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MINES

File Ref. EL42/85

15 MAR 1989

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LETTER

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REFERS.

Resubmit to | Date

BILLITON AUSTRALIA

THE METALS DIVISION OF
THE SHELL COMPANY OF AUSTRALIA LTD

# E.L. 42/85 - LAKE MACKINTOSH

Progress Report on Exploration for the Period Ending
20th April, 1989



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Report No : 08.4245

Date : 10th March 1989

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SUMMARY

Exploration carried out during the reporting period has included an IP survey, UTEM survey, geochemical auger and rock chip sampling, grid line construction and field mapping.

Previously defined weak UTEM anomalies have been investigated by mapping, and rock chip and auger sampling.

Results obtained during this programme have been largely disappointing with no distinctly anomalous areas emerging.

Further work is recommended at a grass roots level in the northern half of the licence, and with shallow drill testing of a coincident UTEM, geochemical anomaly in the southern portion of the licence.

## 1.0 INTRODUCTION

This report details work carried out on the Lake Mackintosh EL 42/85 during the period 16th October 1987 to 20th April 1989 by Billiton Australia, as operators of a joint venture between Billiton Australia and Pancontinential - Outokumpu.

The objectives within the Lake Mackintosh licence area are two-fold:

1. Explore for VMS - base metal deposits of the Que River/ Hellyer type within the Mt. Read Central Volcanic Complex.

2. Explore along and to the east of the Henty Fault within the Farrell Sequence for gold/sulphide mineralization similar to the Henty Prospect, and for structurally controlled base metal sulphide deposits of the "Farrell" type.

## 2.0 LAND TENURE

Exploration Licence 42/85 (Lake Mackintosh), covering an area of 9km² was granted to Pancontinental Mining Ltd. on 24th April 1986. The licence was operated by Pancontinental under a joint venture agreement with Outokumpu Oy of Finland (Panfin Joint Venture).

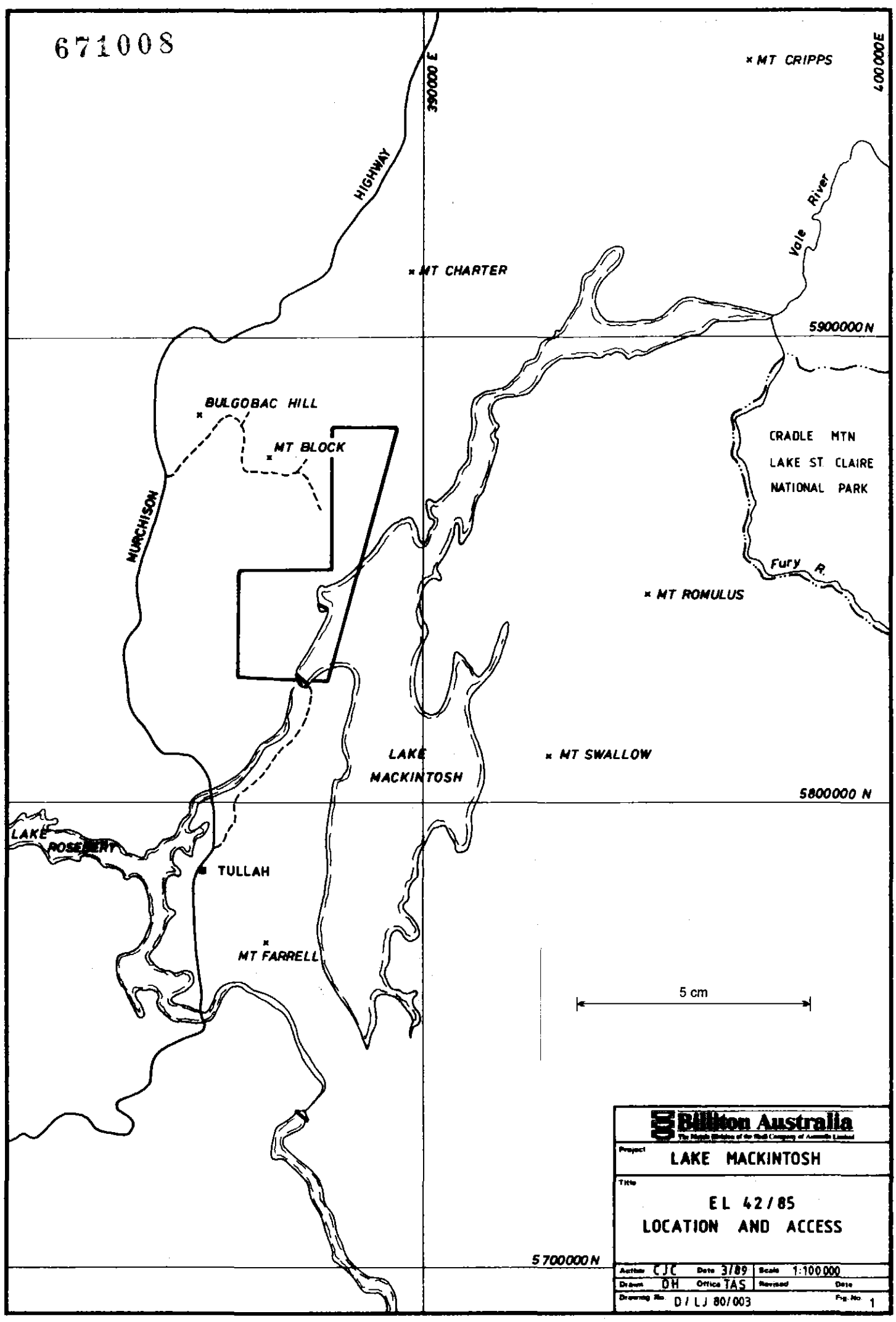
A new joint venture agreement was commenced between Panfin Joint Venture and Billiton Australia on 16th October 1987 with Billiton as operators. The current licence will expire on 20th April 1989 but application for renewal has been lodged with the Mines Department.

## 3.0 LOCATION & ACCESS

The EL is situated approximately 15km northeast of Rosebery on the western shores of Lake Mackintosh (Fig. 1). The licence area covers steep rugged terrain on the eastern slopes of Mt. Block. Vegetation varies from thick ti-tree scrub along the eastern margin to dense rainforest on the slopes.

Access to the southern portion of the licence area is via the HEC road from Tullah to the Mackintosh and Tullabardine Dams. Access to the northern half of the licence is via a 4WD track originating from the Murchison Highway at Boco, traversing along the south face of Mt. Block.

671008




Billiton Australia

Project: LAKE MACKINTOSH

Title: EL 42/85
LOCATION AND ACCESS

| | | | |
|---|---|---|---|
| Author CJC | Date 3/89 | Scale 1:100 000 | |
| Drawn DH | Office TAS | Revised | Date |
| Drawing No D/LJ 80/003 | | Fig. No. 1 | |

## 4.0 PREVIOUS EXPLORATION

The Lake Mackintosh EL 42/85 covers part of former EL 5/63 held by Comstaff Pty Ltd during the period 1972-1985. During 1970-71 Comstaff carried out reconnaissance mapping and reconnaissance stream sediment geochemistry, including heavy mineral concentrates. Follow up work on anomalous Cu Zn and Ag areas failed to locate an explanation for the original anomalies.

Input EM was flown in 1975-76 with no reported anomalies.

Work carried out by Pancontinential from 1986 - 1988 includes:

- 200m grid covering a majority of the licence.
- a UTEM survey over the above grid.
- geological mapping.
- stream sediment geochemistry
- follow up auger sediment geochemistry
- whole rock geochemistry
- petrography

## 5.0 GEOLOGICAL SETTING

The licence area lies within the highly prospective Cambrian Mt. Read Volcanics (Fig. 2). The Que/Hellyer mining operations are approximately 8km north-northeast of the EL's northern boundary with Rosebery approximately 15km to the southeast.

A major structural feature within the Mt. Read Volcanics, the Henty Fault, covers approximately 6kms of strike within the licence, essentially dividing the licence into two distinct geological zones.

To the east of the Henty Fault occurs the Tyndall Group. The Tyndall Group consists of mainly quartz-feldspar phyric volcanic and volcaniclastic rocks interspersed and overlain by volcaniclastic conglomerates, sandstones, siltstones and shales. The sequence immediately east of the Henty Fault within the licence consists predominantly of sandstones, siltstones and black shales of the Farrell Sequence.

To the west of the Henty Fault the lithologies belong predominantly to the Central Volcanic Complex. Rock types within this sequence consists of mainly feldspar phyric volcanics and volcancilastics (rhyolitic - andesitic), with lesser pyroclastics and sedimentary rocks. The large base metal deposits of the Mt. Read Volcanics occur within the Central Volcanic Complex.

The Que/Hellyer sequence is separated from the licence area by the north-northwest trending Mt. Charter Fault. The fault block between the Que/Hellyer sequence and the Central Volcanic Complex in the northeastern portion of the licence forms part of the predominantly sedimentary Dundas Group.

## 6.0 EXPLORATION COMPLETED

Exploration during the reporting period has focused on locating gold and associated base metal sulphide mineralization within the Henty Fault Zone, and massive sulphide deposits within the Central Volcanic Complex represented within the licence.

Activity along the Henty Fault consisted of a time domain IP survey with follow up rock chip and auger sampling over anomalous areas of high chargeability adjacent to the interpreted position of the Henty Fault. A comprehensive rock chip sampling programme (82 samples) has been conducted across the Farrell Sequence.

A rock chip geochemical survey was carried out over an earlier identified weak UTEM anomaly on grid line 6000N. Further auger and rock chip sampling was carried out over a weak UTEM anomaly on line 3400N which had shown from earlier sampling to be base metal anomalous.

A further 3.2km of grid lines were cut in the southwest portion of the licence. Mapping, auger geochemical sampling and a UTEM survey were carried out over these grid extensions.

## 7.0 EXPLORATION RESULTS

### 7.1 IP Survey

A time-domain IP survey was carried out by Scintrex in November, 1987 along that portion of the Henty Fault that lies within the EL and has not been flooded by Lake Mackintosh. Dipole-dipole array was used with 50 metre dipoles, n = 1 to 4, as a compromise between target definition and depth of investigation (Gradient array could not be used due to the location of the lake and consequent problems with placing current electrodes). Survey line spacing was 200m.

Figure 3 indicates the survey lines and shows the positions of high chargeability ($M_3$) and low resistivity anomalies. There is little outcrop west of the road, but along it and to the east in major quarries, Farrell sediments (shales and greywackes) are exposed implying that the Henty Fault is west of the road as has previously been mapped by Pancontinental.

From line 2600N to 3400N the Henty Fault is clearly indicated (to within 50 metres) by the IP data since the sediments are characterised by chargeability highs and resistivity highs. This would imply that the sediments are both siliceous and moderately pyritic. (Carbonaceous graphitic shales are normally conductive as well as chargeable).

West of the fault, near-surface resistivity lows (400 to 1,000 ohm-metres at n = 1 are probably caused by a layer of Quaternary glacials along the Tullabardine valley.

Both north and south of the surveyed area the IP pattern is not so clear. To the south, the Henty Fault appears to be offset or strongly folded in an area of mapped geological complexity and pyrite occurrences. To the north an offset also appears to occur between 3600N and 3400N, and an IP/ resistivity anomaly is interpreted to occur within the volcanics on lines 3600N and 3800N. This source is not deep and could be caused by sulphide mineralization in bedrock (the area is glacial covered).

## 7.2 Follow-up Geochemistry

Follow-up auger and rock chip sampling of anomalous areas resulting from the IP survey proved difficult in places due to cultural effects and the presence of thick fluvio-glacial

sedimentary bedrock cover. A hand auger was used for the auger samples, with composite rock chip samples collected over 10m intervals where outcrop occurred. Sample locations and assay results are shown in Fig. 4 and Appendix 1.

Results from this survey were disappointing with 0.08ppm Au and 130ppm Zn from sample #15204. A slight increase in base metal content occurs in fault breccia zones and along black shale horizons.

7.3 Rock Chip Geochemistry

A comprehensive rock chip sampling programme was carried out within the Farrell Sequence, providing a geochemical cross section across the sequence, in an attempt to locate possible gold and base metal sulphide mineralization associated with the Henty Fault. A total of 82 composite samples were taken at 10m intervals commencing at 2950N, traversing northwards along the quarry wall and along the road cutting to 3820N. Sample sites and assay results are shown in Fig. 4 and Appendix 1.

The lithologies present within the Farrell Sequence consist of thin to thickly bedded fine grained sandstones, siltstones and laminated grey to black shales. Minor lenses of feldspar phyric volcaniclastics also occur. Bedding is parallel to cleavage throughout most of the sequence, with a

general north-south strike and steep east to west dip. Facing was determined to be towards the east by distinct flame structure on bedding planes. Narrow irregular veins of quartz-carbonate ±Fe occur sporadically throughout the sequence.

Results from this sampling programme were disappointing with #14791 giving a best value of 0.09ppm Au.

A rock chip sampling survey was carried out by BAUS personnel in November 1987 covering the Farrell Sequence over the Lake Mackintosh spillway. Locations and results of this sampling are shown in Fig. 5. Results from this study confirm the results of W. Herrmann (1987, Pancon. Report 87/43).

The only visible significant mineralization within the Farrell Sequence would appear to be the small, possibly structurally controlled, chalcopyrite-pyrite veining reported earlier by W. Herrmann (1987).

### 7.4 Panco. UTEM Follow-up Geochemistry

A weak UTEM anomaly centred on grid line 6000N, 9750E, was investigated as a possible target for massive base metal sulphide mineralization. Composite rock chip samples were collected over 10m intervals over very steep terrain.

Further rock chip sampling was carried out along strike over 25m intervals on line 6200N. Sample locations and assay results are shown in Fig. 6 and Appendix 1.

The geology of this area consists of a sequence of shallowly westerly dipping felsic volcanics and epiclastics. A more detailed description of the geology is available in Herrmann, 1986 (Pancon. Report 87/7).

Very minor disseminated fine grained pyrite and weak chloritic alteration was observed within the upper rhyolitic sequence, however assay results were disappointing with no precious or base metal anomalous zones being recognised.

Previous geochemical follow-up testing on a weak UTEM anomaly on line 3400N, 9600E, carried out by Pancon (W. Herrmann, 1987), suggests an increase in base metal content towards the north. To test this trend the sampling grid was extended to the north by 120m and to the west by 60m with 14 auger samples being taken over 20m intervals. The sample locations and results are shown in Fig. 4 and Appendix 1.

The results from this sampling programme show no overall trends to the north and a significant decrease to the results of those reported in Herrmann, 1987. This result supports the possible cause of the anomaly suggested by Herrmann, 1987, that the increase in base metals is due to the close proximity of a possibly intrusive quartz feldspar - biotite porphyry.

## 7.5 Extensions Mapping

A further 3.2km of grid lines were cut along the southwest portion of the licence for the purpose of testing the ground for massive base metal sulphide mineralization. The lines were constructed by BAUS personnel (50%) and under contract (50%).

Mapping of the grid extensions (Fig. 7) revealed similar lithologies along strike and across strike to those mapped earlier on the existing grid by Herrmann (1986). The principal rock types are a north-northeast trending sequence of rhyolitic-dacitic volcanics (partly brecciated), fine to coarse grained epiclastics and possibly intrusive quartz-feldspar-biotite porphyries. Very minor disseminated pyrite and sericitic alteration was observed. Seven thin sections were manufactured for petrographical work.

## 7.6 Grid Extentions UTEM Survey

Five lines (3 line kms) of UTEM surveying were carried out in early March, 1989. A transmitter loop (Fig. 8) of 1km x 1km to the west was used (the Tx loop was situated within and at the edge of BHP's adjacent EL). The $H_z$ component was measured at 50 metre station intervals. All profiles were plotted using both continuous and point normalisation (Appendix 4).

The only conductor of any note occurs on line 3400N at 9550E. This is essentially the same conductor as that detected by the previous Pancon UTEM survey at 9650E on line 3400N. It is a weak conductor detectable on channels 8 to 6, with an eastern dip. Some computer modelling would be useful to determine depth to source, but the conductor is probably no more than 100 metres deep. The anomalies (this study and earlier Pancon work) on line 3400N coincide with a lithological contact between largely fine grained felsic tuffaceous volcaniclastics and a quartz-feldspar-biotite volcanic rock, probably intrusive. Previous geochemical work over 9650E on line 3400N suggests an economic sulphide source is unlikely to be present.

The only other UTEM anomalies are probably due to contacts or faults affecting only the earliest channels, eg channel 9 on line 4000N at 9925E. No bedrock conductors are evident along the western boundary of the licence.

## 7.7 Grid Extensions Auger Geochemistry

A geochemical auger sampling survey was carried out on lines 3200N, 3600N and 4000N. The sampling was carried out by private contractor. The purpose of the survey was to detect any regions of anomalous base and precious metals which may indicate possible massive sulphide mineralization. The sample locations and assay results are shown in Fig. 9 and Appendix 3.

The results of this survey have been unsuccessful in locating any zones of interest. Changes in quantities of elements are distinct and remain consistent over several tens of metres, probably reflecting the primary composition of the lithologies being sampled across strike. These changes are subtle and do not warrant any further investigation.

## 8.0 CONCLUSIONS

The UTEM survey carried out upon the grid extensions has failed to identify any significant features. The weak Pancon UTEM response on line 3400N has been verified. The weak Pb and Zn geochemical anomaly coincident with this UTEM anomaly has not been explained, although the indications are that the response is not due to a sulphide source.

Mapping and auger geochemical sampling on the grid extensions has failed to locate any significant areas of interest. The sequence of lavas and epiclastics is however regarded as highly prospective in terms of VMS style deposits.

The IP survey on the Henty Fault Zone has indicated high chargeability and high resistivity over the Farrell Sequence; probably reflecting the dominant lithologies. Surface mapping and geochemical sampling has not indicated any sulphides associated with the sediments immediately east of the Henty Fault.

The weak Pancon UTEM response on line 6000N is not a significant feature. Mapping and sampling has not indicated any alteration or base metal anomalies of interest.

## 9.0 RECOMMENDATIONS

Further work should be carried out on the UTEM anomaly on line 3400N with shallow drilling to test the anomaly.

The northern portion of the licence warrants further attention. The possibility exists for an extension of the Que/ Hellyer mineralized horizon occurring south of the Mt. Charter Fault, a north-south trending structure immediately to the north of the licence. Mapping in the northern portion of the licence is sketchy, with no detailed mapping carried out to date in the extreme north western corner of the licence.

No further work is recommended along and to the east of the Henty Fault.

## REFERENCES

HERRMANN, W., 1986. Notes of Geology of EL 42/85 Lake Mackintosh, Tasmania. Pancon. Report 87/7.

HERRMANN, W., 1987. Report on follow-up Exploration of Three Anomalous areas at Lake Mackintosh EL 42/85. Pancon Report 87/43.

