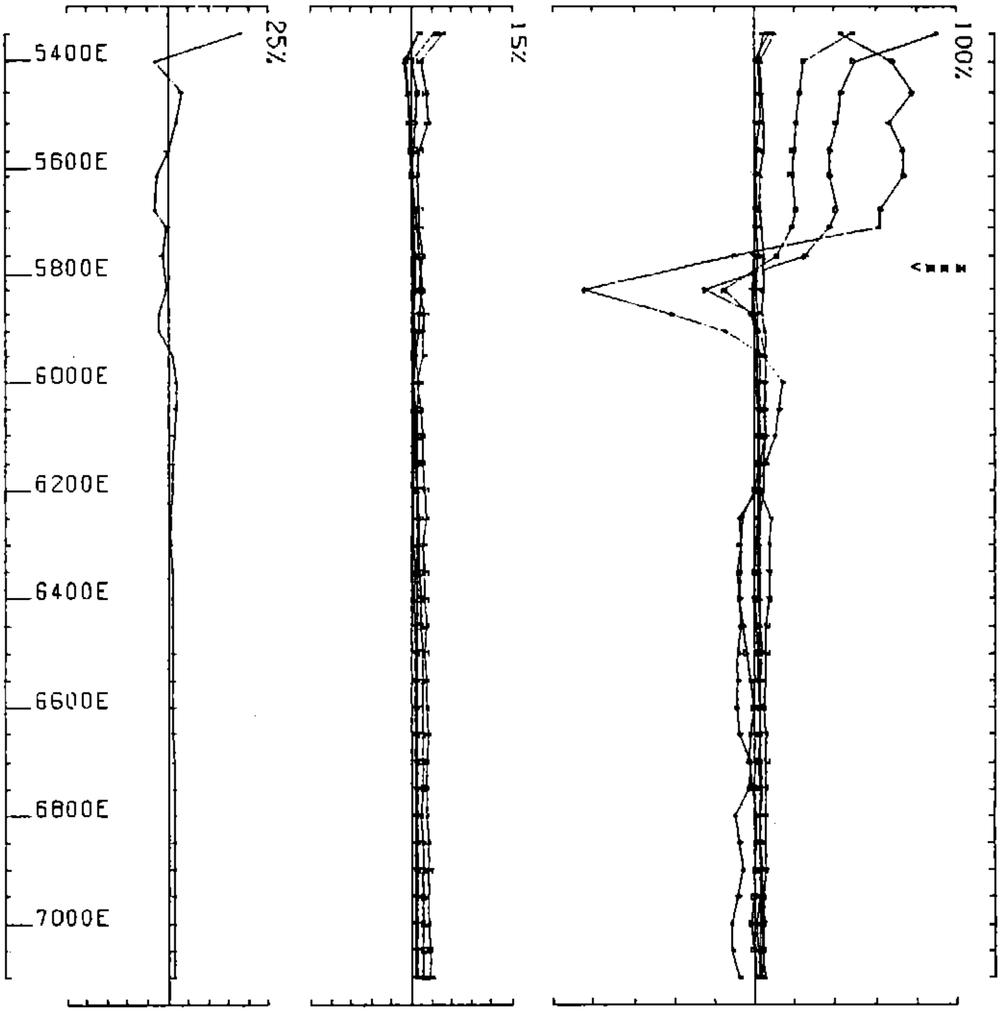
J. Silic

NORTH SELINA

LOOP 1

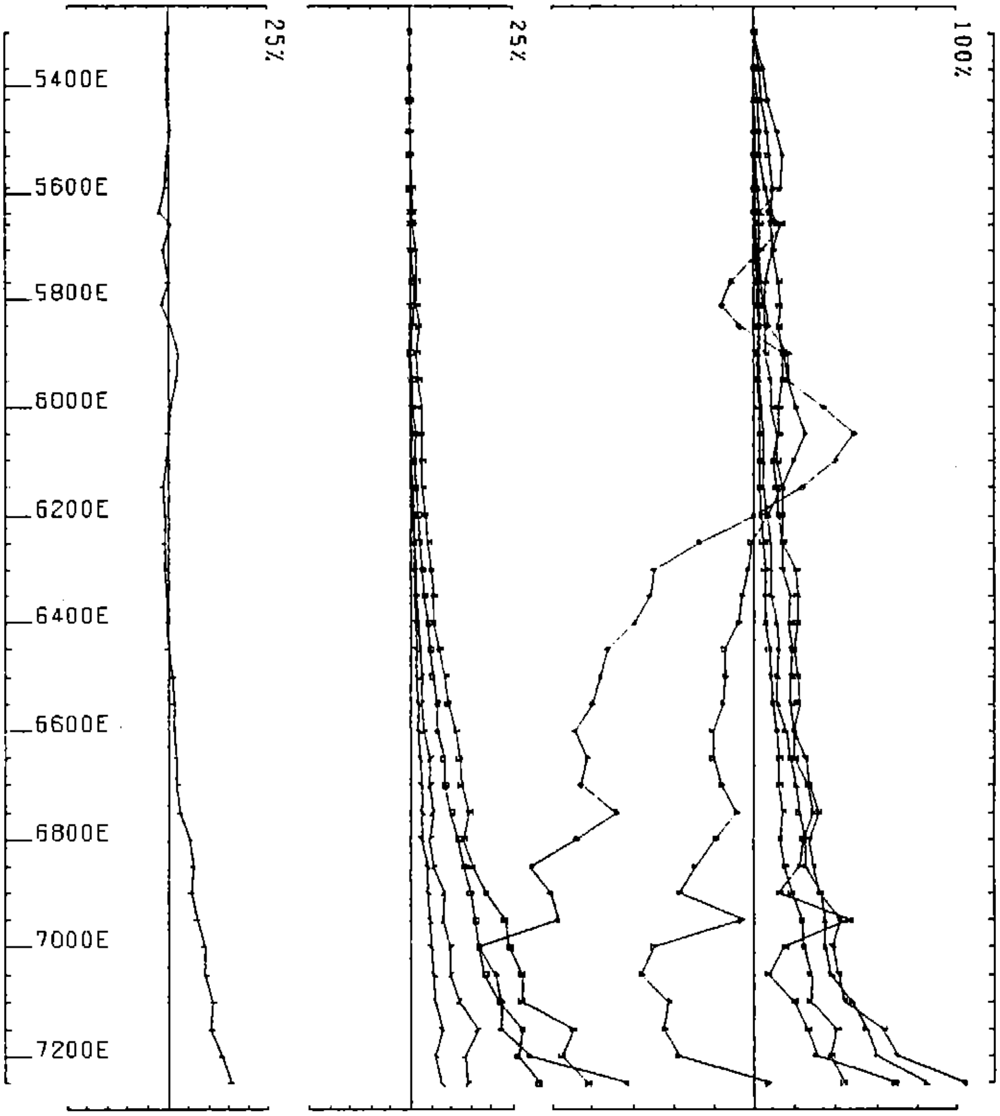


UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD JANUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.29
LOOP NO 1 LINE 6000 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.

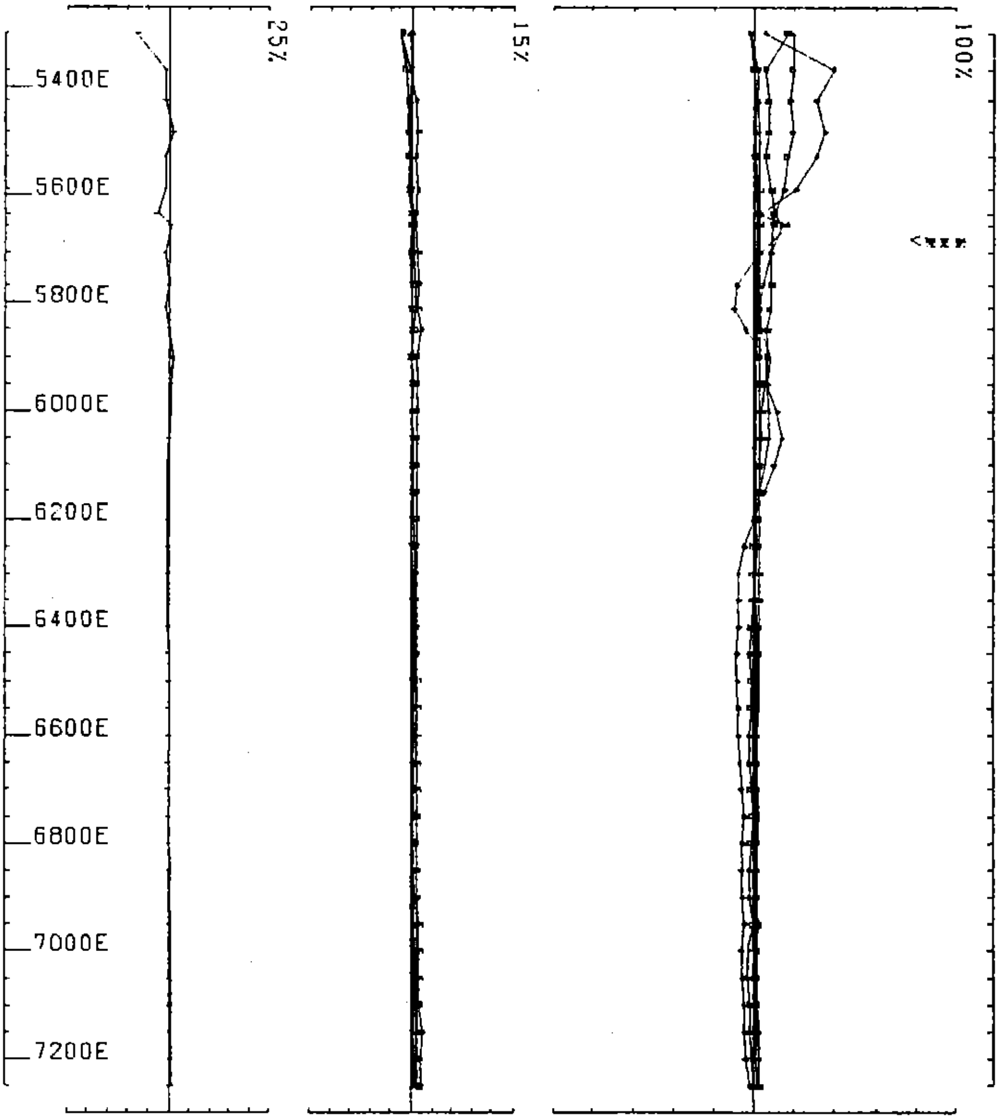


UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD JANUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.25
LOOP NO 1 LINE 6000 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952315

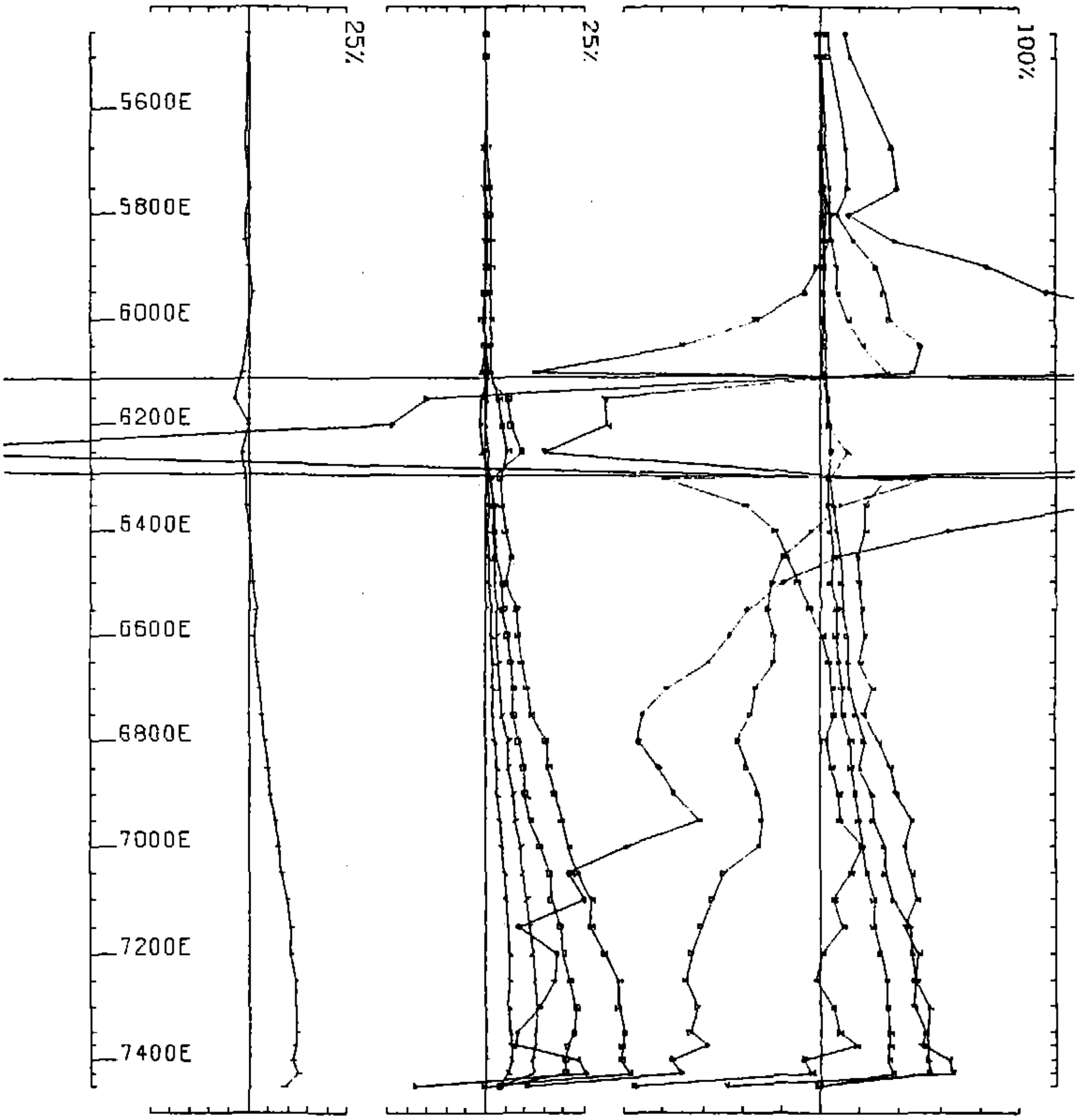


UTEM SURVEY AT LAKE GELINA FOR ABERFOYLE RESOURCES LTD JANUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO 1 LINE 6200 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.



UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD JANUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO 1 LINE 6200 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952317



UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD JANUARY 1991
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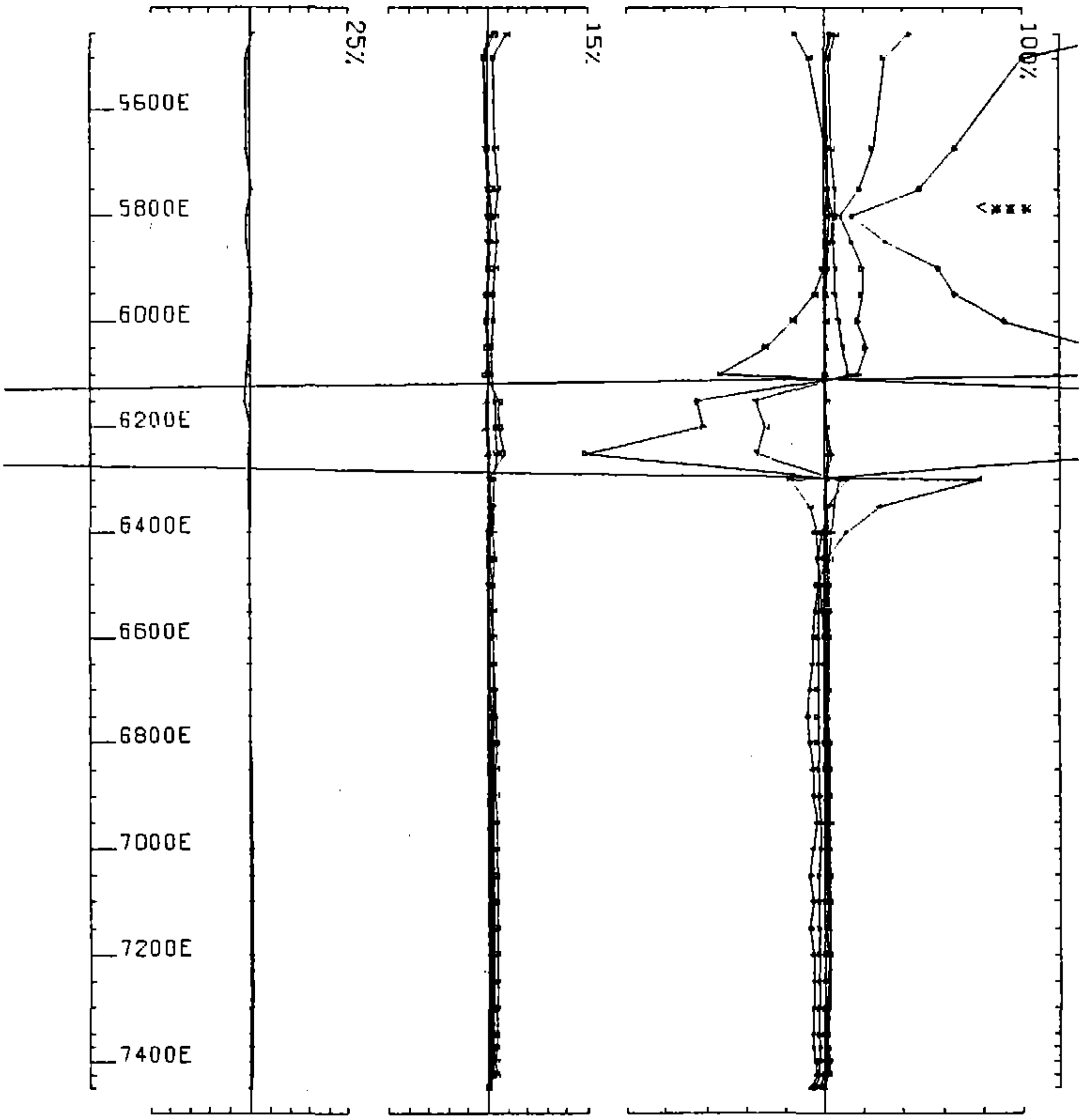
LOOP NO 1 LINE 6400 N COMPONENT HZ SECONDARY FIELD CHI CONTIN. NORM.



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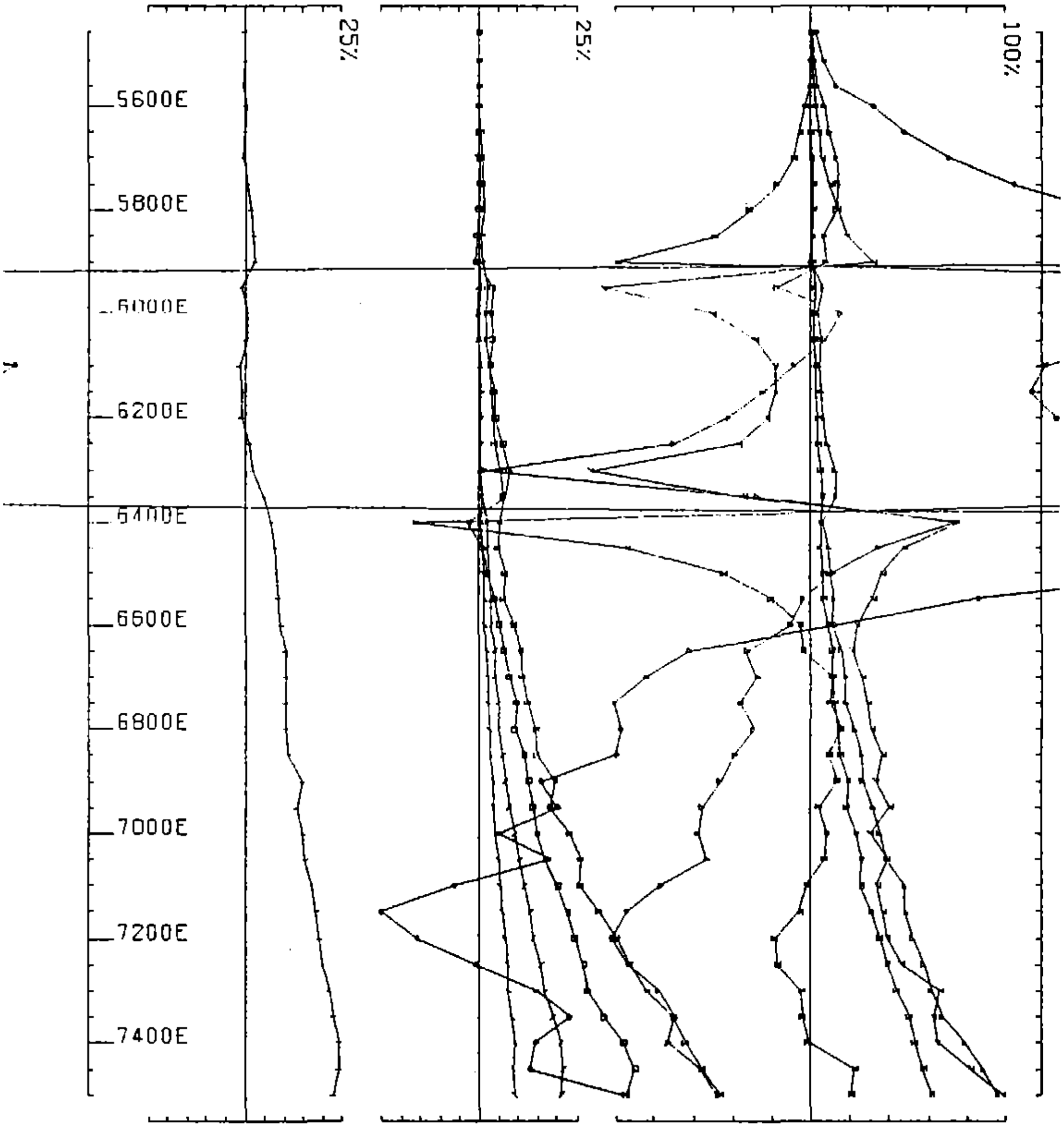
LOOP NO 1 LINE 6400 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952319



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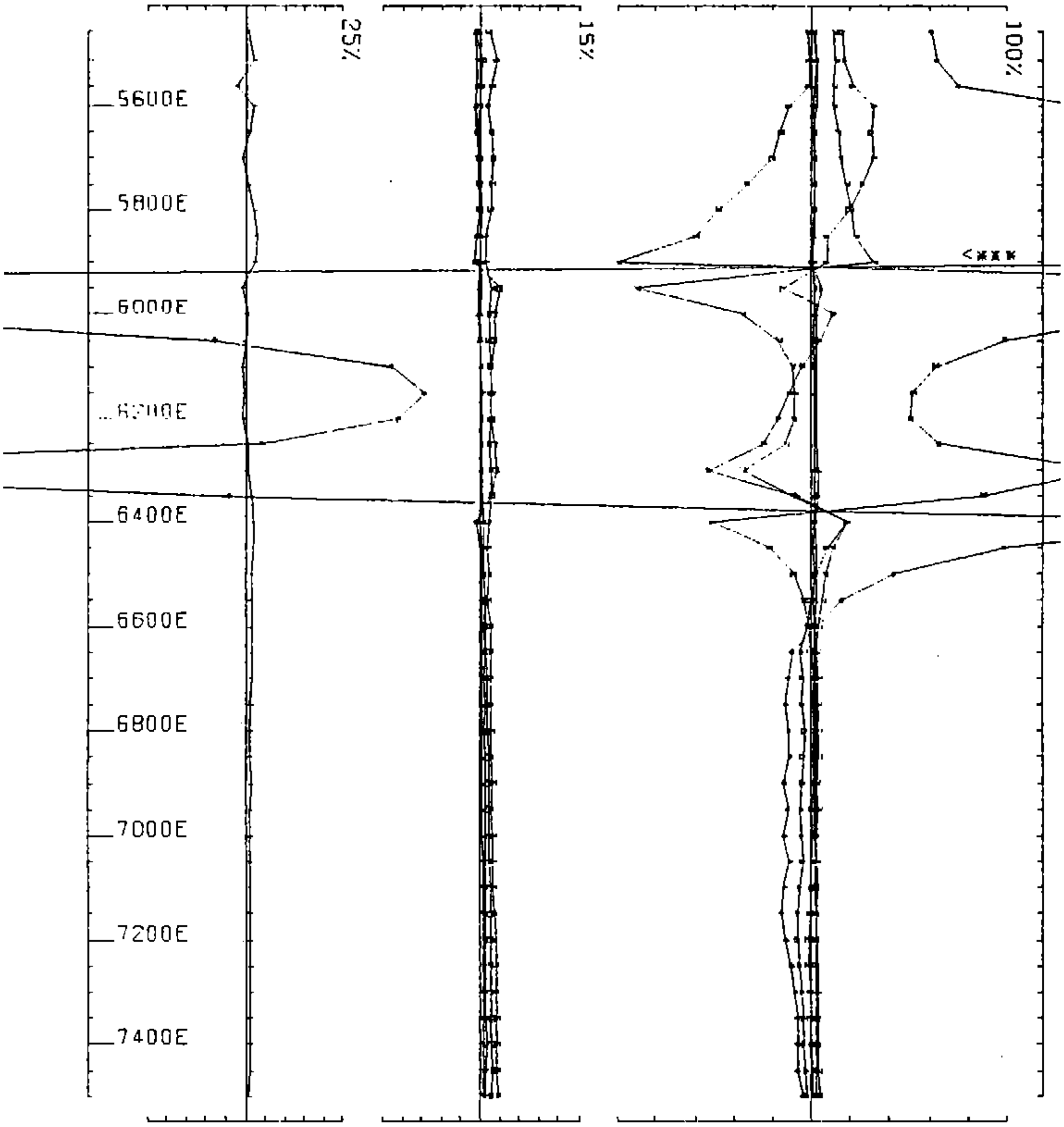
952320



