CRA EXPLORATION PTY LIMITED

SHEFFIELD EL 7/73

ELECTROMAGNETIC SURVEYS IN THE SHEFFIELD AREA EL (7/73) IN TASMANIA DURING 1985

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CONTENTS

CONTENTS

1. SUMMARY

During 1985 the UTEM, SCINTREX SE-88 GENIE and VLF Electromagnetic systems were used on the Sheffield EL (EL 7/73). Prospects tested were Beulah Extended, Garden of Eden, Simonds, Lake Barrington and Gog Range. The Stonebridge Baryte prospect was tested in late 1984 and a memo covering that survey is included as Appendix 1.

Interesting anomalies were recorded on the Garden of Eden and Simonds grids of which the one at Simonds is considered to be of highest priority as it appears to lie along strike from the Beulah Baryte Ba/Pb occurrence.

2. INTRODUCTION

The Garden of Eden, Simonds and Lake Barrington grids and an extension of the Beulah grid were surveyed by the UTEM system - a ground transient electromagnetic method. The aim was to test for massive lead-zinc mineralisation related to a Barite occurrence at Beulah and to geochemical anomalies. At the Lake Barrington prospect it was felt that we might encounter copper mineralisation in the vicinity of an IP and geochemical anomaly.

On the Garden of Eden prospect 13 lines of 700 metre length were surveyed. The Simonds programme consisted of 9 lines of 700 metre length and the extension to the Beulah grid comprised 5 lines also of 700 metre length to the west of the old Beulah grid.

Lamontagne Geophysics was contracted to perform the survey.

Field work was done in two periods in early 1985.

Following the interpretation of the UTEM surveys VLFEM traverses were completed across the major anomalies to detect any surface conductivity problems that might have been affecting the UTEM data. The work was completed using the CRA VLFEM unit.

A survey across the Gog Range geochemical anomaly was commissioned to investigate the possibility of a massive sulphide body at shallow depth being the source of the high Pb, Zn and Cu values. The GENIE frequency EM system was selected as a technique likely to provide an answer rapidly and inexpensively on a number of lines across the main part of the anomaly. Six lines were surveyed each with a length of 400 metres. The system was hired from Scintrex Pty Ltd and the work was completed in house. While the GENIE system was available further traverses were also completed across the earlier detected UTEM anomalies near Beulah.

3. CONCLUSIONS AND RECOMMENDATIONS

A broad, short time constant anomaly across the eastern end of the Simonds grid was located. It has no VLF response associated with it indicating that it is not due to any shallow effect. The anomaly was also definable using the GENIE system and is at its shallowest point associated with a geochemical anomaly.

On the Garden of Eden grid there is a similar response. On both these grids and on the Beulah extension there are a number of smaller narrow and therefore shallow responses which correlate to some extent with the stratigraphy. No strong conductive responses were detected on the Lake Barrington grid except for the effect of the basalt at the northern end of the extended grid. It appears unlikely that there is a large sulphide body of measurable conductivity present within the grid area.

The Gog Range data proved very affected by geologic noise indicating that there is considerable difference between the conductivity of the various units in the area but no clear conductive response was detected. It is therefore inferred that there is no sizeable massive sulphide body within 80 metres of the surface.

It is recommended that:-

1. The Garden of Eden grid be extended to the east to cover a possible east plunging extension of the source of the anomaly and that when the anomaly is fully located it be tested by drilling.

2. The Simonds anomaly be mapped and tested by drilling on line 2100W where there is best coincidence between the UTEM and GENIE responses.

3. No further geophysical work or drilling be done on the Lake Barrington prospect in light of the present economic constraints.

4. At present it appears that it is unlikely that we will be able to fit in an ore body of the size that is required by CRA in the present economic climate at Gog Range. If the money becomes available and the GENIE system is available in Tasmania it should not be expensive to attempt to relocate the old geochemical survey lines in order to quickly outline the small conductor on the western end of the grid.

4. DISCUSSION

4.1 Survey Parameters

All lines were pegged at 25 metre spacings using compass and topofil.