# APPENDIX 1

## IP & Rock Chip Geochemistry

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Job: 8AD1279
O/N: 08452/LJ80/CJC

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## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 14720 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14721 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14722 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14723 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14724 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14725 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14726 | <0.01 | <0.01 | 0.01 | <0.01 | 52 | 46 | <1 |
| 14727 | <0.01 | -- | -- | -- | 2 | 10 | <1 |
| 14728 | <0.01 | -- | -- | -- | 8 | 17 | <1 |
| 14729 | <0.01 | -- | -- | -- | 5 | 17 | <1 |
| 14730 | <0.01 | <0.01 | <0.01 | -- | 26 | 310 | <1 |
| 14731 | <0.01 | -- | -- | -- | 74 | 105 | <1 |
| 14732 | <0.01 | -- | -- | -- | 8 | 78 | <1 |
| 14733 | <0.01 | -- | -- | -- | 26 | 48 | <1 |
| 14734 | <0.01 | -- | -- | -- | 7 | 20 | <1 |
| 14735 | <0.01 | -- | -- | -- | 34 | 7 | <1 |
| 14736 | <0.01 | <0.01 | <0.01 | <0.01 | 11 | 26 | <1 |
| 14737 | <0.01 | -- | -- | -- | 7 | 58 | <1 |
| 14738 | <0.01 | -- | -- | -- | 13 | 52 | <1 |
| 14739 | <0.01 | -- | -- | -- | 15 | 58 | <1 |
| 14740 | <0.01 | -- | -- | -- | 11 | 48 | <1 |
| 14741 | <0.01 | -- | -- | -- | 9 | 145 | <1 |
| 14742 | <0.01 | -- | -- | -- | 12 | 46 | <1 |
| 14743 | <0.01 | -- | -- | -- | 14 | 30 | <1 |
| 14744 | <0.01 | -- | -- | -- | 16 | 56 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

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## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 14745 | <0.01 | 0.01 | <0.01 | -- | 6 | 68 | <1 |
| 14746 | <0.01 | 0.01 | <0.01 | -- | 10 | 46 | <1 |
| 14747 | <0.01 | -- | -- | -- | 30 | 64 | <1 |
| 14748 | 0.03 | -- | -- | -- | 7 | 34 | <1 |
| 14749 | 0.01 | -- | -- | -- | 19 | 40 | <1 |
| 14750 | 0.03 | -- | -- | -- | 19 | 52 | <1 |
| 14751 | <0.01 | -- | -- | -- | 22 | 52 | <1 |
| 14752 | 0.01 | -- | -- | -- | 9 | 40 | <1 |
| 14753 | <0.01 | -- | -- | -- | 18 | 42 | <1 |
| 14754 | <0.01 | -- | -- | -- | 9 | 160 | <1 |
| 14755 | <0.01 | <0.01 | <0.01 | -- | 17 | 94 | <1 |
| 14756 | <0.01 | <0.01 | <0.01 | -- | 3 | 50 | <1 |
| 14757 | <0.01 | -- | -- | -- | 14 | 24 | <1 |
| 14758 | 0.01 | -- | -- | -- | 16 | 38 | <1 |
| 14759 | <0.01 | -- | -- | -- | <2 | 26 | <1 |
| 14760 | <0.01 | -- | -- | -- | 4 | 54 | <1 |
| 14761 | 0.03 | -- | -- | -- | <2 | 22 | <1 |
| 14762 | <0.01 | -- | -- | -- | 20 | 68 | <1 |
| 14763 | 0.01 | -- | -- | -- | 58 | 30 | <1 |
| 14764 | 0.01 | 0.02 | <0.01 | -- | 18 | 80 | <1 |
| 14765 | <0.01 | -- | -- | -- | 12 | 40 | <1 |
| 14766 | 0.01 | 0.02 | <0.01 | 0.01 | 12 | 52 | <1 |
| 14767 | <0.01 | -- | -- | -- | 7 | 28 | <1 |
| 14768 | 0.02 | -- | -- | -- | 30 | 42 | <1 |
| 14769 | <0.01 | -- | -- | -- | 6 | 14 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

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O/N: 08452/LJ80/CJC

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ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
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| 14770 | <0.01 | -- | -- | -- | 6 | 11 | <1 |
| 14771 | <0.01 | <0.01 | <0.01 | -- | 10 | 19 | <1 |
| 14772 | <0.01 | -- | -- | -- | 38 | 36 | <1 |
| 14773 | 0.02 | -- | -- | -- | 10 | 66 | <1 |
| 14774 | <0.01 | -- | -- | -- | 7 | 62 | <1 |
| 14775 | 0.01 | -- | -- | -- | 28 | 19 | <1 |
| 14776 | 0.02 | 0.03 | <0.01 | -- | 12 | 24 | <1 |
| 14777 | <0.01 | -- | -- | -- | 24 | 22 | <1 |
| 14778 | 0.01 | -- | -- | -- | 36 | 20 | <1 |
| 14779 | <0.01 | -- | -- | -- | 30 | 13 | <1 |
| 14780 | <0.01 | -- | -- | -- | 92 | 15 | <1 |
| 14781 | <0.01 | <0.01 | <0.01 | -- | 20 | 12 | <1 |
| 14782 | <0.01 | -- | -- | -- | 13 | 14 | <1 |
| 14783 | 0.08 | 0.15 | <0.01 | -- | 4 | 13 | <1 |
| 14784 | 0.04 | -- | -- | -- | 6 | 16 | <1 |
| 14785 | <0.01 | -- | -- | -- | 2 | 15 | <1 |
| 14786 | <0.01 | 0.01 | <0.01 | -- | 2 | 15 | <1 |
| 14787 | <0.01 | <0.01 | <0.01 | -- | 6 | 14 | <1 |
| 14788 | 0.08 | -- | -- | -- | 2 | 11 | <1 |
| 14789 | 0.01 | -- | -- | -- | 3 | 17 | <1 |
| 14790 | <0.01 | -- | -- | -- | <2 | 11 | <1 |
| 14791 | 0.09 | -- | -- | -- | 2 | 13 | <1 |
| 14792 | 0.01 | -- | -- | -- | 2 | 12 | <1 |
| 14793 | 0.04 | -- | -- | -- | 2 | 10 | <1 |
| 14794 | <0.01 | -- | -- | -- | <2 | 20 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

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ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
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| 14795 | 0.03 | -- | -- | -- | 3 | 24 | <1 |
| 14796 | 0.02 | <0.01 | 0.05 | <0.01 | 3 | 20 | <1 |
| 14797 | <0.01 | -- | -- | -- | 5 | 19 | <1 |
| 14798 | <0.01 | -- | -- | -- | 3 | 17 | <1 |
| 14799 | <0.01 | -- | -- | -- | 6 | 22 | <1 |
| 15200 | L.N.R. | -- | -- | -- | L.N.R. | L.N.R. | L.N.R. |
| 14800 missing | | | | | | | |
| 15201 | 0.02 | -- | -- | -- | <2 | 230 | <1 |
| 15202 | 0.02 | -- | -- | -- | 10 | 58 | <1 |
| 15203 | <0.01 | -- | -- | -- | 7 | 38 | <1 |
| 15204 | 0.08 | 0.15 | <0.01 | -- | 26 | 130 | <1 |
| 15205 | <0.01 | -- | -- | -- | 9 | 76 | <1 |
| 15206 | 0.01 | <0.01 | 0.02 | -- | 12 | 200 | <1 |
| 15207 | <0.01 | <0.01 | 0.01 | -- | 3 | 42 | <1 |
| 15208 | <0.01 | -- | -- | -- | 20 | 290 | <1 |
| 15209 | 0.01 | -- | -- | -- | 7 | 32 | <1 |
| 15210 | 0.04 | -- | -- | -- | 4 | 42 | <1 |
| 15211 | <0.01 | -- | -- | -- | 9 | 34 | <1 |
| 15212 | 0.02 | -- | -- | -- | 5 | 140 | <1 |
| 15213 | 0.03 | -- | -- | -- | 3 | 80 | <1 |
| 15214 | <0.01 | <0.01 | <0.01 | -- | 4 | 145 | <1 |
| 15215 | 0.03 | -- | -- | -- | 5 | 60 | <1 |
| 15216 | 0.01 | -- | -- | -- | 2 | 26 | <1 |
| 15217 | <0.01 | <0.01 | <0.01 | -- | 2 | 48 | <1 |
| 15218 | <0.01 | -- | -- | -- | 5 | 60 | <1 |
| 15219 | 0.03 | -- | -- | -- | <2 | 16 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

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Job: 8AD1279
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ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 15220 | <0.01 | -- | -- | -- | 3 | 38 | <1 |
| 15221 | <0.01 | -- | -- | -- | 13 | 30 | <1 |
| 15222 | 0.02 | 0.03 | 0.01 | -- | 10 | 14 | <1 |
| 15223 | <0.01 | -- | -- | -- | 14 | 8 | <1 |
| 15224 | 0.01 | -- | -- | -- | 17 | 42 | <1 |
| 15225 | 0.04 | -- | -- | -- | 15 | 7 | <1 |
| 15226 | <0.01 | -- | -- | -- | 7 | 9 | <1 |
| 15227 | <0.01 | <0.01 | <0.01 | -- | 26 | 8 | <1 |
| 15228 | <0.01 | -- | -- | -- | 12 | 10 | <1 |
| 15229 | 0.07 | 0.16 | 0.05 | <0.01 | 20 | 9 | <1 |
| 15230 | 0.06 | -- | -- | -- | 20 | 12 | <1 |
| 15231 | <0.01 | -- | -- | -- | 10 | 13 | <1 |
| 15232 | 0.05 | 0.02 | 0.07 | -- | 16 | 16 | <1 |
| 15233 | <0.01 | -- | -- | -- | 26 | 15 | <1 |
| 15234 | <0.01 | -- | -- | -- | 13 | 38 | <1 |
| 15235 | <0.01 | -- | -- | -- | 19 | 10 | <1 |
| 15236 | <0.01 | -- | -- | -- | 46 | 13 | <1 |
| 15237 | 0.02 | 0.04 | <0.01 | -- | 17 | 19 | <1 |
| 15238 | 0.02 | -- | -- | -- | 10 | 28 | <1 |
| 15239 | 0.02 | -- | -- | -- | 9 | 20 | <1 |
| 15240 | <0.01 | -- | -- | -- | 9 | 44 | <1 |
| 15241 | <0.01 | -- | -- | -- | 4 | 4 | <1 |
| 15242 | <0.01 | -- | -- | -- | 5 | 14 | <1 |
| 15243 | <0.01 | -- | -- | -- | 6 | 22 | <1 |
| 15244 | <0.01 | -- | -- | -- | 6 | 14 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

671029

# CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)



Job: 8AD1279
O/N: 08452/LJ80/CJC

## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 15245 | <0.01 | -- | -- | -- | 15 | 18 | <1 |
| 15246 | <0.01 | -- | -- | -- | <2 | 7 | <1 |
| 15247 | <0.01 | <0.01 | <0.01 | <0.01 | 8 | 22 | <1 |
| 15248 | <0.01 | -- | -- | -- | 4 | 6 | <1 |
| 15249 | <0.01 | -- | -- | -- | 5 | 26 | <1 |
| 15250 | <0.01 | -- | -- | -- | 5 | 12 | <1 |
| 15251 | <0.01 | -- | -- | -- | 7 | 30 | <1 |
| 15252 | <0.01 | -- | -- | -- | 26 | 66 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

CLASSIC COMLABS LTD
Analytical Laboratories (INC IN W.A.)



Job: 8AD1279
O/N: 08452/LJ80/CJC

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ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 14720 | L.N.R. | L.N.R. | L.N.R. |
| 14721 | L.N.R. | L.N.R. | L.N.R. |
| 14722 | L.N.R. | L.N.R. | L.N.R. |
| 14723 | L.N.R. | L.N.R. | L.N.R. |
| 14724 | L.N.R. | L.N.R. | L.N.R. |
| 14725 | L.N.R. | L.N.R. | L.N.R. |
| 14726 | 4 | 5 | 390 |
| 14727 | 4 | <2 | 350 |
| 14728 | 10 | <2 | 230 |
| 14729 | 5 | 12 | 440 |
| 14730 | 50 | 6 | 150 |
| 14731 | 12 | 2 | 30 |
| 14732 | 11 | <2 | 155 |
| 14733 | 110 | <2 | 220 |
| 14734 | 9 | <2 | 210 |
| 14735 | 7 | 6 | 175 |
| 14736 | 14 | 52 | 220 |
| 14737 | 44 | 10 | 150 |
| 14738 | 13 | 8 | 270 |
| 14739 | 10 | 28 | 360 |
| 14740 | 22 | 30 | 510 |
| 14741 | 24 | <2 | 620 |
| 14742 | 5 | 3 | 185 |
| 14743 | 14 | <2 | 430 |
| 14744 | 15 | 24 | 170 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA)



Job: 8AD1279
O/N: 08452/LJ80/CJC

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ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 14745 | 16 | 9 | 240 |
| 14746 | 24 | 9 | 350 |
| 14747 | 28 | 24 | 620 |
| 14748 | 22 | <2 | 130 |
| 14749 | 10 | 4 | 330 |
| 14750 | <2 | 5 | 160 |
| 14751 | 12 | 18 | 440 |
| 14752 | 5 | 6 | 300 |
| 14753 | 13 | 16 | 290 |
| 14754 | 17 | 22 | 180 |
| 14755 | 9 | <2 | 240 |
| 14756 | 11 | 3 | 340 |
| 14757 | <2 | 20 | 175 |
| 14758 | 8 | 24 | 300 |
| 14759 | 7 | <2 | 830 |
| 14760 | 6 | <2 | 640 |
| 14761 | <2 | <2 | 830 |
| 14762 | 17 | <2 | 850 |
| 14763 | 8 | 9 | 1160 |
| 14764 | 17 | 16 | 1240 |
| 14765 | 13 | <2 | 1220 |
| 14766 | 2 | 2 | 980 |
| 14767 | 15 | <2 | 770 |
| 14768 | 24 | 7 | 1020 |
| 14769 | 20 | <2 | 690 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

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CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)



Job: 8AD1279

O/N: 08452/LJ80/CJC

30

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 14770 | 2 | 4 | 820 |
| 14771 | 9 | <2 | 900 |
| 14772 | 94 | 64 | 330 |
| 14773 | 3 | 8 | 240 |
| 14774 | 38 | 20 | 120 |
| 14775 | 4 | <2 | 125 |
| 14776 | <2 | 11 | 120 |
| 14777 | 14 | 13 | 210 |
| 14778 | 24 | 12 | 160 |
| 14779 | 10 | 19 | 160 |
| 14780 | 3 | 3 | 155 |
| 14781 | <2 | <2 | 90 |
| 14782 | 13 | 5 | 165 |
| 14783 | 11 | 5 | 180 |
| 14784 | <2 | <2 | 165 |
| 14785 | 11 | <2 | 190 |
| 14786 | 2 | 10 | 180 |
| 14787 | 14 | 6 | 190 |
| 14788 | 4 | 9 | 170 |
| 14789 | 2 | 4 | 230 |
| 14790 | <2 | <2 | 270 |
| 14791 | <2 | <2 | 230 |
| 14792 | <2 | 2 | 200 |
| 14793 | 10 | <2 | 160 |
| 14794 | <2 | 2 | 180 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

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CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)



Job: 8AD1279
O/N: 08452/LJ80/CJC

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ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 14795 | <2 | 26 | 250 |
| 14796 | 13 | 18 | 200 |
| 14797 | 5 | 11 | 110 |
| 14798 | 6 | 7 | 280 |
| 14799 | 8 | 2 | 210 |
| 15200 | L.N.R. | L.N.R. | L.N.R. |
| 15201 | 88 | 22 | 340 |
| 15202 | 20 | 11 | 1220 |
| 15203 | 270 | <2 | 920 |
| 15204 | 48 | 8 | 920 |
| 15205 | 64 | 22 | 570 |
| 15206 | 175 | 64 | 490 |
| 15207 | 42 | 30 | 270 |
| 15208 | 135 | 700 | 800 |
| 15209 | 20 | 4 | 460 |
| 15210 | 11 | 28 | 710 |
| 15211 | 19 | 28 | 630 |
| 15212 | 24 | <2 | 750 |
| 15213 | 22 | <2 | 920 |
| 15214 | 9 | <2 | 820 |
| 15215 | 46 | 3 | 830 |
| 15216 | 12 | 3 | 820 |
| 15217 | 10 | <2 | 930 |
| 15218 | 2 | <2 | 930 |
| 15219 | <2 | <2 | 830 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

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CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA.)



Job: 8AD1279
O/N: 08452/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 15220 | 9 | <2 | 810 |
| 15221 | 3 | 14 | 200 |
| 15222 | 9 | 19 | 195 |
| 15223 | 3 | 34 | 210 |
| 15224 | 5 | 42 | 220 |
| 15225 | 4 | 15 | 290 |
| 15226 | 11 | <2 | 300 |
| 15227 | 10 | 26 | 370 |
| 15228 | 3 | 12 | 230 |
| 15229 | 15 | 4 | 230 |
| 15230 | 13 | <2 | 175 |
| 15231 | 8 | 3 | 180 |
| 15232 | 6 | 11 | 290 |
| 15233 | 24 | 32 | 380 |
| 15234 | 2 | 13 | 175 |
| 15235 | 6 | 22 | 220 |
| 15236 | 15 | 30 | 210 |
| 15237 | 13 | 17 | 190 |
| 15238 | 7 | 14 | 210 |
| 15239 | 11 | 13 | 185 |
| 15240 | 10 | 2 | 110 |
| 15241 | <2 | <2 | 115 |
| 15242 | 3 | 13 | 140 |
| 15243 | 15 | 10 | 210 |
| 15244 | 2 | 7 | 140 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

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CLASSIC COMLABS LTD
Analytical Laboratories (INC' IN W.A.)



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Job: 8AD1279
O/N: 08452/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 15245 | 8 | 10 | 380 |
| 15246 | 4 | 7 | 390 |
| 15247 | 7 | 2 | 170 |
| 15248 | 9 | <2 | 170 |
| 15249 | 8 | 7 | 200 |
| 15250 | 2 | 3 | 155 |
| 15251 | 5 | 8 | 160 |
| 15252 | 30 | 7 | 170 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

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# CLASSIC COMLABS LTD

Analytical Laboratories (INC IN WA)



Job: 8AD1279
O/N: 08452/LJ80/CJC

## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 14800 | <0.01 | -- | -- | -- | 7 | 15 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FAS1 | FAS1 | FAS1 | FAS1 | AAS3/1 | AAS3/1 | AAS3/1 |

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CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA.)

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Job: 8AD1279
O/N: 08452/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 14800 | 4 | 16 | 185 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

# APPENDIX 2

## UTEM Anomaly 3400N Geochemistry

671039

# CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)



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Job: 8AD2680
O/N: 08459/LJ80/CJC

## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 15278 | 0.02 | 0.03 | 0.01 | -- | 8 | 64 | <1 |
| 15279 | 0.01 | -- | -- | -- | 4 | 34 | <1 |
| 15280 | <0.01 | -- | -- | -- | 10 | 44 | <1 |
| 15281 | <0.01 | -- | -- | -- | 11 | 50 | 1 |
| 15282 | 0.05 | -- | -- | -- | 9 | 42 | <1 |
| 15283 | 0.01 | -- | -- | -- | 4 | 42 | <1 |
| 15284 | 0.01 | -- | -- | -- | 7 | 32 | 1 |
| 15285 | <0.01 | -- | -- | -- | 11 | 66 | 1 |
| 15286 | <0.01 | -- | -- | -- | 6 | 68 | 1 |
| 15287 | 0.04 | -- | -- | -- | 3 | 40 | 1 |
| 15288 | 0.02 | -- | -- | -- | 3 | 38 | 1 |
| 15289 | 0.01 | -- | -- | -- | 3 | 66 | <1 |
| 15290 | 0.01 | -- | -- | -- | 3 | 58 | <1 |
| 15801 | <0.01 | -- | -- | -- | 3 | 12 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FA1 | FA1 | FA1 | FA1 | AAS1 | AAS1 | AAS2 |

671040

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)



Job: 8AD2680
O/N: 08459/LJ80/CJC

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ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 15278 | 14 | 14 | 230 |
| 15279 | 7 | 17 | 165 |
| 15280 | 22 | 14 | 250 |
| 15281 | 24 | 24 | 250 |
| 15282 | 24 | 17 | 310 |
| 15283 | 19 | 19 | 260 |
| 15284 | 18 | 13 | 250 |
| 15285 | 22 | 8 | 400 |
| 15286 | 11 | 8 | 400 |
| 15287 | 18 | 11 | 115 |
| 15288 | 7 | 13 | 170 |
| 15289 | <2 | 13 | 135 |
| 15290 | 6 | 11 | 830 |
| 15801 | <2 | 7 | 35 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

# APPENDIX 3

## Grid Extension Auger Geochemistry

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# CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)



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Job: 8AD3878
O/N: 08462/LJ80/CJC

## ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 3200N/8800E | 0.02 | 0.05 | 0.02 | <0.01 | 16 | 28 | <1 |
| 3200N/8825E | 0.01 | — | — | — | 66 | 190 | <1 |
| 3200N/8850E | 0.01 | — | — | — | 18 | 50 | <1 |
| 3200N/8875E | <0.01 | — | — | — | 9 | 24 | <1 |
| 3200N/8900E | 0.04 | 0.04 | 0.03 | — | 6 | 30 | <1 |
| 3200N/8925E | <0.01 | — | — | — | 6 | 12 | <1 |
| 3200N/8950E | <0.01 | — | — | — | 6 | 15 | <1 |
| 3200N/8975E | <0.01 | — | — | — | 5 | 5 | <1 |
| 3200N/9000E | <0.01 | — | — | — | 15 | 7 | <1 |
| 3200N/9025E | <0.01 | — | — | — | 6 | 5 | <1 |
| 3200N/9050E | <0.01 | — | — | — | 3 | 5 | <1 |
| 3200N/9075E | <0.01 | — | — | — | 4 | 7 | <1 |
| 3200N/9100E | <0.01 | — | — | — | 3 | 7 | <1 |
| 3200N/9125E | <0.01 | — | — | — | 7 | 24 | <1 |
| 3200N/9150E | <0.01 | — | — | — | 8 | 22 | <1 |
| 3200N/9175E | <0.01 | — | — | — | 6 | 19 | <1 |
| 3200N/9200E | 0.03 | 0.06 | <0.01 | — | 11 | 44 | <1 |
| 3600N/8600E | 0.02 | — | — | — | 8 | 34 | <1 |
| 3600N/8625E | 0.01 | — | — | — | 8 | 36 | <1 |
| 3600N/8650E | <0.01 | <0.01 | <0.01 | — | 11 | 16 | <1 |
| 3600N/8675E | <0.01 | — | — | — | 7 | 16 | <1 |
| 3600N/8700E | <0.01 | — | — | — | 5 | 15 | <1 |
| 3600N/8725E | <0.01 | — | — | — | 13 | 11 | <1 |
| 3600N/8750E | <0.01 | 0.01 | <0.01 | — | 5 | 5 | <1 |
| 3600N/8775E | <0.01 | — | — | — | <2 | 5 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FA1 | FA1 | FA1 | FA1 | AAS1 | AAS1 | AAS2 |

67:043

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)