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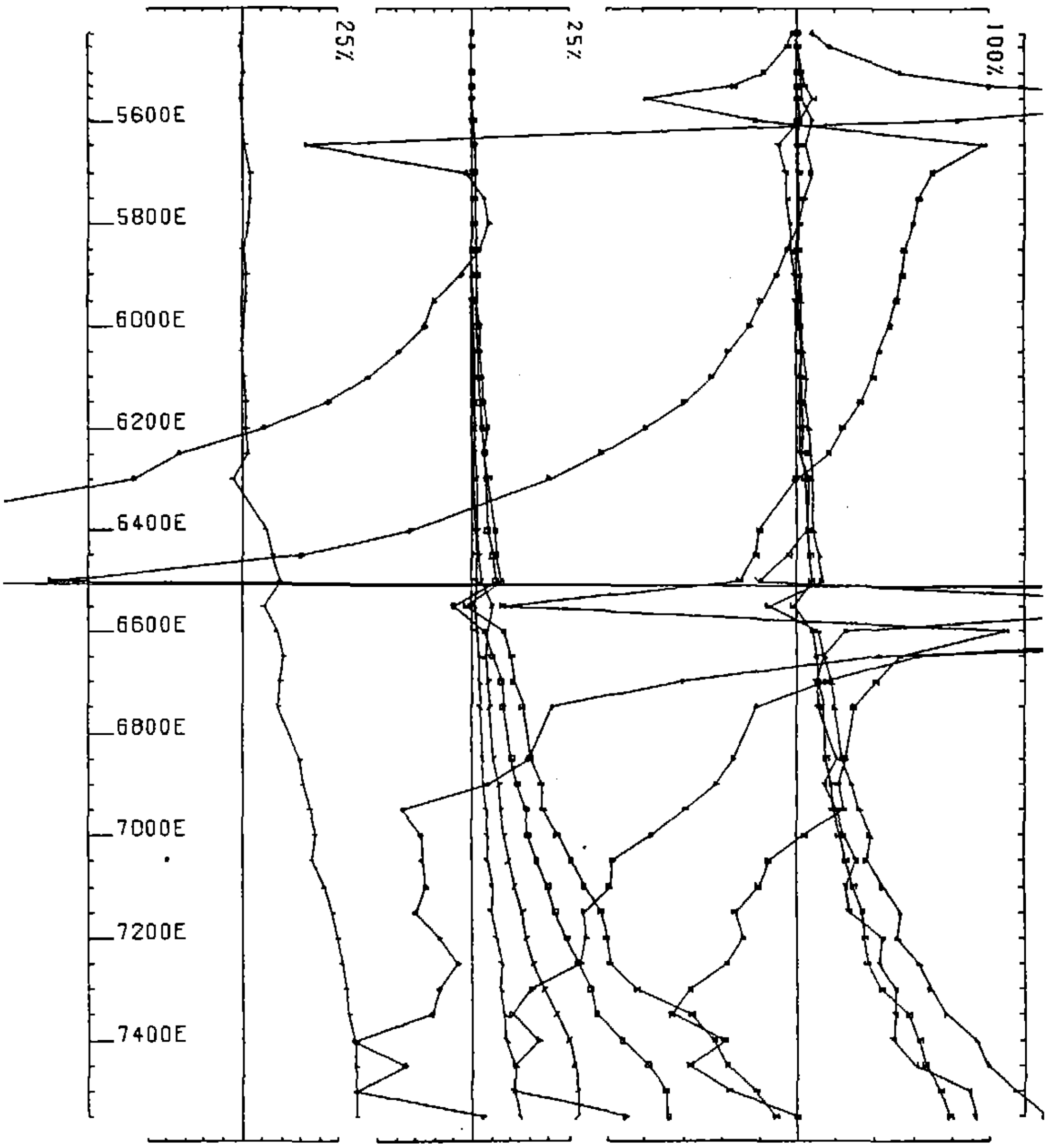
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO 1 LINE 6600 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952321



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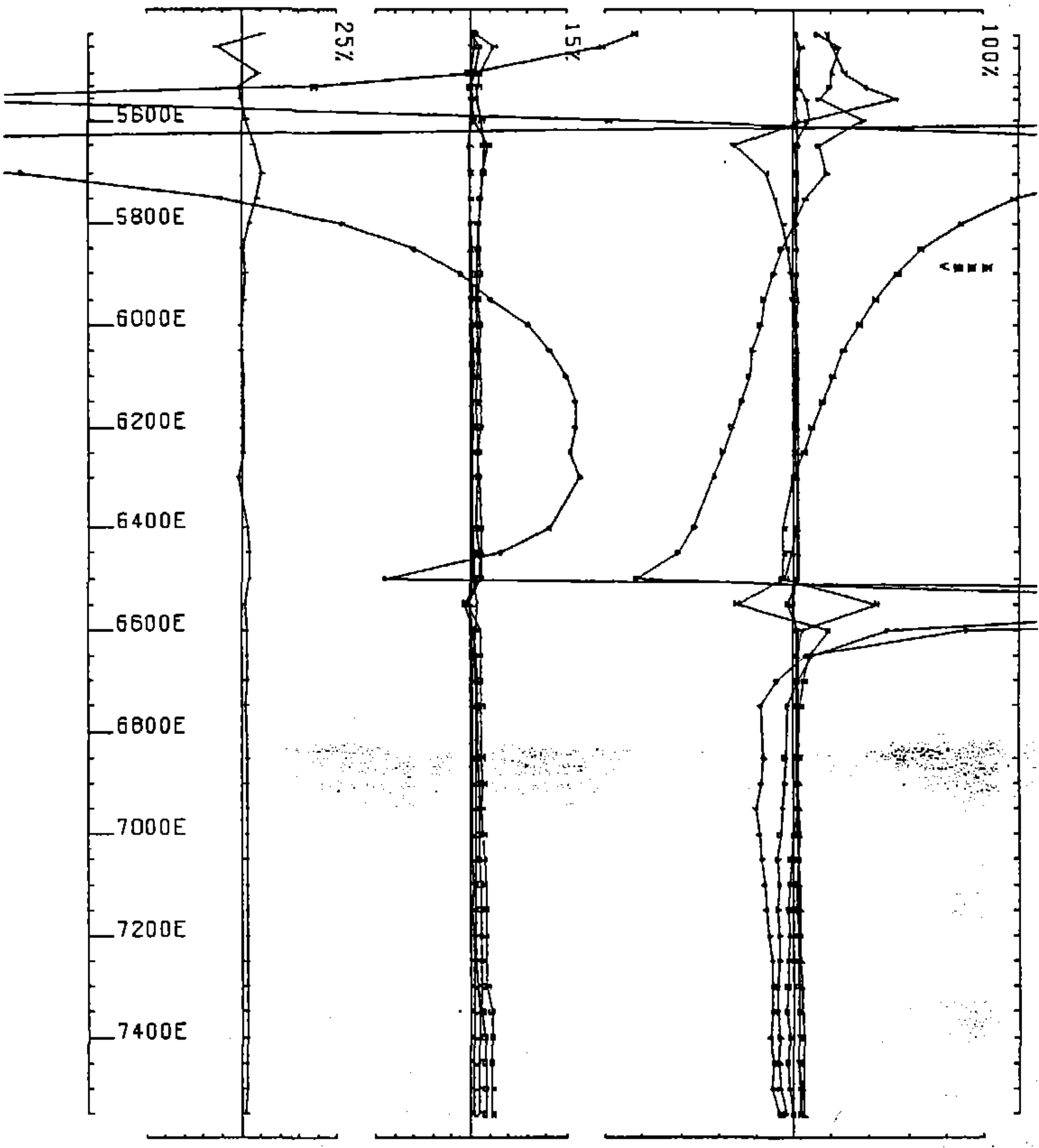
LOOP NO 1 LINE 6800 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.



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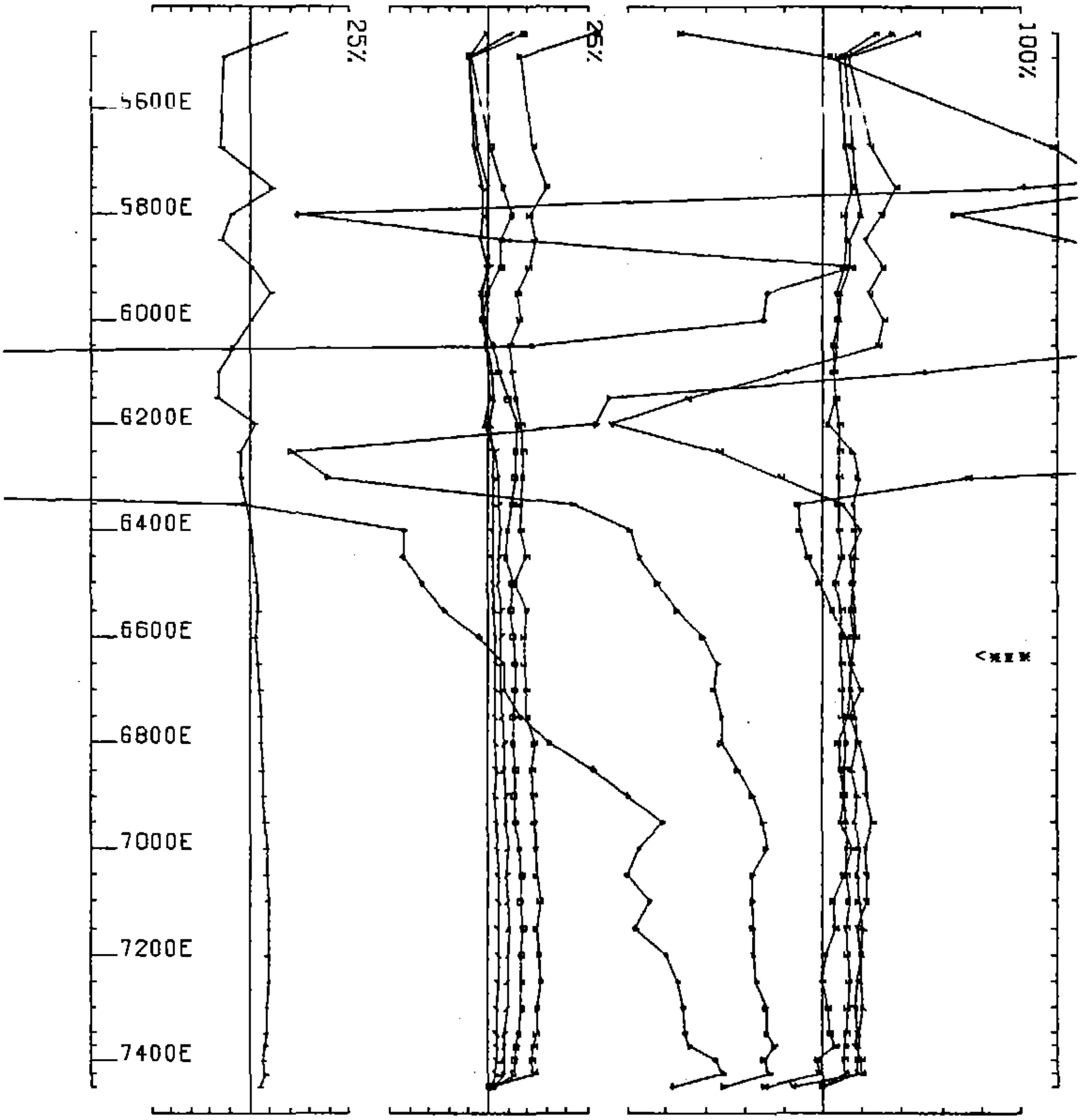
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO 1 LINE 6800 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

NORTH SELINA

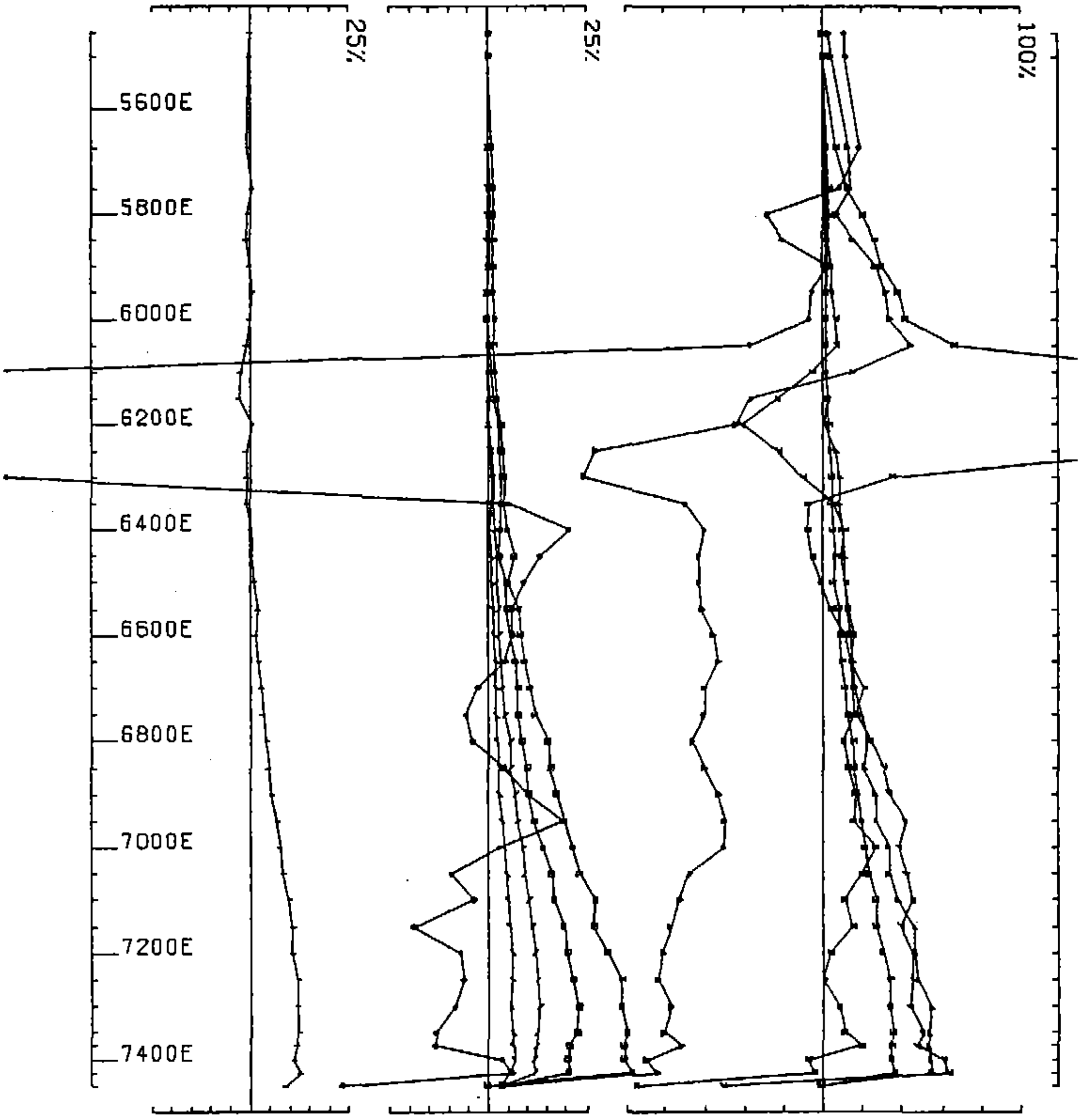
LOOP 1

STRIPPED DATA

952324



UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD FEBRUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO S1B LINE 6400 N COMPONENT HZ SECONDARY FIELD CHI POINT NORM.



UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD FEBRUARY 1991
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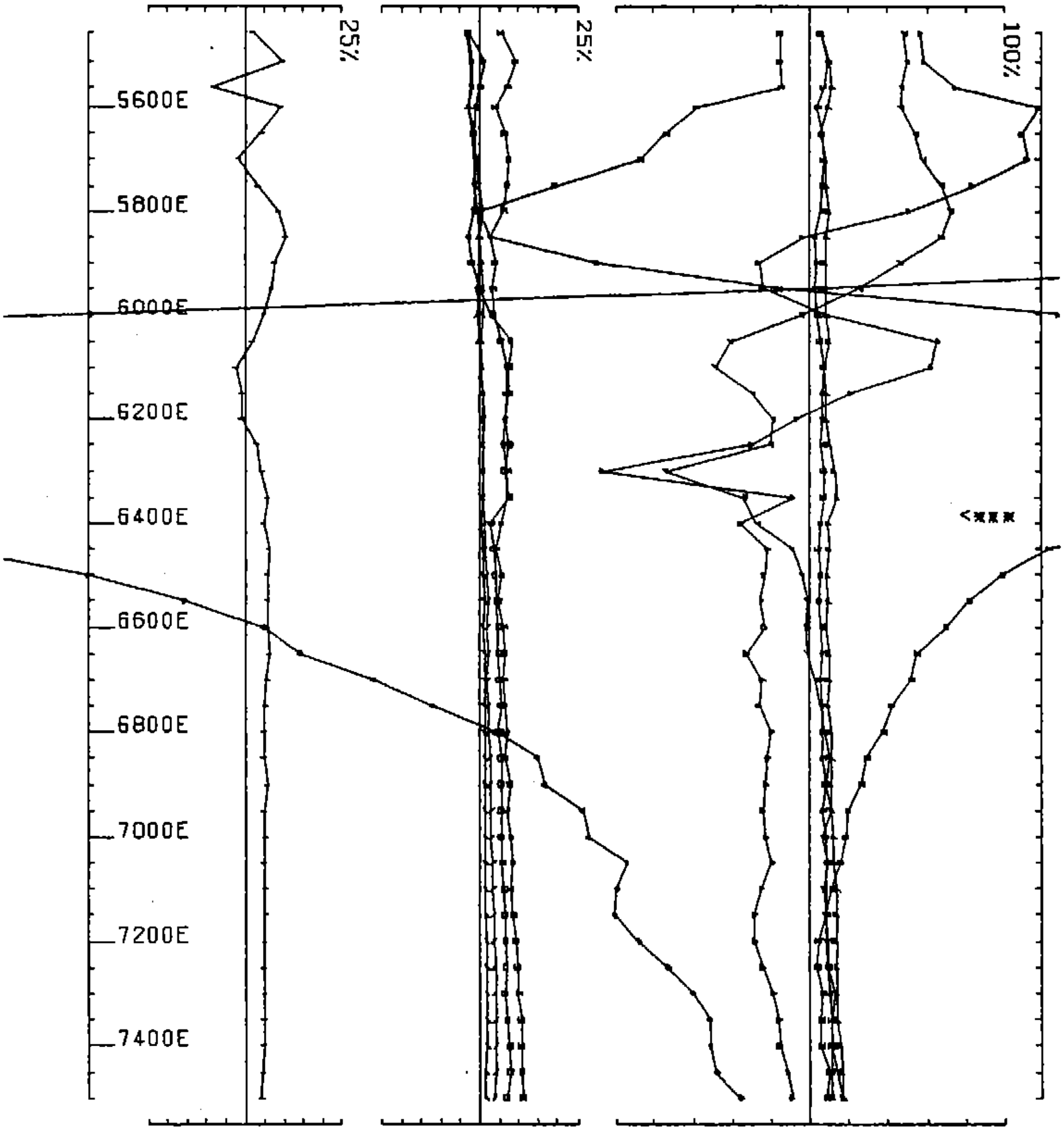
LOOP NO 91B LINE 6400 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.

952326



UTEM SURVEY AT LAKE SELINA FOR ABERFOYLE RESOURCES LTD FEBRUARY 1991
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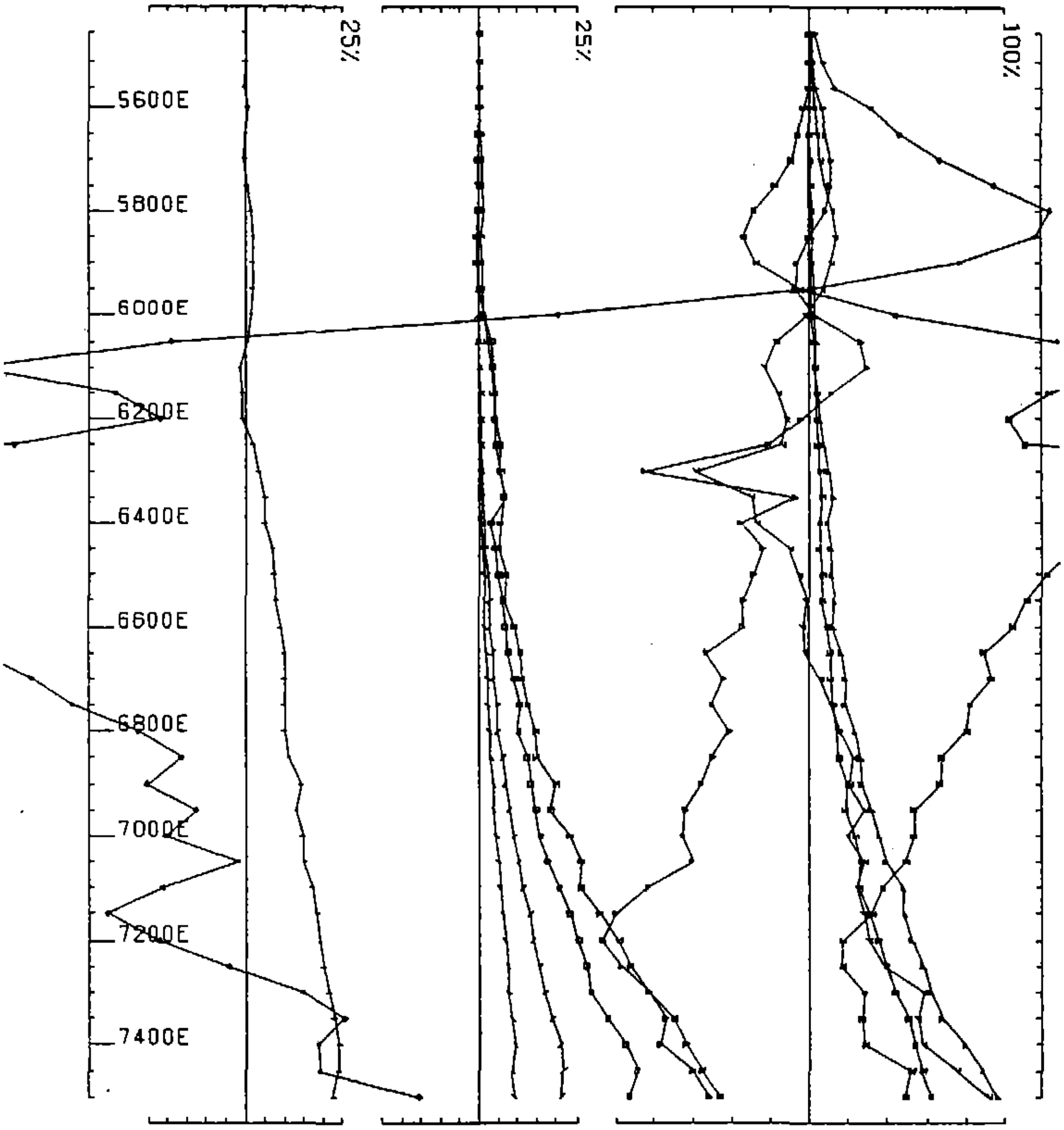
LOOP NO S1B LINE 6600 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.



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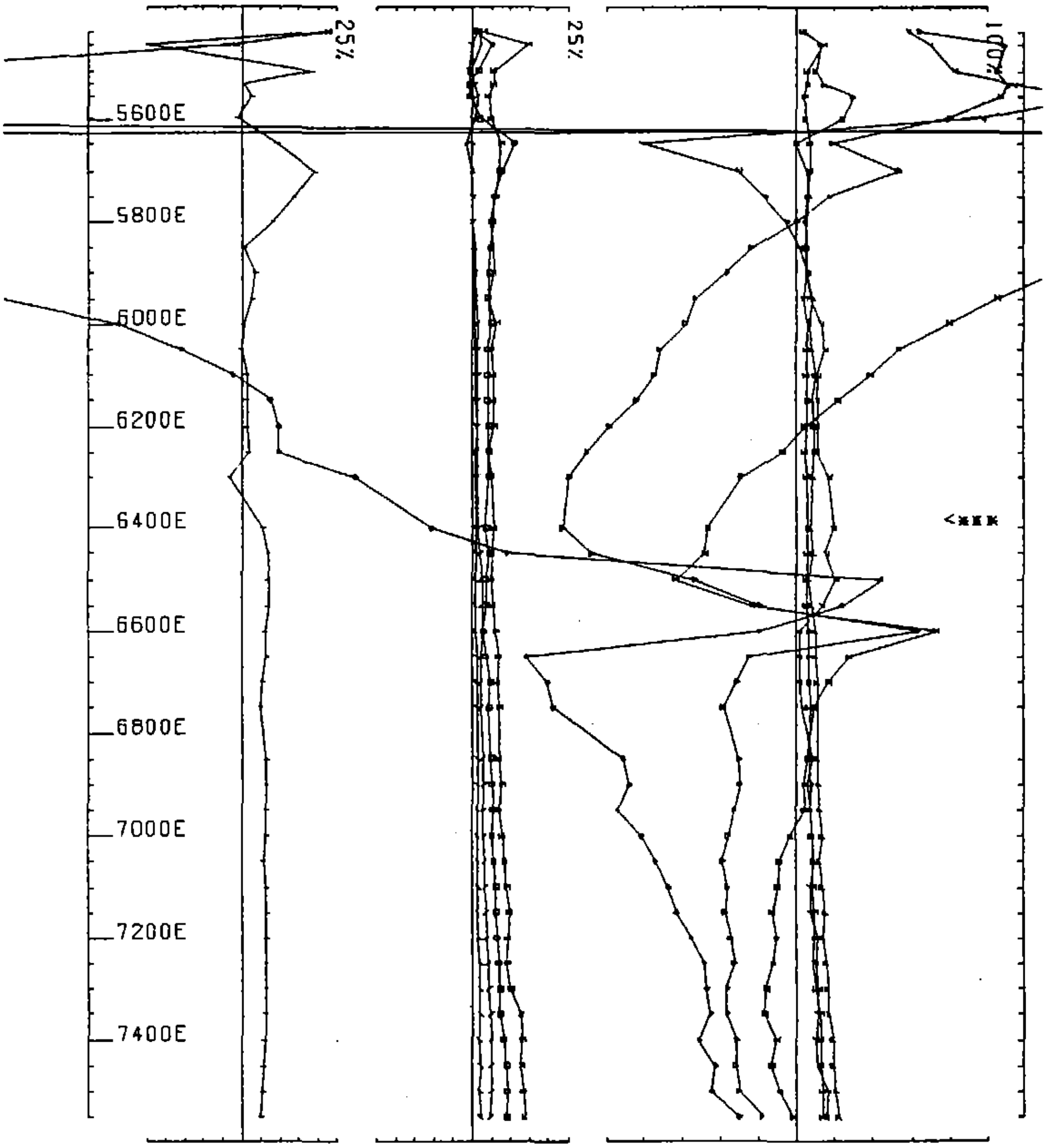
LOOP NO S18 LINE 6800 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.