4.1.1 UTEM

The UTEM III system was used to take readings of the vertical field at 25 metre intervals. A frequency of 26.23Hz was used.

4.1.2 GENIE

The Scintrex SE-88 GENIE frequency EM system was used to take readings of two frequency pairs (3037.5Hz/112.5Hz and 337.5Hz/112.5Hz) at 25 metre intervals along four lines on the Simonds grid and seven lines on the Gog Range grid. The GENIE traverses were performed with a TX/RX separation of 100 metres except in the case of line 38E at Gog Range which was traversed at a 50 metre spacing.

4.1.3 VLFEM

The Phoenix VLF1 system was used to measure the VLF response along lines 2000W and 2100W on the Simonds grid. Readings were taken at 25 metre spacings. North West Cape was used as the transmitting station.

4.1.4 Ground Magnetics

Readings were taken at 12.5 metre spacings on all lines on the grids in the Beulah area with a Geometrics G856 proton precession magnetometer.

4.2 Data Presentation

4.2.1 Simonds, Beulah and Garden of Eden Grids

The data is presented in the form of continuously normalised profiles and as contour plans for channel four and five.

The contour plans are produced by removing a half space response from the continuously normalised data and processing the result with Fraser's filter to cause the typical crossover anomalies to be depicted as peaks. The result is at best a guide to relative anomaly positions. The position of the anomalies is sometimes shifted by the processing, so one should refer to the anomaly plan for actual ground location. The VLFEM and GENIE results are presented as profiles.

4.2.2 Lake Barrington Grid

The UTEM results are presented as profiles of continuously normalised data, contour plots of point normalised data within the loop and contour plots of Fraser filtered data within the loop area.

4.2.3 Gog Range

The data is presented as profiles of the two frequency pairs and a plan showing positions of possible conductors.

5. INTERPRETATION

Anomalies were appraised with an eye to finding anything that would have escaped the notice of previous workers. A depth of fifty metres was decided as an arbitrary cut off above which earlier geochemical and geophysical programmes would have located a large body. Of course if anything particularly interesting had arisen it would not have been passed over simply on the basis of this criterion.

5.1 Simonds, Beulah and Garden of Eden Grids

After reduction of the UTEM data for the recent surveys and the older Beulah survey, and the production of EM contour plans it becomes evident that there is considerable conductivity variation between the various lithologies with the shales to the south of Garden of Eden and to a lesser extent Beulah showing up very strongly. Many minor zones also can be seen persisting as small shallow (narrow) conductors trending across a number of lines.

The anomalies that have previously been tested by RD84 BB3 and DD84 BB4 can be seen on the contour plan of channel six to be shallow localised conductive zones (equating depth to be broadly related to anomaly width). There can be seen to be a weakly conductive zone around the barite occurrence. PD83 BB1 seems to have been drilled into the edge of the shales where there is a discontinuity in the contact.

Two new targets have arisen out of the survey. Both are continuous across a number of lines and appear to be deep enough to not have been obvious before.

The better of the two anomalies lies on the Simonds grid and is visible on lines 2000W, 2100W, 2200W and 2300W though the response is somewhat questionable on line 2300W as it may be due to a shallower source. The anomaly shape is somewhat complicated on line 2000W by the apparently abrupt termination of the body to the east but the depth from peak to peak can be estimated at approximately 60 metres and the time constant is of the order of .6 msecs though it matches poorly with the type curves. On line 2100W the UTEM anomaly is better defined and indicates that the body is slightly deeper at 75 metres. The time constant is .6 msecs which continues to be lower than one would

expect from a massive sulphide body though just at the lower limit of those recorded from the Hellyer deposit. The source of the response appears in both cases to dip steeply to the north. Time constants were of a similar order whether modelled as a thin dyke or as a block. The anomaly continues across the next two lines but is not complete to the north making quantitative interpretation impossible.