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Job: 8AD3878
O/N: 08462/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 3600N/8800E | 0.01 | — | — | — | 10 | 9 | <1 |
| 3600N/8825E | 0.01 | — | — | — | 8 | 11 | <1 |
| 3600N/8850E | 0.01 | — | — | — | 13 | 14 | <1 |
| 3600N/8875E | <0.01 | — | — | — | 9 | 7 | <1 |
| 3600N/8900E | <0.01 | — | — | — | 5 | 3 | <1 |
| 3600N/8925E | 0.01 | — | — | — | 6 | 3 | <1 |
| 3600N/8950E | <0.01 | — | — | — | 3 | 4 | <1 |
| 3600N/8975E | 0.03 | 0.05 | 0.03 | <0.01 | 7 | 3 | <1 |
| 3600N/9000E | 0.01 | — | — | — | 4 | 19 | <1 |
| 3600N/9025E | 0.01 | — | — | — | 9 | <2 | <1 |
| 3600N/9050E | <0.01 | — | — | — | 7 | 17 | <1 |
| 3600N/9075E | 0.02 | 0.03 | <0.01 | — | 10 | <2 | <1 |
| 3600N/9100E | <0.01 | — | — | — | 6 | 26 | <1 |
| 3600N/9125E | <0.01 | <0.01 | <0.01 | — | 7 | 15 | <1 |
| 3600N/9150E | <0.01 | — | — | — | 17 | 9 | <1 |
| 3600N/9175E | <0.01 | — | — | — | 9 | 15 | <1 |
| 3600N/9200E | 0.03 | 0.06 | <0.01 | — | 11 | 32 | <1 |
| 4000N/8600E | 0.02 | — | — | — | <2 | 9 | <1 |
| 4000N/8625E | <0.01 | — | — | — | 5 | 20 | <1 |
| 4000N/8650E | <0.01 | — | — | — | 9 | 32 | <1 |
| 4000N/8675E | 0.01 | — | — | — | 5 | 72 | <1 |
| 4000N/8700E | <0.01 | — | — | — | 6 | 16 | <1 |
| 4000N/8725E | <0.01 | — | — | — | 5 | 40 | <1 |
| 4000N/8750E | <0.01 | — | — | — | 7 | 48 | <1 |
| 4000N/8775E | <0.01 | — | — | — | 6 | 30 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FA1 | FA1 | FA1 | FA1 | AAS1 | AAS1 | AAS2 |

671044

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)



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Job: 8AD3878
O/N: 08462/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Au Avg | Au Dp1 | Au Dp2 | Au Dp3 | Cu | Zn | Ag |
|---|---|---|---|---|---|---|---|
| 4000N/8800E | <0.01 | — | — | — | 8 | 42 | <1 |
| 4000N/8825E | 0.01 | 0.02 | <0.01 | — | 6 | 40 | <1 |
| 4000N/8850E | 0.01 | — | — | — | 6 | 24 | <1 |
| 4000N/8875E | <0.01 | — | — | — | 7 | 70 | <1 |
| 4000N/8900E | <0.01 | — | — | — | 9 | 54 | <1 |
| 4000N/8925E | 0.01 | <0.01 | 0.02 | — | 6 | 50 | <1 |
| 4000N/8950E | <0.01 | — | — | — | 11 | 82 | <1 |
| 4000N/8975E | <0.01 | — | — | — | 24 | 36 | <1 |
| 4000N/9000E | <0.01 | — | — | — | 5 | 18 | <1 |
| 4000N/9025E | <0.01 | — | — | — | 6 | 28 | <1 |
| 4000N/9050E | <0.01 | — | — | — | 6 | 17 | <1 |
| 4000N/9075E | <0.01 | — | — | — | 5 | 15 | <1 |
| 4000N/9100E | 0.04 | 0.05 | 0.02 | — | 3 | 28 | <1 |
| 4000N/9125E | <0.01 | — | — | — | 6 | 6 | <1 |
| 4000N/9150E | <0.01 | <0.01 | <0.01 | — | 8 | 24 | <1 |
| 4000N/9175E | <0.01 | — | — | — | 7 | 20 | <1 |
| 4000N/9200E | 0.06 | — | — | — | 6 | 10 | <1 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| SCHEME | FA1 | FA1 | FA1 | FA1 | AAS1 | AAS1 | AAS2 |

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)



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Job: 8AD3878
O/N: 08462/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 3200N/8800E | 32 | 28 | 270 |
| 3200N/8825E | 42 | 17 | 165 |
| 3200N/8850E | 28 | 22 | 210 |
| 3200N/8875E | 26 | 15 | 250 |
| 3200N/8900E | 26 | 13 | 390 |
| 3200N/8925E | 16 | 6 | 260 |
| 3200N/8950E | 20 | 10 | 330 |
| 3200N/8975E | 8 | 2 | 100 |
| 3200N/9000E | 5 | 6 | 160 |
| 3200N/9025E | 3 | 7 | 125 |
| 3200N/9050E | <2 | 5 | 100 |
| 3200N/9075E | 5 | 5 | 170 |
| 3200N/9100E | 5 | 2 | 150 |
| 3200N/9125E | 20 | 13 | 290 |
| 3200N/9150E | 26 | 16 | 330 |
| 3200N/9175E | 17 | 9 | 300 |
| 3200N/9200E | 20 | 9 | 310 |
| 3600N/8600E | 18 | 10 | 190 |
| 3600N/8625E | 22 | 11 | 210 |
| 3600N/8650E | 13 | 6 | 340 |
| 3600N/8675E | 8 | 6 | 510 |
| 3600N/8700E | 11 | 6 | 400 |
| 3600N/8725E | 10 | 16 | 520 |
| 3600N/8750E | 3 | 8 | 390 |
| 3600N/8775E | 5 | 4 | 370 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)



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Job: 8AD3878
O/N: 08462/LJ80/CJC

ANALYTICAL REPORT

| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 3600N/8800E | 14 | 8 | 135 |
| 3600N/8825E | 3 | 8 | 150 |
| 3600N/8850E | 20 | 7 | 160 |
| 3600N/8875E | 9 | 3 | 180 |
| 3600N/8900E | 3 | 5 | 320 |
| 3600N/8925E | 4 | 6 | 90 |
| 3600N/8950E | 3 | 4 | 105 |
| 3600N/8975E | 8 | 6 | 135 |
| 3600N/9000E | 12 | 2 | 150 |
| 3600N/9025E | 19 | 6 | 160 |
| 3600N/9050E | 18 | 7 | 240 |
| 3600N/9075E | 24 | 10 | 340 |
| 3600N/9100E | 24 | 10 | 300 |
| 3600N/9125E | 36 | 10 | 420 |
| 3600N/9150E | 22 | 15 | 290 |
| 3600N/9175E | 4 | 7 | 280 |
| 3600N/9200E | 4 | 12 | 280 |
| 4000N/8600E | 5 | 4 | 760 |
| 4000N/8625E | 13 | 5 | 600 |
| 4000N/8650E | 19 | 9 | 450 |
| 4000N/8675E | 9 | 7 | 490 |
| 4000N/8700E | 7 | 6 | 580 |
| 4000N/8725E | 20 | 9 | 520 |
| 4000N/8750E | 14 | 10 | 490 |
| 4000N/8775E | 26 | 7 | 540 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA)



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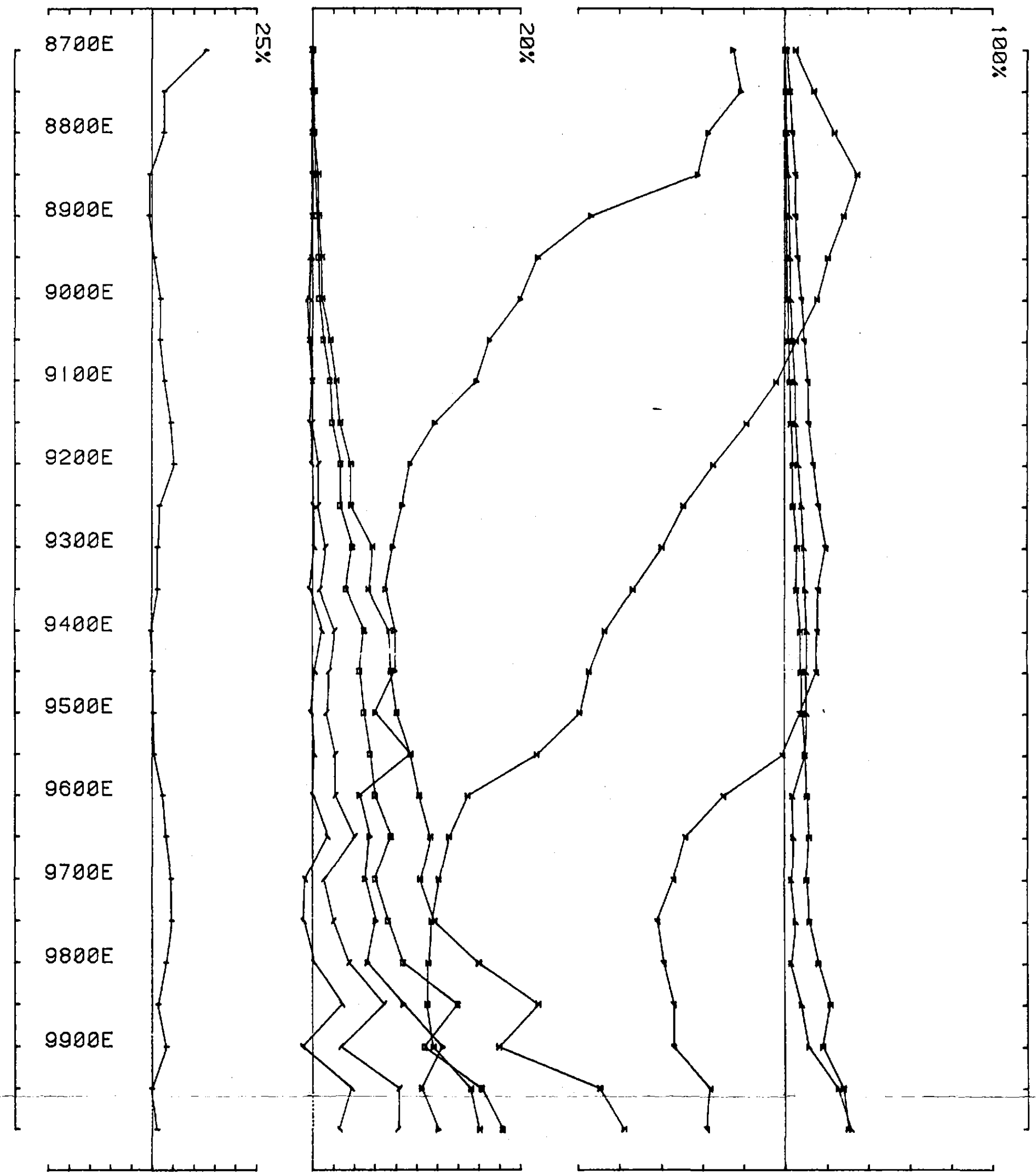
Job: 8AD3878
O/N: 08462/LJ80/CJC

ANALYTICAL REPORT

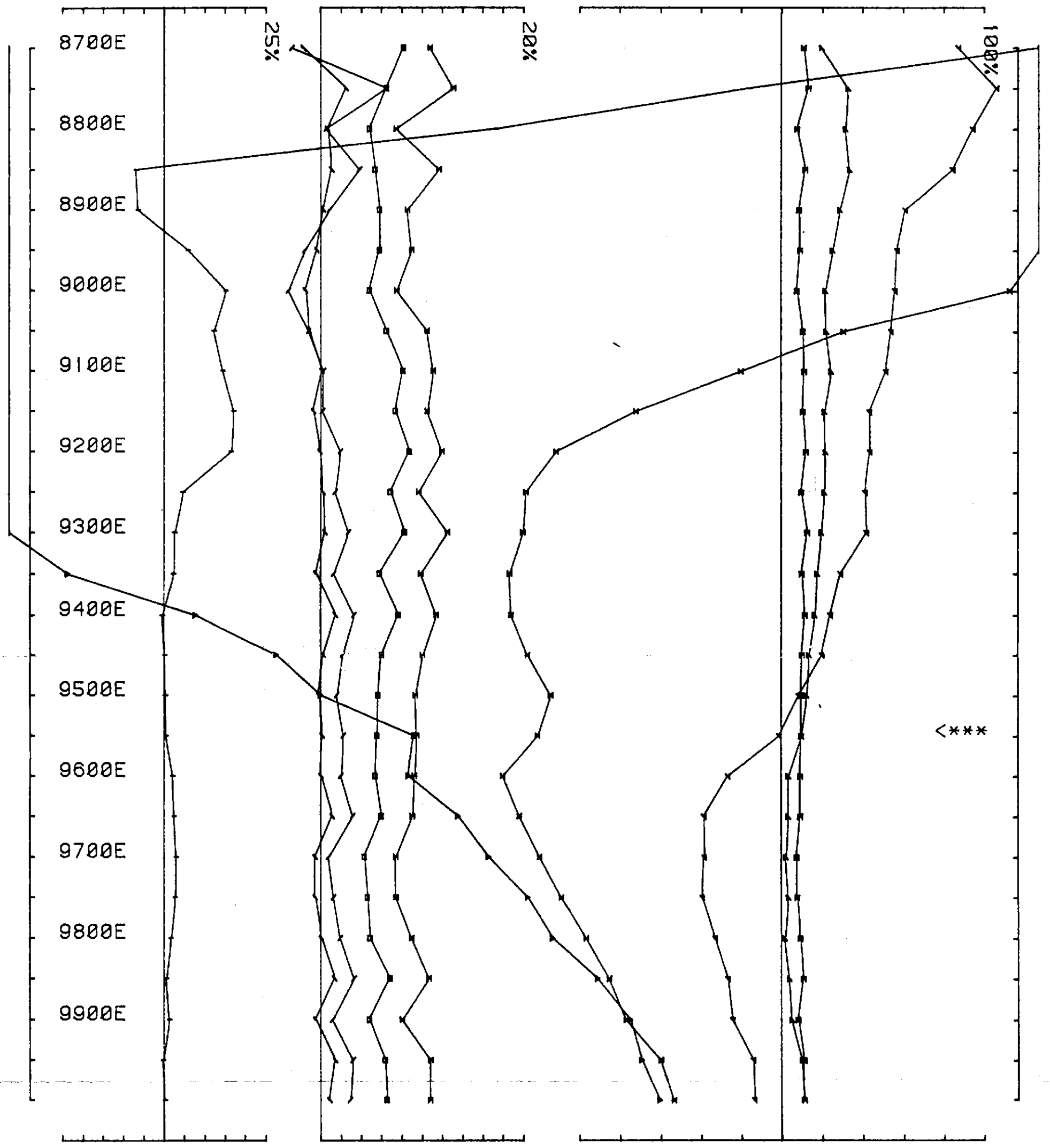
| SAMPLE | Pb | As | Ba |
|---|---|---|---|
| 4000N/8800E | 14 | 9 | 390 |
| 4000N/8825E | 10 | 13 | 350 |
| 4000N/8850E | 13 | 8 | 360 |
| 4000N/8875E | 26 | 13 | 330 |
| 4000N/8900E | 24 | 14 | 440 |
| 4000N/8925E | 6 | 10 | 710 |
| 4000N/8950E | 26 | 14 | 980 |
| 4000N/8975E | 16 | 11 | 710 |
| 4000N/9000E | 17 | 14 | 250 |
| 4000N/9025E | <2 | 11 | 990 |
| 4000N/9050E | 16 | 11 | 170 |
| 4000N/9075E | 8 | 7 | 240 |
| 4000N/9100E | 3 | 9 | 610 |
| 4000N/9125E | 9 | 6 | 170 |
| 4000N/9150E | 10 | 12 | 180 |
| 4000N/9175E | 15 | 12 | 175 |
| 4000N/9200E | 10 | 5 | 160 |
| UNITS | ppm | ppm | ppm |
| SCHEME | XRF1 | XRF1 | XRF1 |

# APPENDIX 4

UTEM Survey Profiles Continuous & Point Normalised



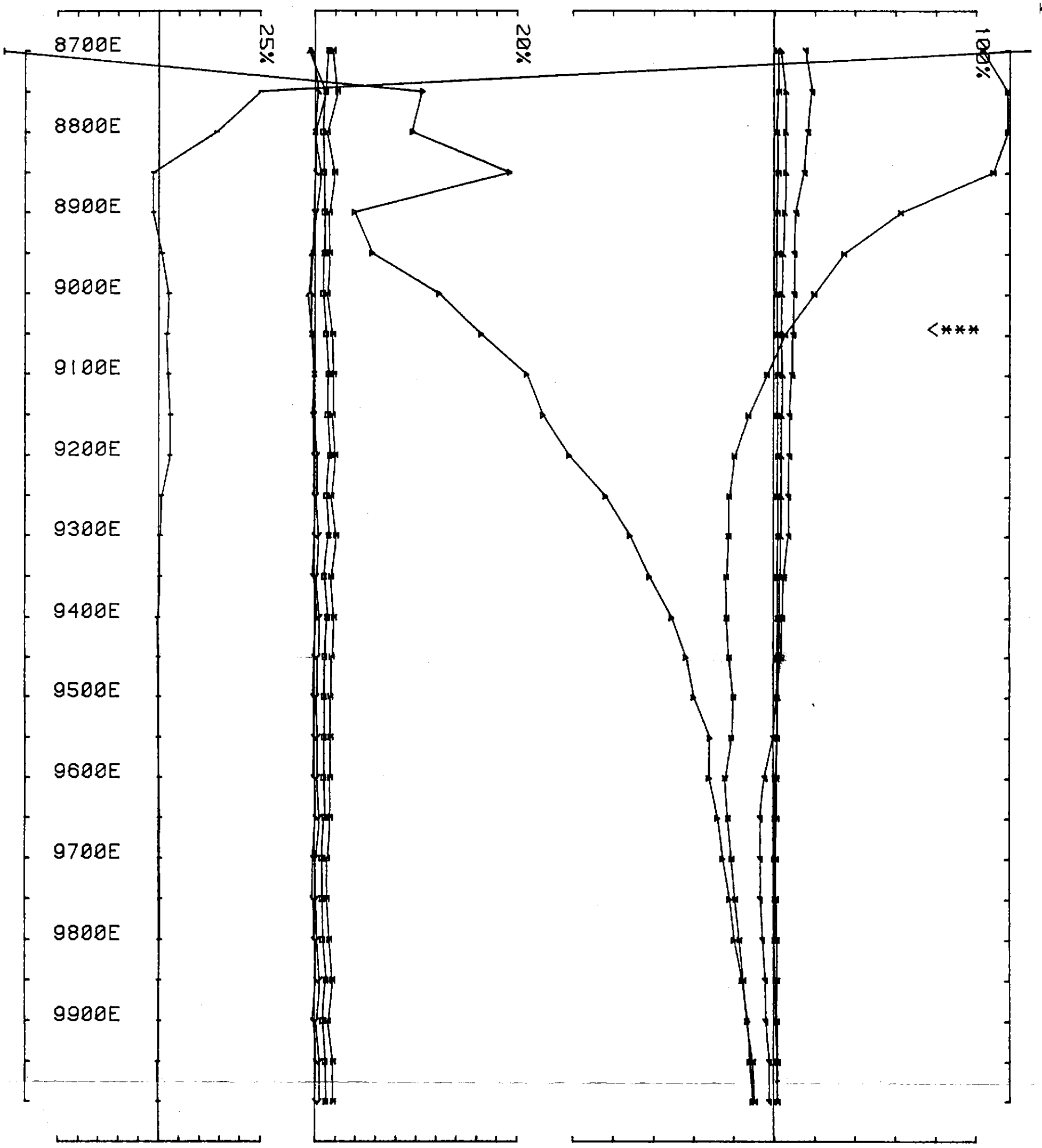

UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)
conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989
loop no 10 line 3400N component Hz secondary field Ch 1 contin. norm.




UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)

conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989

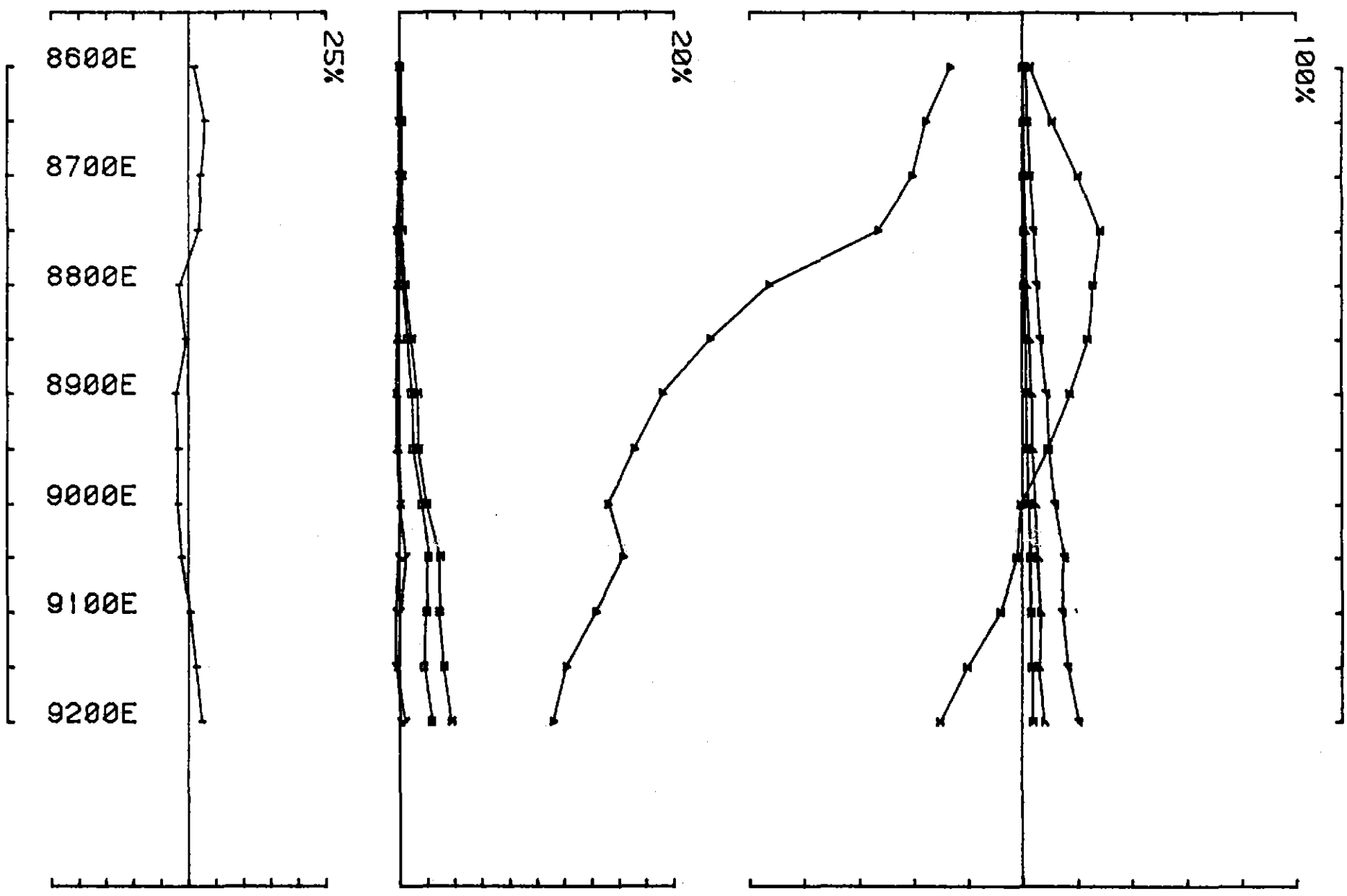
loop no 10 line 3400N component Hz secondary field Ch 1 point norm.




UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)

conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989

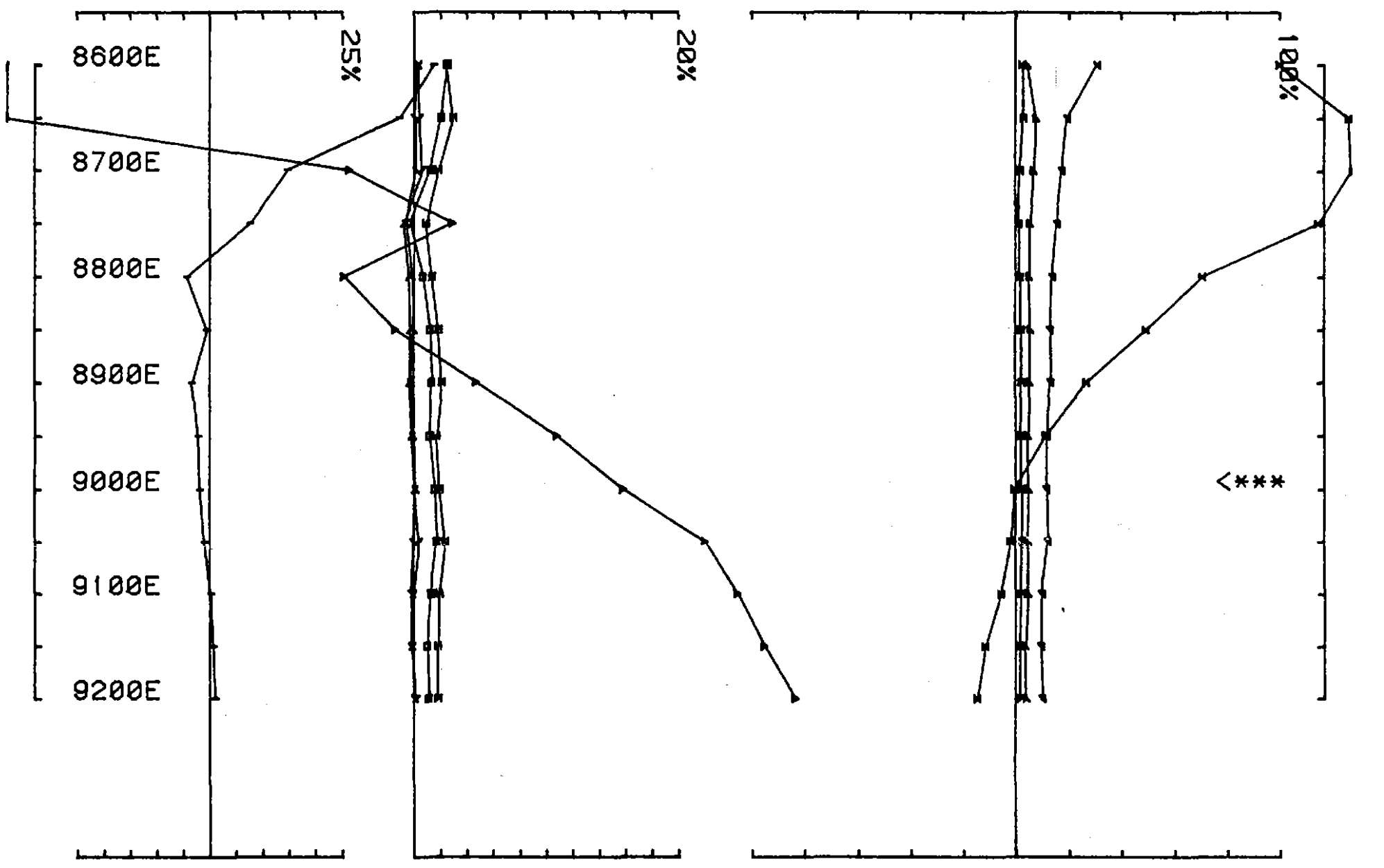
loop no 10 line 3400N component Hz secondary field Ch 1 point norm.



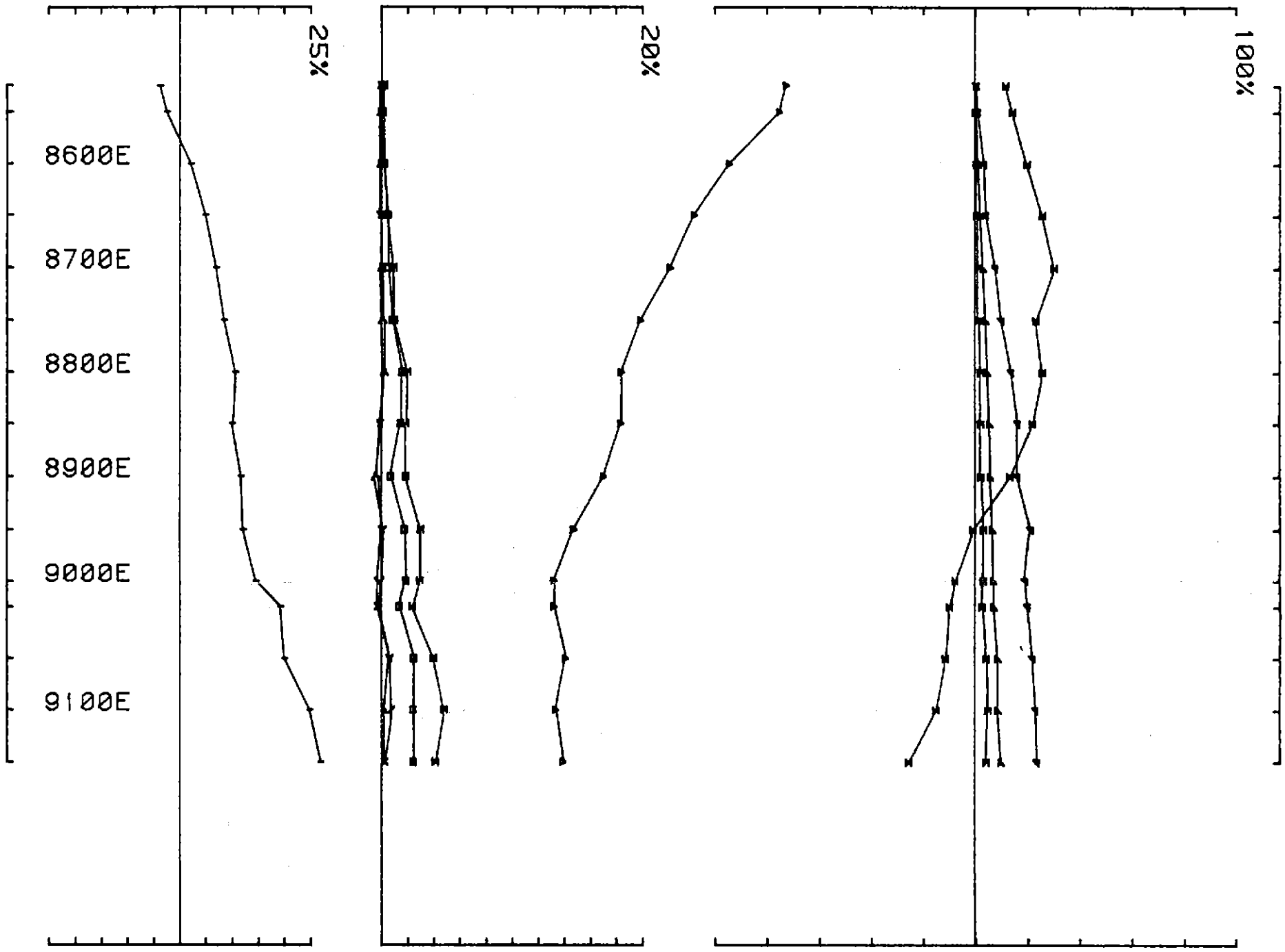

UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)

conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989

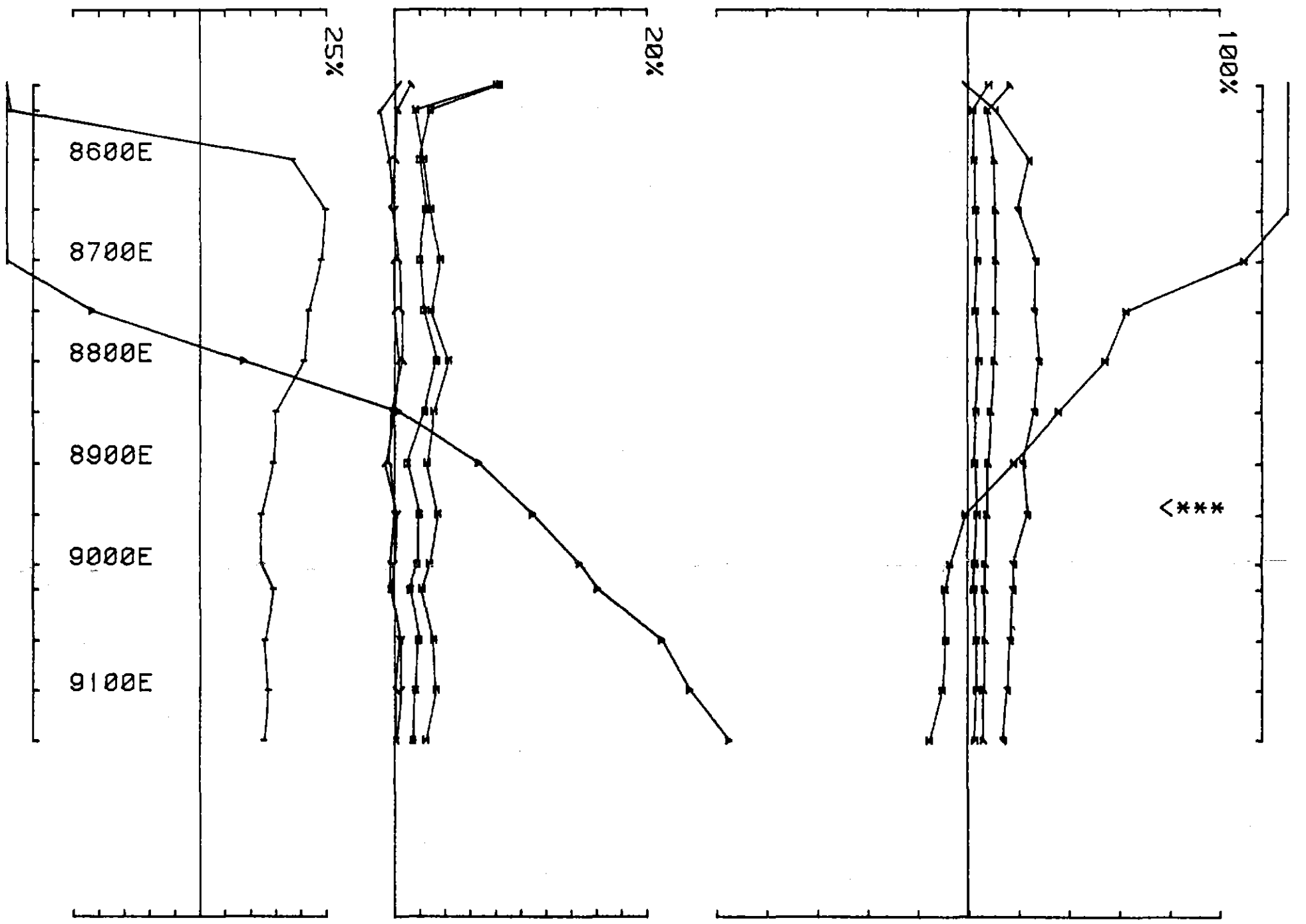
loop no 10 line 3600N component Hz secondary field Ch 1 contin. norm.



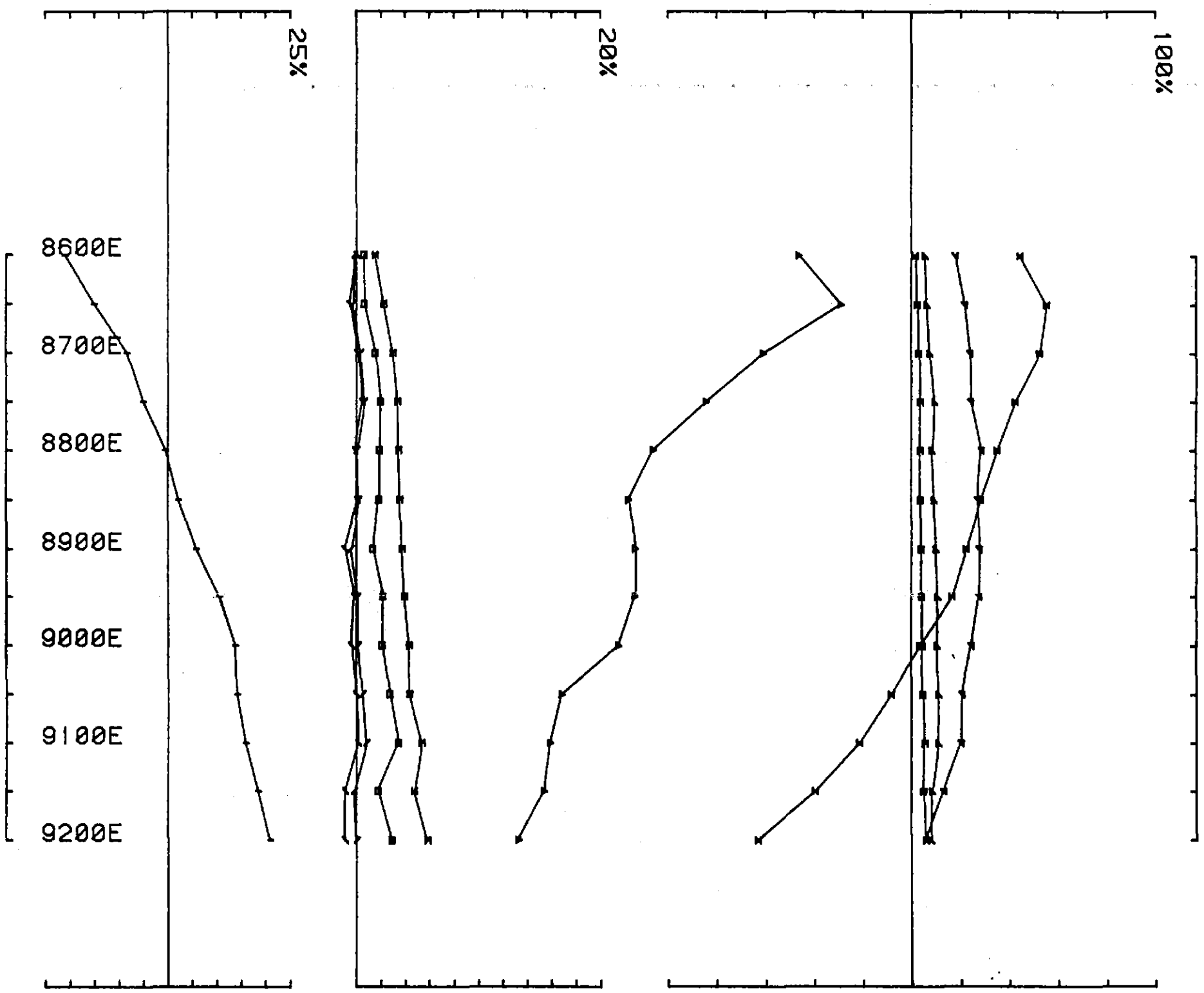

UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)
conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989
loop no 10 line 3600N component Hz secondary field Ch 1 point norm.




UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)
conducted by LAMONTAGNE & SJV CONS. Job 8902 base freq (hz) 33.409 MAR 1989
loop no 10 line 3800N component Hz secondary field Ch 1 contin. norm.



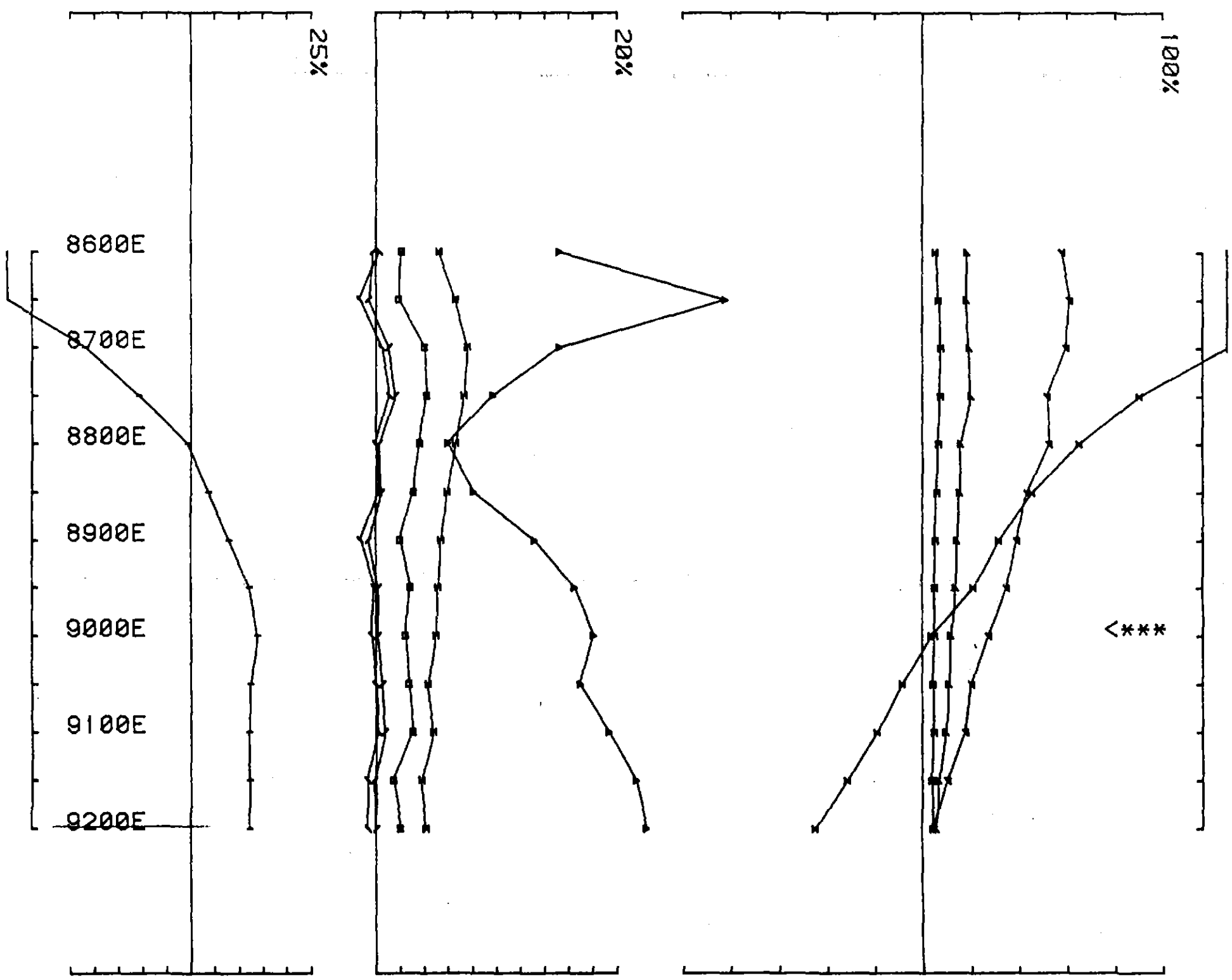

UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)
conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989
loop no 10 line 3800N component Hz secondary field Ch 1 point norm.




UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)

conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989

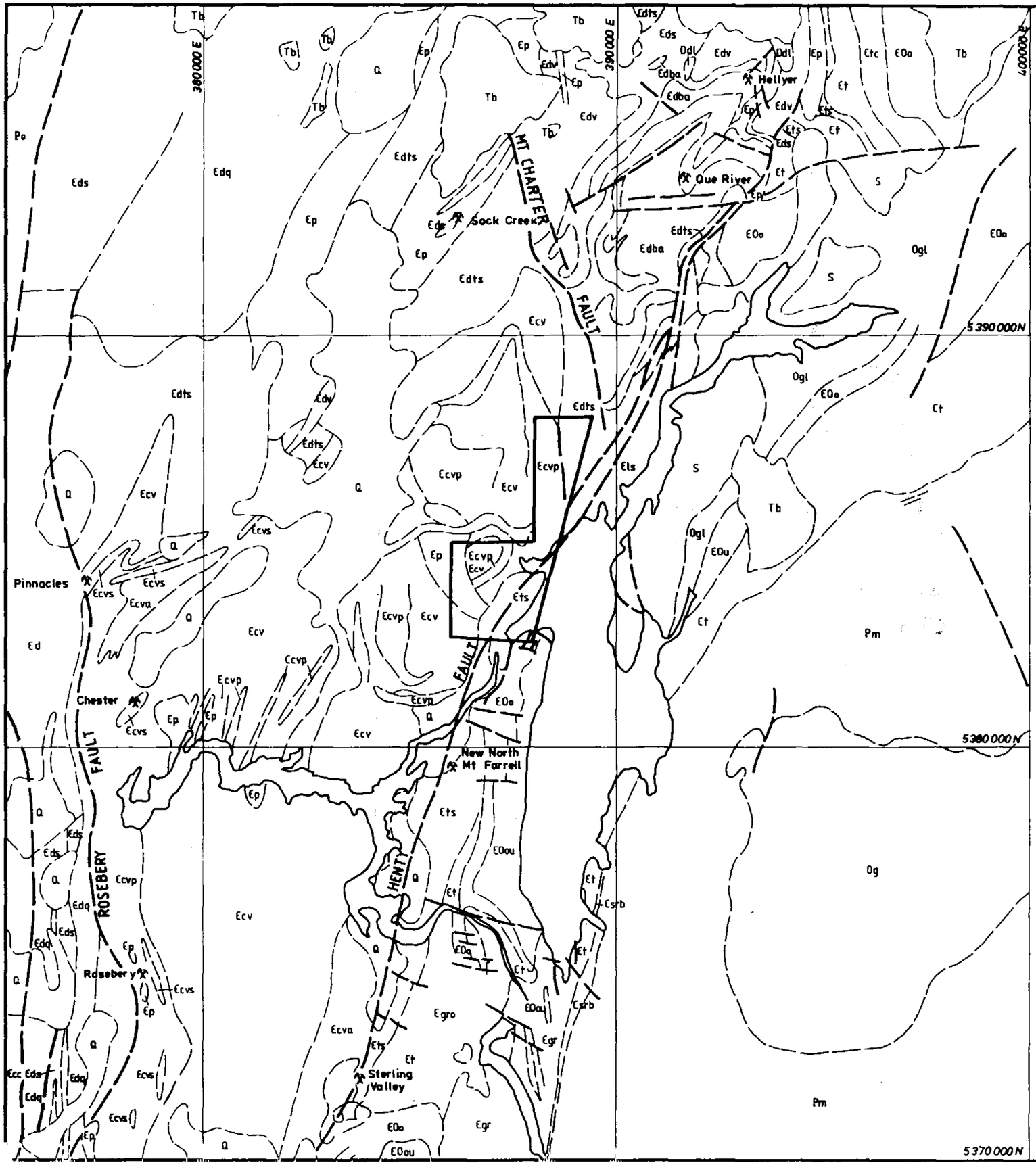
loop no 10 line 4000N component Hz secondary field Ch 1 contin. norm.




UTEM SURVEY at LAKE MACHINTOSH for BILLITON AUSTRALIA (SHELL)

conducted by LAMONTAGNE & SJV CONS. job 8902 base freq (hz) 33.409 MAR 1989

loop no 10 line 4000N component Hz secondary field Ch 1 point norm.




LEGEND

| | |
|---|---|
| Q | Quaternary |
| Tb | Tertiary |
| S | Silurian |
| Ogl | Ordovician |
| EOou, EOo | Late Cambrian to Early Ordovician |
| Et, Ets, Etc, Esrb | Cambrian Tyndall Group |
| Ed, Eds, Edts, Edq, Edv, Edm, Edba | Cambrian Dundas Group |
| Ecv, Ep, Ecvp, Ecvs, Ecva | Cambrian Central Volcanics |
| Ecc | Cambrian Crimson Creek Fm. |
| Po, Pm | Pre Cambrian |

INTRUSIVES

| | |
|---|---|
| Ddl | Devonian dolerite |
| Dg | Devonian granite |
| Cgr | Cambrian granite |

5 cm

671058

Billiton Australia
The Metals Division of the Shell Company of Australia Limited

Project: LAKE MACKINTOSH

Title: E.L. 42/85
REGIONAL GEOLOGICAL SETTING

from Corbett & Mc Neill 1988

| | | | |
|---|---|---|---|
| Author CJC | Date 3/89 | Scale 1:100000 | |
| Drawn OH | Office TAS | Revised | Date |
| Drawing No. D/LJ 80/005 | | | Fig. No. 2 |

57

5 384 000mN
5 383 500mN
388 000 mE
5 383 000 mN
5 382 500mN
387 500 mE

LAKE MACKINTOSH

LAKE MACKINTOSH

SEDIMENTS

QUARRY

QUARRY

ROAD

ROAD

ROAD

DAM WALL ROAD

HENTY FAULT ?

HENTY FAULT ?

TULLABARDINE DAM

750 E
700 E
650 E
500 E
400 E
300 E
200 E
100 E

388 000mE
387 500 mE
387 000mE

4000 N
3800 N
3600 N
3400 N
3200 N
3000 N
2800 N
2600 N
2400 N
2200 N

FELSIC VOLCANICS

BASE LINE

5 cm

5 384 500mN
5 384 000mN
5 383 500mN
5 383 000mN
387 000 mE
386 500mE

CHARGEABILITY HIGH
RESISTIVITY LOW (<1000 Ω m)

POSITION OF HENTY FAULT
FROM IP RESULTS

ZONES OF INTEREST

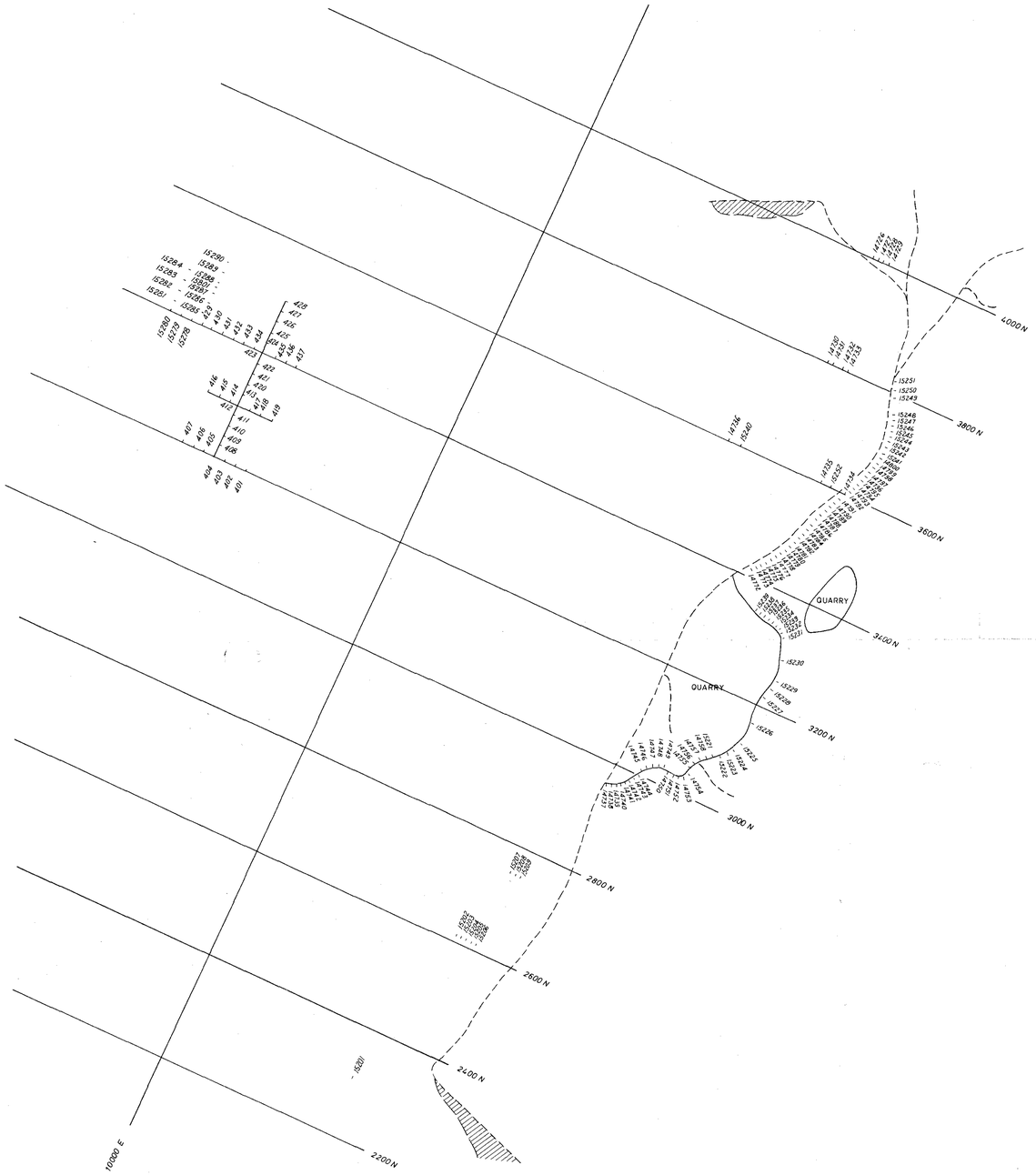
**Billiton Australia**
The Metals Division of the Shell Company of Australia Limited

Project: N.W. TASMANIA
LAKE MACKINTOSH J.V.

Title:
HENTY FAULT
IP/RESISTIVITY SURVEY
DIPOLE-DIPOLE, a=50m
SCINTREX IP/87

| | | | |
|---|---|---|---|
| Author N.H. | Date 8/88 | Scale 1:5000 | |
| Drawn | Office MELB | Revised | Date |
| Drawing No. LJ80/1011 | | | Fig. No. 3 |

87 1059




## UTEM ANOMALY
## AUGER SOIL SAMPLING 1987

* ROCK CHIP

| Sample No | Cu | Zn | Pb | Ag | As |
|---|---|---|---|---|---|
| 401 | 5 | 40 | <5 | <0.5 | 3 |
| 402 | 5 | 30 | <5 | <0.5 | 8 |
| 403 | 5 | 30 | <5 | <0.5 | 160 |
| 404 | 5 | 35 | <5 | <0.5 | 13 |
| 405 | <5 | 20 | <5 | <0.5 | 3 |
| 406 | <5 | 20 | <5 | <0.5 | 1 |
| 407 | <5 | 25 | <5 | <0.5 | 3 |
| 408 | 5 | 70 | 45 | <0.5 | 21 |
| 409 | 5 | 60 | <5 | 0.5 | 3 |
| 410 | 5 | 40 | <5 | 0.5 | 4 |
| 411 | 5 | 50 | <5 | <0.5 | 3 |
| 412 | 5 | 105 | 30 | <0.5 | 8 |
| 413 | 10 | 140 | 30 | 0.5 | 10 |
| 414 | 5 | 70 | 40 | 0.5 | 23 |
| 415 | 5 | 125 | 70 | <0.5 | 36 |
| 416 | <5 | 10 | <5 | <0.5 | 13 |
| 417 | 10 | 85 | <5 | 0.5 | 18 |
| 418 | 20 | 95 | 40 | 1.0 | 25 |
| 419 | 20 | 100 | 40 | 0.5 | 31 |

| Sample No | Cu | Zn | Pb | Ag | As |
|---|---|---|---|---|---|
| 420 | 20 | 75 | 5 | 0.5 | 7 |
| 421 | 10 | 120 | 10 | <0.5 | 10 |
| 422 | <5 | 30 | <5 | <0.5 | 3 |
| 423 | <5 | 15 | <5 | <0.5 | 12 |
| 424 | <5 | 30 | <5 | 0.5 | 6 |
| 425 | 5 | 65 | <5 | <0.5 | 3 |
| 426 | 10 | 90 | <5 | <0.5 | 15 |
| 427 | 50 | 40 | <5 | <0.5 | 18 |
| 428 | 5 | 20 | <5 | <0.5 | 13 |
| 429 * | 40 | 225 | 75 | <0.5 | 28 |
| 430 * | 25 | 230 | 80 | <0.5 | 22 |
| 431 * | 15 | 85 | 30 | <0.5 | 13 |
| 432 * | 5 | 105 | <5 | <0.5 | 6 |
| 433 | 10 | 70 | <5 | <0.5 | 1 |
| 434 | 5 | 45 | <5 | <0.5 | 12 |
| 435 | 10 | 90 | 20 | <0.5 | 8 |
| 436 | <5 | 25 | <5 | <0.5 | 2 |
| 437 | <5 | 70 | <5 | <0.5 | 11 |

## ROCK CHIP SAMPLING 1988

| Sample No. | Au Aug | Cu | Zn | Pb | Ag | As | Ba |
|---|---|---|---|---|---|---|---|
| ⊕14726 | <0.01 | 52 | 46 | 4 | <1 | 5 | 390 |
| ⊕14727 | <0.01 | 2 | 10 | 4 | <1 | <2 | 350 |
| ⊕14728 + | <0.01 | 8 | 17 | 10 | <1 | <2 | 230 |
| ⊕14729 | <0.01 | 5 | 17 | 5 | <1 | 12 | 440 |
| ⊕14730 | <0.01 | 26 | 310 | 50 | <1 | 6 | 150 |
| ⊕14731 | <0.01 | 14 | 105 | 12 | <1 | 2 | 30 |
| ⊕14732 + | <0.01 | 8 | 78 | 11 | <1 | <2 | 155 |
| ⊕14733 + | <0.01 | 26 | 48 | 110 | <1 | <2 | 220 |
| ⊕14736 | <0.01 | 11 | 26 | 14 | <1 | 52 | 220 |
| ⊕15240 + | <0.01 | 9 | 44 | 10 | <1 | 2 | 110 |
| ⊕14735 | <0.01 | 34 | 7 | 7 | <1 | 6 | 175 |
| ⊕15252 + | <0.01 | 26 | 66 | 30 | <1 | 7 | 170 |
| ⊕14734 | <0.01 | 7 | 20 | 9 | <1 | <2 | 210 |
| ⊕15207 | <0.01 | 3 | 42 | 42 | <1 | 30 | 270 |
| ⊕15208 | <0.01 | 20 | 290 | 135 | <1 | 700 | 800 |
| ⊕15209 | 0.01 | 7 | 32 | 20 | <1 | 4 | 460 |
| ⊕15202 | 0.02 | 10 | 58 | 20 | <1 | 11 | 1220 |
| ⊕15203 | <0.01 | 7 | 38 | 270 | <1 | <2 | 920 |
| ⊕15204 | 0.08 | 26 | 130 | 48 | <1 | 8 | 920 |
| ⊕15205 | <0.01 | 9 | 76 | 64 | <1 | 22 | 570 |
| ⊕15206 | 0.01 | 12 | 200 | 175 | <1 | 64 | 490 |
| 14737 | <0.01 | 7 | 58 | 44 | <1 | 10 | 150 |
| 14738 | <0.01 | 13 | 52 | 13 | <1 | 8 | 270 |
| 14739 | <0.01 | 15 | 58 | 10 | <1 | 28 | 360 |
| 14740 | <0.01 | 11 | 48 | 22 | <1 | 30 | 510 |
| 14741 | <0.01 | 9 | 145 | 24 | <1 | <2 | 620 |
| 14742 | <0.01 | 12 | 46 | 5 | <1 | 3 | 185 |
| 14743 | <0.01 | 14 | 30 | 14 | <1 | <2 | 430 |
| 14744 | <0.01 | 16 | 56 | 15 | <1 | 24 | 170 |
| 14745 | <0.01 | 6 | 68 | 16 | <1 | 9 | 240 |
| 14746 | <0.01 | 10 | 46 | 24 | <1 | 9 | 350 |
| 14747 | <0.01 | 30 | 64 | 28 | <1 | 24 | 620 |
| 14748 | 0.03 | 7 | 34 | 22 | <1 | <2 | 130 |
| 14749 | 0.01 | 19 | 40 | 10 | <1 | 4 | 330 |
| 14750 | 0.03 | 19 | 52 | <2 | <1 | 5 | 160 |
| 14751 | <0.01 | 22 | 52 | 12 | <1 | 18 | 440 |
| 14752 | 0.01 | 9 | 40 | 5 | <1 | 6 | 300 |
| 14753 | <0.01 | 18 | 42 | 13 | <1 | 16 | 290 |
| 14754 | <0.01 | 9 | 160 | 17 | <1 | 22 | 180 |
| 14755 | <0.01 | 17 | 94 | 9 | <1 | <2 | 240 |
| 14756 | <0.01 | 3 | 50 | 11 | <1 | 3 | 340 |
| 14757 | <0.01 | 14 | 24 | <2 | <1 | 20 | 175 |
| 14758 | 0.01 | 16 | 38 | 8 | <1 | 24 | 300 |
| 15221 | <0.01 | 13 | 30 | 3 | <1 | 14 | 200 |
| 15222 | 0.02 | 10 | 14 | 9 | <1 | 19 | 195 |
| 15223 | <0.01 | 14 | 8 | 3 | <1 | 34 | 210 |
| 15224 | 0.01 | 17 | 42 | 5 | <1 | 42 | 220 |
| 15225 | 0.04 | 15 | 7 | 4 | <1 | 15 | 290 |
| 15226 | <0.01 | 7 | 9 | 11 | <1 | <2 | 300 |
| 15227 | <0.01 | 26 | 8 | 10 | <1 | 26 | 370 |
| 15228 | <0.01 | 12 | 10 | 3 | <1 | 12 | 230 |
| 15229 | 0.07 | 20 | 9 | 15 | <1 | 4 | 230 |
| 15230 | 0.06 | 20 | 12 | 13 | <1 | <2 | 175 |
| 15231 | <0.01 | 10 | 13 | 8 | <1 | 3 | 180 |
| 15232 | 0.05 | 16 | 16 | 6 | <1 | 11 | 290 |
| 15233 | <0.01 | 26 | 15 | 24 | <1 | 32 | 380 |
| 15234 | <0.01 | 13 | 38 | 2 | <1 | 13 | 175 |
| 15235 | <0.01 | 19 | 10 | 6 | <1 | 22 | 220 |
| 15236 | <0.01 | 46 | 13 | 15 | <1 | 30 | 210 |
| 15237 | 0.02 | 17 | 19 | 13 | <1 | 17 | 190 |
| 15238 | 0.02 | 10 | 28 | 7 | <1 | 14 | 210 |
| 15239 | 0.02 | 9 | 20 | 11 | <1 | 13 | 185 |
| 15201 | 0.02 | <2 | 230 | 88 | <1 | 220 | 340 |

| Sample No. | Au Aug | Cu | Zn | Pb | Ag | As | Ba |
|---|---|---|---|---|---|---|---|
| 14712 | <0.01 | 38 | 36 | 94 | <1 | 64 | 330 |
| 14713 | 0.02 | 10 | 66 | 3 | <1 | 8 | 240 |
| 14734 | <0.01 | 7 | 62 | 38 | <1 | 20 | 120 |
| 14715 | 0.01 | 28 | 19 | 4 | <1 | <2 | 125 |
| 14716 | 0.02 | 12 | 24 | <2 | <1 | 11 | 120 |
| 14717 | <0.01 | 24 | 22 | 14 | <1 | 13 | 210 |
| 14718 | 0.01 | 36 | 20 | 24 | <1 | 12 | 160 |
| 14719 | <0.01 | 30 | 13 | 10 | <1 | 19 | 160 |
| 14780 | <0.01 | 32 | 15 | 3 | <1 | 3 | 155 |
| 14781 | <0.01 | 20 | 12 | <2 | <1 | <2 | 90 |
| 14782 | <0.01 | 13 | 14 | 13 | <1 | 5 | 165 |
| 14783 | 0.08 | 4 | 13 | 11 | <1 | 5 | 180 |
| 14784 | 0.04 | 6 | 16 | <2 | <1 | <2 | 165 |
| 14785 | <0.01 | 2 | 15 | 11 | <1 | <2 | 190 |
| 14786 | <0.01 | 2 | 15 | 2 | <1 | 10 | 180 |
| 14787 | <0.01 | 6 | 14 | 14 | <1 | 6 | 190 |
| 14788 | 0.08 | 2 | 11 | 4 | <1 | 9 | 170 |
| 14789 | 0.01 | 3 | 17 | 2 | <1 | 4 | 230 |
| 14790 | <0.01 | <2 | 11 | <2 | <1 | <2 | 270 |
| 14791 | 0.09 | 2 | 13 | <2 | <1 | <2 | 230 |
| 14792 | 0.01 | 2 | 12 | <2 | <1 | 2 | 200 |
| 14793 | 0.04 | 2 | 10 | 10 | <1 | <2 | 160 |
| 14794 | <0.01 | <2 | 20 | <2 | <1 | 2 | 180 |
| 14795 | 0.03 | 3 | 24 | <2 | <1 | 26 | 250 |
| 14796 | 0.02 | 3 | 20 | 13 | <1 | 18 | 200 |
| 14797 | <0.01 | 5 | 19 | 3 | <1 | 11 | 110 |
| 14798 | <0.01 | 3 | 17 | 6 | <1 | 7 | 200 |
| 14799 | <0.01 | 6 | 22 | 8 | <1 | 2 | 210 |
| 14800 | <0.01 | 7 | 15 | 4 | <1 | 16 | 185 |
| 15241 | <0.01 | 4 | 4 | <2 | <1 | <2 | 115 |
| 15242 | <0.01 | 5 | 14 | 3 | <1 | 13 | 140 |
| 15243 | <0.01 | 6 | 22 | 15 | <1 | 10 | 210 |
| 15244 | <0.01 | 6 | 14 | 2 | <1 | 7 | 140 |
| 15245 | <0.01 | 15 | 18 | 8 | <1 | 10 | 380 |
| 15246 | <0.01 | <2 | 7 | 4 | <1 | 7 | 390 |
| 15247 | <0.01 | 8 | 22 | 7 | <1 | 2 | 170 |
| 15248 | <0.01 | 4 | 6 | 9 | <1 | <2 | 170 |
| 15249 | <0.01 | 5 | 26 | 8 | <1 | 7 | 200 |
| 15250 | <0.01 | 5 | 12 | 2 | <1 | 3 | 155 |
| 15251 | <0.01 | 1 | 30 | 5 | <1 | 8 | 160 |
| | ppm | ppm | ppm | ppm | ppm | ppm | ppm |