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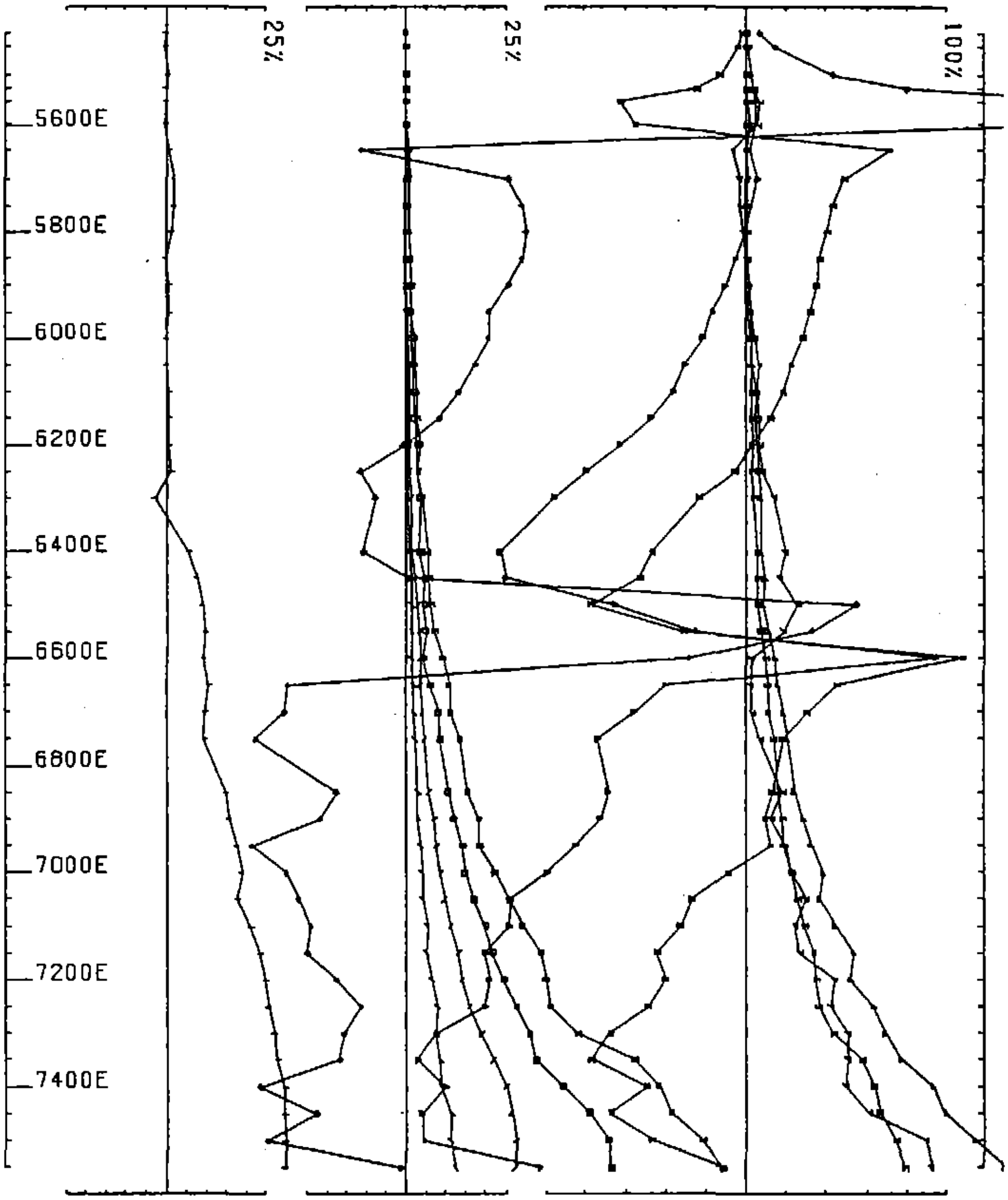
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO S1B LINE 6800 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952329



UTEM SURVEY AT LAKE GELINA FOR ABERFOYLE RESOURCES LTD FEBRUARY 1991
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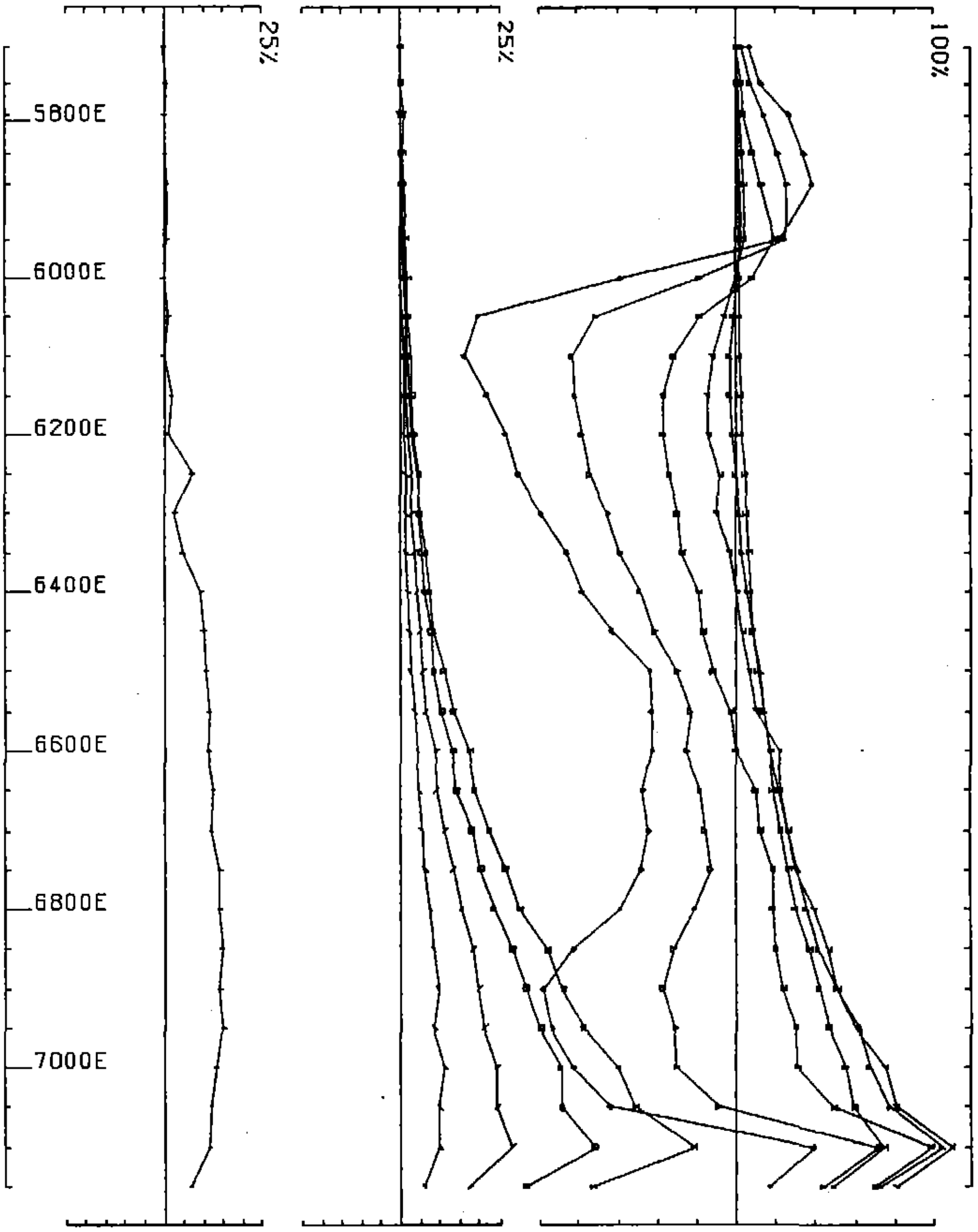
LOOP NO S1B LINE 6800 N COMPONENT HZ SECONDARY FIELD CHI CONTIN. NORM.

NORTH SELINA

LOOP 2



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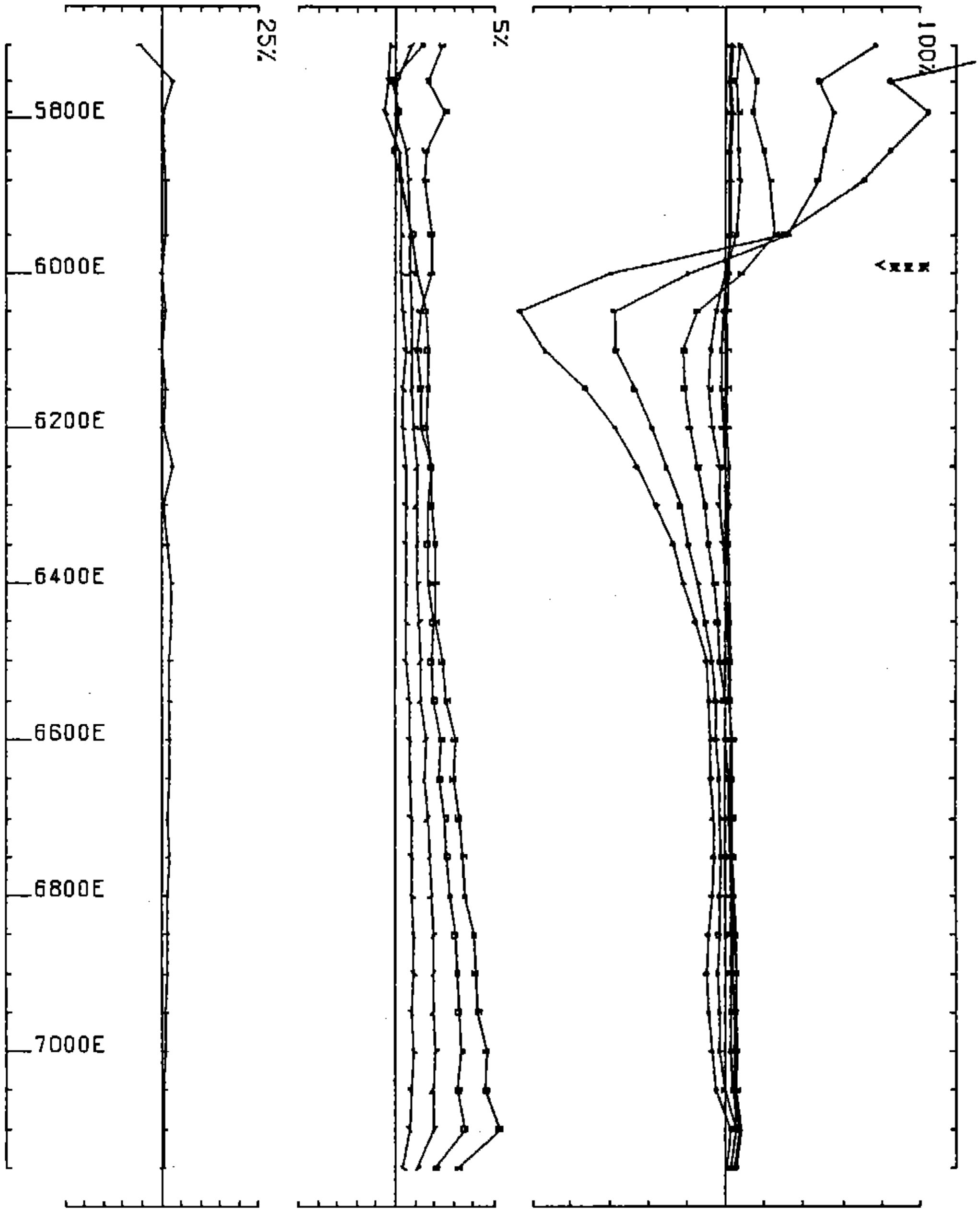
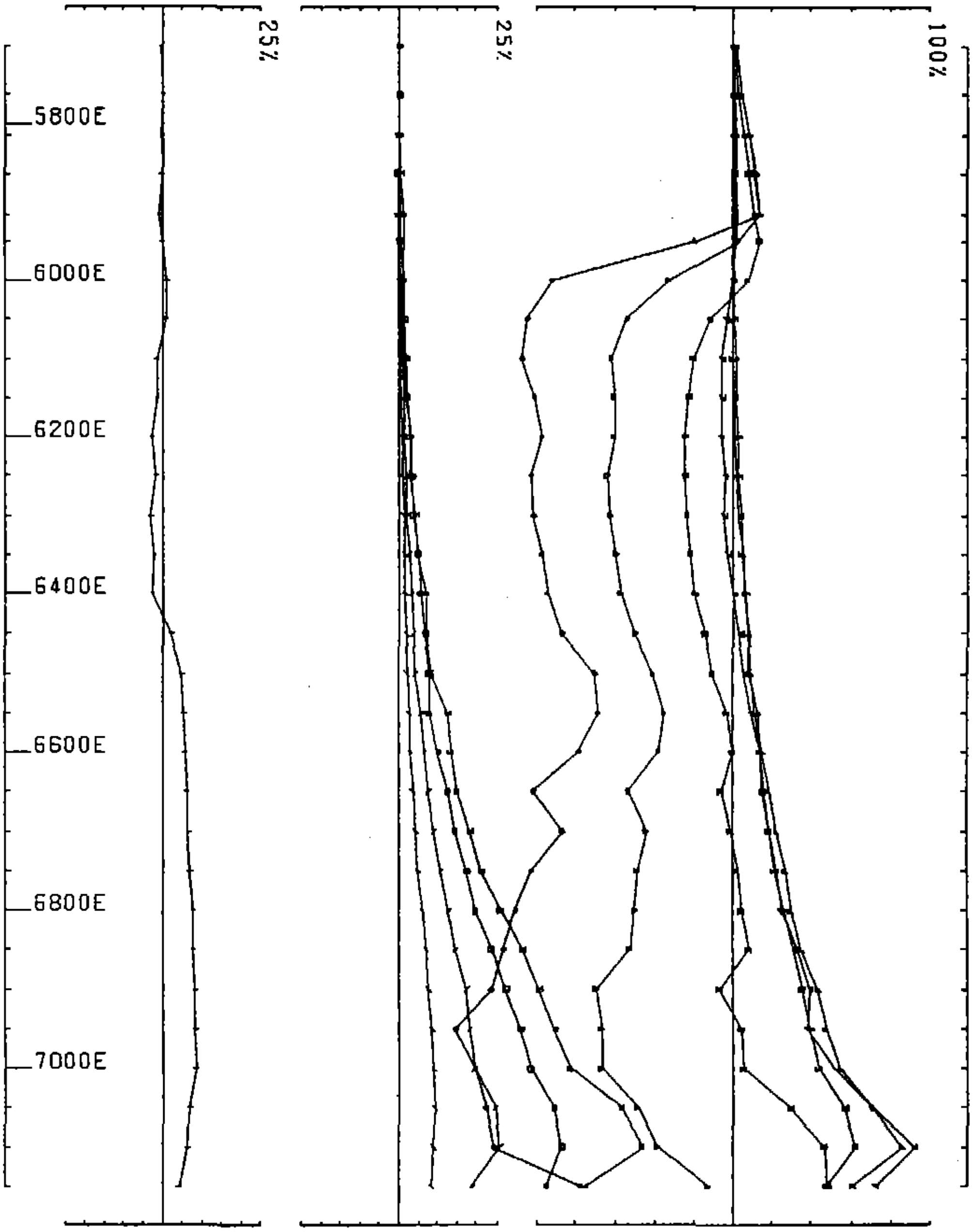
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.25
LOOP NO 2 LINE 5200 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.

952332



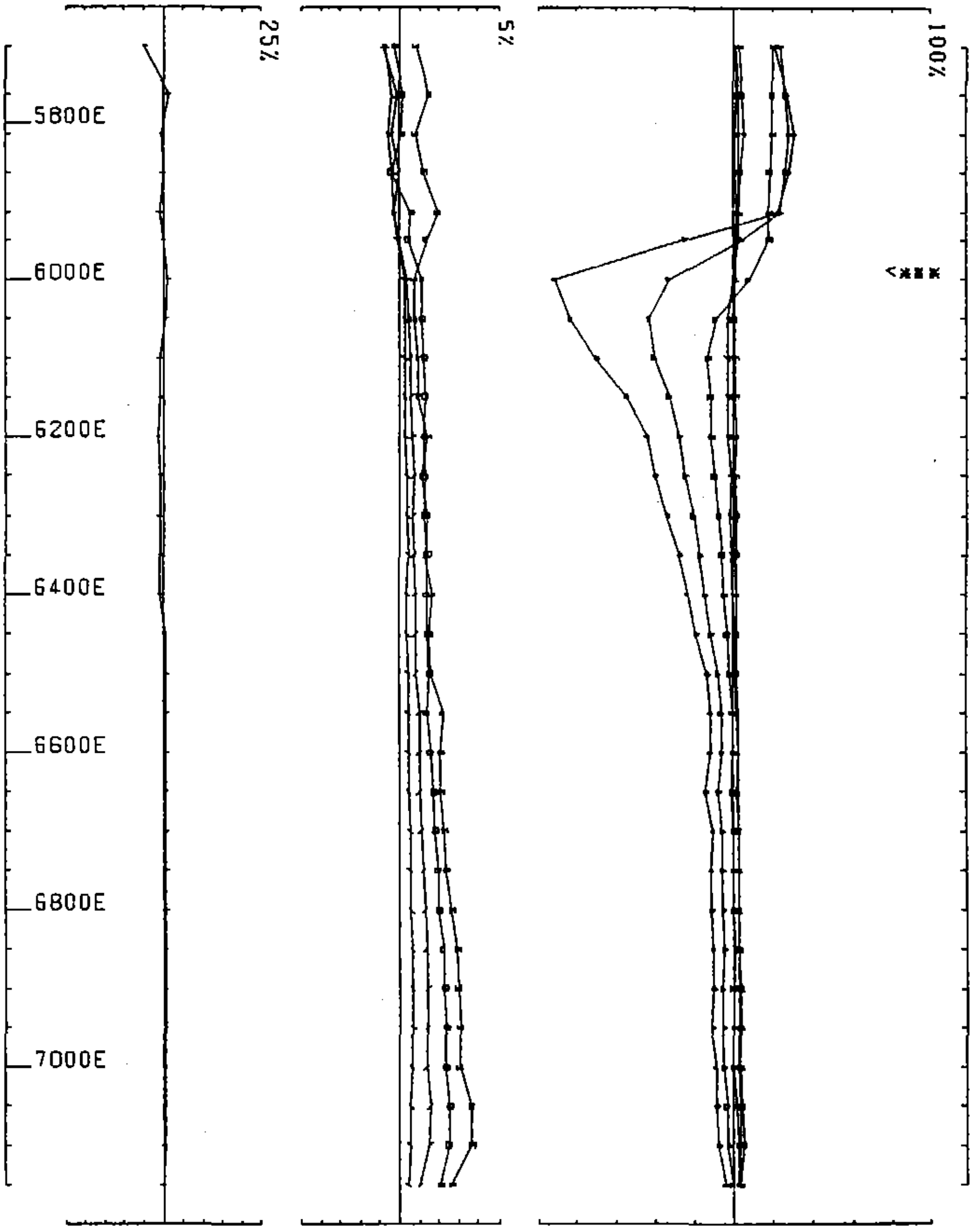
UTEM SURVEY AT SELINA FOR ABERFOYLE RESOURCES JANUARY 1991
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.25
LOOP NO 2 LINE 5200 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952333



UTEM SURVEY AT SELINA FOR ABERFOYLE RESOURCES
CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.29
LOOP NO 2 LINE 5400 N COMPONENT HZ SECONDARY FIELD (H) CONTIN. NORM.

952334



UTEM SURVEY AT SELINA FOR ABERFOYLE RESOURCES JANUARY 1991
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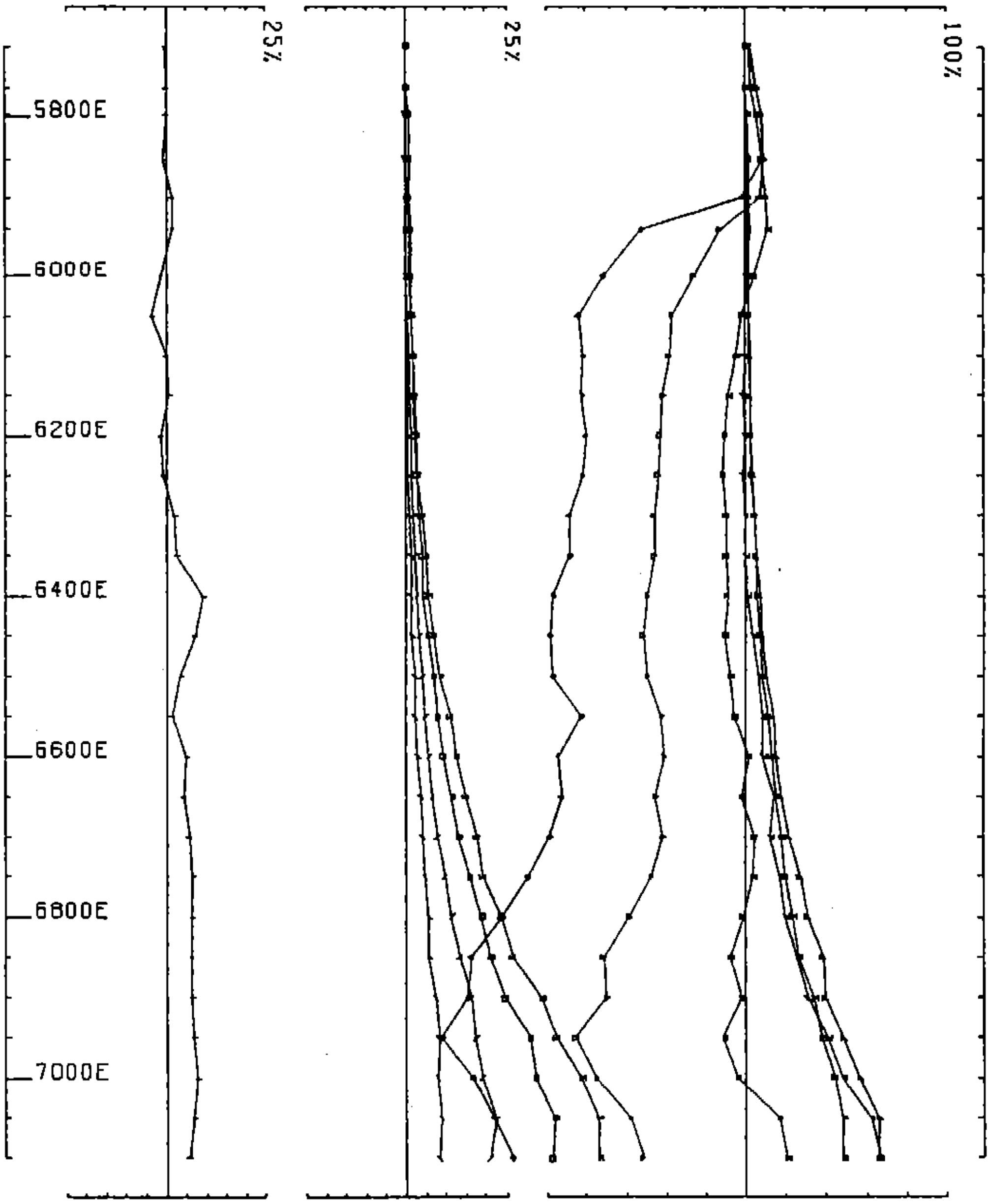
LOOP NO 2 LINE 5400 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952335



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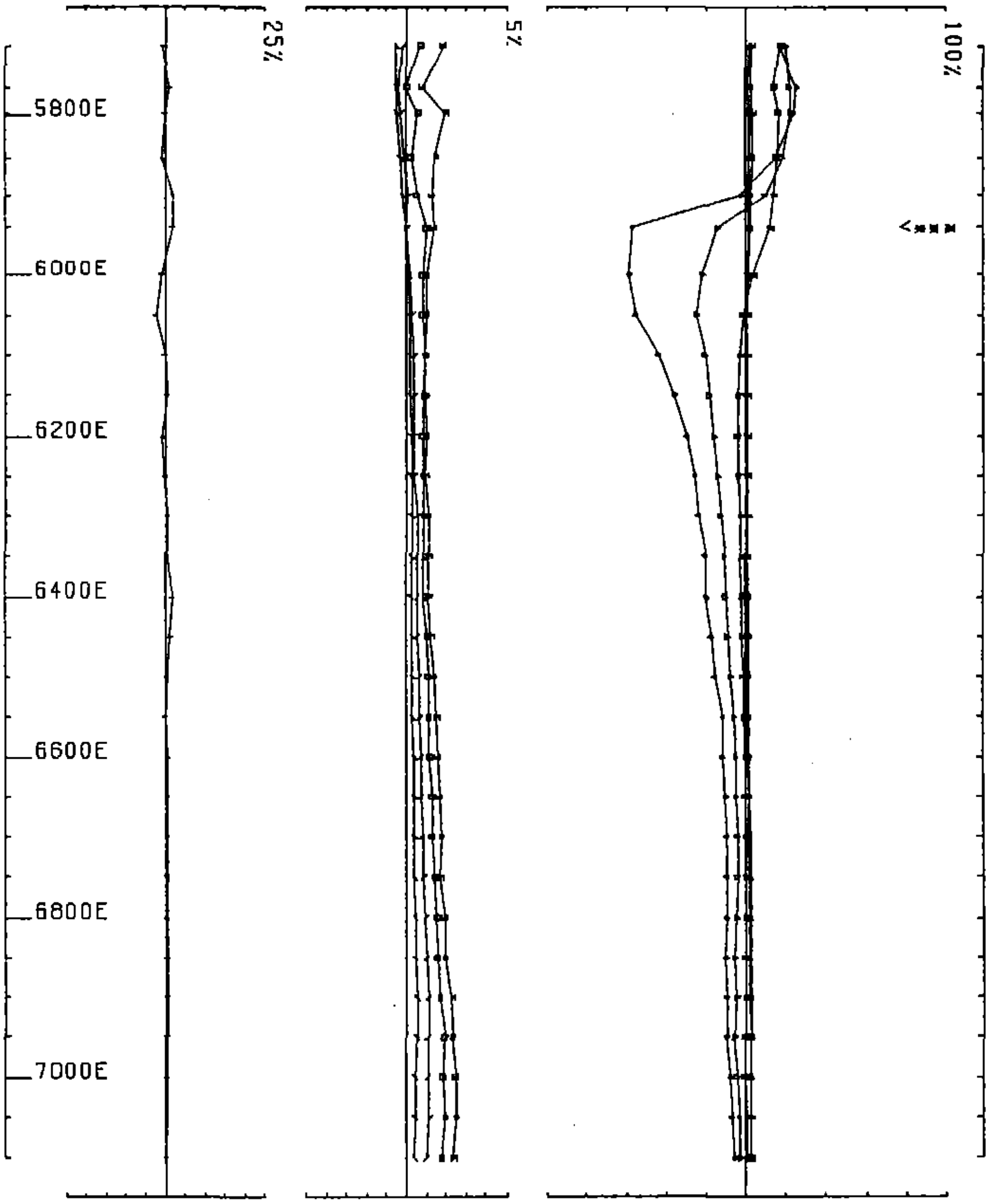
LOOP NO 2 LINE 5600 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.