The anomaly was retested on line 2100W using VLFEM in order to determine whether there was any surficial enhancement of the body through current channeling effects. There was no anomaly on the maximum horizontal field measurements but on the dip angle a broad anomaly was recorded at 5525N, fifty metres north of the UTEM anomaly centred at 5475N. As the indications are that the anomaly dips north, this is unlikely to be due to the same source as the UTEM response. A strongly pronounced shallow conductor was detected by VLFEM at 5170N on line 2100W. It did not appear on the UTEM traverses and so is assumed to be very localised possibly associated with a fault with relatively shallow weathering.

As the Scintrex's reconnaissance frequency EM system, the GENIE, was being used on nearby prospects it was proposed that this could be used to better define the extent and position of the anomaly as it had been interpreted to lie within 70 metres of the surface, well within the theoretical penetration limit of the GENIE system. It was first tested on lines 2000W and 2100W and as anomalies were recorded on these lines traverses were performed on lines 2200W and 2300W which were extended to the north using the distance monitoring capability of the GENIE in order to close off the anomaly. The anomaly was located on lines 2000W, 2100W and 2200W but on line 2300W it appeared to be too deep to be clearly distinguishable

from the noise level. The depths as determined using the GENIE interpretation manual type curves were generally shallower than for those derived from the UTEM data but previous work and drill testing in Tasmania has shown the interpreted depths to err on the shallow side by a factor of 10 to 15 percent. Taking this into account there is good correlation between the two geophysical techniques. The dip on line 2100W was interpreted as approximately 50 degrees north. A sigma T of less than 10 was derived which again indicates a low conductivity comparable with that of the UTEM results. The shapes of the GENIE anomalies are not quite like those expected from a thin dyke model rather they approach the response of a sphere especially in the case of line 2000W. On this line there is a sharp upturn in the responses of both frequency pairs over the body. This indicates that the body is of limited depth extent. This effect is not so evident on the other lines which either means that the body is developing a greater vertical extent or simply that the response is being simplified by the limits of the EM system.

Taking all these results together we arrive at a body which is narrow and essentially pipe like though perhaps thickening vertically as it plunges to the west. It has a low conductivity though still a considerable contrast with the surrounding rocks. Follow up soil geochemistry located a lead and zinc anomaly (475 ppm Pb and 500 ppm Zn) on line 2000W near the position of the shallowest point of the EM conductor. With this in mind it becomes difficult to see a body of this unusual shape and associated with base metals as being due to a fault or a black shale, the typical EM bugbears, though it may still with its low conductivity be a subeconomic concentration in a favourable lithology. The only way to find out at this stage is to test the EM target by drilling.

Curiously enough no major conductors were detected within five hundred metres of the barite occurrence on the Beulah grid. The second important anomaly lies on the eastern end of the Garden of Eden grid. This anomaly extends across lines 5200E, 5300E and 5400E and in a less well defined form across 5500E and 5600E to the edge of the grid. The anomaly plunges to the east starting at a depth of less than 50 metres in the east to more than 80 metres at the edge of the grid. This anomaly, while not giving any response to GENIE on line 5400E, appears to have a fairly strong shallow component. On lines 5300E and 5400E the inductive limit is approximately 200% probably reflecting the black shales at the edge of the loop and migration crossovers due to the half space are fairly well spaced. The dip of the anomaly is approximately 50 degrees to the south which ties in fairly well with what would be expected of the geology. By line 5600E the anomaly appears to be developing a secondary peak after the low and the migrations due to dip towards the loop are becoming very pronounced. This indicates that the body is flattening to a dip of less than 40 degrees. The anomaly on all lines only lasts to channel five with only random noise and surface effects being visible on channel four. It has a decay constant of 0.44 which is somewhat below the response expected from a massive sulphide body. It is not associated with any geochemical anomaly which is worrying considering that it gets within 50 metres of the surface at its shallowest point. As the anomaly has such a low conductivity and was not locateable by the GENIE and has no geochemistry associated with it, it would probably require more encouragement in the area to drill, such as a promising intersection on the Simonds prospect though at this stage drilling is the only way to test it conclusively.