⊕ I.P. ANOMALY

\+ AUGER SAMPLE

## UTEM ANOMALY
## AUGER SOIL SAMPLE 1988

| Sample No. | Au Aug | Cu | Zn | Pb | Ag | As | Ba |
|---|---|---|---|---|---|---|---|
| 15278 | 0.02 | 8 | 64 | 14 | <1 | 14 | 230 |
| 15279 | 0.01 | 4 | 34 | 7 | <1 | 17 | 165 |
| 15280 | <0.01 | 10 | 44 | 22 | <1 | 14 | 250 |
| 15281 | <0.01 | 11 | 50 | 24 | 1 | 24 | 250 |
| 15282 | 0.05 | 9 | 42 | 24 | <1 | 17 | 310 |
| 15283 | 0.01 | 4 | 42 | 18 | <1 | 19 | 260 |
| 15284 | 0.01 | 7 | 32 | 18 | 1 | 13 | 250 |
| 15285 | <0.01 | 11 | 66 | 22 | 1 | 8 | 400 |
| 15286 | <0.01 | 6 | 68 | 11 | 1 | 8 | 400 |
| 15287 | 0.04 | 3 | 40 | 18 | 1 | 11 | 115 |
| 15288 | 0.02 | 3 | 38 | 7 | 1 | 13 | 170 |
| * 15289 | 0.01 | 3 | 66 | <2 | <1 | 13 | 135 |
| * 15290 | 0.01 | 3 | 58 | 6 | <1 | 11 | 830 |
| * 15801 | <0.01 | 3 | 12 | <2 | <1 | 7 | 35 |

5 cm

671060

89-2925

**Billiton Australia**
The Metals Division of the Shell Company of Australia Limited

| | | | |
|---|---|---|---|
| Project | LAKE MACKINTOSH JV | | |
| Title | ROCK CHIP GEOCHEMICAL SAMPLING | | |
| Author CJC | Dept. | Scale 1:5000 | |
| Drawn OH | Date 7/88 | Revised | Date |
| Checked | Date | S'ceded | Date |
| Sheet No. FIG 4 | | Drawing No. D/LJ 80/002 | |

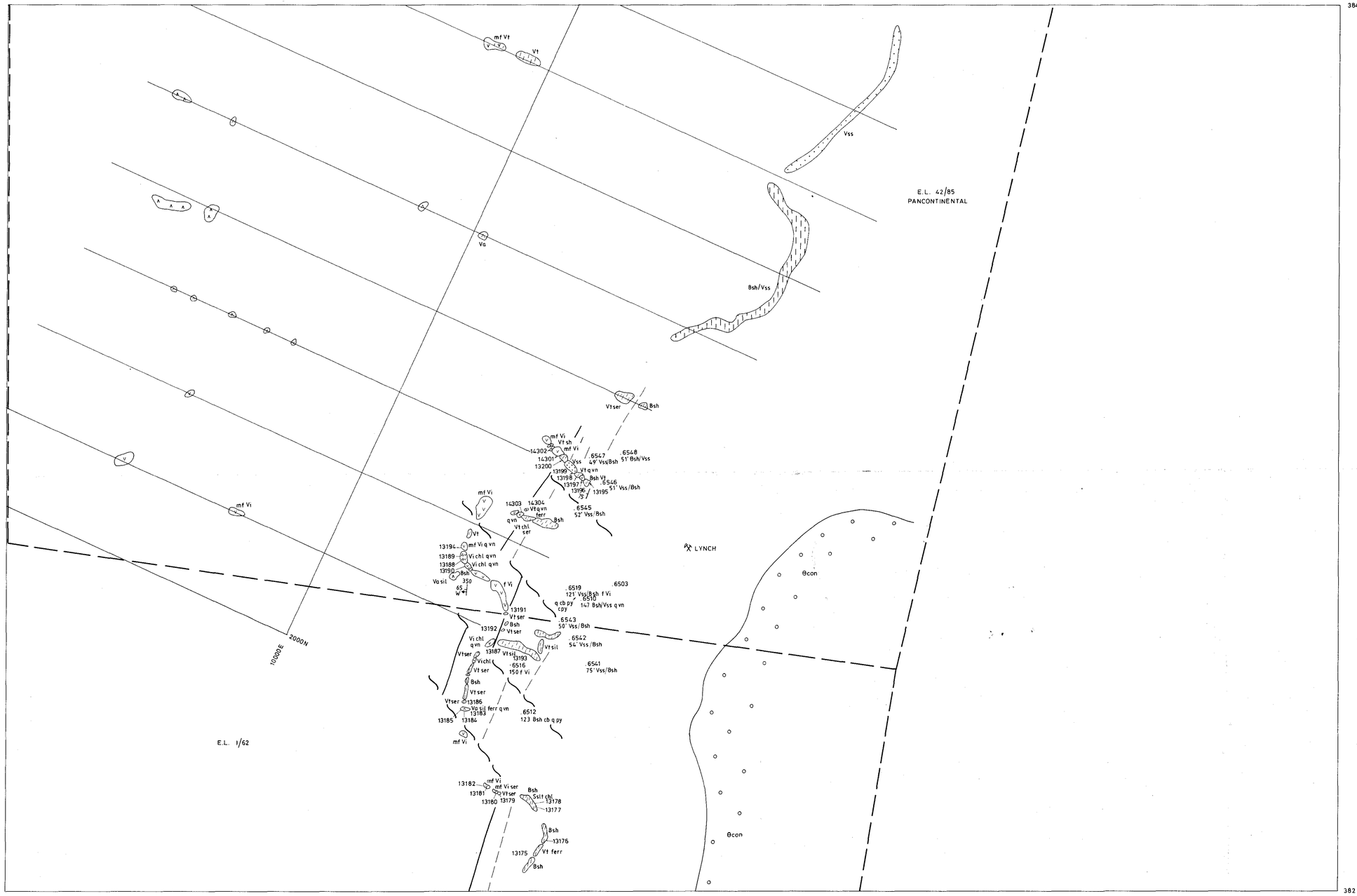
C86J 7985

386 000 E

389 000 E

384 000 N

382 000 N




## LEGEND

| | | | | |
|---|---|---|---|---|
| ORDOVICIAN | θcon | Owen Conglomerate | – | mixed and undifferentiated sonds, pebbles, boulders of predominantly Tyennan origin. |
| | Bsh | Farrell Slate | – | grey fissile pyritic often crenulated and variably graphitic shales. |
| | Vt | | – | fine grained tuffaceous volcaniclastics, strongly sericitized often silicified and quartz veined. |
| CAMBRIAN | Vss | | – | dirty poorly bedded arenaceous volconiclastic. |
| | Vi | Mt Block Volcanics | – | feldspar phyric andesitic lavas. |
| | Va | | – | siliceous acid lavas. |

| | | |
|---|---|---|
| mf Vi | – | medium feldspar porphyritic intermediate volcanic lava. |
| q vn | – | quartz veining |
| Ssilt | – | siltstone |
| ser | – | sericite |
| cb | – | carbonate |
| sil | – | silicified |

Bedding strike / dip + facing

Old working

1986 BCL Survey (Bulk Cyanide Leach)

1987 BCL Survey (Bulk Cyanide Leach)

ROCK CHIP SAMPLING

| | Cu | Zn | Ag | Au | Ba | Pb | As |
|---|---|---|---|---|---|---|---|
| 13175 | 9 | 32 | < 1 | < 0·01 | 260 | 10 | 14 |
| 13176 | 12 | 8 | < 1 | < 0·01 | 200 | 22 | 22 |
| 13177 | 16 | 16 | < 1 | < 0·01 | 350 | 6 | 22 |
| 13178 | 10 | 34 | < 1 | < 0·01 | 160 | 28 | 16 |
| 13179 | 4 | 3 | < 1 | < 0·01 | 530 | < 4 | 10 |
| 13180 | 3 | 14 | < 1 | < 0·01 | 430 | 4 | 6 |
| 13181 | 3 | 18 | < 1 | < 0·01 | 510 | 14 | 5 |
| 13182 | 14 | 14 | < 1 | < 0·01 | 330 | < 4 | 7 |
| 13183 | 6 | 8 | < 1 | < 0·01 | 250 | 10 | 12 |
| 13184 | 3 | 4 | < 1 | < 0·01 | 450 | 8 | 7 |
| 13185 | 2 | 14 | < 1 | < 0·01 | 280 | 6 | 9 |
| 13186 | 4 | 34 | < 1 | < 0·01 | 350 | 44 | 46 |
| 13187 | 5 | 40 | < 1 | < 0·01 | 190 | 4 | 18 |
| 13188 | 6 | 30 | < 1 | < 0·01 | 360 | 10 | 16 |
| 13189 | 9 | 18 | < 1 | < 0·01 | 770 | 8 | 20 |
| 13190 | 14 | 80 | 1 | < 0·01 | 520 | 690 | 200 |
| 13191 | 4 | 30 | < 1 | < 0·01 | 220 | 34 | 34 |
| 13192 | 14 | 34 | < 1 | < 0·01 | 330 | 20 | 42 |
| 13193 | 18 | 1400 | < 1 | < 0·01 | 170 | 300 | 28 |
| 13194 | 2 | 36 | < 1 | < 0·01 | 980 | 26 | 30 |
| 13195 | 10 | 65 | < 1 | < 0·01 | 450 | 28 | 26 |
| 13196 | 6 | 28 | < 1 | < 0·01 | 400 | 18 | 12 |
| 13197 | 6 | 10 | < 1 | < 0·01 | 250 | < 4 | 9 |
| 13198 | 10 | 34 | < 1 | < 0·01 | 430 | 12 | 14 |
| 13199 | 10 | 55 | < 1 | 0·02 | 290 | 22 | 9 |
| 13200 | 10 | 38 | < 1 | < 0·01 | 135 | 16 | 7 |
| 14301 | 7 | 8 | < 1 | < 0·01 | 330 | 6 | 8 |
| 14302 | < 2 | 12 | < 1 | < 0·01 | 440 | 18 | 12 |
| 14303 | 7 | 24 | < 1 | < 0·01 | 310 | 6 | 10 |
| 14304 | 7 | 110 | < 1 | < 0·01 | 370 | 40 | 65 |
| | AAS | | | F.A. | XRF (ppm) | | |

7486

671061

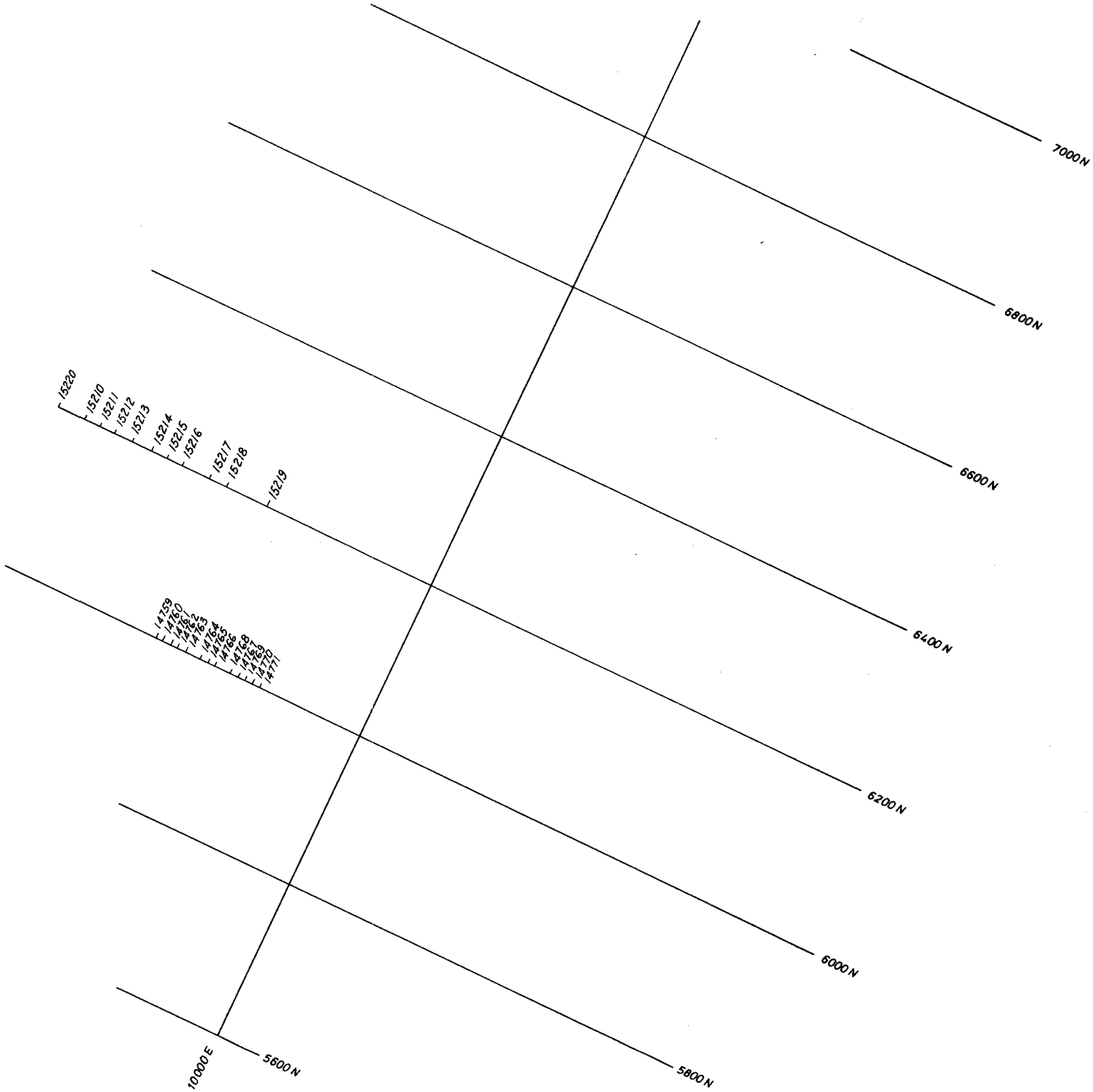
5 cm

89-2925

**Billiton Australia**
The Metals Division of the Shell Company of Australia Limited

| | |
|---|---|
| Project | HENTY FAULT ZONE |
| Title | GEOLOGICAL BASE<br>ROCK CHIP SAMPLING |
| Author J.P.R. Dept. | Scale 1:5000 |
| Drawn O.H. Date 11/87 | Revised Date |
| Checked Date | S'ceded Date |
| Sheet No. FIG. No. 5 | Drawing No. D/LJ 50/029 |

671062




5 cm

89-2925

| Sample No. | Au | Cu | Zn | Pb | Ag | As | Ba |
|---|---|---|---|---|---|---|---|
| 14759 | <0.01 | <2 | 26 | 7 | <1 | <2 | 830 |
| 14760 | <0.01 | 4 | 54 | 6 | <1 | <2 | 640 |
| 14761 | 0.03 | <2 | 22 | <2 | <1 | <2 | 830 |
| 14762 | <0.01 | 20 | 68 | 17 | <1 | <2 | 850 |
| 14763 | 0.01 | 58 | 30 | 8 | <1 | 9 | 1160 |
| 14764 | 0.01 | 18 | 80 | 17 | <1 | 16 | 1240 |
| 14765 | <0.01 | 12 | 40 | 13 | <1 | <2 | 1220 |
| 14766 | 0.01 | 12 | 52 | 2 | <1 | 2 | 980 |
| 14768 | 0.02 | 30 | 42 | 24 | <1 | 7 | 1020 |
| 14767 | <0.01 | 7 | 28 | 15 | <1 | <2 | 770 |
| 14769 | <0.01 | 6 | 14 | 20 | <1 | <2 | 690 |
| 14770 | <0.01 | 6 | 11 | 2 | <1 | 4 | 820 |
| 14771 | <0.01 | 10 | 19 | 9 | <1 | <2 | 900 |
| 15220 | <0.01 | 3 | 38 | 9 | <1 | <2 | 810 |
| 15210 | 0.04 | 4 | 42 | 11 | <1 | 28 | 710 |
| 15211 | <0.01 | 9 | 34 | 19 | <1 | 28 | 630 |
| 15212 | 0.02 | 5 | 140 | 24 | <1 | <2 | 750 |
| 15213 | 0.03 | 3 | 80 | 22 | <1 | <2 | 920 |
| 15214 | <0.01 | 4 | 145 | 9 | <1 | <2 | 820 |
| 15215 | 0.03 | 5 | 60 | 46 | <1 | 3 | 830 |
| 15216 | 0.01 | 2 | 26 | 12 | <1 | 3 | 820 |
| 15217 | <0.01 | 2 | 48 | 10 | <1 | <2 | 930 |
| 15218 | <0.01 | 5 | 60 | 2 | <1 | <2 | 930 |
| 15219 | 0.03 | <2 | 16 | <2 | <1 | <2 | 830 |
| | ppm | ppm | ppm | ppm | ppm | ppm | ppm |

**Billiton Australia**
The Metals Division of the Shell Company of Australia Limited

Project: LAKE MACKINTOSH J.V.