952336



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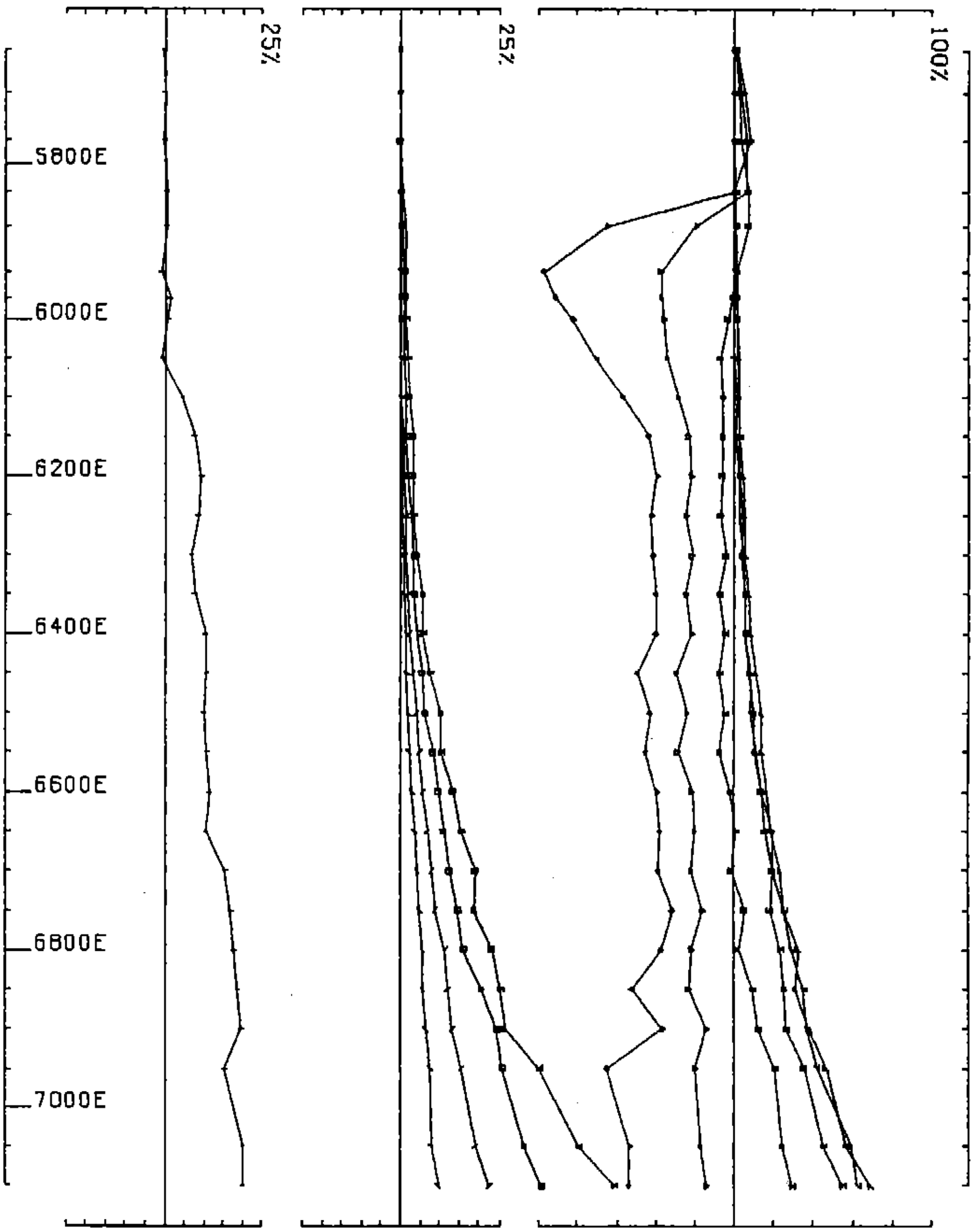
952337



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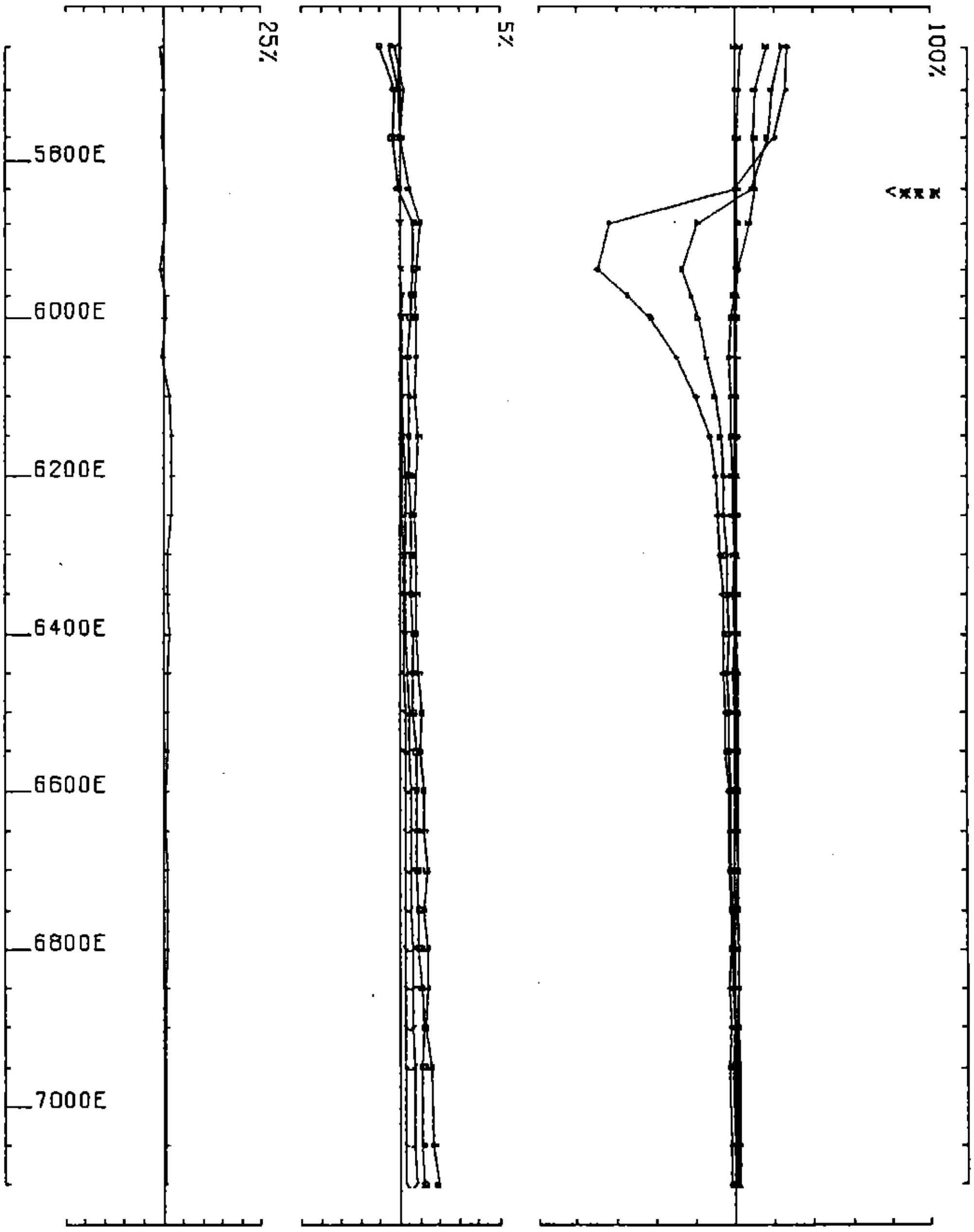
952338



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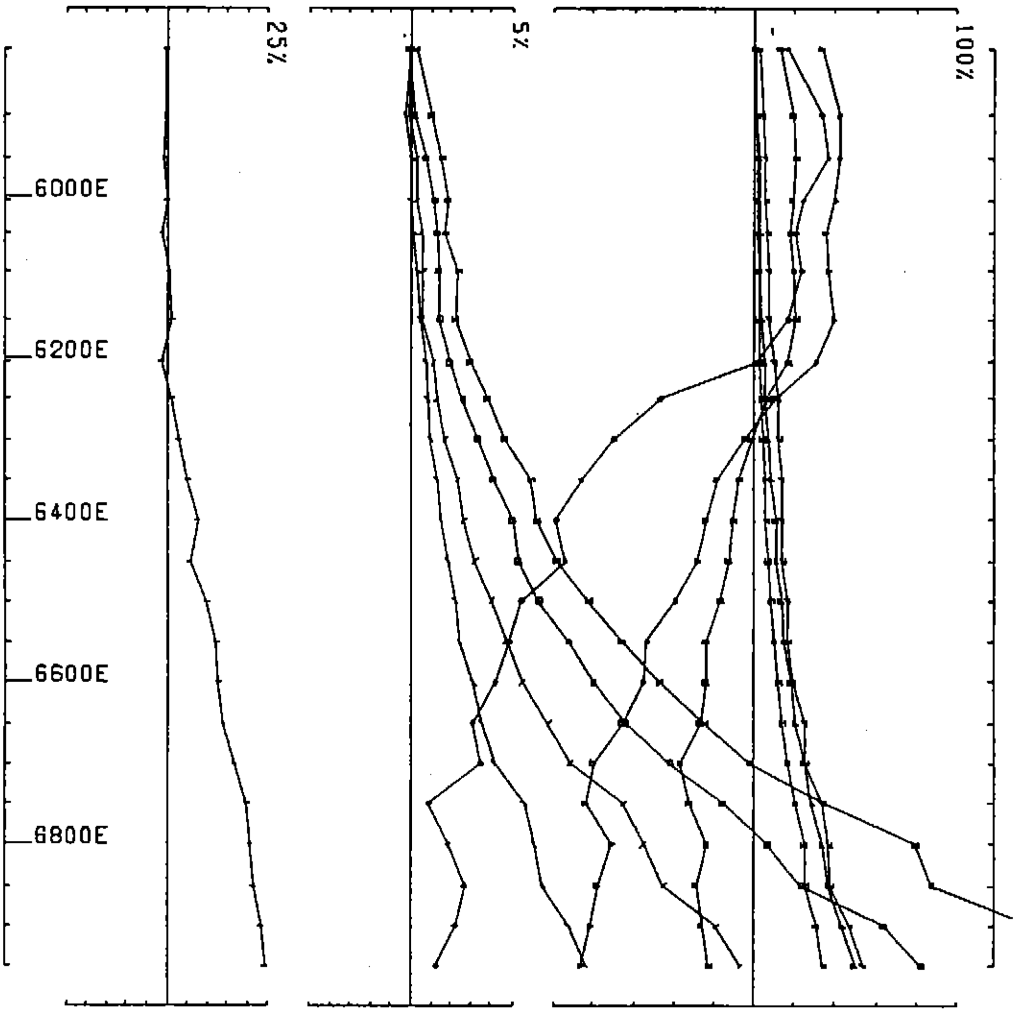
NORTH SELINA

LOOP 3

952340



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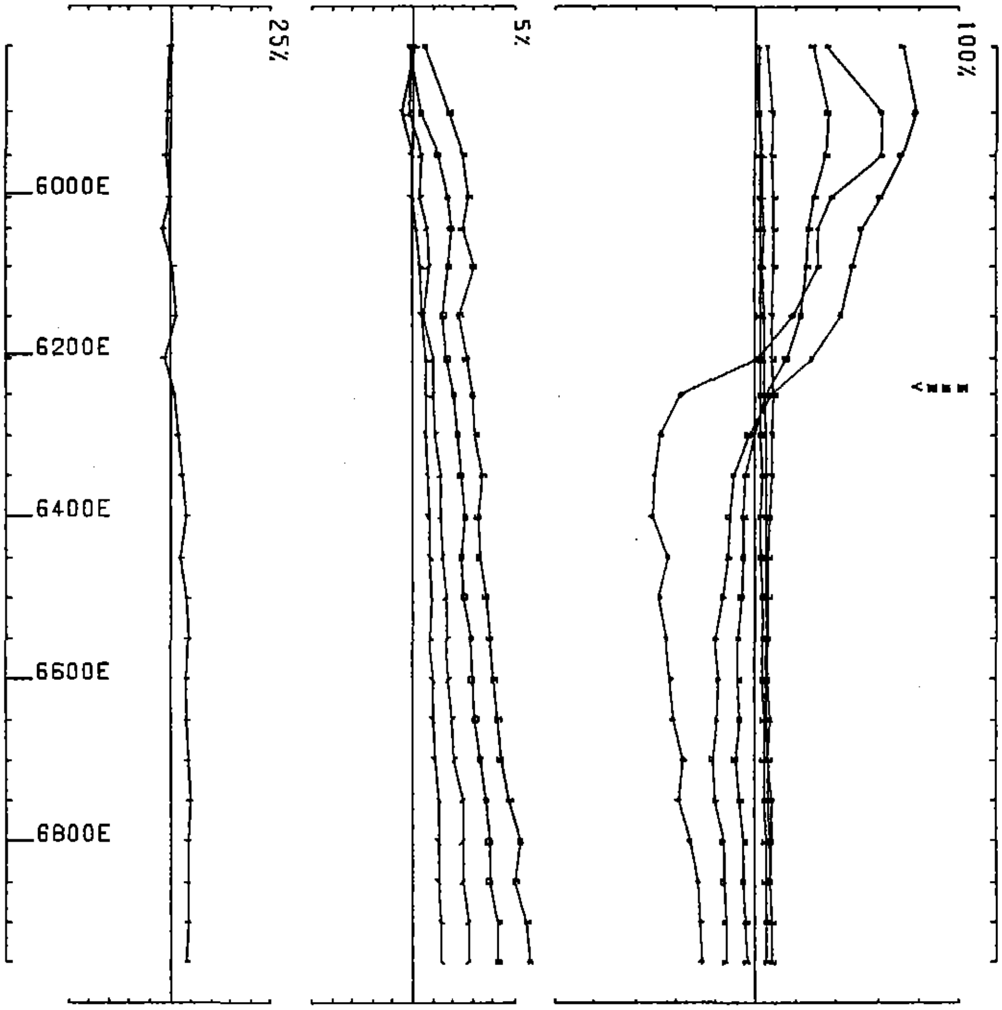
952341



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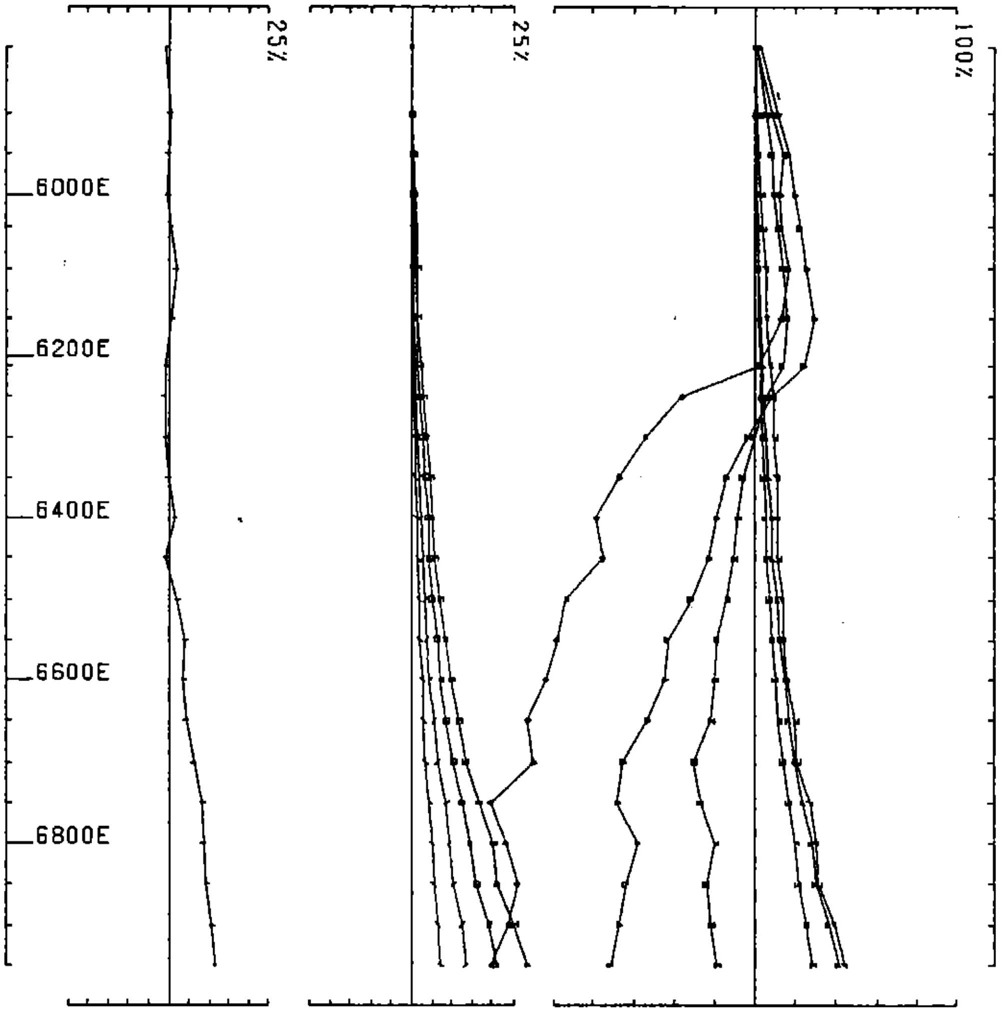
952342



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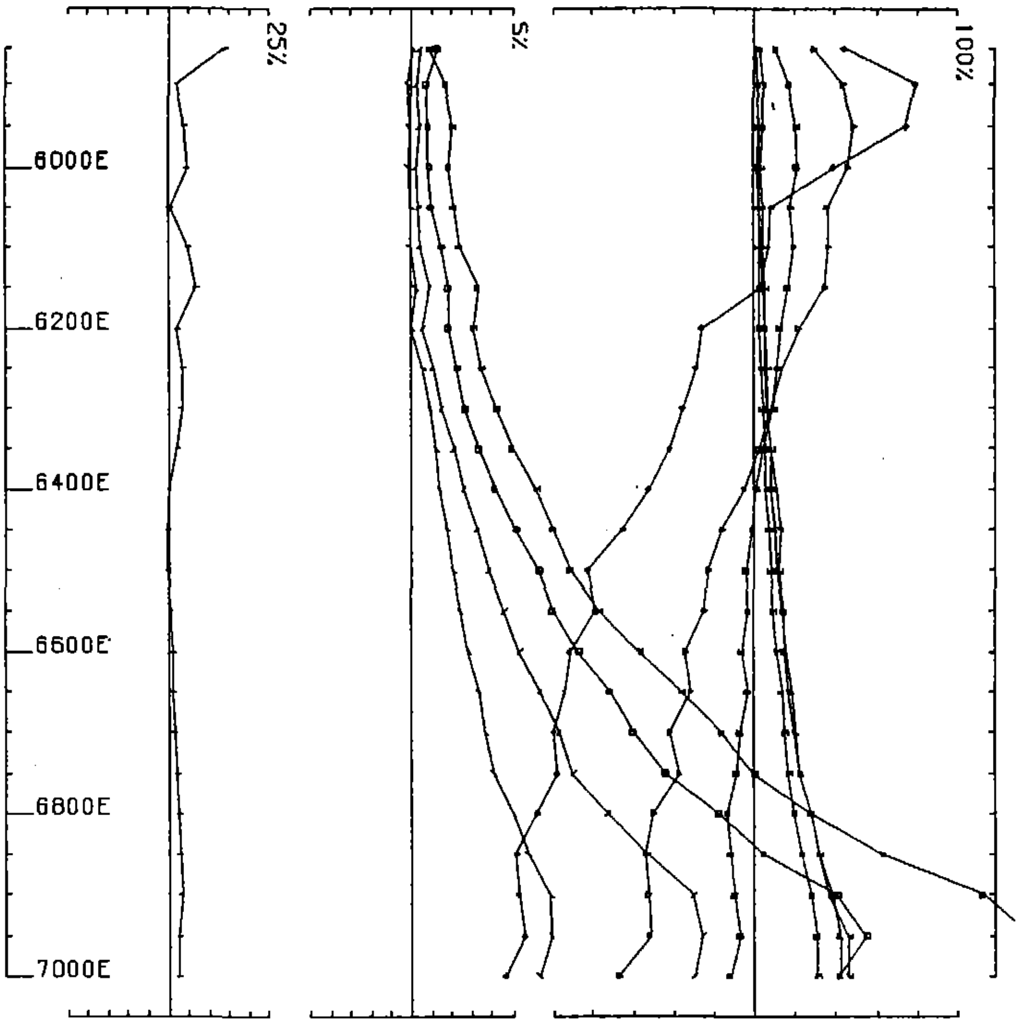
952343



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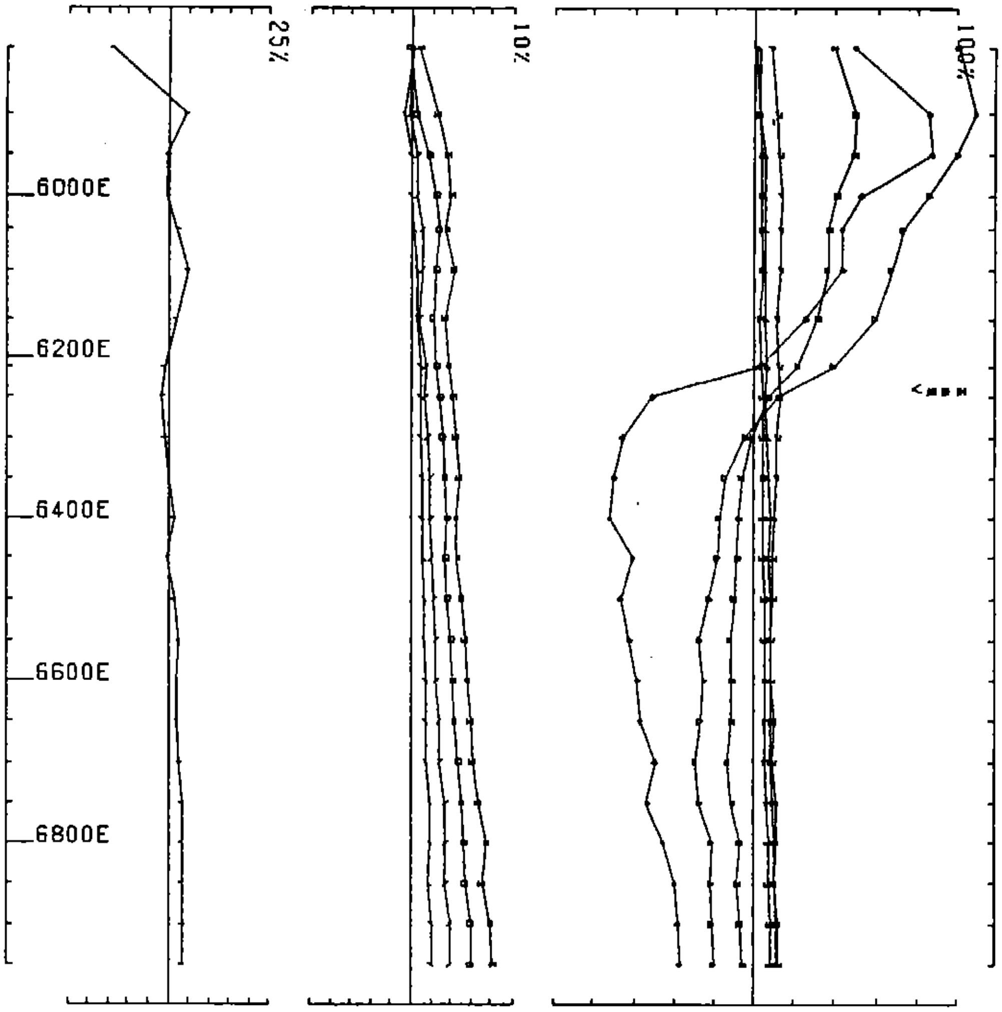
952344



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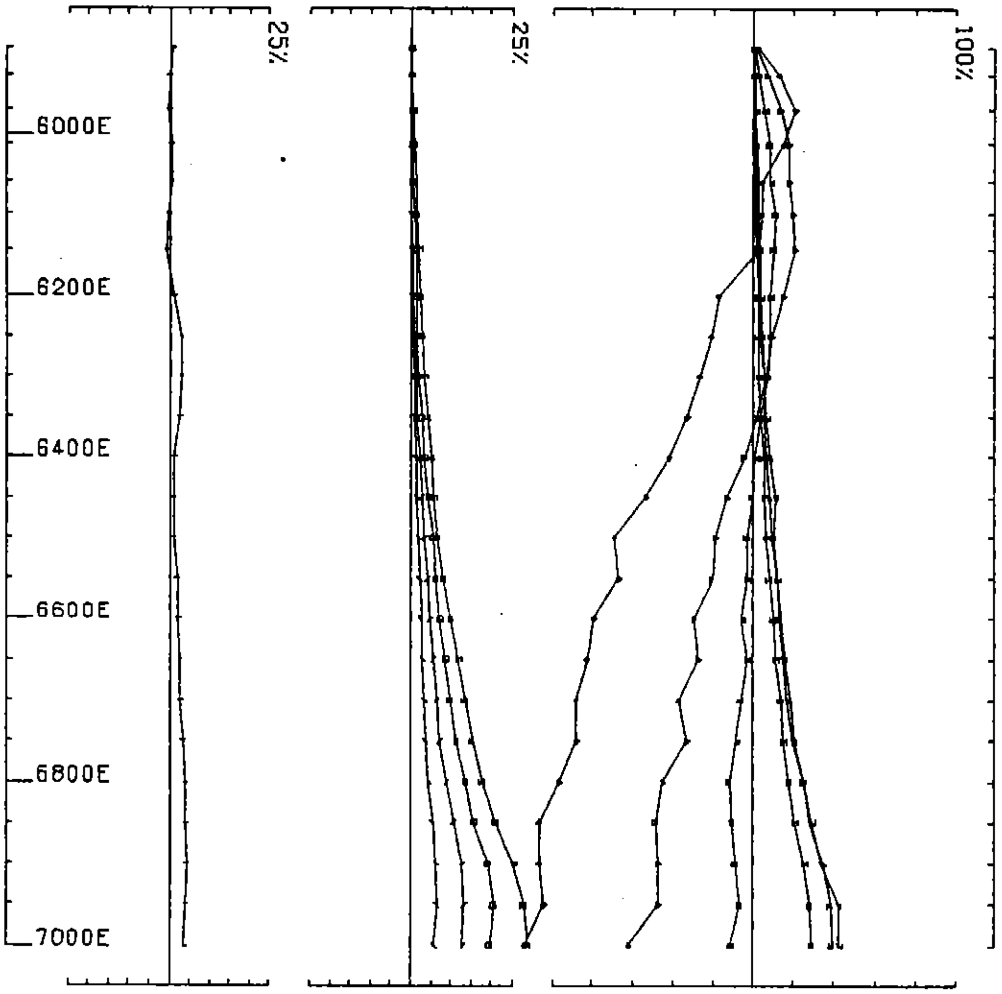
952345