A number of other smaller conductors were located on the grids as can be seen from the various contour plans and from the anomaly position plan. These are generally too shallow to be due to sulphide bodies without also giving some geochemical response or of too small extent to possibly fit a body of the size that we require. All have been tested by soil geochemistry and found wanting. Apart from near and along strike from the Simonds conductor and also near the original baryte occurrence there is little that could be considered anomalous in the geochemistry. Thus none of the remaining anomalies seem to require further testing.

5.2 Lake Barrington Grid

UTEM was completed across the whole of the old grid and the extended portion of the grid. The loop was positioned over the area previously found to give an anomalous IP response in order to minimise the current channeling effects which the resistivity data indicated might be a problem. The only definite anomaly located on the survey was at the northern end of the extended grid. This took the form of a typical distal thin layer response and is taken to be the edge of the basalt that forms the northern boundary of the grids. A number of very subtle anomalies were isolated by the filtering process but these do not seem to be conductive enough nor deep enough to be what we want. At this stage the only further work that I can think of on this prospect is testing by drilling of the down hole EM anomaly previously recorded on this prospect. Unfortunately the downhole anomaly does not seem to have been located with the surface UTEM and this seems to indicate that it is in all likelihood too small for us to be interested in.

5.3 Gog Range

Five lines were surveyed across the prospect two hundred metres apart. No good conductors were evident. On line 35E at the western end of the geochemical anomaly that was being tested, a small south dipping anomaly was located. If the noise is filtered out visually then a quantitative interpretation can be made. The source body dips at 70 degrees to the south, is at a depth of more than sixty metres and has a sigma T of greater than 50. With the high copper values in the geochemistry I would have expected a somewhat higher conductivity but this response is still reasonable. The body does not seem to extend under the main copper geochemical anomaly being not at all evident on line 37E where the most prominent feature is a sharp dip at 4775N which correlates with the base of the cliff and also with a similar feature on line 39E at 4725N. These one point features are not however anomalies due to large conductors and there is no evidence of such a thing on these lines. The small anomalies may be due to faulting on the edge of the rhyolite dome. Geologic noise is a problem but any significant body should still be visible. On line 41E a slight anomaly occurs at 4725N but it is very subtle. On line 43E a high frequency anomaly occurs at 4900N where an IP anomaly had earlier been recorded. It does not seem to have any depth extent. In summary the prospect does not have a conductor associated directly with the geochemistry except for the very small anomaly at the base of the cliffs which may be due to faulting. The conductor on line 35E is just up hill from the position of the Zn anomaly and there is a stronger coincident Zn and Pb anomaly just to the west.

Given a better economic climate this should be followed up by at least a couple more lines of EM to the west. As it stands the anomaly looks a bit small. Perhaps further lines could be roughly flagged in over the western geochemical anomalies just to close off this conductor.

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7. LOCATION

Burnie 1:250 000 Sheet Sk5503

8. KEYWORDS

Cambrian, volcanics, pyro-clastics, shales, Geophysics, Em, GENIE-EM, UTEM, Geochemistry, VLFEM, Ground Magnetics.

9. LIST OF PLANS

Plan No.	Title	Scale
TASh 2767	SHEFFIELD EL 7/73 Beulah Extended Grid UTEM Survey Loop 2 Line 800W	1:2 500
TASh 2768	SHEFFIELD EL 7/73 Beulah Extended Grid UTEM Survey Loop 2 Line 700W	1:2 500
TASh 2769	SHEFFIELD EL 7/73 Beulah Extended Grid UTEM Survey Loop 2 Line 600W	1:2 500
TASh 2770	SHEFFIELD EL 7/73 Beulah Extended Grid UTEM Survey Loop 2 Line 500W	1:2 500
TASh 2771	SHEFFIELD EL 7/73 Beulah Extended Grid UTEM Survey Loop 2 Line 400W	1:2 500
TASh 2772	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5600E	1:2 500
TASh 2773	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5500E	1:2 500
TASh 2774	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5400E	1:2 500
TASh 2775	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5300E Point	1:2 500