Title:

ROCK CHIP GEOCHEMISTRY

UTEM ANOMALY FOLLOWUP

SHEET 3

| | | | |
|---|---|---|---|
| Author CJC | Date 7/88 | Scale 1:5000 | |
| Drawn OH | Office TAS | Revised | Date |
| Drawing No. D/LJ 60/001 | | | Fig. No. 6 |

7987

7988

# Lake Mackintosh

## GEOLOGICAL LEGEND

| | | | |
|---|---|---|---|
| QUATERNARY | Qg 5 | | Superficial fluvioglacial gravels. |
| JURASSIC ? | Jdl 22 | | Dolerite ( Post tectonic - intrusives ? ) |
| EARLY ORDOVICIAN "OWEN CONGLOMERATE" | Oc 6 | | Siliceous / quartzitic pebbly - conglomerate and sandstone. |
| CAMBRIAN | | | |
| "FARRELL SLATES" - "DUNDAS GROUP" EQUIVALENTS | Ess 58 | | Grey to black slate. Sometimes wealdy pyritic. |
| | Esg 64 | | Micaceous and/or tuffaceous fine to medium grained greywacke and siltstone, massive or laminated/turbiditic. |
| | Esl 55 | | Medium to coarse grained feldspathic/tuffaceous lithiwacke. |
| UNDIFFERENTIATED PYRO - EPI - CLASTICS | Ees 51 | | Fine grained tuffaceous/sericitic/siliceous siltstone ? ; massive to finely laminated. |
| | Eef 68 | | Ultra fine grained, pale grey tuffaceous - cherty silstone ? ; usually massive, rarely laminated or brecciated. |
| "MT. READ VOLCANICS" "CENTRAL VOLCANIC SEQUENCE" | Epa 48 | | Fine to medium grained felsic, usually feldspar phyric, tuffs ; occasionally well bedded. |
| | Epp 47 | | Pumiceous, feldspar phyric, wealdy lithic, ignidioritic tuffs. |
| | Epf 40 | | "Rhyodacitic - Rhyolitic" lapilli tuffs, often pumiceous. |
| | Epb 41 | | "Rhyodacitic - Rhyolitic" coarse volcanic breccia. |
| | Evr 38 | | "Rhyodacitic - Rhyolitic" feldspar (qtz) phyric extrusives. Often partly autobrecciated. |
| | Evd 29 | | "Dacitic" feldspar + ferromagnesian phyric, vesicular / amygdoidal extrusives. Possibly partly intrusive. |
| | Eir 45 | | "Rhyolitic" Quartz + feldspar ± biotite Porphyry. Probably intrusive. |

## GEOLOGICAL SYMBOLS

Generally according to BMR System (1963)

- Banding in igneous rocks.
- Bedding
- Bedding with younging direction
- Cleavage
- Joint
- Other planar features, contacts, fault planes etc.
- Direction and plunge of vesicle/amygdale lineation in Evd.
- Outcrop Boundary.
- Area of float, scree
- O Bedrock sample location
- 101509 Rock chip sample location
- E.L. boundary
- 5 383 000 mN A.M.G. co-ordinates
- Topographic contours in metres
- Track
- Creek

5 cm

89-2925

671063

PANCONTINENTAL MINING LIMITED
PANCON EXPLORATION DIVISION

LAKE MACKINTOSH PROSPECT
E.L. 42/86 - TASMANIA

GEOLOGICAL PLAN

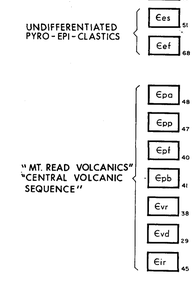
Additional mapping Bitliton Aust. March 1989 FIG. 7

SCALE 1:5000

0 100 200 300 400 500
METRES

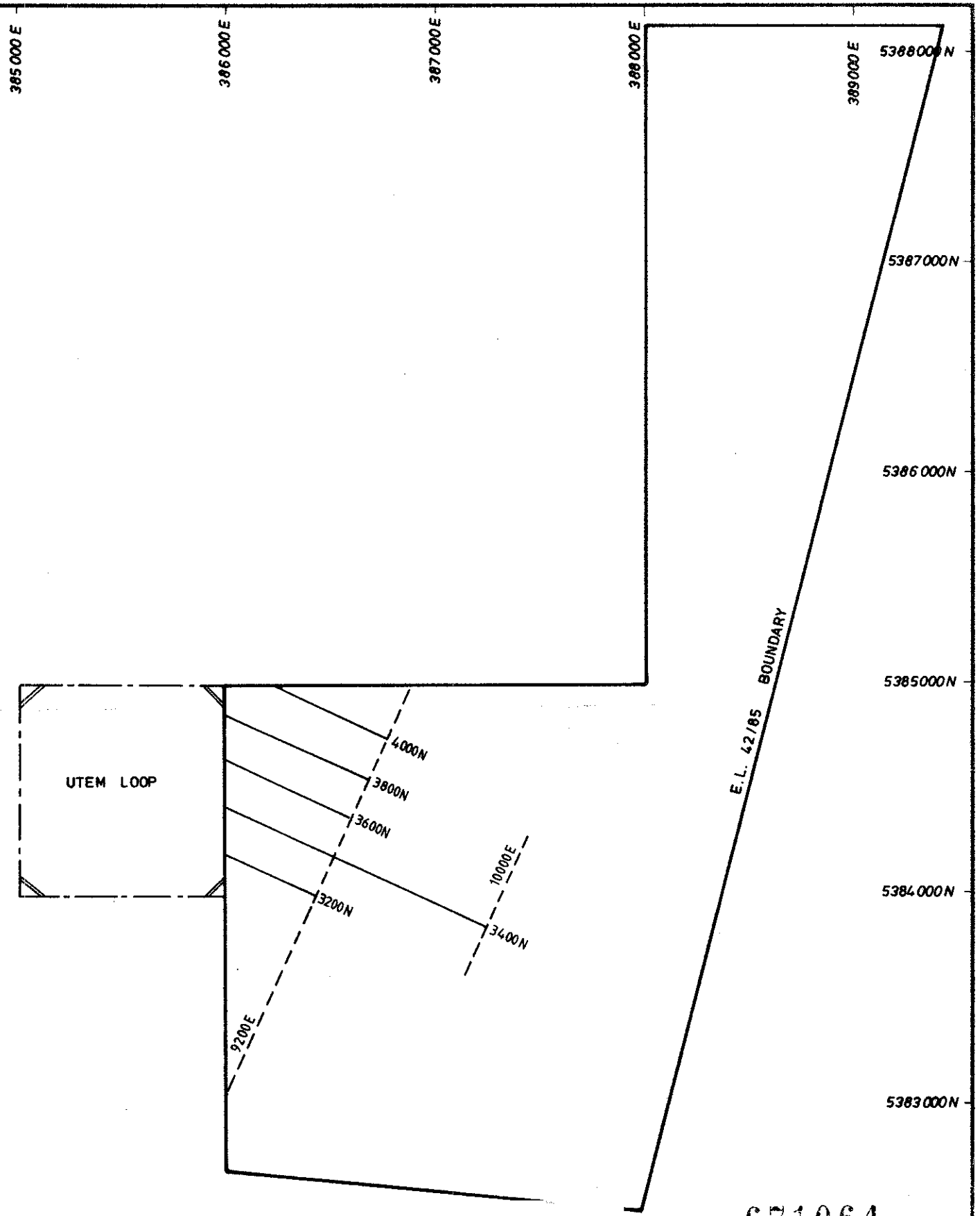
| | | |
|---|---|---|
| Compiled W.H. | Date December 1986 | Dwg. No 37/D/1 |
| Report No 87/43 | Map Ref. SK 55-3 | PLATE 1 |

Updated : JUNE, 1987




LOCATION PLAN

7988




671064

Billiton Australia
The Metals Division of the Shell Company of Australia Limited

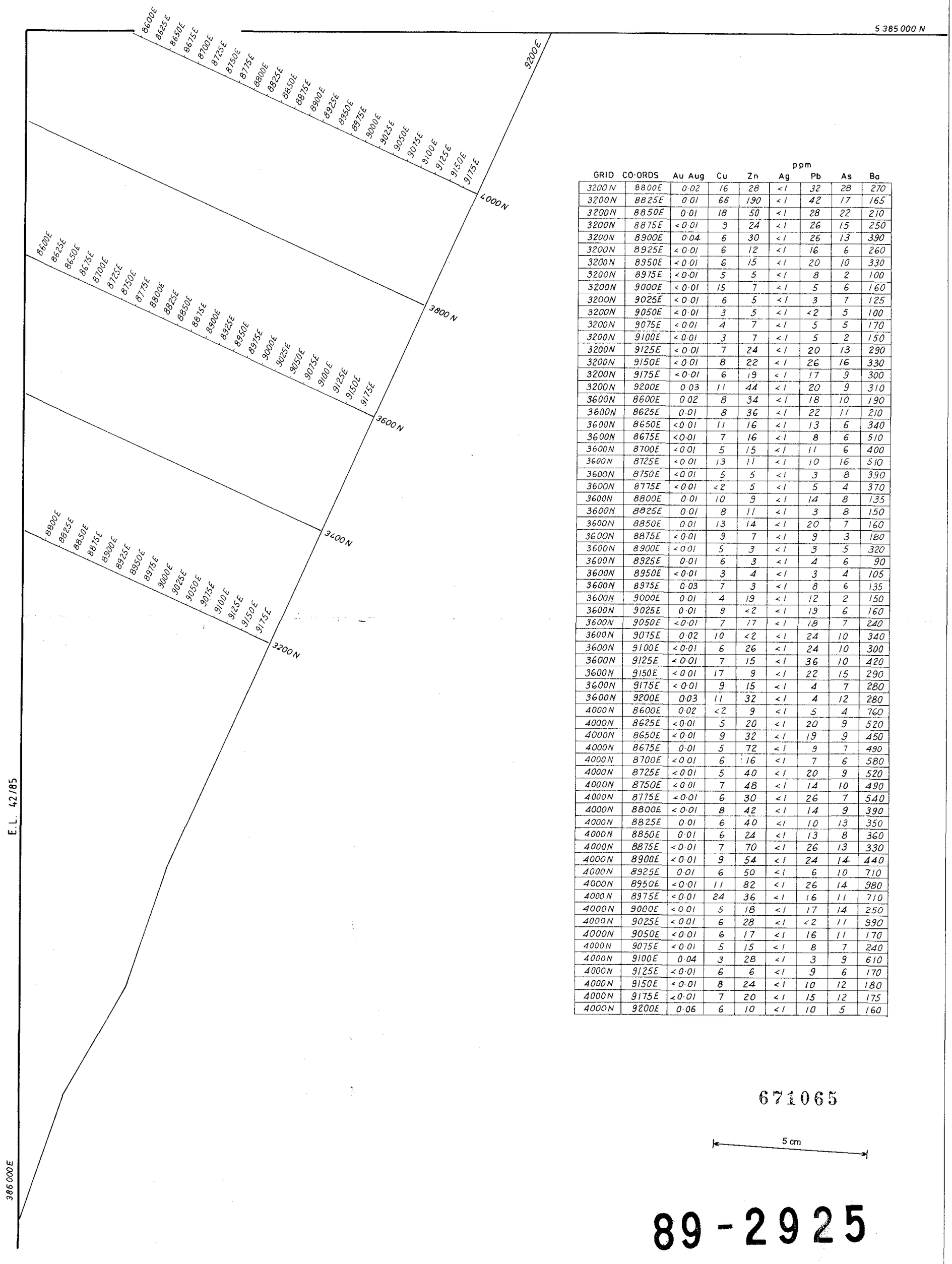
Project: LAKE MACKINTOSH

Title: UTEM SURVEY LINES
MARCH 1989 E.L. 42/85

| | | | |
|---|---|---|---|
| Author CJC | Date 3/89 | Scale 1: 25000 | |
| Drawn OH | Office TAS | Revised | Date |
| Drawing No. D/LJ 80/004 | | | Fig. No. 8 |

89-2925

7989




| GRID | CO-ORDS | Au Aug | Cu | Zn | Ag | Pb | As | Ba |
|---|---|---|---|---|---|---|---|---|
| | | | | | ppm | | | |
| 3200N | 8800E | 0·02 | 16 | 28 | <1 | 32 | 28 | 270 |
| 3200N | 8825E | 0·01 | 66 | 190 | <1 | 42 | 17 | 165 |
| 3200N | 8850E | 0·01 | 18 | 50 | <1 | 28 | 22 | 210 |
| 3200N | 8875E | <0·01 | 9 | 24 | <1 | 26 | 15 | 250 |
| 3200N | 8900E | 0·04 | 6 | 30 | <1 | 26 | 13 | 390 |
| 3200N | 8925E | <0·01 | 6 | 12 | <1 | 16 | 6 | 260 |
| 3200N | 8950E | <0·01 | 6 | 15 | <1 | 20 | 10 | 330 |
| 3200N | 8975E | <0·01 | 5 | 5 | <1 | 8 | 2 | 100 |
| 3200N | 9000E | <0·01 | 15 | 7 | <1 | 5 | 6 | 160 |
| 3200N | 9025E | <0·01 | 6 | 5 | <1 | 3 | 7 | 125 |
| 3200N | 9050E | <0·01 | 3 | 5 | <1 | <2 | 5 | 100 |
| 3200N | 9075E | <0·01 | 4 | 7 | <1 | 5 | 5 | 170 |
| 3200N | 9100E | <0·01 | 3 | 7 | <1 | 5 | 2 | 150 |
| 3200N | 9125E | <0·01 | 7 | 24 | <1 | 20 | 13 | 290 |
| 3200N | 9150E | <0·01 | 8 | 22 | <1 | 26 | 16 | 330 |
| 3200N | 9175E | <0·01 | 6 | 19 | <1 | 17 | 9 | 300 |
| 3200N | 9200E | 0·03 | 11 | 44 | <1 | 20 | 9 | 310 |
| 3600N | 8600E | 0·02 | 8 | 34 | <1 | 18 | 10 | 190 |
| 3600N | 8625E | 0·01 | 8 | 36 | <1 | 22 | 11 | 210 |
| 3600N | 8650E | <0·01 | 11 | 16 | <1 | 13 | 6 | 340 |
| 3600N | 8675E | <0·01 | 7 | 16 | <1 | 8 | 6 | 510 |
| 3600N | 8700E | <0·01 | 5 | 15 | <1 | 11 | 6 | 400 |
| 3600N | 8725E | <0·01 | 13 | 11 | <1 | 10 | 16 | 510 |
| 3600N | 8750E | <0·01 | 5 | 5 | <1 | 3 | 8 | 390 |
| 3600N | 8775E | <0·01 | <2 | 5 | <1 | 5 | 4 | 370 |
| 3600N | 8800E | 0·01 | 10 | 9 | <1 | 14 | 8 | 135 |
| 3600N | 8825E | 0·01 | 8 | 11 | <1 | 3 | 8 | 150 |
| 3600N | 8850E | 0·01 | 13 | 14 | <1 | 20 | 7 | 160 |
| 3600N | 8875E | <0·01 | 9 | 7 | <1 | 9 | 3 | 180 |
| 3600N | 8900E | <0·01 | 5 | 3 | <1 | 3 | 5 | 320 |
| 3600N | 8925E | 0·01 | 6 | 3 | <1 | 4 | 6 | 90 |
| 3600N | 8950E | <0·01 | 3 | 4 | <1 | 3 | 4 | 105 |
| 3600N | 8975E | 0·03 | 7 | 3 | <1 | 8 | 6 | 135 |
| 3600N | 9000E | 0·01 | 4 | 19 | <1 | 12 | 2 | 150 |
| 3600N | 9025E | 0·01 | 9 | <2 | <1 | 19 | 6 | 160 |
| 3600N | 9050E | <0·01 | 7 | 17 | <1 | 18 | 7 | 240 |
| 3600N | 9075E | 0·02 | 10 | <2 | <1 | 24 | 10 | 340 |
| 3600N | 9100E | <0·01 | 6 | 26 | <1 | 24 | 10 | 300 |
| 3600N | 9125E | <0·01 | 7 | 15 | <1 | 36 | 10 | 420 |
| 3600N | 9150E | <0·01 | 17 | 9 | <1 | 22 | 15 | 290 |
| 3600N | 9175E | <0·01 | 9 | 15 | <1 | 4 | 7 | 280 |
| 3600N | 9200E | 0·03 | 11 | 32 | <1 | 4 | 12 | 280 |
| 4000N | 8600E | 0·02 | <2 | 9 | <1 | 5 | 4 | 760 |
| 4000N | 8625E | <0·01 | 5 | 20 | <1 | 20 | 9 | 520 |
| 4000N | 8650E | <0·01 | 9 | 32 | <1 | 19 | 9 | 450 |
| 4000N | 8675E | 0·01 | 5 | 72 | <1 | 9 | 7 | 490 |
| 4000N | 8700E | <0·01 | 6 | 16 | <1 | 7 | 6 | 580 |
| 4000N | 8725E | <0·01 | 5 | 40 | <1 | 20 | 9 | 520 |
| 4000N | 8750E | <0·01 | 7 | 48 | <1 | 14 | 10 | 490 |
| 4000N | 8775E | <0·01 | 6 | 30 | <1 | 26 | 7 | 540 |
| 4000N | 8800E | <0·01 | 8 | 42 | <1 | 14 | 9 | 390 |
| 4000N | 8825E | 0·01 | 6 | 40 | <1 | 10 | 13 | 350 |
| 4000N | 8850E | 0·01 | 6 | 24 | <1 | 13 | 8 | 360 |
| 4000N | 8875E | <0·01 | 7 | 70 | <1 | 26 | 13 | 330 |
| 4000N | 8900E | <0·01 | 9 | 54 | <1 | 24 | 14 | 440 |
| 4000N | 8925E | 0·01 | 6 | 50 | <1 | 6 | 10 | 710 |
| 4000N | 8950E | <0·01 | 11 | 82 | <1 | 26 | 14 | 980 |
| 4000N | 8975E | <0·01 | 24 | 36 | <1 | 16 | 11 | 710 |
| 4000N | 9000E | <0·01 | 5 | 18 | <1 | 17 | 14 | 250 |
| 4000N | 9025E | <0·01 | 6 | 28 | <1 | <2 | 11 | 990 |
| 4000N | 9050E | <0·01 | 6 | 17 | <1 | 16 | 11 | 170 |
| 4000N | 9075E | <0·01 | 5 | 15 | <1 | 8 | 7 | 240 |
| 4000N | 9100E | 0·04 | 3 | 28 | <1 | 3 | 9 | 610 |
| 4000N | 9125E | <0·01 | 6 | 6 | <1 | 9 | 6 | 170 |
| 4000N | 9150E | <0·01 | 8 | 24 | <1 | 10 | 12 | 180 |
| 4000N | 9175E | <0·01 | 7 | 20 | <1 | 15 | 12 | 175 |
| 4000N | 9200E | 0·06 | 6 | 10 | <1 | 10 | 5 | 160 |

671065

5 cm

89-2925

**Billiton Australia**
The Metals Division of the Shell Company of Australia Limited

Project: LAKE MACKINTOSH

Title: E.L. 42/85
GRID EXTENSIONS
AUGER GEOCHEMISTRY

| | | | |
|---|---|---|---|
| Author CJC | Dept. TAS | Scale 1:5000 | |
| Drawn OH | Date 3/89 | Revised | Date |
| Checked | Date | S'ceded | Date |
| Sheet No. FIG No.9 | | Drawing No. D/LJ 80/006 | |

7990

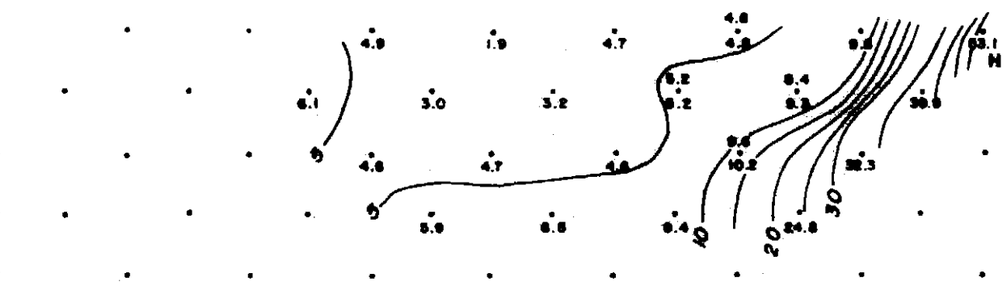
58

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

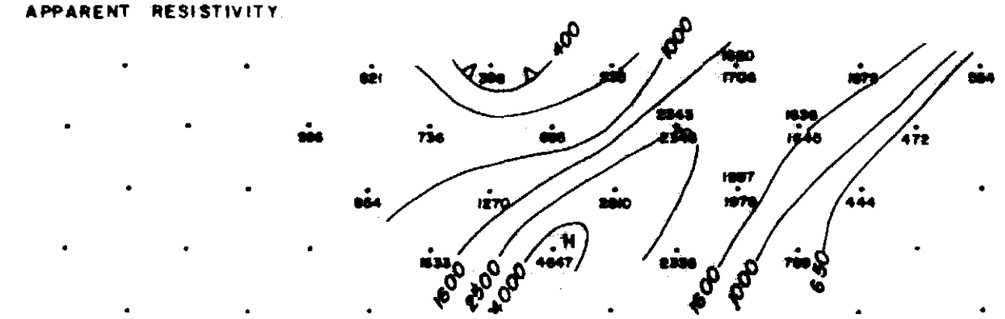
GEOLOGY
& TOPOGRAPHY

100E 200 300 400 500E

APPARENT CHARGEABILITY.




APPARENT RESISTIVITY




671066

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE - DIPOLE
Dipole length : 50m

89-2925

**Billiton Australia**

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 2200N

| Author: N.H | Date: 12/87 | Scale: 1:2,500 |
|---|---|---|
| Drawn: | Office | Revised: Date: |

Drawing No: LJ80/1006 Fig No: 10

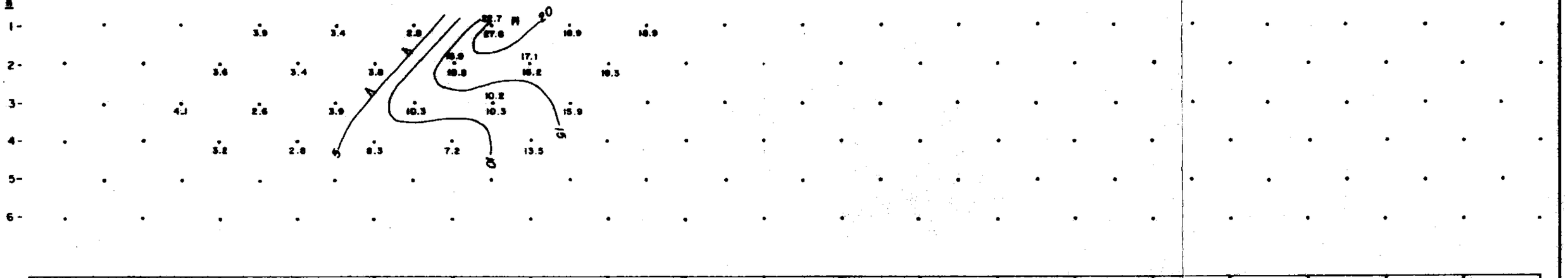
59

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

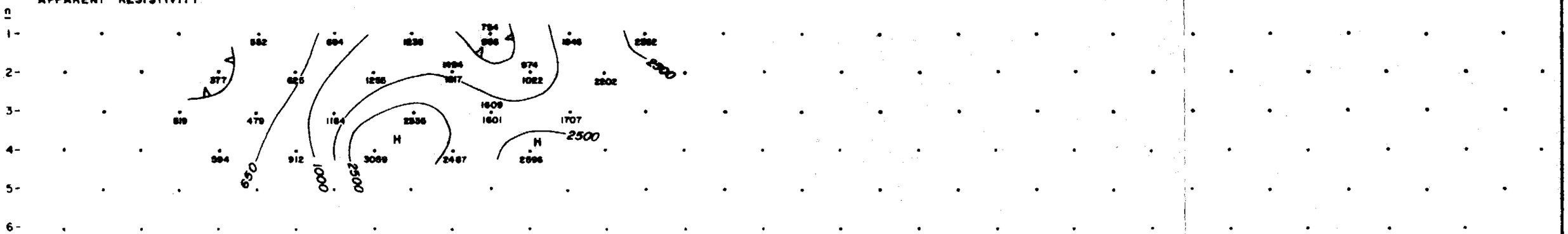
GEOLOGY
TOPOGRAPHY

100E 200E 300E 400E 500E 600E

APPARENT CHARGEABILITY.