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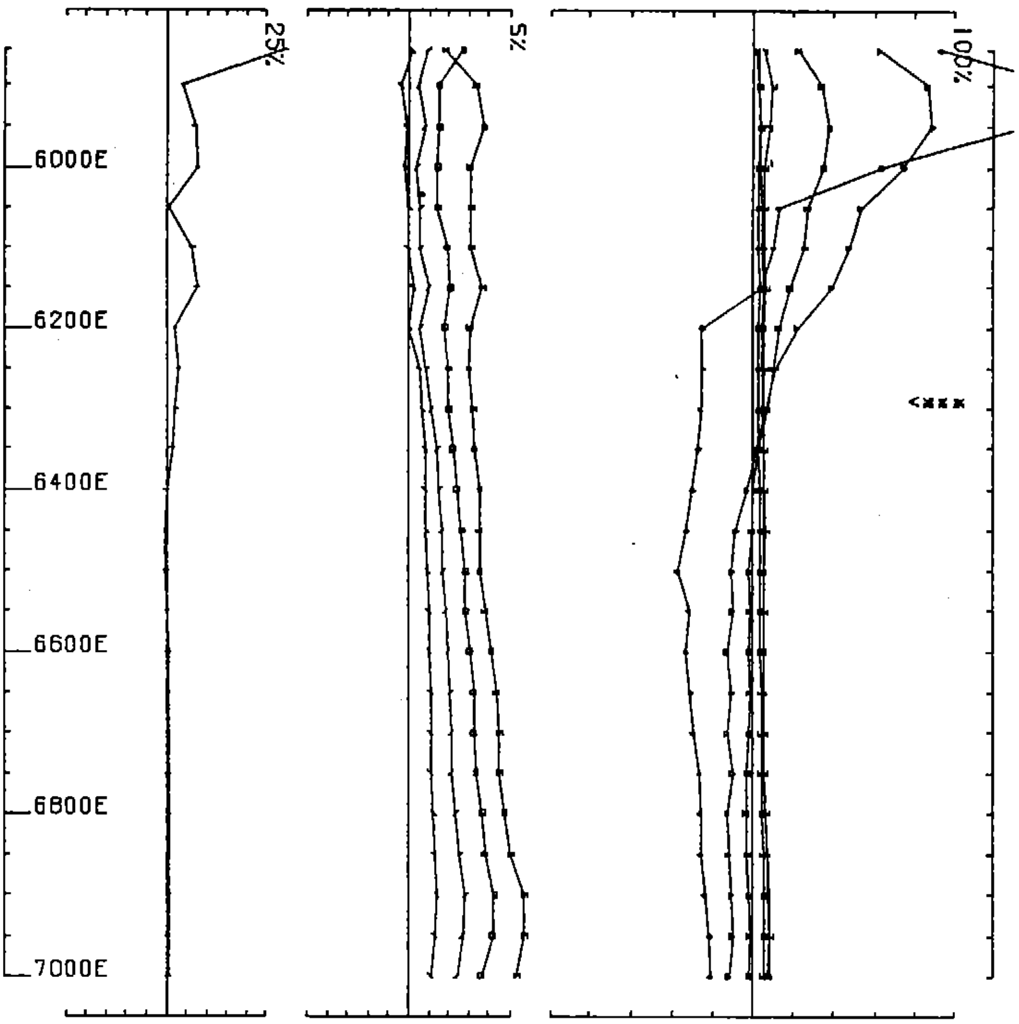
952346



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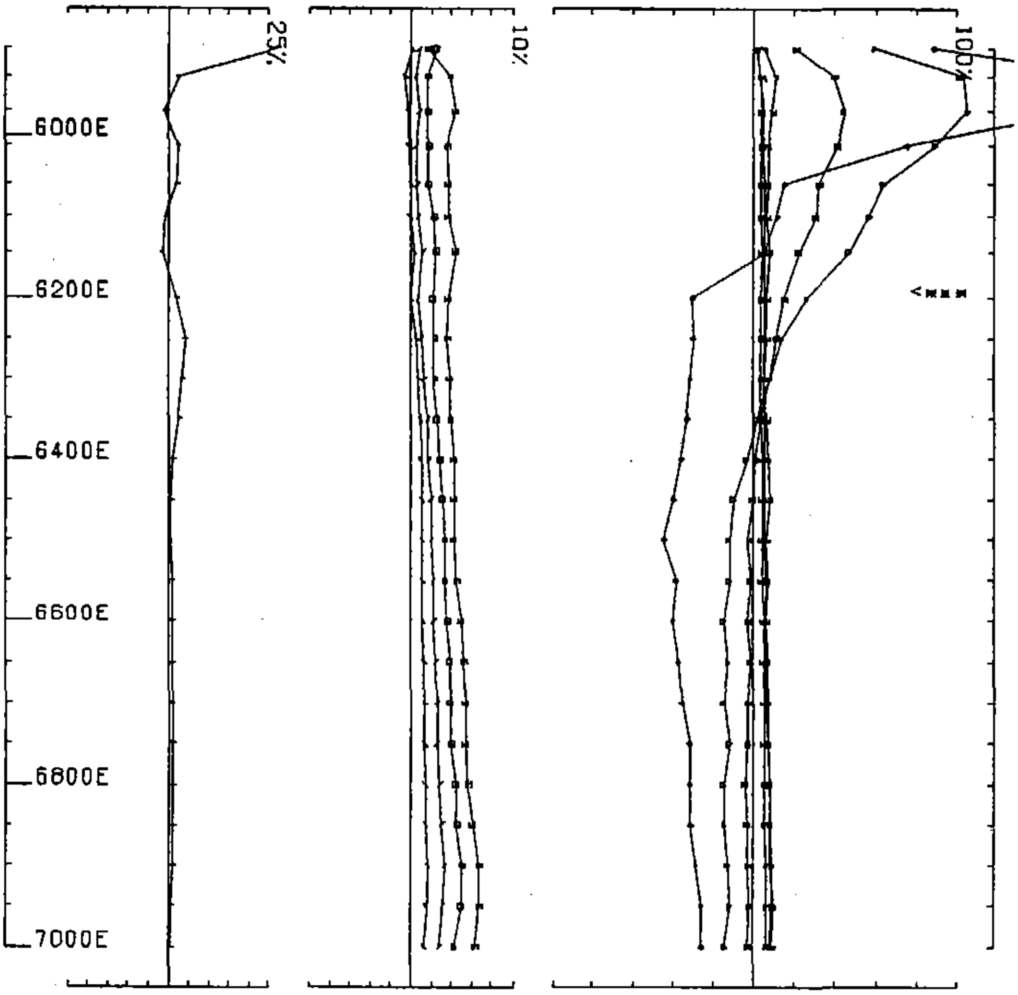
LOOP NO 3 LINE 4200 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

952347



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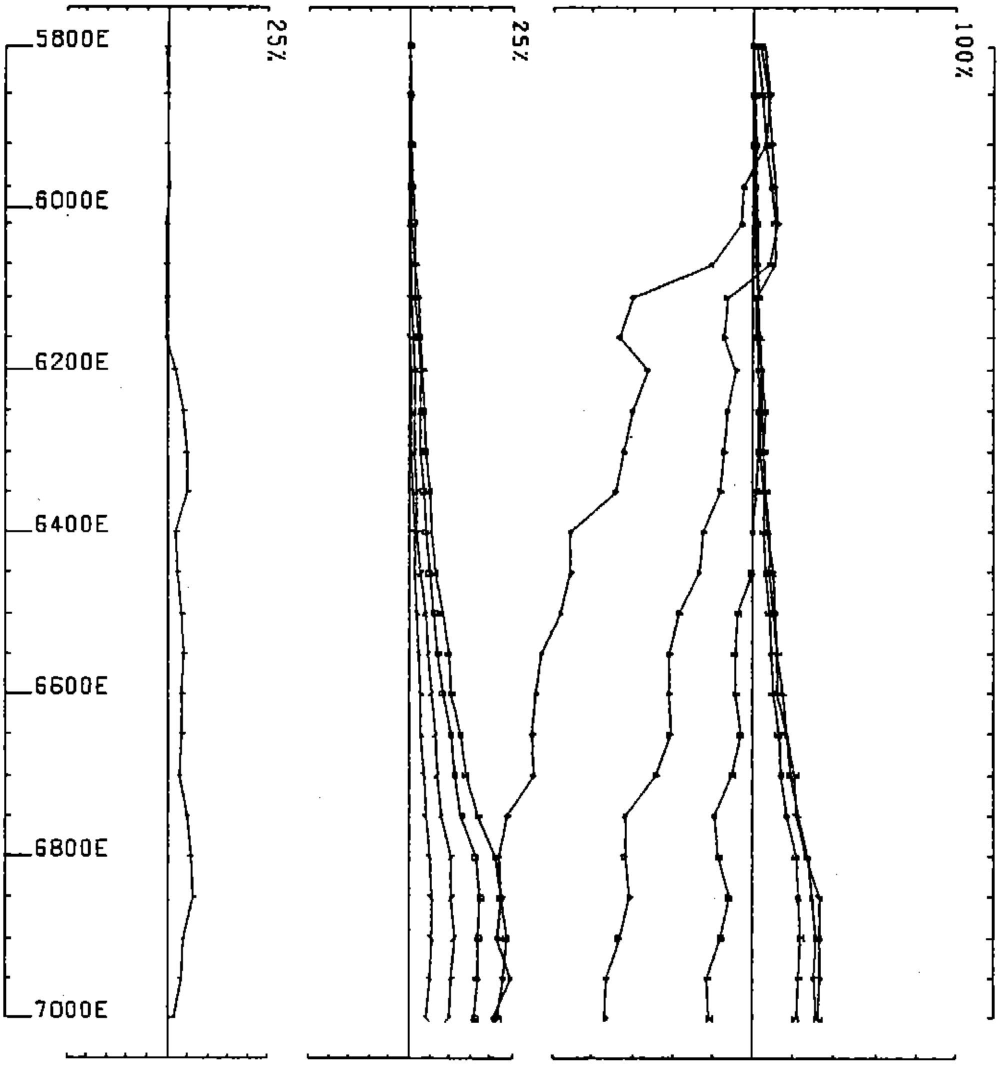

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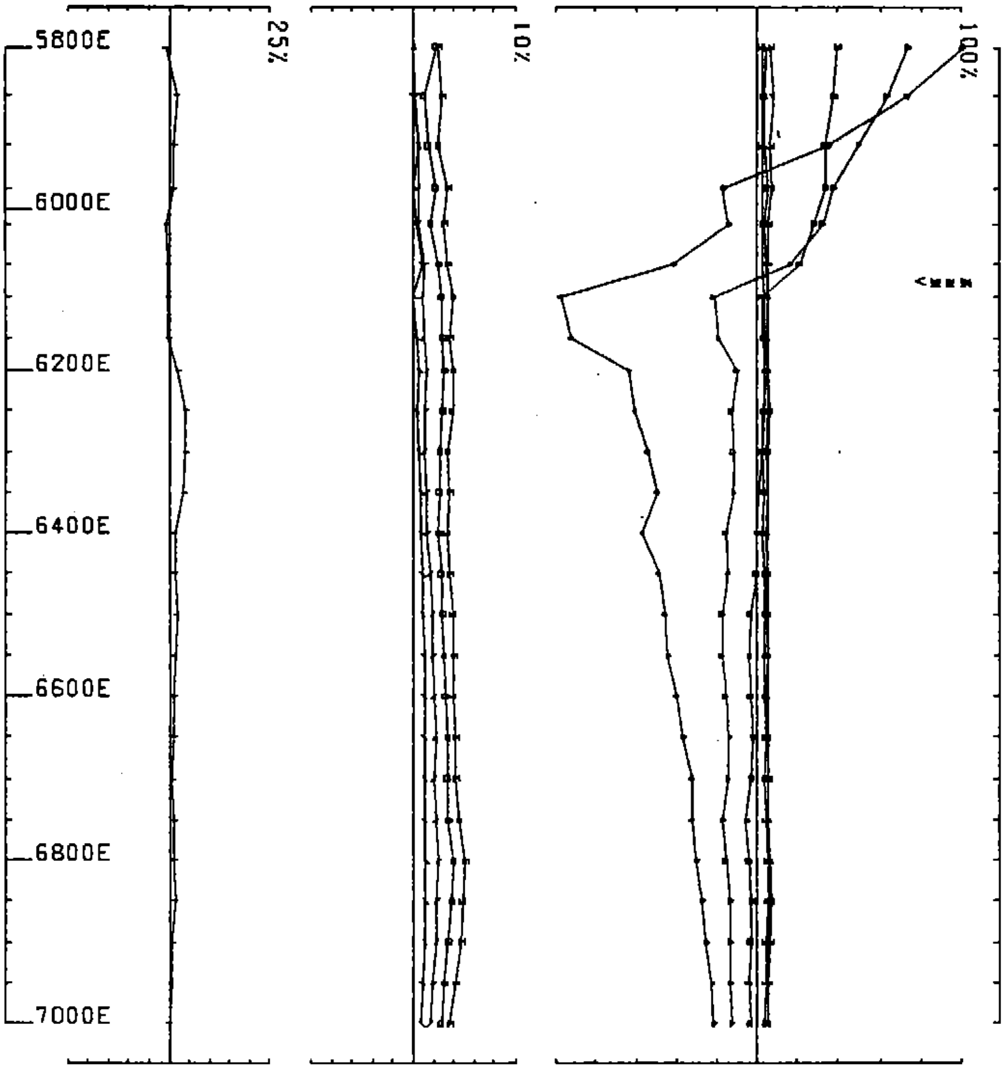
952349



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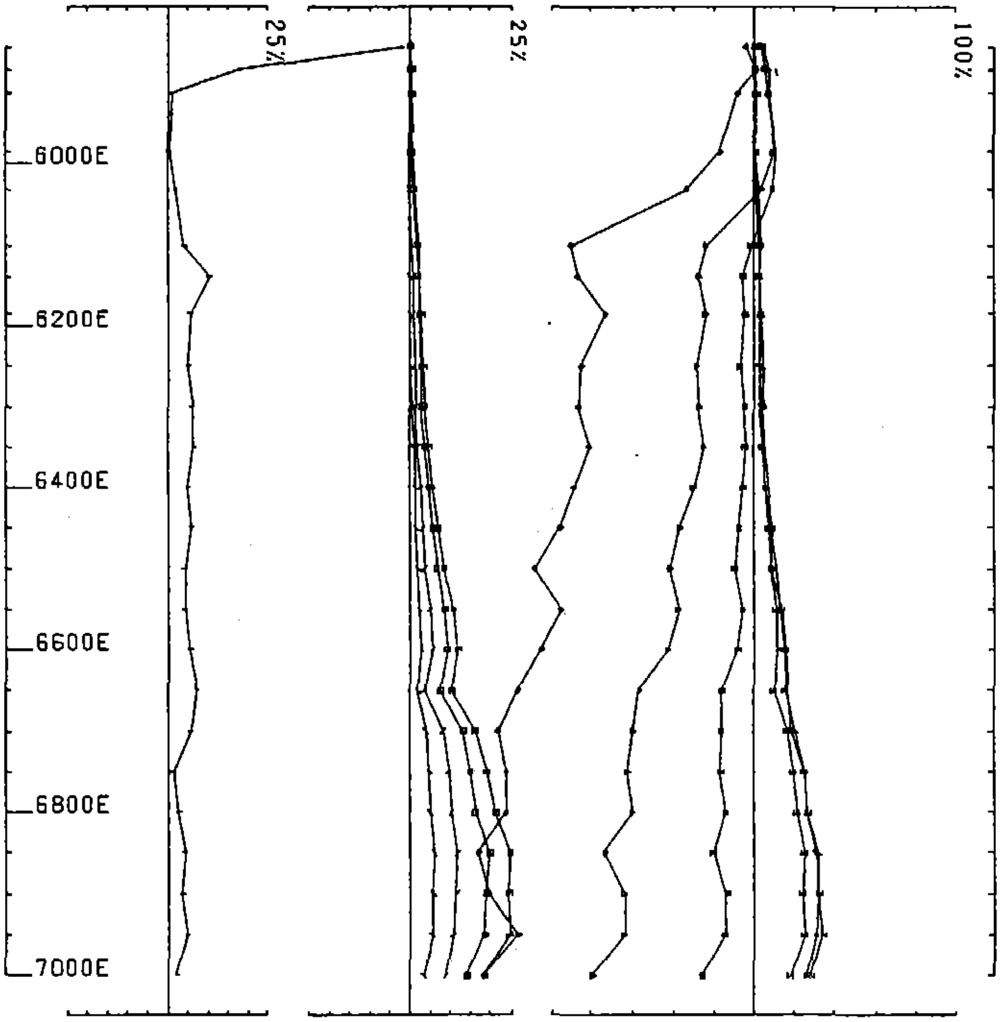
952350



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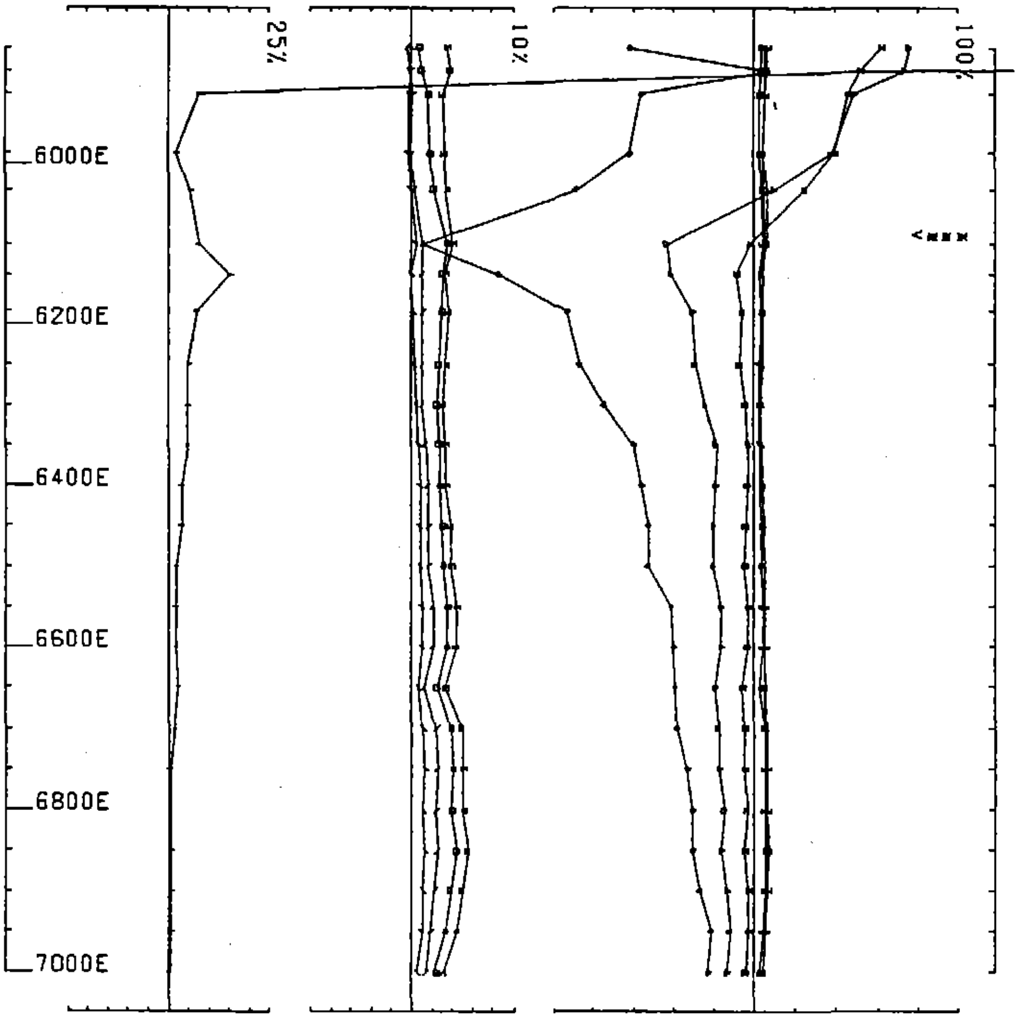
952351



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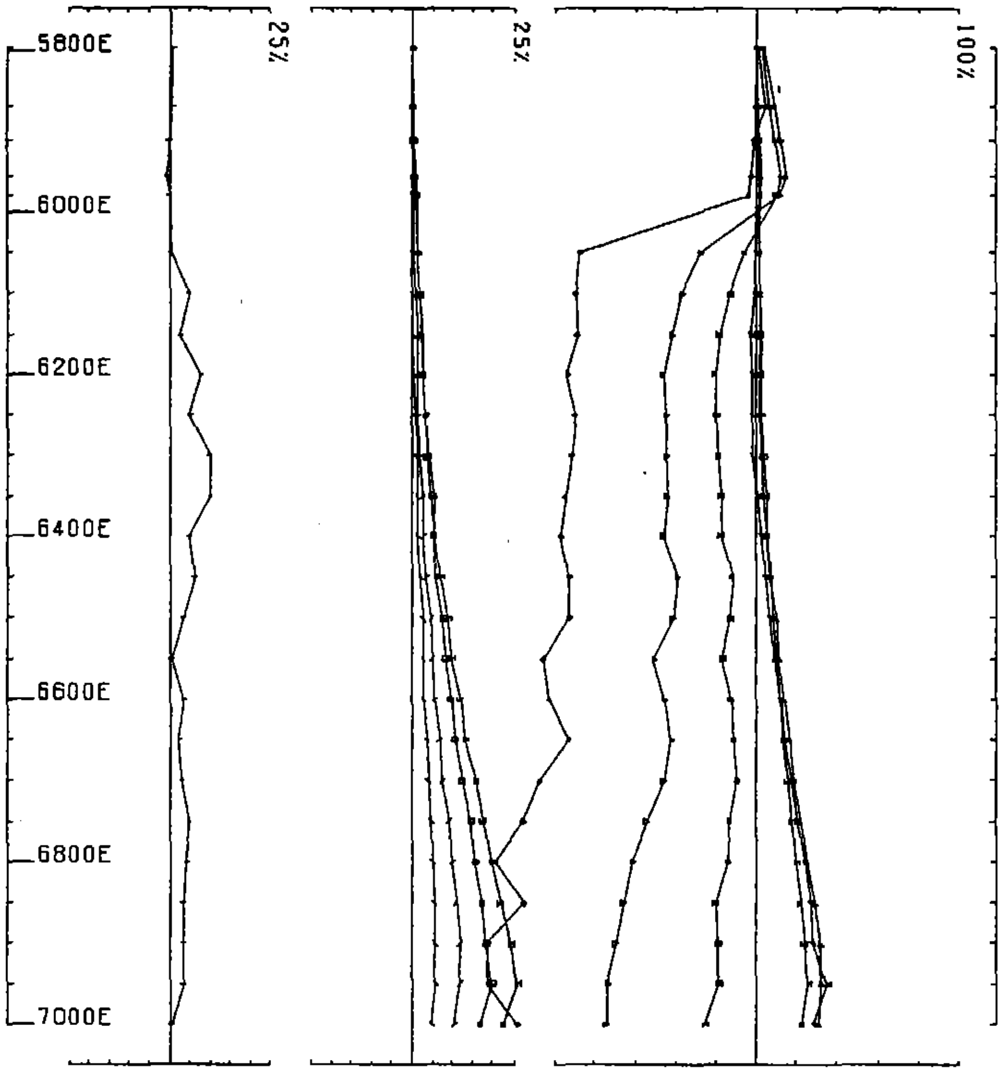

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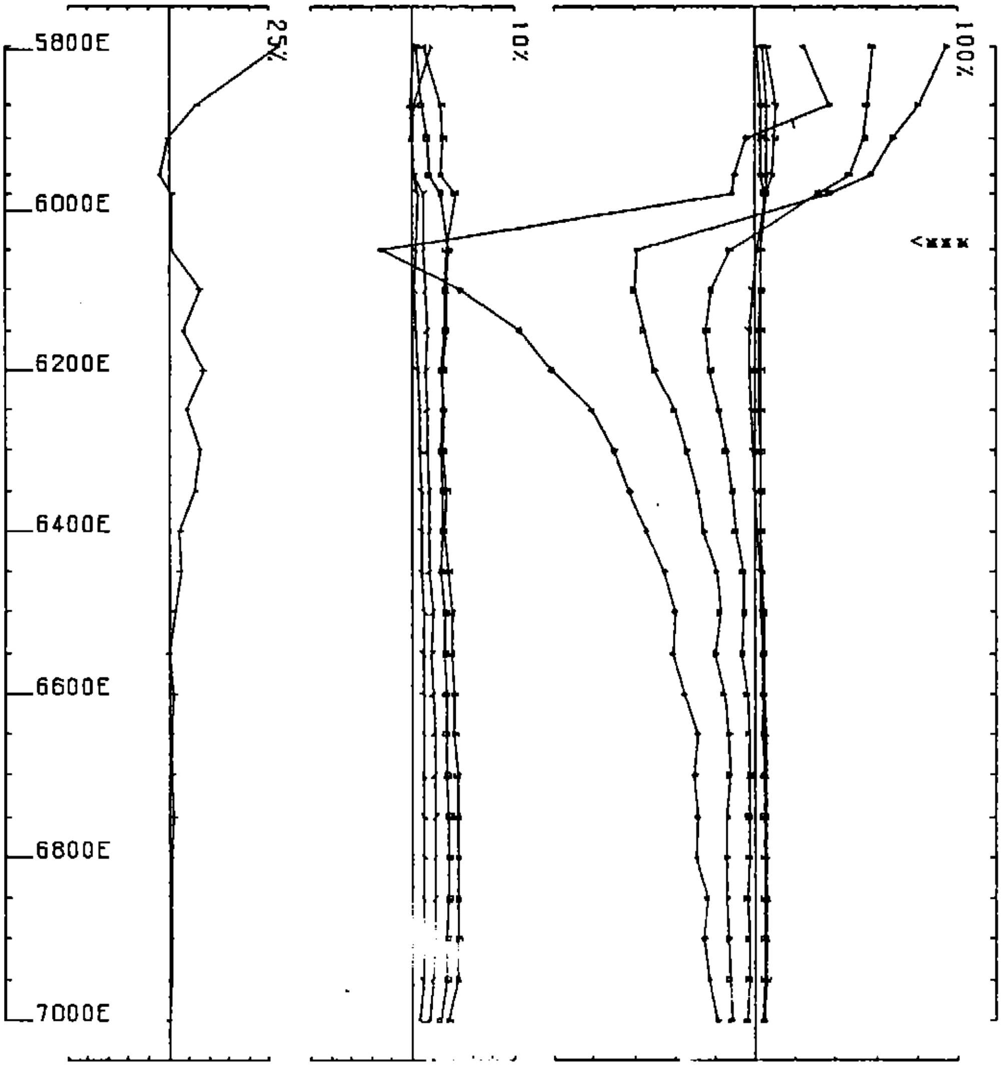
952353