Plan No.	Title	Scale
TASh 2776	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4900E	1:2 500
TASh 2777	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5300E	1:2 500
TASh 2778	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5200E	1:2 500
TASh 2779	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 5100E	1:2 500
TASh 2780	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 500E	1:2 500
TASh 2781	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4800E Point Normalized.	1:2 500
TASh 2782	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4800E	1:2 500
TASh 2783	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4700E	1:2 500
TASh 2784	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4600E	1:2 500
TASh 2785	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4500E	1:2 500
TASh 2786	SHEFFIELD EL 7/73 Garden of Eden Grid UTEM Survey Loop 1 Line 4400E	1:2 500

PLan No.	Title	Scale
TASh 2749	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4700E Point Normalized	1:5 000
TASh 2750	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4700E 4400 to 5500N	1:5 000
TASh 2751	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4900E 4400 to 5600N	1:5 000
TASh 2752	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 0004 Line 4700E 5500 to 6200N	1:5 000
TASh 2753	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4800E 4500 to 5500N	1:5 000
TASh 2754	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4800E 5500 to 6200N	1:5 000
TASh 2755	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4600E 4700 to 6100N	1:5 000
TASh 2756	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 4 Line 4500E 4800 to 6000N	1:5 000
TASh 2746	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 0004 Channel 7 Point Normalized	1:5 000
TASh 2747	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 0004 Channel 5 Point Normalized	1:5 000
TASh 2748	SHEFFIELD EL 7/73 Lake Barrington UTEM Survey Loop 0004 Channel 3 Point Normalized	1:5 000

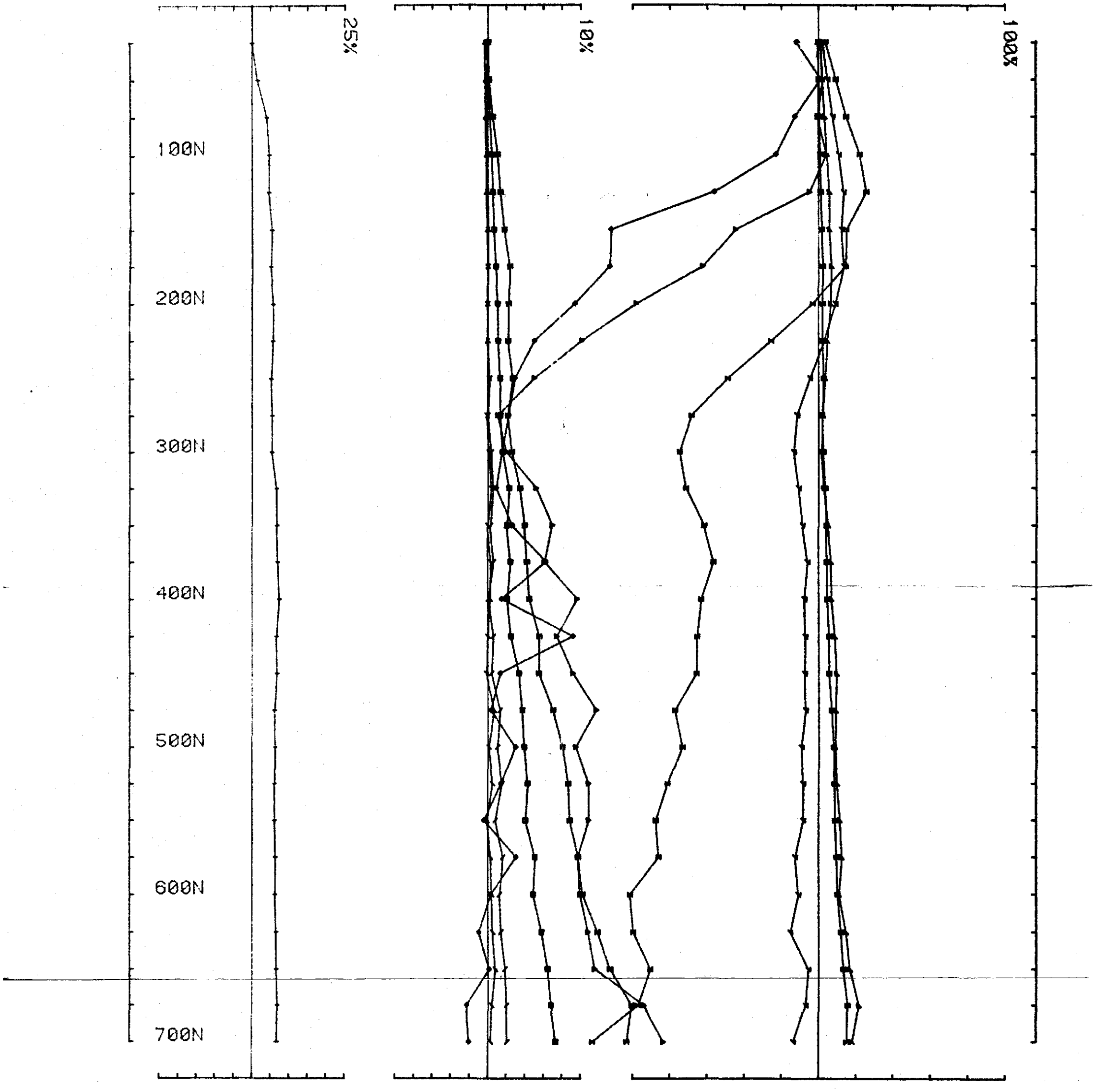
Plan No.	Title	Scale
TASh 2787	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 2000 West	1:2 500
TASh 2788	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 2100 West	1:2 500
TASh 2789	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 2200 West	1:2 500
TASh 2790	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 2300 West	1:2 500
TASh 2791	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 35 East	1:2 500
TASh 2792	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 37 East	1:2 500
TASh 2793	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 39 East	1:2 500
TASh 2794	SHEFFIELD EL 7/73 Simonds Grid Scintrex SE-88 Genie Profiles Line 41 East	1:2 500
TASh 2757	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Channel 4 Loop 0003 Point Normalized	1:5 000
TASh 2758	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2000W	1:2 500