APPARENT RESISTIVITY




671067

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50m

89-2925

**Billiton Australia**

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 2400N

| | | | |
|---|---|---|---|
| Author: M.H. | Date: 12/87 | Scale: 1:2,500 | |
| Drawn | Office | Revised | Date |
| Drawing No: LJ80/1003 | | Fig No: // | |

60

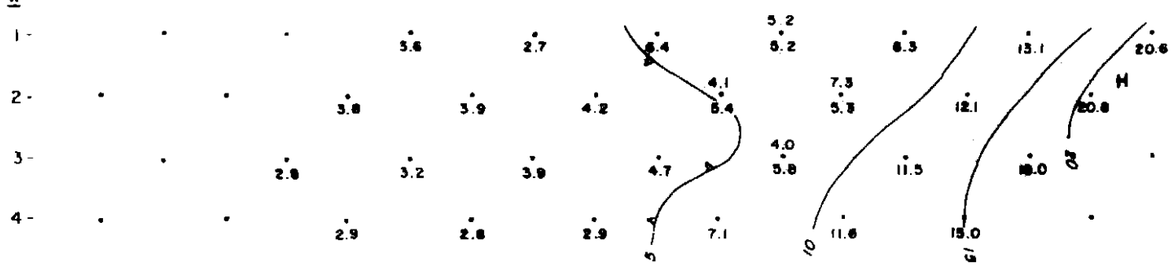
AIRBORNE GEOPHYSICS
(E.M, MAG, etc)

GEOLOGY
& TOPOGRAPHY

100E 200E 300E 400E 500E

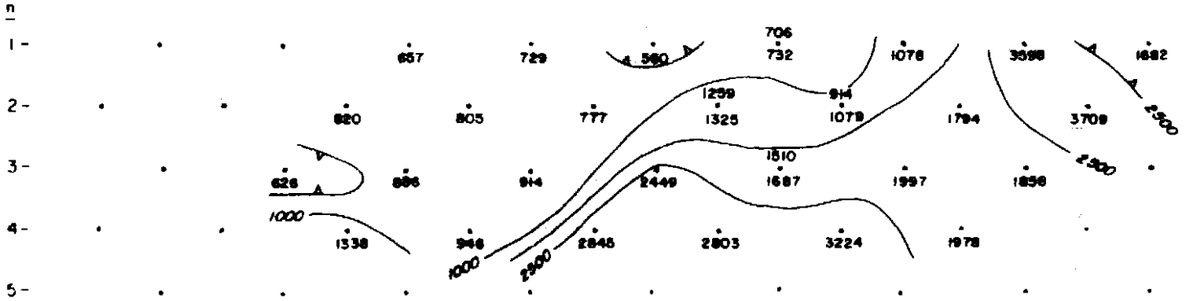
APPARENT CHARGEABILITY

n




APPARENT RESISTIVITY

n




671068

5 cm

| | |
|---|---|
| Contractor | SCINTREX |
| Date | 6/11/87 |
| Timing | 2 sec on-off |
| Transmitter | |
| Receiver | IPR-8 |
| Integration time | $M_3$ |
| Array | DIPOLE/DIPOLE |
| Dipole length | 50 m |

89-2925

**Billiton Australia**

LAKE MACKINTOSH, TAS

I.P./RESISTIVITY SURVEY
LINE 2600N

Author N.H. Date 12/87 Scale 1:2500
Drawn Office Revised Date
Drawing No. LJ80/1005 Fig No. 12

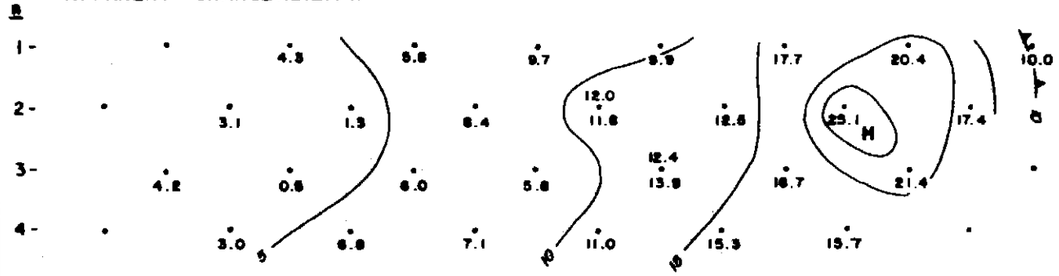
19

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

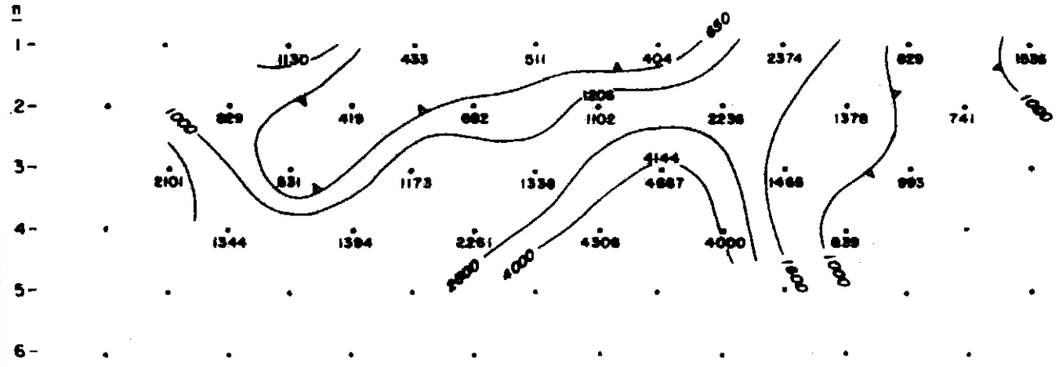
GEOLOGY
& TOPOGRAPHY

200E 300E 400E 500E 600E

APPARENT CHARGEABILITY.




APPARENT RESISTIVITY.




671069

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50 m

89-2925

N

Billiton Australia

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 2800N

| Author N.N. | Date 12/87 | Scale 1:2500 |
|---|---|---|
| Drawn | Office | Revised Date |

Drawing No. LJ80/1007 Fig No. 12

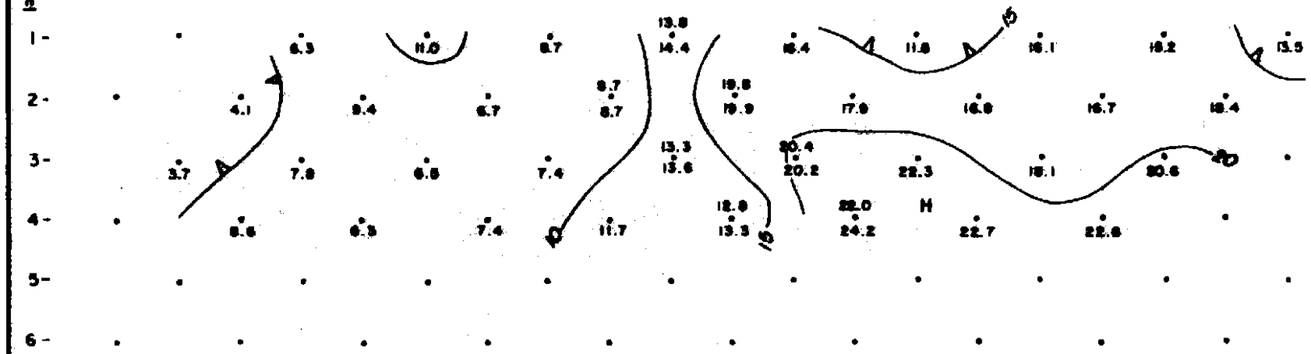
62

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

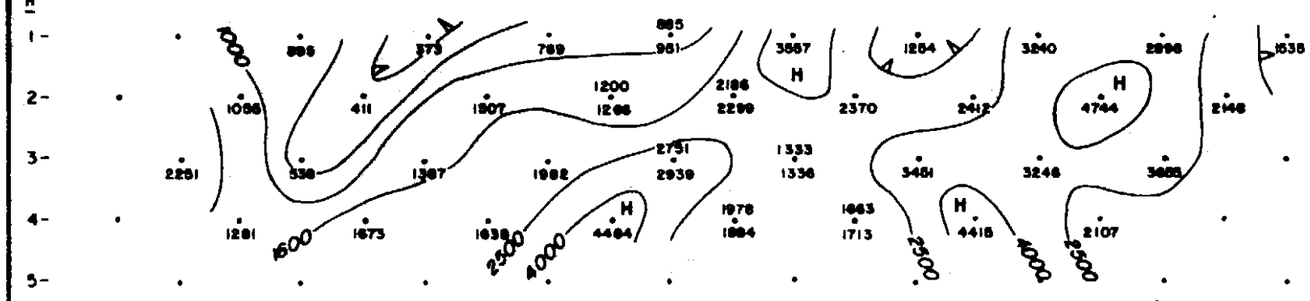
GEOLOGY
& TOPOGRAPHY

200E 300E 400E 500E 600E 700E

APPARENT CHARGEABILITY.




APPARENT RESISTIVITY.




671070

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50m

89-2925

**Billiton Australia**

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 3000N

| Author N.H. | Date 12/87 | Scale 1:2,500 |
|---|---|---|
| Drawn | Office | Revised / Date |
| Drawing No. LJ80/1009 | | Fig. No. 14 |

63

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

GEOLOGY
& TOPOGRAPHY

200E 300 400 500 ← QUARRY → 700 800E

APPARENT CHARGEABILITY.

n
1-
2-
3-
4-
5-
6-

APPARENT RESISTIVITY.

n
1-
2-
3-
4-
5-
6-

671071

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50m

89-2925

| Billiton Australia | |
|---|---|
| Project: LAKE MACKINTOSH, TAS | |
| Title: I.P./RESISTIVITY SURVEY LINE 3200N | |
| Author: M.H. Date: 12/87 | Scale: 1:2,500 |
| Drawn: Office | Revised: Date: |
| Drawing No: LJ80/1001 | Fig No: 15 |

64

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

GEOLOGY
& TOPOGRAPHY

200E 300 400 500 600 700 ← QUARRY → 800E

APPARENT CHARGEABILITY.

n

1- 10.4 8.8 7.6 4.2 8.8 26.2 33.8 32.2 20.1 29.7 27.1

2- 10.4 8.7 9.3 4.8 9.4 20.6 26.1 28.4 26.8 24.8 31.7

3- 8.8 5.8 4.3 11.1 21.8 22.8 19.7 27.7 29.1 30.2

4- 6.0 3.3 13.2 23.8 19.9 19.1 17.8 30.6 36.8 37

5-

6-

APPARENT RESISTIVITY.

n

1- 681 772 829 882 804 1320 1963 1301 2138 1697 1716

2- 1057 792 1080 879 1479 1774 1068 1212 3038 2827 1536

3- 1167 886 1126 2362 2956 1429 906 2823 4203 3014

4- 1242 860 2522 4493 2528 774 1296 3585 4880

5-

6-

671072

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50m

89-2925

Billiton Australia

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 3400N

Author: N.H. Date: 12/87 Scale: 1:2,500
Drawn: Office Revised: Date:
Drawing No: LJ80/1010 Fig No: 16

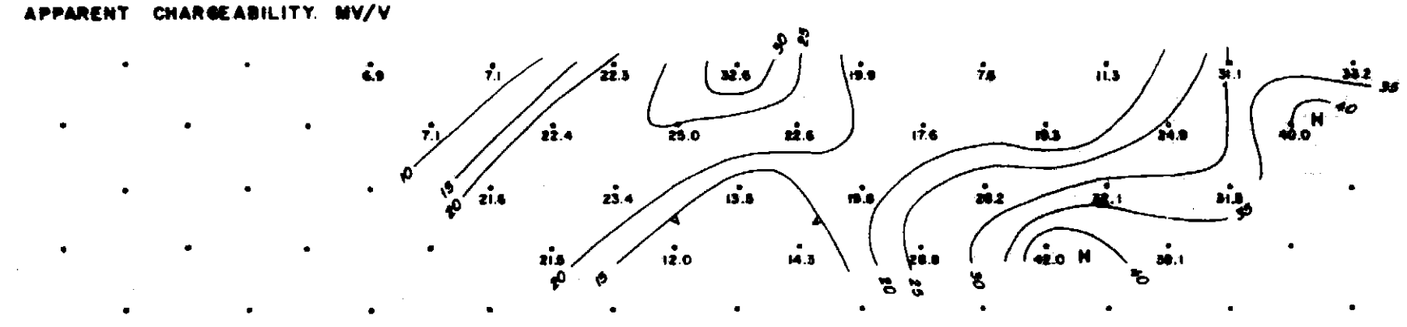
65

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

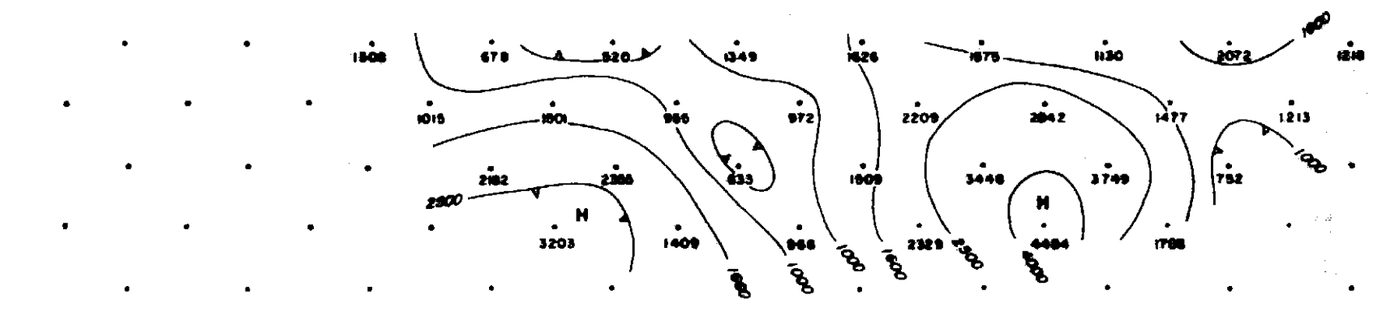
GEOLOGY
& TOPOGRAPHY

300E 400 500 600 700 800E

APPARENT CHARGEABILITY. MV/V




APPARENT RESISTIVITY. Ω/m




671073

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec. on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE - DIPOLE
Dipole length : 50m

89-2925

Billiton Australia

Project: LAKE MACKINTOSH, TAS

Title: IP/RESISTIVITY SURVEY
LINE 8600N

Author: N.H. Date: 12/87 | Scale: 1:2 500
Drawn: Office | Revised: Date
Drawing No: LJ80/1002 | Fig No: 17

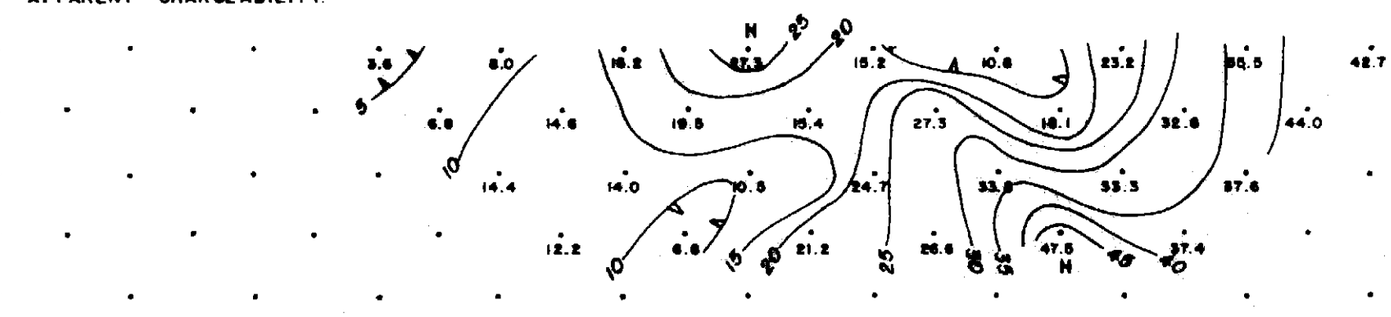
66

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

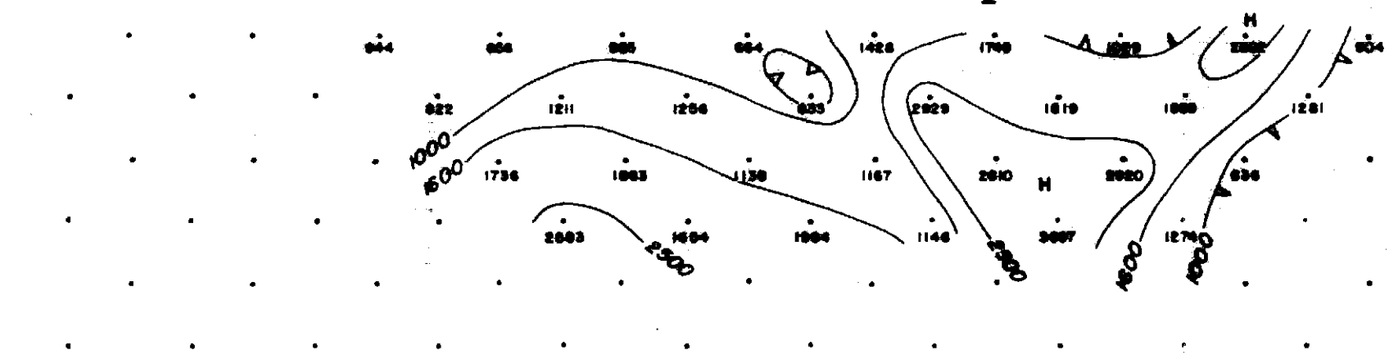
GEOLOGY
& TOPOGRAPHY

300E 400 500 600 700 800E

APPARENT CHARGEABILITY




APPARENT RESISTIVITY




671074

5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE-DIPOLE
Dipole length : 50m

89-2925

Billiton Australia

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 3800N

Author: R.H. Date: 12/87 Scale: 1:2,500
Drawn: Office: Revised: Date:
Drawing No: LM80/1003 Fig No: 18

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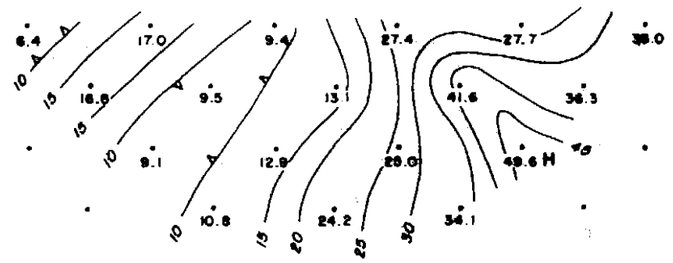
AIRBORNE GEOPHYSICS
(EM, MAG, etc)

GEOLOGY
& TOPOGRAPHY

300 E 400 E 500 E 600 E 700 E 800 E

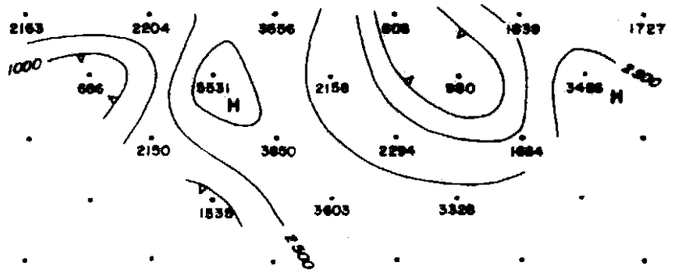
APPARENT CHARGEABILITY

n




APPARENT RESISTIVITY

n




5 cm

Contractor : SCINTREX
Date : 6/11/87
Timing : 2 sec on-off
Transmitter :
Receiver : IPR-8
Integration time : $M_3$
Array : DIPOLE - DIPOLE
Dipole length : 50m

671075

89-2925

**Billiton Australia**

Project: LAKE MACKINTOSH, TAS

Title: I.P./RESISTIVITY SURVEY
LINE 4000 N

| | | | |
|---|---|---|---|
| Author N.H. | Date 12/87 | Scale 1:2500 | |
| Drawn | Office | Revised | Date |
| Drawing No. LJ80/1008 | | Fig No. 19 | |