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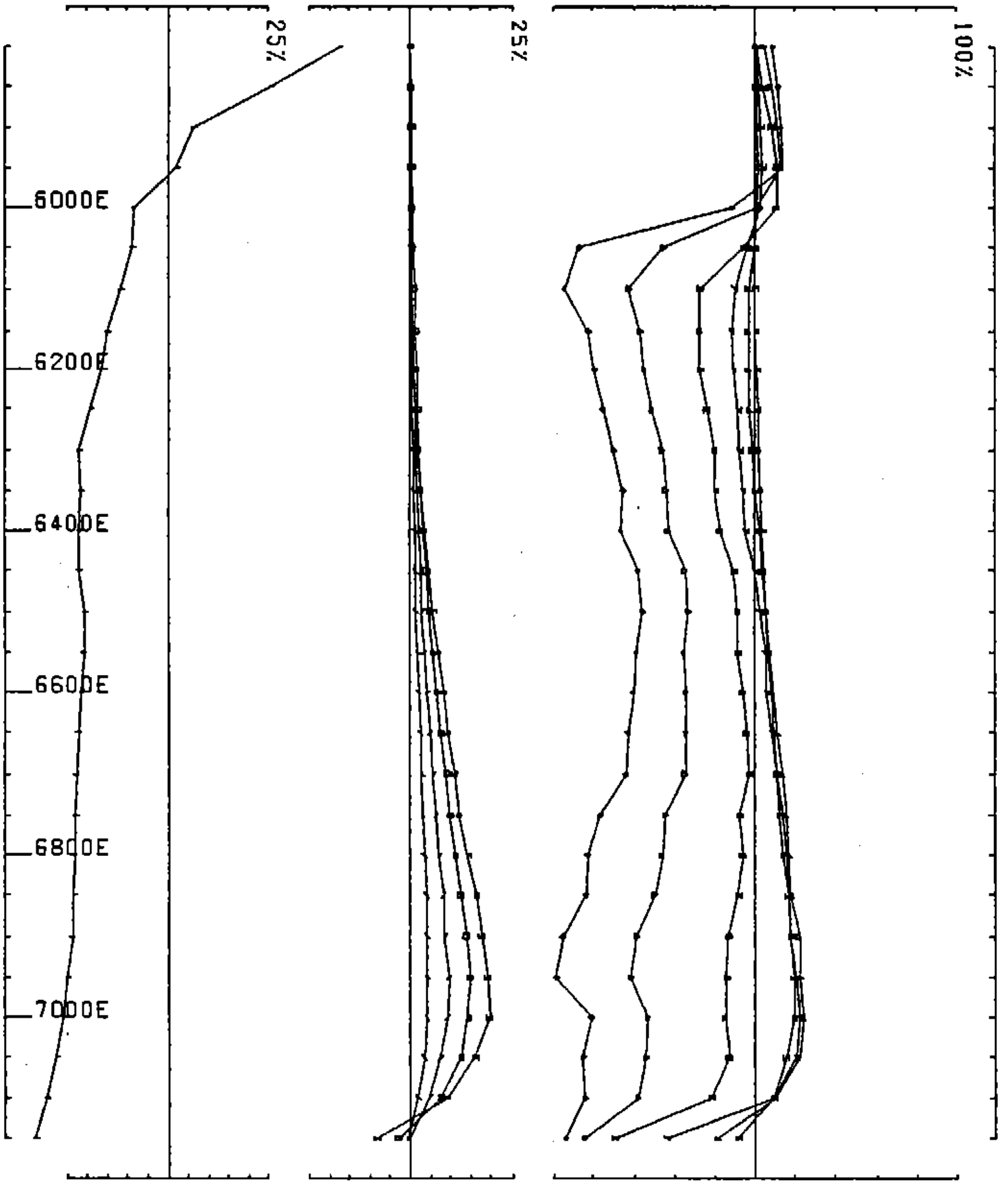
952354



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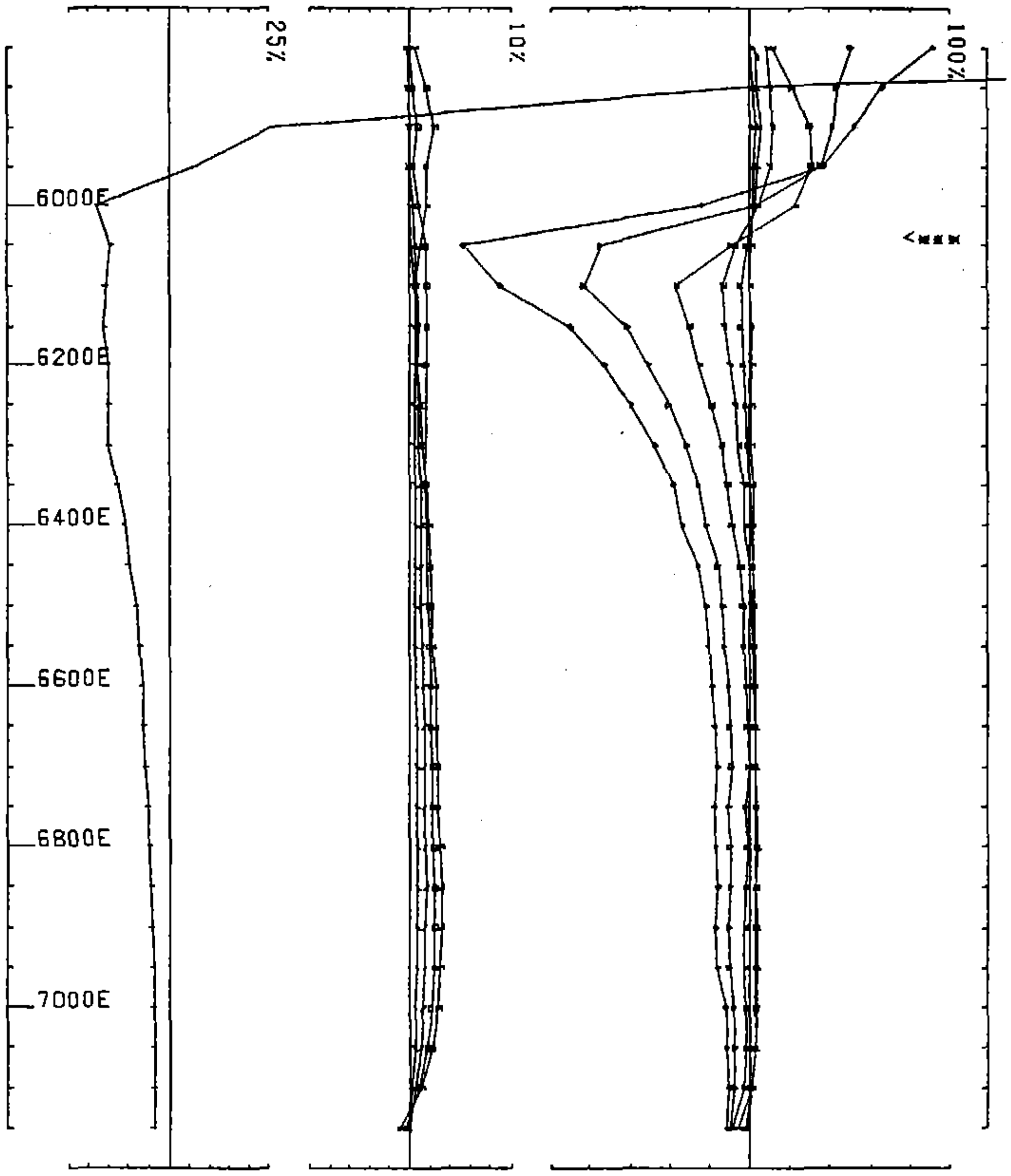
LOOP NO 3 LINE 5000 N COMPONENT HZ SECONDARY FIELD CH1 CONTIN. NORM.



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CONDUCTED BY LAMONTAGNE GEOPHYSICS LTD JOB 9102 BASE FREQ (HZ) 26.23
LOOP NO 3 LINE 5000 N COMPONENT HZ SECONDARY FIELD CH1 POINT NORM.

APPENDIX XIV

952357

ABERFOYLE MEMORANDUM

Date	16 October, 1991	Ref	
To	Steve Richardson	From	Jovan Silic
At	Burnie	At	Hawthorn
Copies to		Keep	

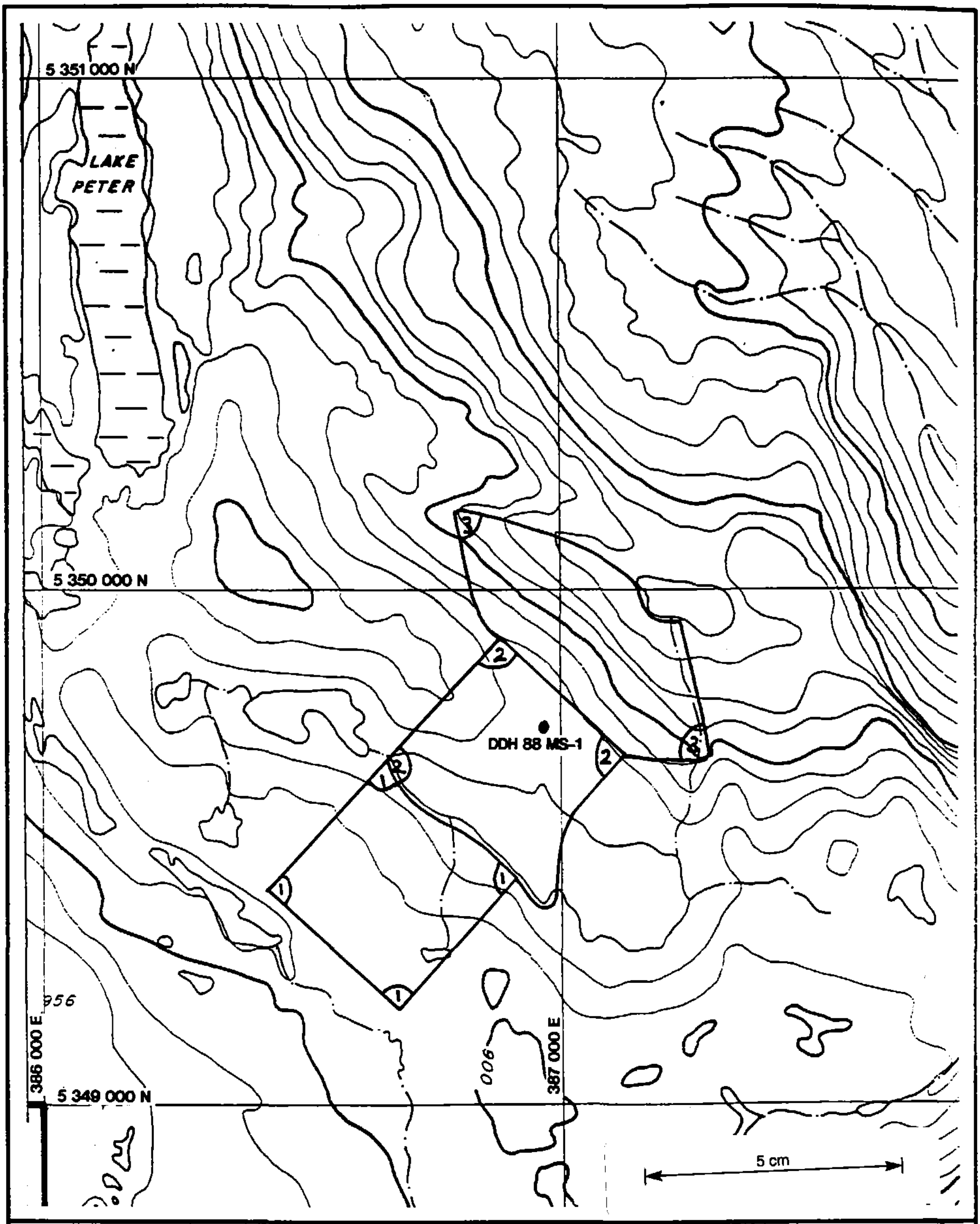
Subject

A three loop DHEM survey was conducted in DDH 88 MS-1 using the Zonge GDP-16 system operating at 32 HZ. Loop locations are shown on Plate L.MARG. 44.

Apart from outlining some surface conductivity, no other effects which could be attributed to conductors are evident in the data.

J. Silic.

952358



Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

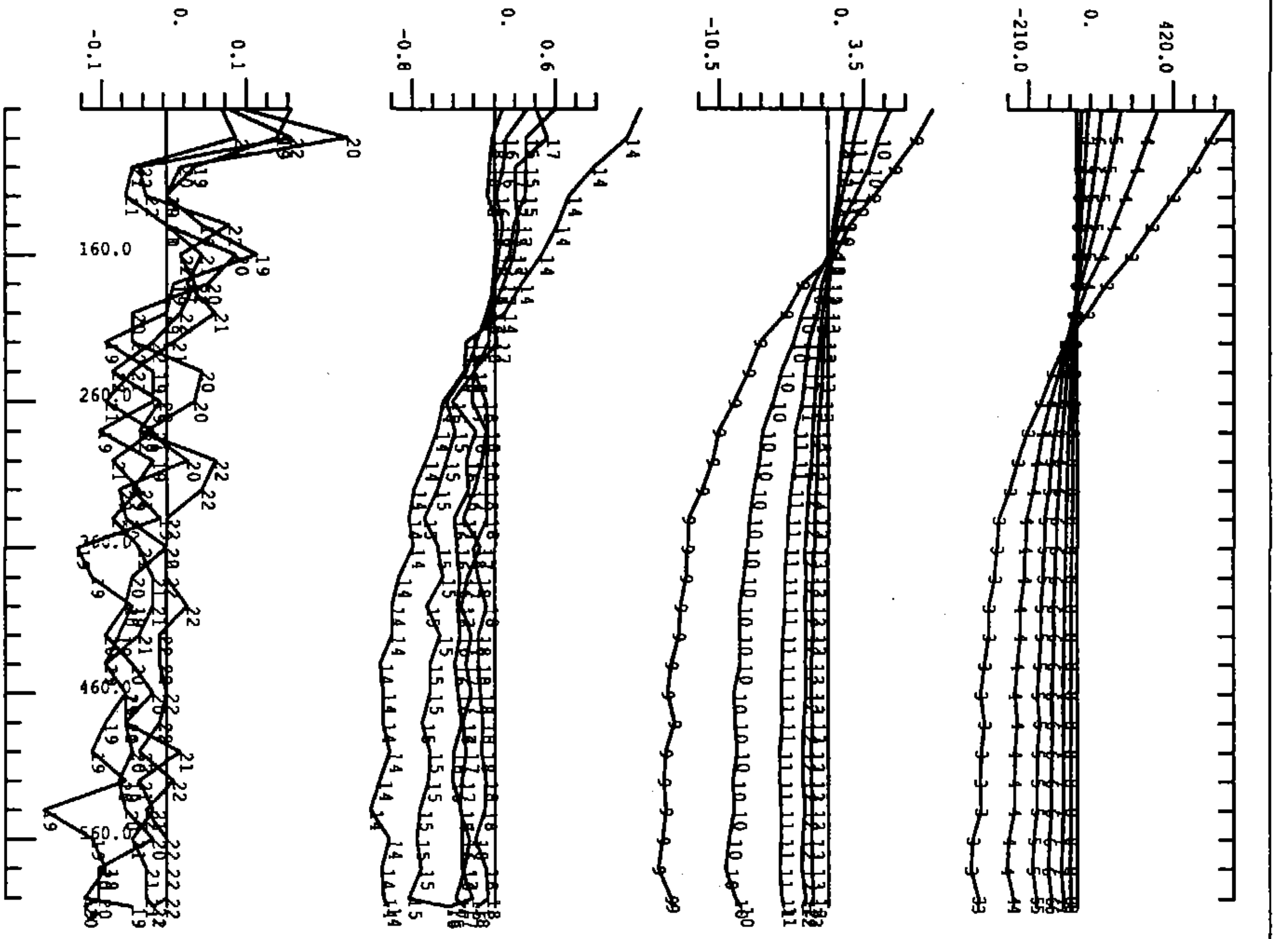
WESTERN TASMANIA

LAKE MARGARET E.L.5/85 C.R.A. JV
DDH 88 MS-1 DHEM LOOP LOCATIONS

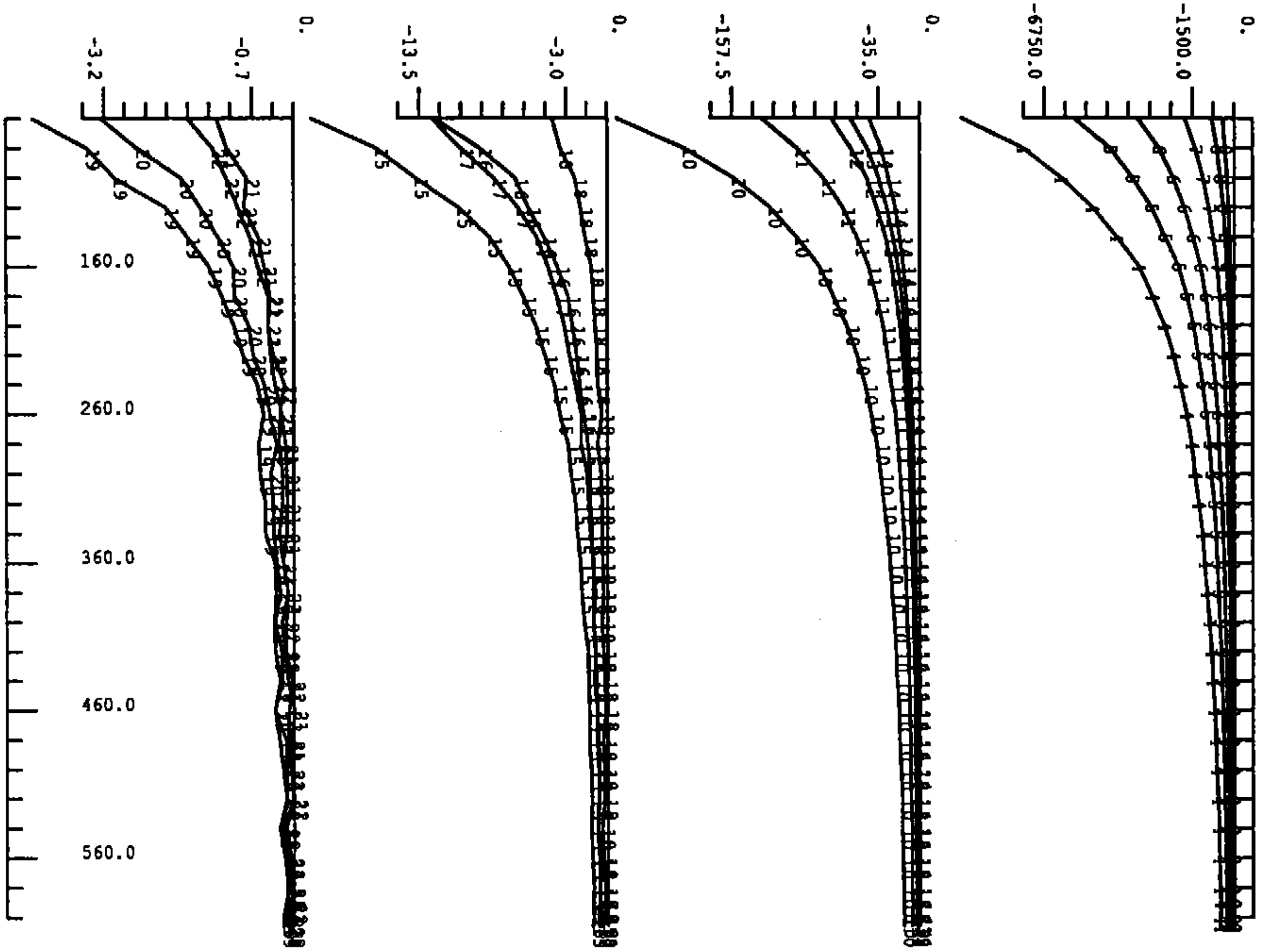
Compiled : SMR
Drawn :
Traced : SMR
Checked :

Location Code :
Scale : 1 : 10 000
Date : OCTOBER 91
Plate No. : LMARG 44

952359



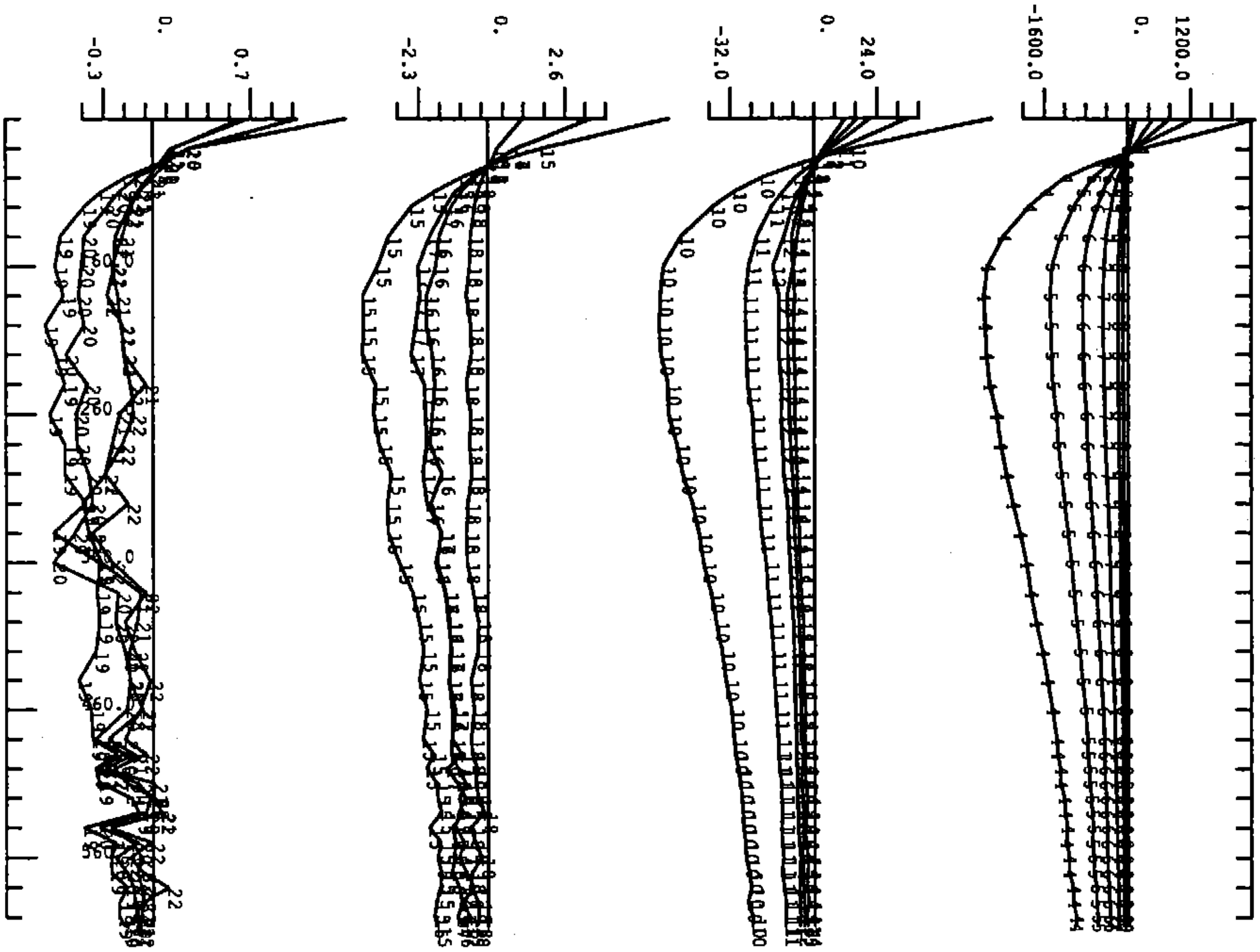
MT SEDGWICK
DOWN HOLE EM
ZONGE GDP _16
LOOP 1
32 HZ
Aberfoyle Resources Limited
Horiz scale 1: 5000.0Plot number : 9



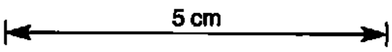
MT SEDGWICK
DOWN HOLE EM
ZONGE GDP _16
LOOP 2
32 HZ
Aberfoyle Resources Limited
Horiz scale 1: 5000.0 Plot number : 11

5 cm

952361



MT SEDGWICK
DOWN HOLE EM
ZONGE GDP _16
LOOP 3
32 HZ
Aberfoyle Resources Limited
Horiz scale 1: 5000.0Plot number : 12



952362

Aberfoyle Resources Limited

EXPLORATION DIVISION

A.C.N. 004 664 108

EXPLORATION LICENCE 5/85,
LAKE MARGARET
TASMANIA

MICROFILMED
FICHE No. 012829-37

REPORT ON EXPLORATION FOR AREA TO BE RELINQUISHED NOVEMBER 1993

Volume 3 of 3

PLATES

OPEN FILE

MINES

FILE REF.

-2 DEC 1993

DOC. REF.

OFFICER	FOR ACTION	FOR INFO.
SEE COVERING		
LETTER FOLIO 33		

RESUBMIT TO	DATE

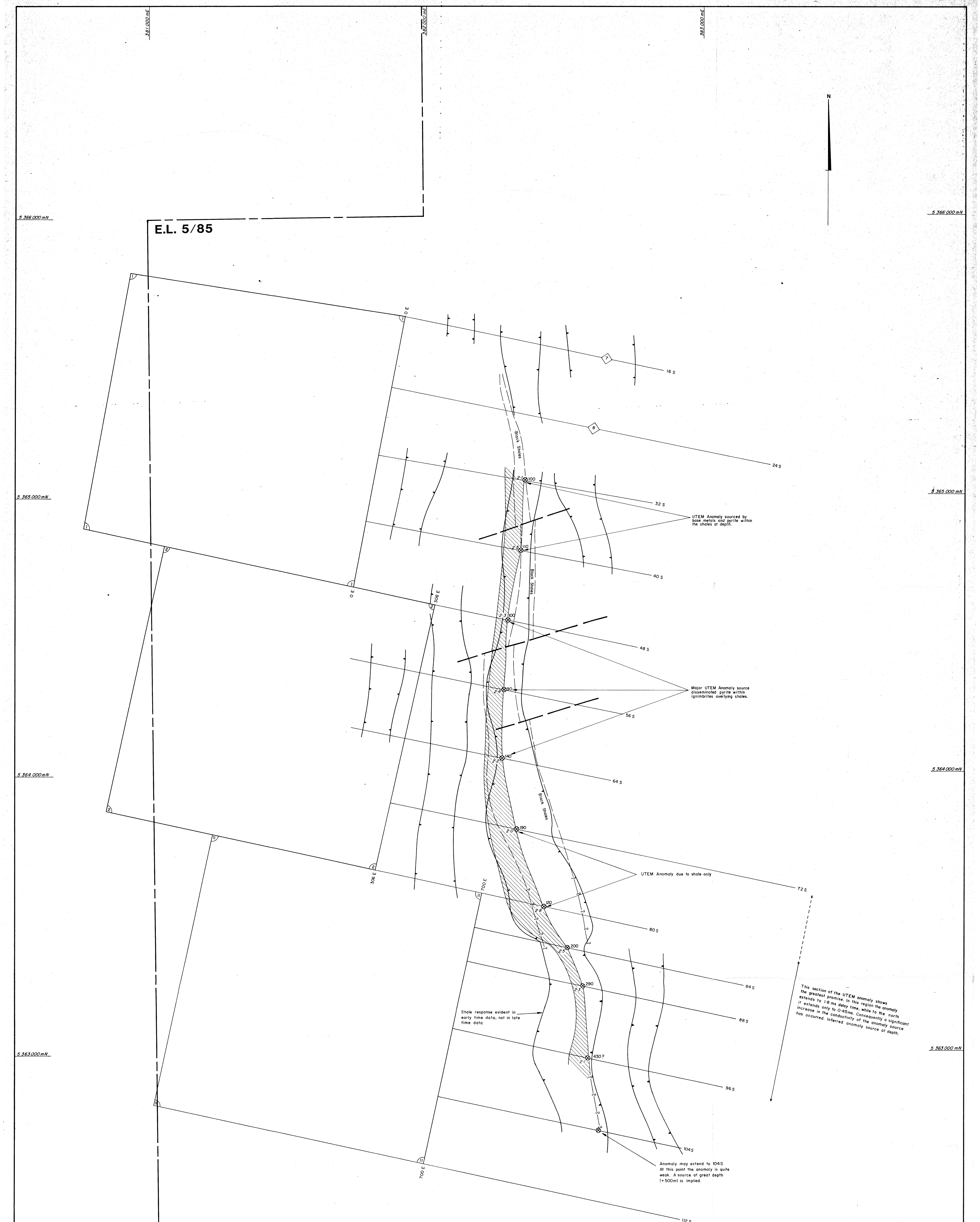
Distribution

Aberfoyle - Hawthorn	(1/4)
Aberfoyle - Burnie	(2/4)

Vol 3/3

Internal Report No: Lake Margaret 10

93-3524.