Plan No.	Title	Scale
TASh 2759	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2100W	1:2 500
TASh 2760	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2200W	1:2 500
TASh 2761	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2300W	1:2 500
TASh 2762	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2400W	1:2 500
TASh 2763	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2500W	1:2 500
TASh 2764	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2600W	
TASh 2765	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2700W	1:2 500
TASh 2766	SHEFFIELD EL 7/73 Simonds Grid UTEM Survey Loop 3 Line 2800W	1:2 500
TASh 2743	SHEFFIELD EL 7/73 UTEM Survey Simonds Grid Line 2000W	1:2 500
TASh 2744	SHEFFIELD EL 7/73 UTEM Survey Simonds Grid Line 2100W	1:2 500
TASh 2745	SHEFFIELD EL 7/73 UTEM Survey Simonds Grid Line 2200W	1:2 500
TASh 2661	SHEFFIELD EL 7/73 & CETHANA EL 10/76 Prospect Location Plan	1:50 000
TASh 2662	SHEFFIELD EL 7/73 & CETHANA EL 10/76 Location Plan	1:100 000

Plan No.	Title	Scale
TASh 2636	SHEFFIELD EL 7/73 - Simonds, Beulah & Garden of Eden Grids UTEM Channel 4	1:5 000
TASh 2637	SHEFFIELD EL 7/73 - Simonds, Beulah & Garden of Eden Grids UTEM Channel 5	1:5 000
TASh 2638	SHEFFIELD EL 7/73 - Simonds, Beulah & Garden of Eden Grids UTEM Channel 6	1:5 000
TASh 2639	SHEFFIELD EL 7/73 - Simonds, Beulah & Garden of Eden Grids UTEM Conductor Traces	1:5 000

10. LIST OF APPENDICES

Appendix I — Memo re Geophysics over the Stonebridge Barite Prospect EL 7/73



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TASh 2767

024

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10%

100%

100N

200N

300N

400N

500N

600N

700N

UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Beulah Extended Grid Survey for CRA Exploration freq(hz) 26.230