UTEM Anomaly sourced by base metals and pyrite within the shales at depth.

Major UTEM Anomaly source disseminated pyrite within ignimbrites overlying shales.

UTEM Anomaly due to shale only

This section of the UTEM anomaly shows the greatest promise. In this region the anomaly extends to 1·8 ms delay time, while to the north it extends only to 0·45ms. Consequently a significant increase in the conductivity of the anomaly source has occurred. Inferred anomaly source at depth.

Shale response evident in early time data, not in late time data.

Anomaly may extend to 104S At this point the anomaly is quite weak. A source at great depth (+500m) is implied.

LEGEND

——— ——— ——— Approximate geological boundary

——?——?—— Inferred geological boundary

◇7 Cross over position of UTEM anomaly (Number indicates latest time channel anomaly is evident on.

Decay Constant ⊗ Depth to top of conductor — Cross over position of UTEM anomaly indicating approximate depth to top of conductor (50m) and decay constant.

▨ Zone within which conductor may occur. The lateral position is uncertain.

Poor to moderately conductive lithological unit.

0 500
METRES

952363

93-3524.

5 cm

383 000 mE

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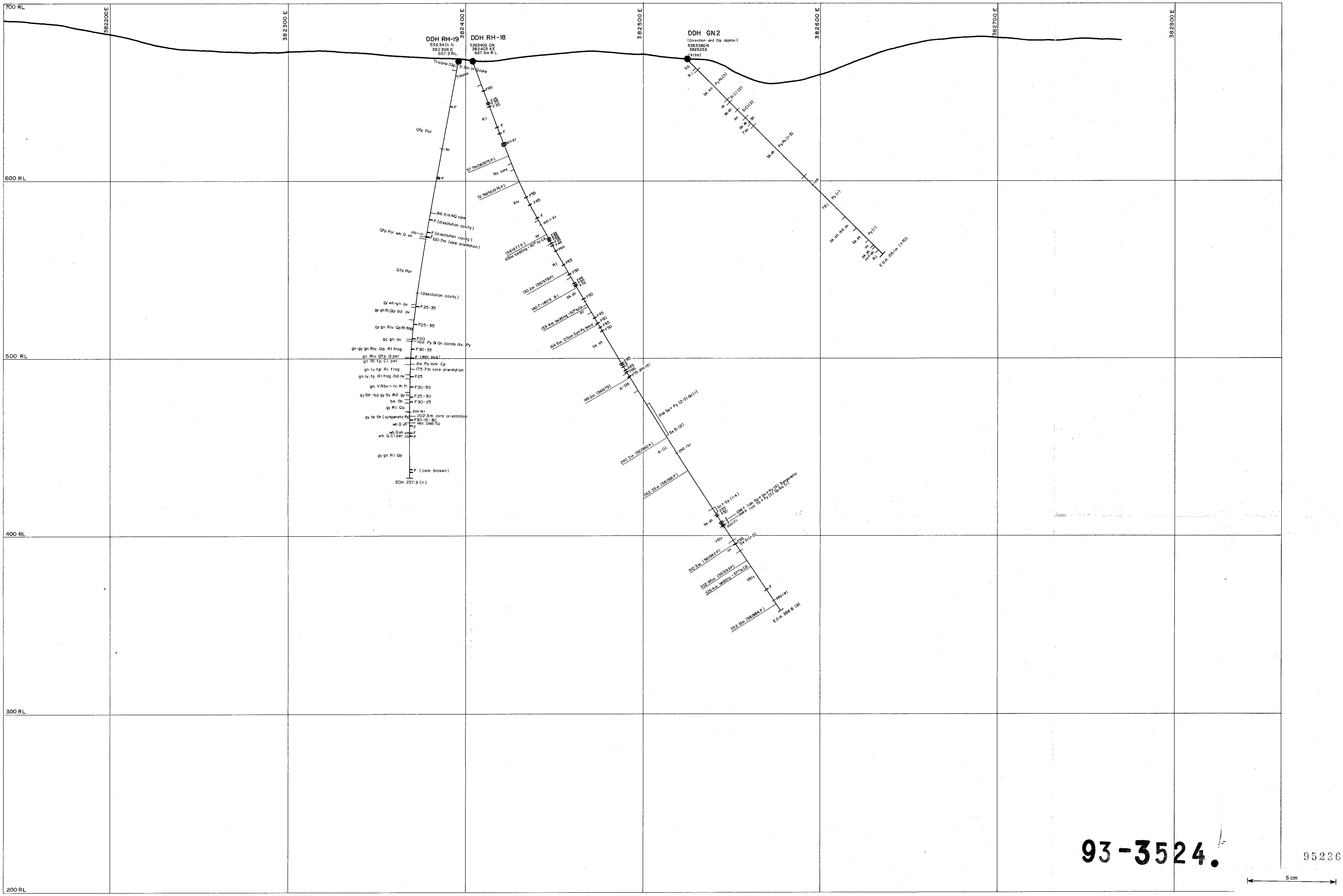
REVISIONS			
Init.	Date	Init.	Date
TN	3·89		

TASMANIA
LAKE MARGARET E.L.5/85
RED HILLS PROSPECT
DEC 1988 UTEM SURVEY INTERPRETATION

Compiled : JJR
Drawn : JJR
Traced : Geo Drafting
Checked :

Location Code :
Scale : 1:5000
Date : January 1989
Plate No : LM 5



93-3524.

952364

Aberfoyle Resources Limited
EXPLORATION DIVISION

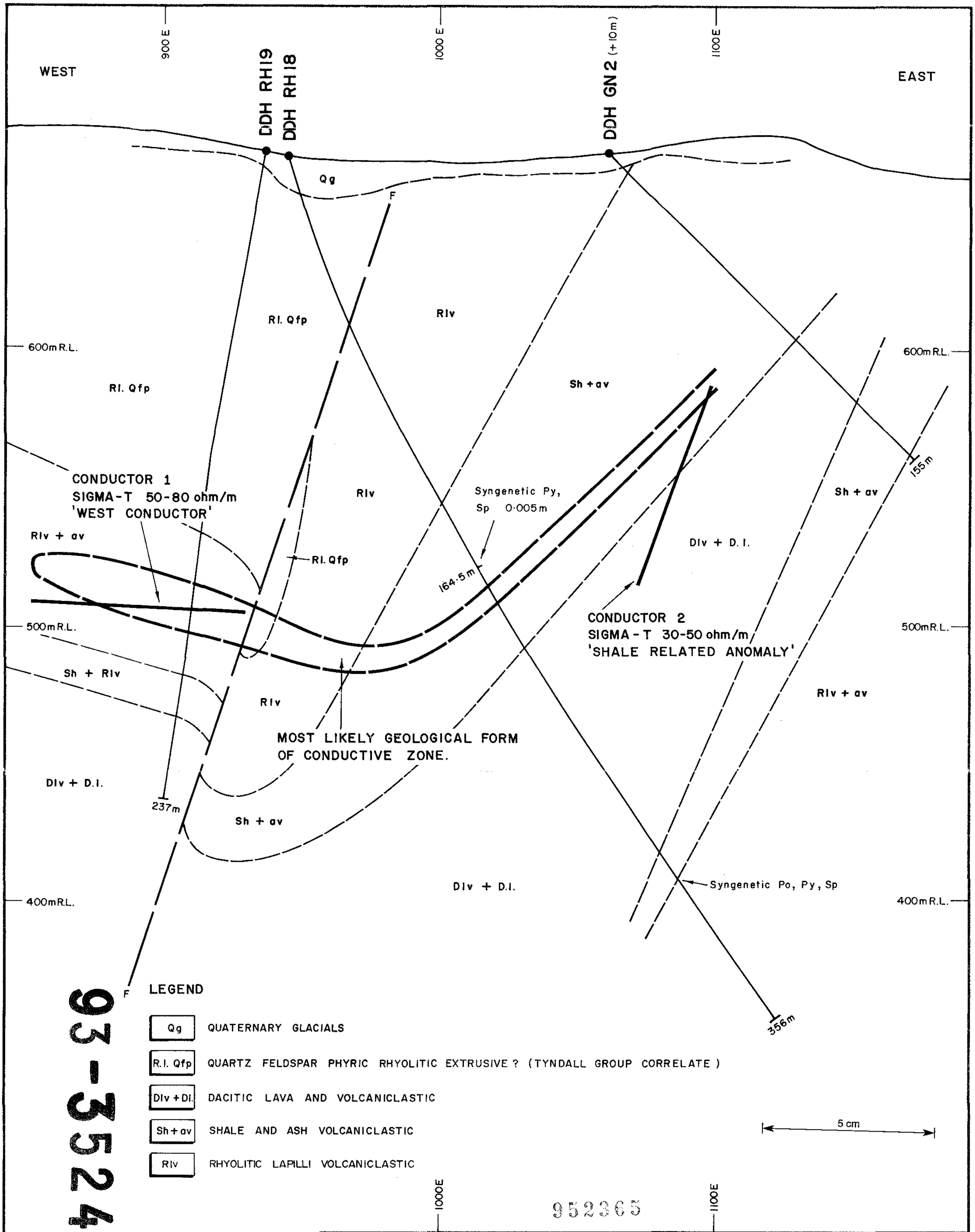
REVISIONS			
Init.	Date	Init.	Date
DJN rje	4·7·90		

Location Code :

NORTH WEST TASMANIA
LAKE MARGARET E.L.5/85 CRA JV.
RED HILLS PROSPECT
SECTION ON 090° MAG.-DDH RH18-19

Scale : 1 : 1000
Date : September, 1989

Compiled : AMc N
Drawn : AMc N
Traced : RJE
Checked : AMcN
Plate No : L.Marg 14



LEGEND

Qg	QUATERNARY GLACIALS
R.I. Qfp	QUARTZ FELDSPAR PHYRIC RHYOLITIC EXTRUSIVE ? (TYNDALL GROUP CORRELATE)
Dlv + Dl.	DACITIC LAVA AND VOLCANICLASTIC
Sh + av	SHALE AND ASH VOLCANICLASTIC
Rlv	RHYOLITIC LAPILLI VOLCANICLASTIC

93-3524.

952365

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REVISIONS			
Init.	Date	Init.	Date
DJNjms	30·1·90		

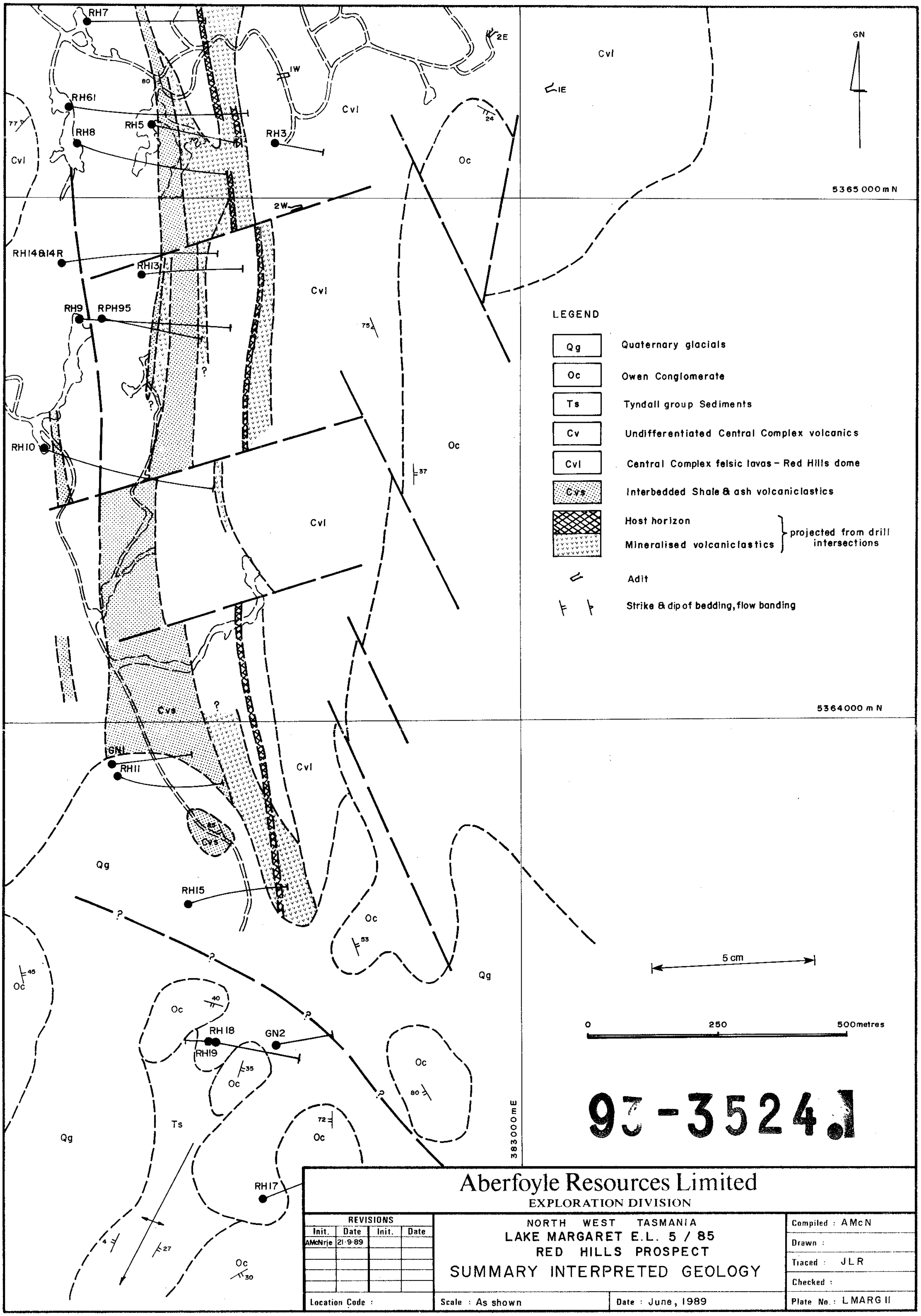
Location Code :

NORTH WEST TASMANIA
LAKE MARGARET E.L. - RED HILLS PROSPECT

INTERPRETIVE SECTION 84S

Scale : 1:1250 (A4)=1: 2500
Date : December 1989

Compiled : JRR, AMcN, DJN
Drawn :
Traced : JMS
Checked :
Plate No. : L.MARG. 19



93-3524

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EXPLORATION DIVISION

REVISIONS

Init.	Date	Init.	Date
AMcNrje	21·9·89		

NORTH WEST TASMANIA
LAKE MARGARET E.L. 5 / 85
RED HILLS PROSPECT

SUMMARY INTERPRETED GEOLOGY

Compiled : AMcN
Drawn :
Traced : JLR
Checked :
Plate No. : LMARG II

Location Code :
Scale : As shown
Date : June, 1989

93-3524.

952366

Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date
RJE	26·4·89		

NORTH WEST TASMANIA

LAKE MARGARET E.L.5/85 CRA J.V.

RED HILLS – UTEM LOCATIONS

Compiled : AMcN
Drawn : JLR
Traced : RJE
Checked :
Location Code :
Scale : 1:10 000
Date : February, 1989
Plate No : LMARG 6

FACT GEOLOGICAL MAPPING LEGEND

(NOTE : COMPLETE LIST OF ABBREVIATIONS IS STORED ON HP-1000 FILE ABBRV:HL:14)

LITHOLOGY COMPOSITION

R	Rhyolite
D	Dacite
A	Andesite
B	Basalt
Y	Polymict
Ss	Sandstone
Sh	Shale
Slt	Siltstone
Ba	Barite
Py	Pyrite
BMS	Base Metal Sulphide
Ch	Chert
TB	Tertiary Basalt
JDo	Jurrosic Dolerite
OCg	Ordovician Conglomerate

LITHOLOGY TEXTURE / FORM

l	lava
lb	lava breccia
pl	pillow lava
av	ash volcaniclastic
flv	fine lapilli volcaniclastic
mlv	medium " "
clv	coarse " "
bv	breccia "
xv	crystal "
ves	vesicular
por	porphyritic
eux	eutaxitic
fbn	flowbanded
gnlr	granular
ibd	interbedded
md	matrix dominant
gl	glassy
mas	massive
lm	laminated
fp	feldspar phyric
rnd	rounded
pep	peperitic

VOLCANICLASTIC SIZE RANGE

> 2mm	ash
2-8	fine lapilli
8-32	medium lapilli
32-64	coarse lapilli
> 64	breccia

ALTERATION COMPOSITION

Co	Carbonate
Cl	Chlorite
Kf	K-feldspar
Fu	Fuchsite
Py	Pyrite
Se	Sericite
Si	Silica

ALTERATION TEXTURE / FORM

per	pervasive
dis	disseminated
pat	patchy
spt	spotty
sfr	selected fragments
stw	stockwork
stc	structure controlled
vn	vein
mtx	matrix

ALTERATION INTENSITY WEATHERING INTENSITY

1	trace
2	weak
3	moderate
4	strong
5	extreme

COLOUR

br	brown
bk	black
gy	grey
gn	green
or	orange
pk	pink
wh	white
yw	yellow
bl	blue
ow	off white

FAULT TERMS

cav	cavernous
lch	leached
slk	slickenside
rhd	rehealed
rbb	rubble
shd	sheared

GENERAL TERMS

tr	trace
lgt	light
dk	dark
brt	bright
ox	oxidised
fg	fine grained
mg	medium grained
cg	coarse grained

ABBREVIATED DESCRIPTION FORMAT

LITHOLOGY :

LITHOLOGY WEATHERING ALTERATION

colour. composition. form. texture / intensity / composition. intensity. form. texture

example gy - gn. YA. flv / Ox 3 / Fu.3. dis

Interpretive comment can be added in brackets ( )

FAULT :

WIDTH (cms) / MINERALOGY. TEXTURE

example F 20 / Cl. cav.

VEIN :

WIDTH (cms) / MINERALOGY. TEXTURE

example V 5 / Q. Py.cav

INTERPRETIVE GEOLOGICAL MAPPING LEGEND

VOLCANICS

R.l R.lb	Rhyolite lava, lava breccia	26
R.av R.lv R.bv R.xv	Rhyolite volcaniclastic	25
YR.av YR.lv YR.bv	Rhyolitic Polymict volcaniclastic	65
D.l D.l.b	Dacite lava, lava breccia	63
D.av D.lv D.bv D.xv	Dacite volcaniclastic	64
YD.av YD.lv YD.bv	Dacitic Polymict volcaniclastic	56
A.fp.l A.fp.lb	Andesite feldsparphyric lava, lava breccia	48
A.l A.lb	Andesite lava, lava breccia	41
A.av A.lv A.bv A.xv	Andesite volcaniclastic	44
YA.av YA.lv YA.bv	Andesitic Polymict volcaniclastic	40
B.l B.lv	Basalt lava, lava breccia	45
B.pl	Basalt pillow lava	50
B.av B.lv B.bv B.xv	Basalt volcaniclastic	49
YB.av YB.lv YB.bv	Basaltic Polymict volcaniclastic	42
Y.av Y.lv Y.bv	Polymict rock	58
av	Ash volcaniclastics (composition not determined)	52

SEDIMENTS

Ss Gw	Sandstone, micaceous Greywacke	71
Sh	Shale, black (carbonaceous, pyritic)	68
Slt	Siltstone, tuffaceous Siltstone	69

SULPHIDES, SULPHATES

BMS	Base Metal Sulphide rock	21
MPy	Massive pyrite rock	29
GS P	Glassy silica, colloform pyrite rock	23
Ba	Barite	22

POST CAMBRIAN ROCKS

TB	Tertiary Basalt	8
JD	Jurassic Dolerite	32
OCg	Ordovician Siliciclastics	20

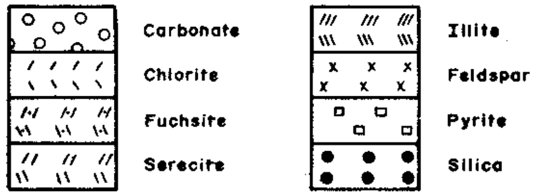
ALTERATION ROCK TYPES

HA	Highly altered rock	6
Qll	Quellite	18
Q-lv Q-bv	Quellite fragmental	17

ALTERATION SYMBOLS

Overprint on "HA" symbol

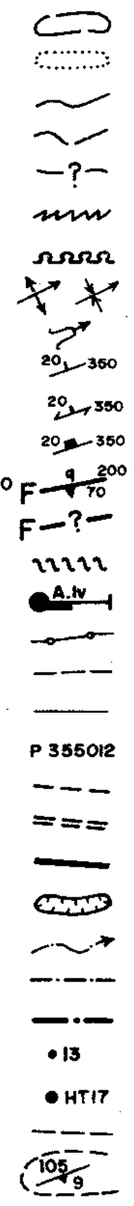
(Combinations can be used)



SYMBOLS

(SYMBOLS AS SHOWN IN ABEX "STANDARDS FOR GEOLOGICAL DRAWINGS", JAN. 1983)

LINE TH'NESS / LEROY LETTER SIZE (LENGTH AS SHOWN)



·35	Outcrop boundary
·35	Float
·35	Contact known
·35	Contact interpreted
·35	Contact inferred
·35	Facies change
·35	Unconformity
·25	Anticline, syncline with plunge and trend
·25	Minor fold with plunge and trend
·25/50	Bedding, strike, dip
·25/50	Foliation, strike, dip
·25/50	Joint, strike, dip
·5/50,100	Fault, definite, strike, dip, mineralogy
·5/100	Fault, inferred
·35	Shear zone
·35/60	DDH collar and trace, top 20m geology shown
·25	Grid line, stadia surveyed
·25	Grid line, tape and compass survey
·25	Grid line, nominal position
/60	Petrology sample location
·35	Track, unsurveyed
·35	Road (unsealed) or track, surveyed
·7	Major road
·35	Costean
·25	Creek
·35	Mining Lease boundary
·5	Exploration Licence boundary
/60	Peg with number, tape and compass surveyed
/60	Peg with number, stadia surveyed
·25	Alteration boundary
·25	Near horizontal fault surface

93-3524.

952367

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EXPLORATION DIVISION

REVISIONS			
Init	Date	Init	Date
GLC	12·85		
GLC	1·86		
MAG/mdl	6·91		

NORTH WEST TASMANIA

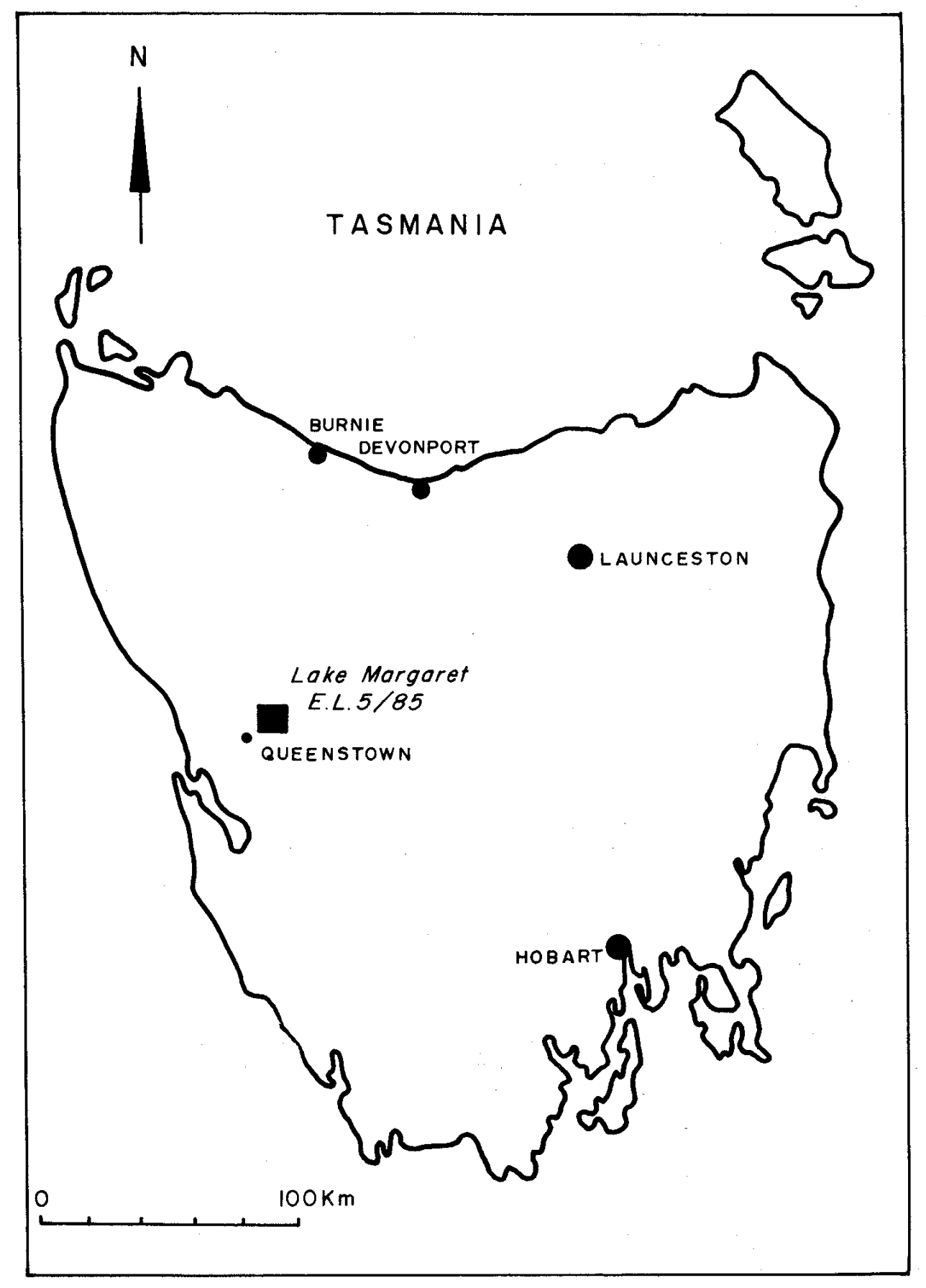
LAKE MARGARET E.L.5/85

SURFACE GEOLOGICAL MAPPING LEGEND

Compiled: AMH
Drawn: AMH
Traced: GLC
Checked: AMH

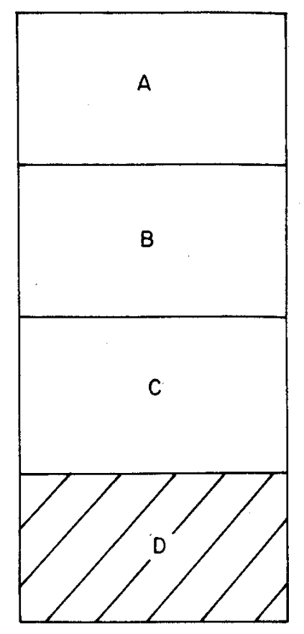
Location Code K55/6/44
Scale ———
Date JUNE 1991
Plate No: L.MARG 40

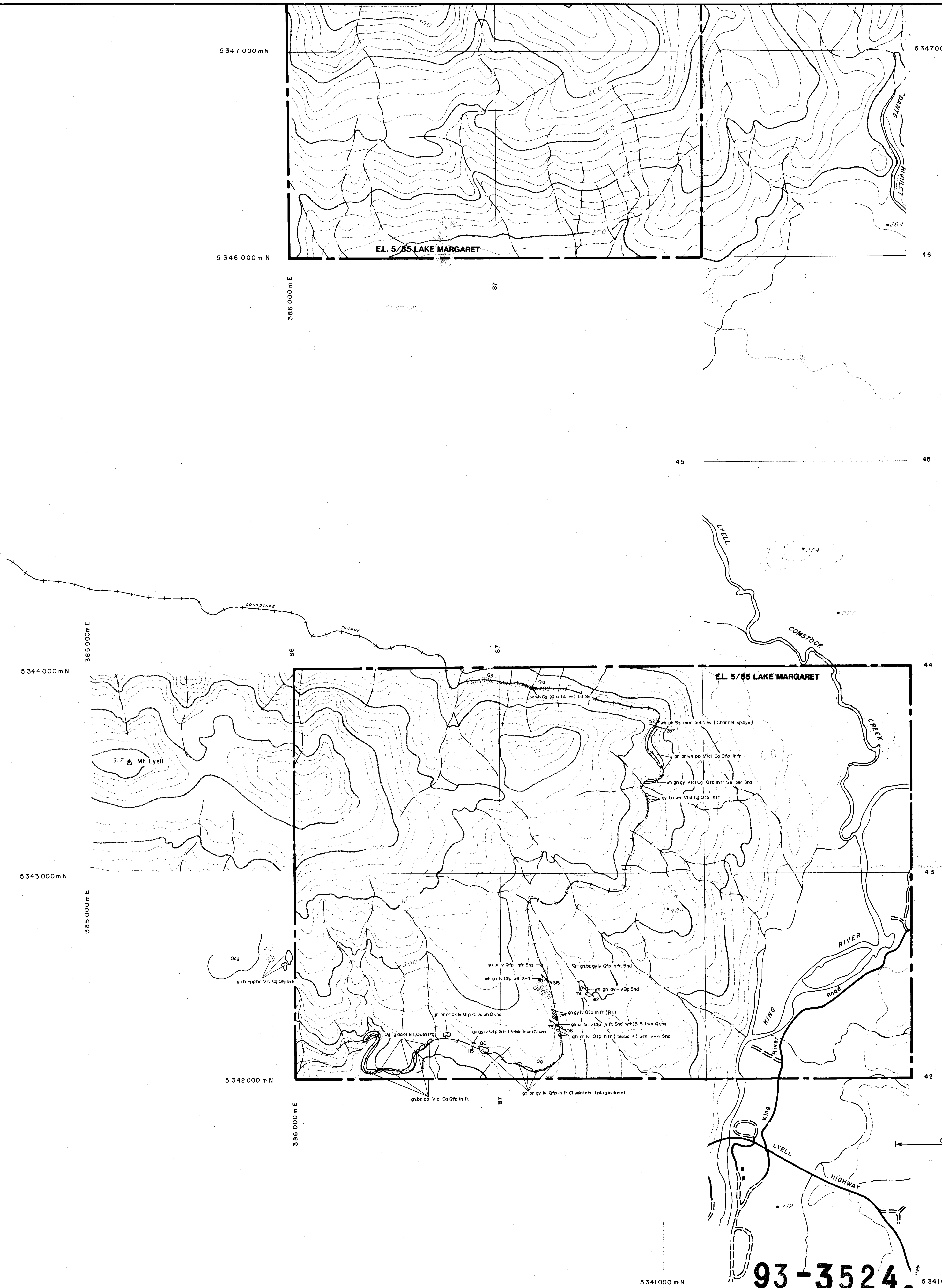
RMO 554



0 500 1000metres

Index to Sheets





93-3524

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EXPLORATION DIVISION

952368

REVISIONS			
Init.	Date	Init.	Date

NORTH WEST TASMANIA

LAKE MARGARET E.L.5/85 CRA J.V.

OUTCROP GEOLOGY
EAST END MT LYELL

Compiled : DJN
Drawn : RJE
Traced :
Checked :
Location Code :
Scale : 1:10000
Date : June, 1990
Plate No : L MARG 28D

93-3524.

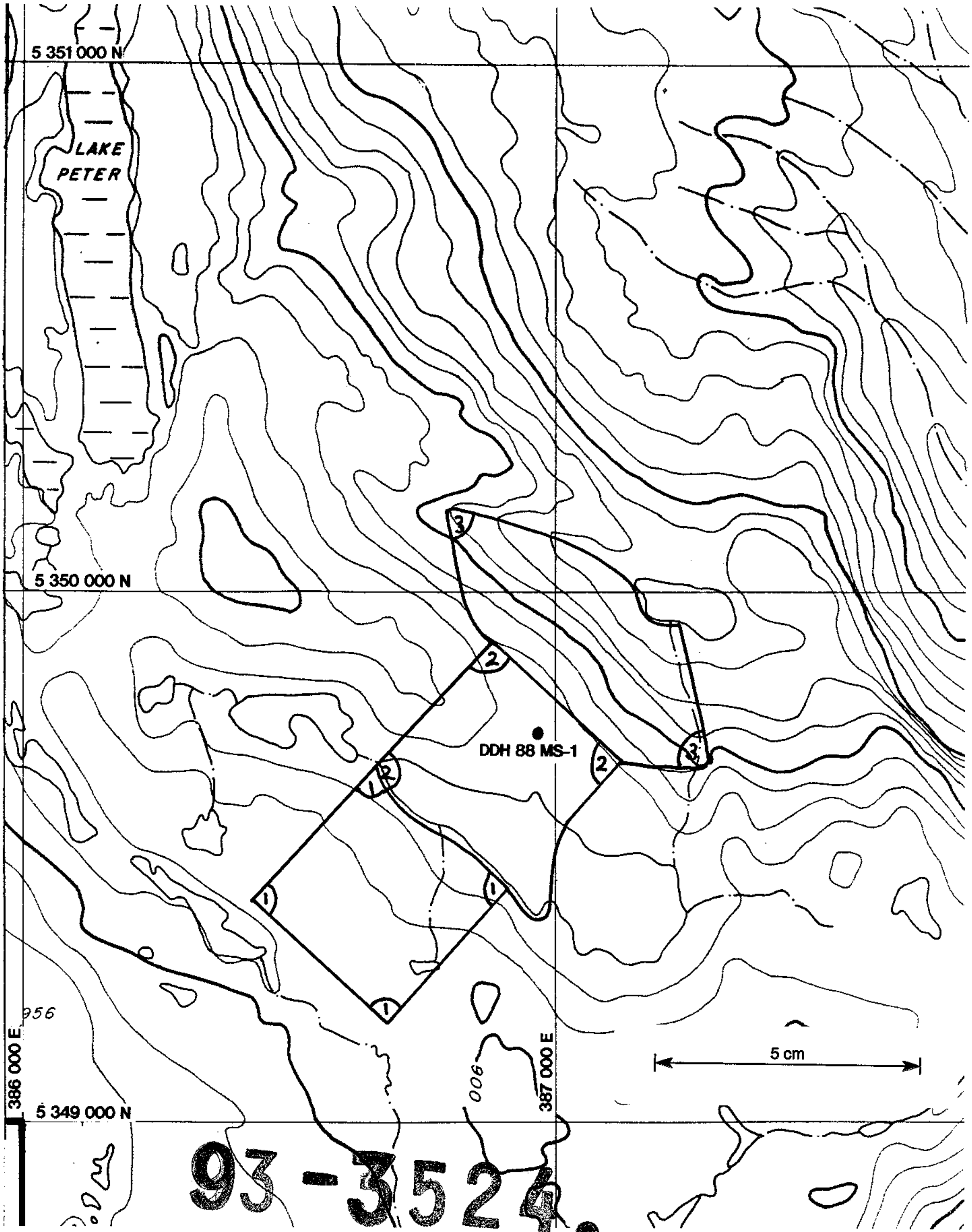
Aberfoyle Resources Limited
EXPLORATION DIVISION

952369

NORTH WEST TASMANIA
LAKE MARGARET E.L.5/85 CRA J.V.
OUTCROP GEOLOGY

REVISIONS			
Init.	Date	Init.	Date

Location Code :
Scale : 1:10 000
Date : July, 1990
Compiled : DJN
Drawn : RJE
Traced :
Checked :
Plate No : LMARG 28A



93-3524

Aberfoyle Resources Limited

EXPLORATION DIVISION

952370

REVISIONS			
Init.	Date	Init.	Date

Location Code :

WESTERN TASMANIA

LAKE MARGARET E.L.5/85 C.R.A. JV
DDH 88 MS-1 DHEM LOOP LOCATIONS

Scale : 1: 10 000

Date : OCTOBER 91

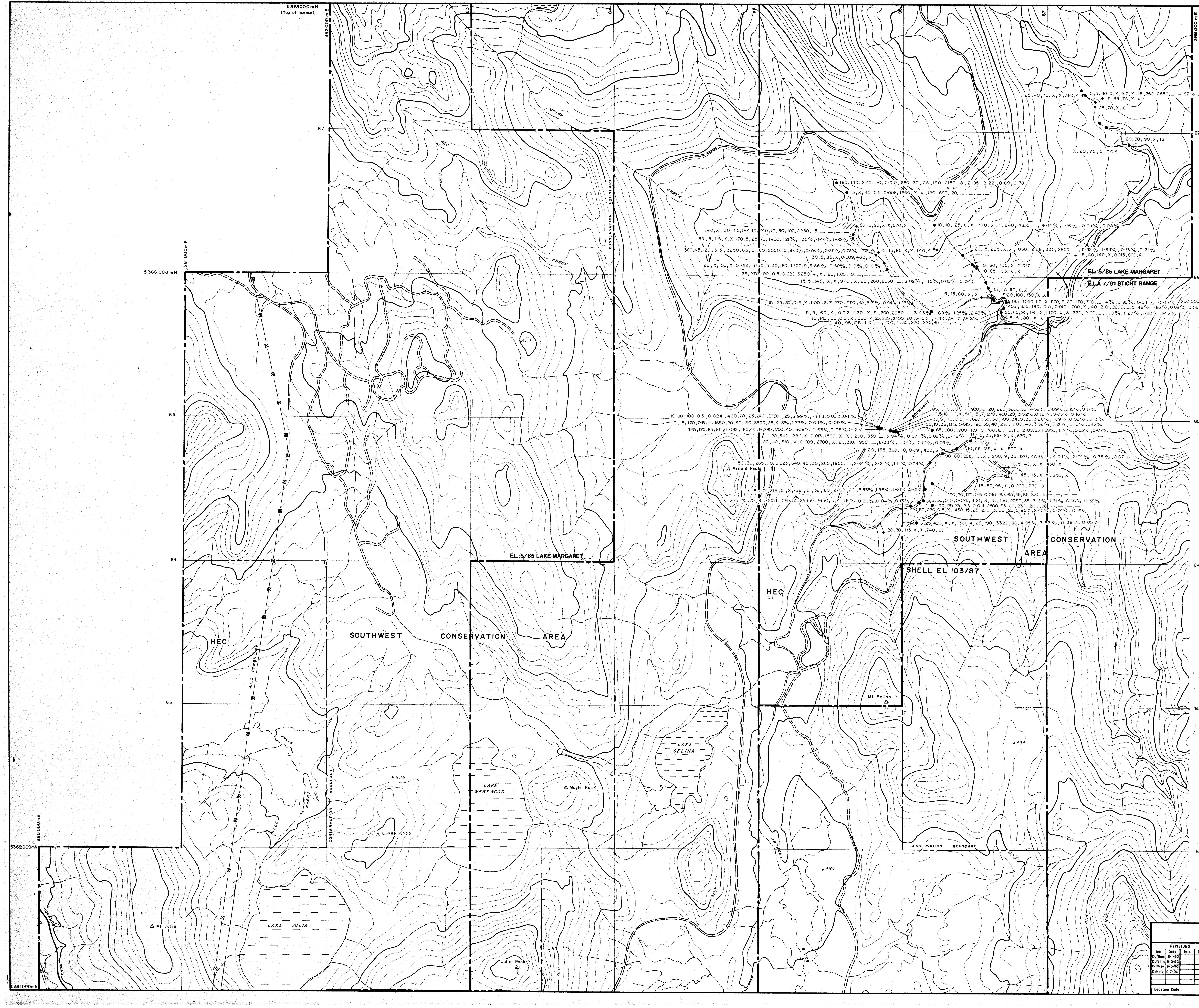
Compiled : SMR

Drawn :

Traced : SMR

Checked :

Plate No. : LMARG 44



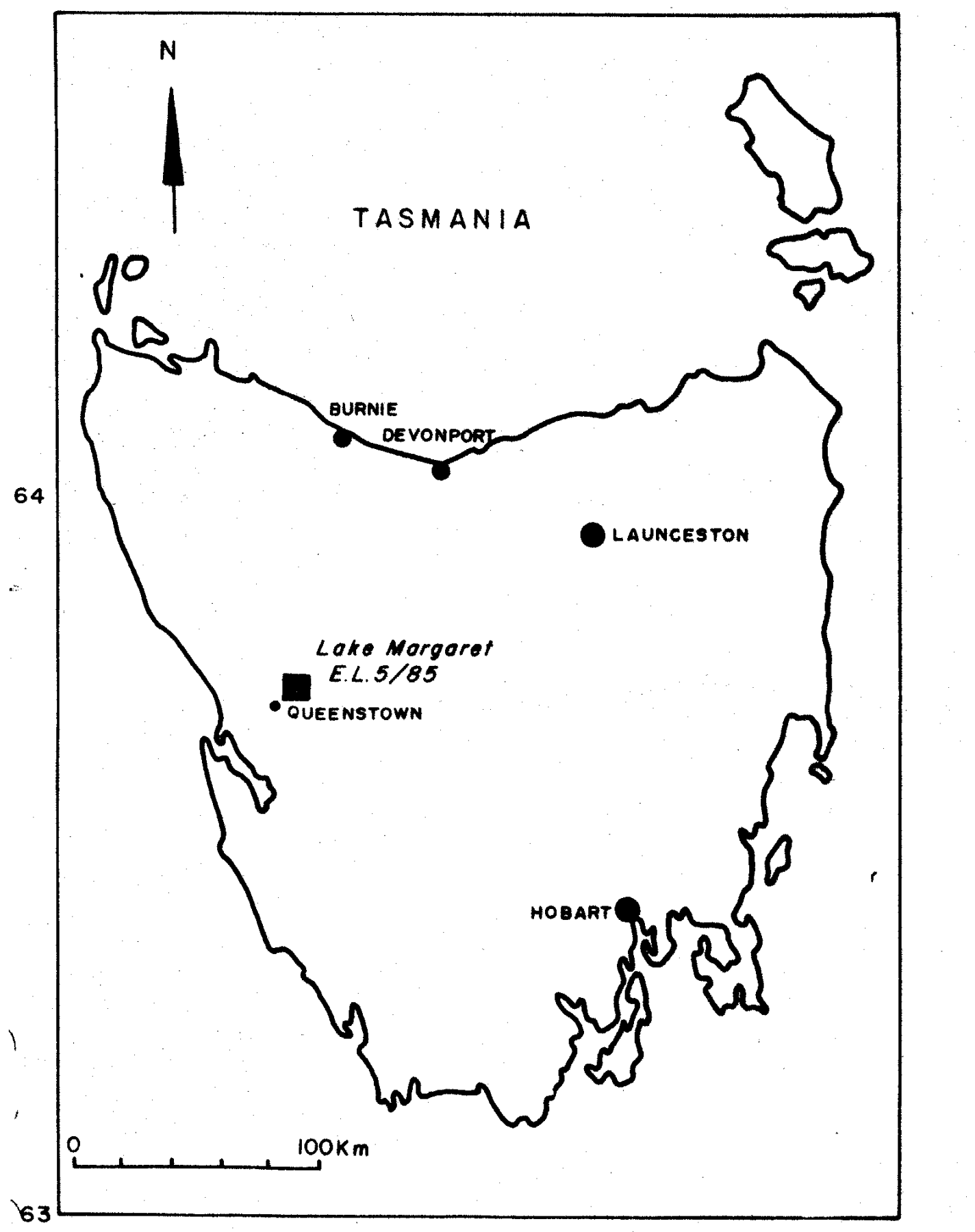
+ —80# SAMPLE LOCATION

+ Cu, Pb, Zn, Ag, Au, Ba, As

IS = INSUFFICIENT SAMPLE

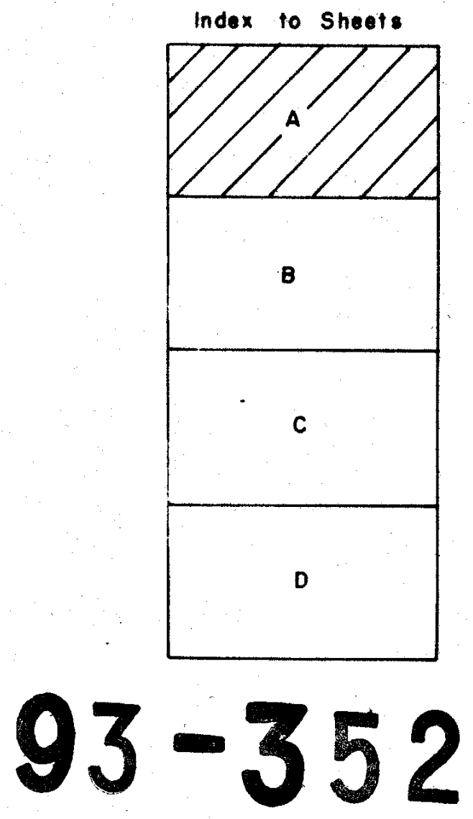
● Cu, Pb, Zn, Ag, Au, Ba, As, Cr, Zr, Ti, Y (ppm)

K_2O, MgO, CaO, Na_2O (%)



0 500 1000metres

Index to Sheets



5 cm

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952371

REVISIONS			
Init.	Date	Init.	Date
DJNjms	16-1-90		
DJNjms	8-2-90		
DJNrje	9-5-90		
DJNrje	9-7-90		

Location Code :

NORTH WEST TASMANIA
LAKE MARGARET E.L.5/85 CRA J.V.
NORTH SELINA PROSPECT
STREAM SEDIMENT SAMPLE RESULTS

Scale : 1:10 000
Date : December 1989

Compiled : DJN
Drawn : JLR
Traced : JMS RJE
Checked : DJN
Plate No : L. MARG 18

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952372

REVISIONS			
Init.	Date	Init.	Date
DJNjms	20·12·89		
DJNjms	16-1-90		
DJN jms	8·2·90		
DJN rje	18·4·90		
DJN rje	9·7·90		

NORTH WEST TASMANIA
LAKE MARGARET E.L.5/85 CRA J.V.
NORTH SELINA PROSPECT
STREAM SEDIMENT SAMPLE LOCATION PLAN

Compiled : D.J.N.
Drawn :
Traced : J.M.S.
Checked :
Location Code :
Scale : 1:10 000
Date : December 1989
Plate No : L MARG. 16

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952373

REVISIONS			
Init.	Date	Init	Date
DJNrje	18·4·90		
DJNrje	26·6·90		
MAR	1·5·91		

Location Code

NORTH WEST TASMANIA
LAKE MARGARET E.L. 5/85 CRA JV
NORTH SELINA PROSPECT
OUTCROP GEOLOGY

Scale 1 : 5 000
Date JANUARY 1990

Compiled : D.J.N.
Drawn : J.M.S.
Traced : J.M.S.
Checked :
Plate No : L.MARG.20/B1

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952374

REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

LAKE MARGARET E.L. 5/85 CRA JV

NORTH SELINA AREA

INTERPRETIVE GEOLOGY

Scale : 1 : 5 000

Date : October, 1990

Compiled : DJN
Drawn :
Traced : RJE
Checked :
Plate No : L.MARG.33/B1

93-3524.

Aberfoyle Resources Limited

EXPLORATION DIVISION

952375

REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

LAKE MARGARET E.L. 5/85 CRA JV

NORTH SELINA AREA
INTERPRETIVE GEOLOGY

Scale : 1 : 5 000

Date : October, 1990

Compiled : DJN

Drawn :

Traced : R.J.E.

Checked :

Plate No : L.MARG.33/B2

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952376

REVISIONS			
Init.	Date	Init.	Date

NORTH WEST TASMANIA

LAKE MARGARET E.L.5/85 CRA J.V.
NORTH SELINA BLOCK
1991 UTEM LOCATIONS

Location Code :

Scale : 1:10 000

Date : JUNE 1991.

Compiled :

Drawn : JLR

Traced :

Checked :

Plate No : LMARG 41.

PROSPECT: lmg
SECTION definition:

E:	.0	285.0
N:	.0	.0
RL:	-264.0	-50.0

Forward extent : 10.0
Backward extent: 10.0

Section Strike: 90.0
Section Length: 285.0

PDF file: sh1000rh19.pdf
PCF file: sh1000rh19.pcf
PLOTfile: 002.plt

DRILL HOLE LEGEND - RHS:
* HISTOGRAM *

gch Cu [ppm]
Base in mm: .000
Units per mm: 2.000
Max dist in mm: 50
🟥

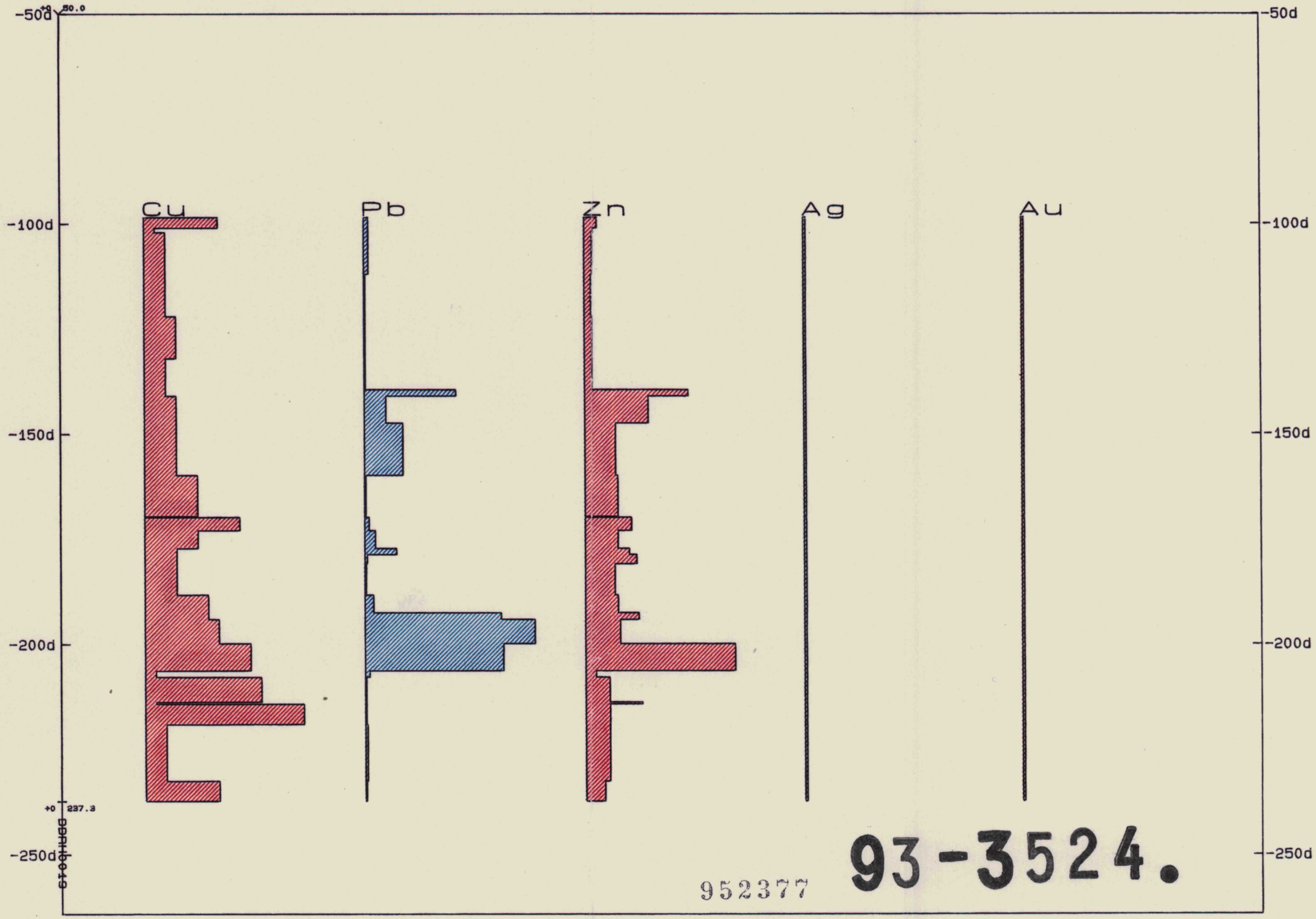
gch Pb [ppm]
Base in mm: .000
Units per mm: 10.000
Max dist in mm: 50
🟦

gch Zn [ppm]
Base in mm: .000
Units per mm: 20.000
Max dist in mm: 50
🟥

gch Ag [ppm]
Base in mm: .000
Units per mm: .500
Max dist in mm: 50
🟦

gch Au [ppm]
Base in mm: .000
Units per mm: .008
Max dist in mm: 50
🟥

DRILL HOLE LEGEND - LHS:



952377

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

TASMANIA
LAKE MARGARET E.L.5/85
DDH RH-19
GEOCHEMICAL PROFILES

REVISIONS			
Init.	Date	Init.	Date

Location Code:

Scale: 1 : 1000
Date: 01/10/91

Compiled: RdeB
Drawn:
Traced:
Checked: SMR
Plate No.: LMARG 43

5 cm

93-3524.

Aberfoyle Resources Limited
EXPLORATION DIVISION

952378

REVISIONS			
Init	Date	Init	Date
DJN rje	25·6·90		
MAR	7·5·91		

Location Code

NORTH WEST TASMANIA

LAKE MARGARET E.L. 5/85 CRA JV

NORTH SELINA PROSPECT
OUTCROP GEOLOGY

Scale 1 : 5 000

Date JANUARY 1990

Compiled : D.J.N.

Drawn : J.M.S.

Traced : J.M.S.

Checked :

Plate No : L.MARG.20/B2