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TASh 2768

0490024

025

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100%

100N

200N

300N

400N

500N

600N

700N

UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Beulah Extended Grid Survey for CRA Exploration freq(hz) 26.230

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TASh 2770

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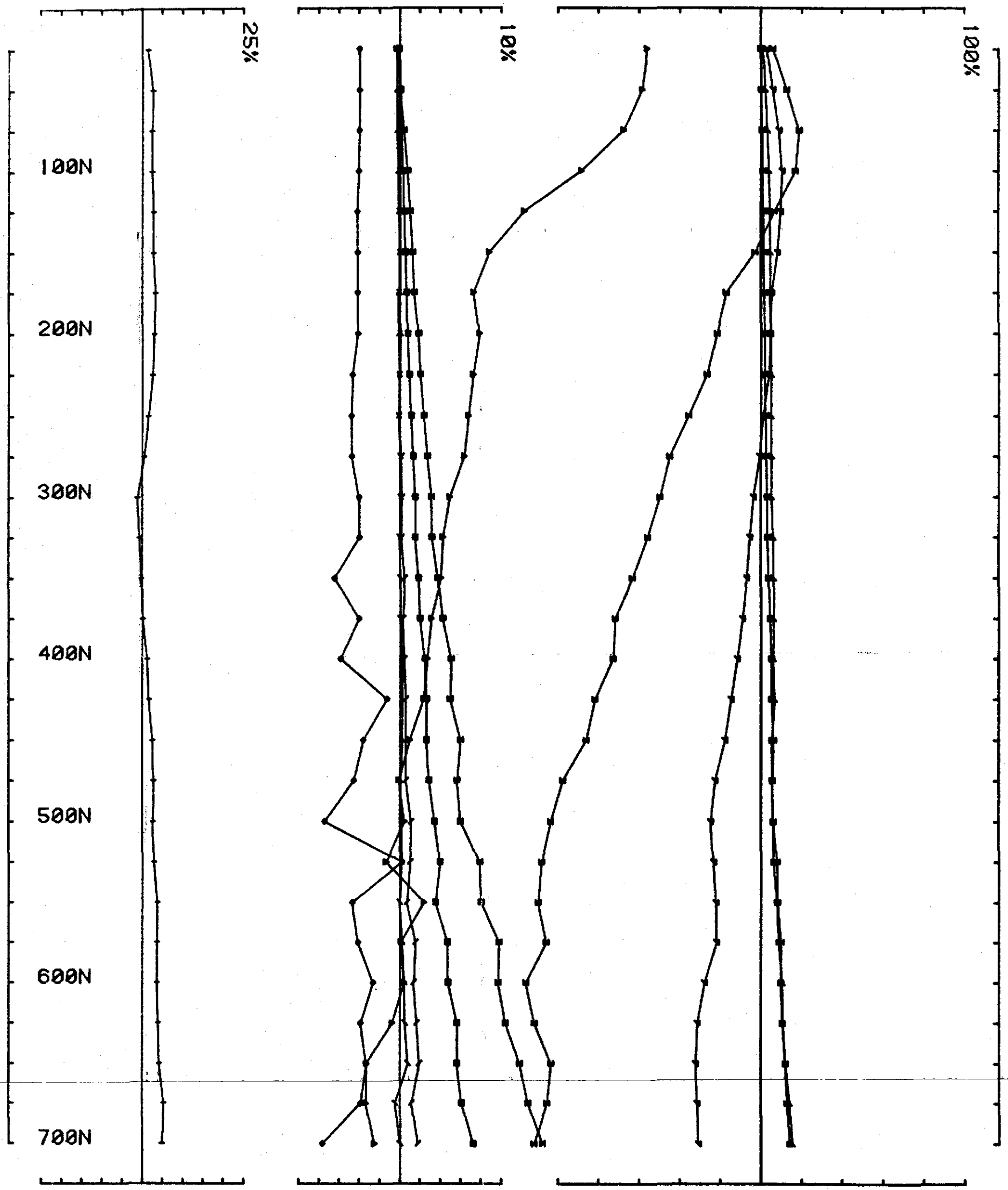

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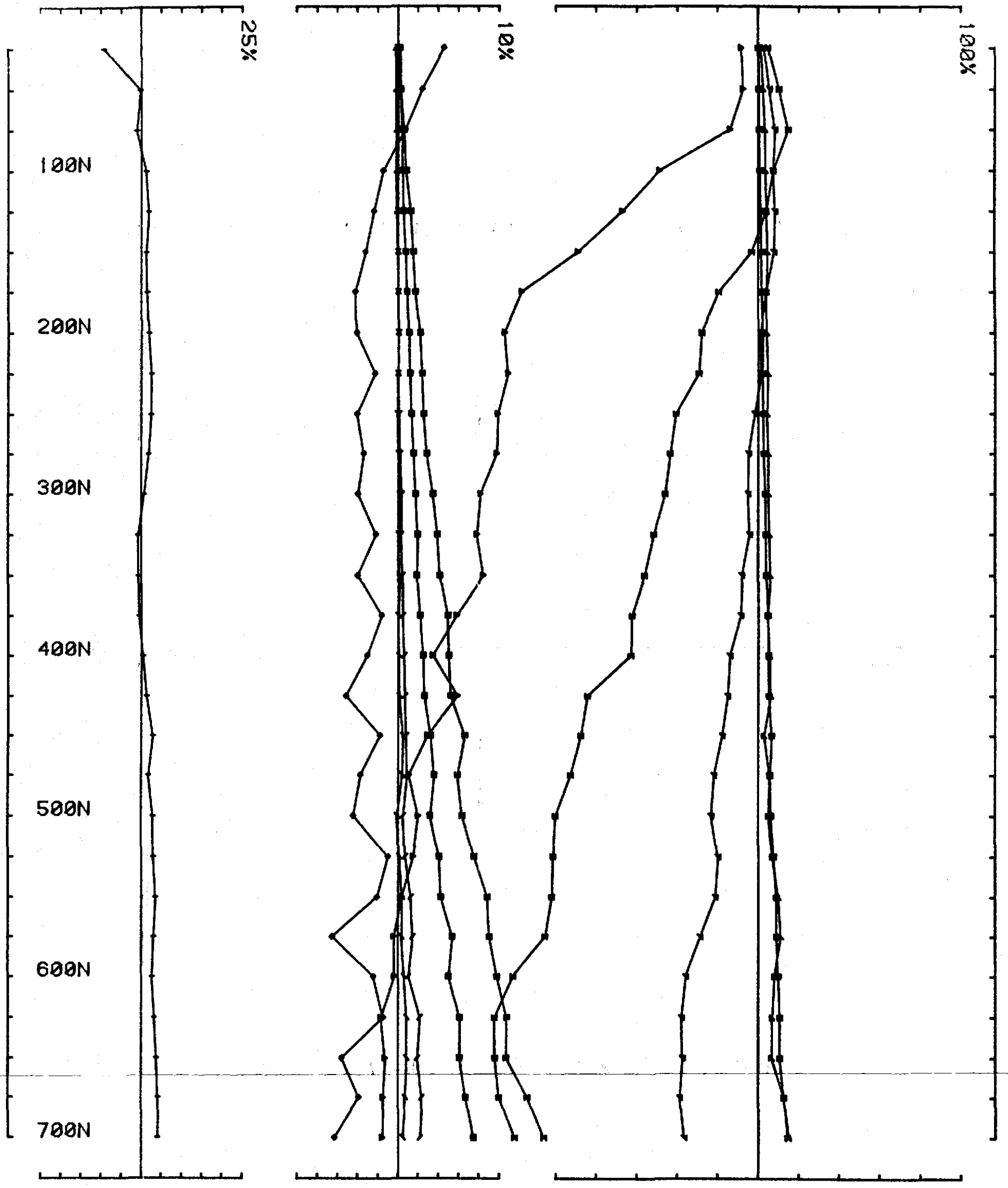

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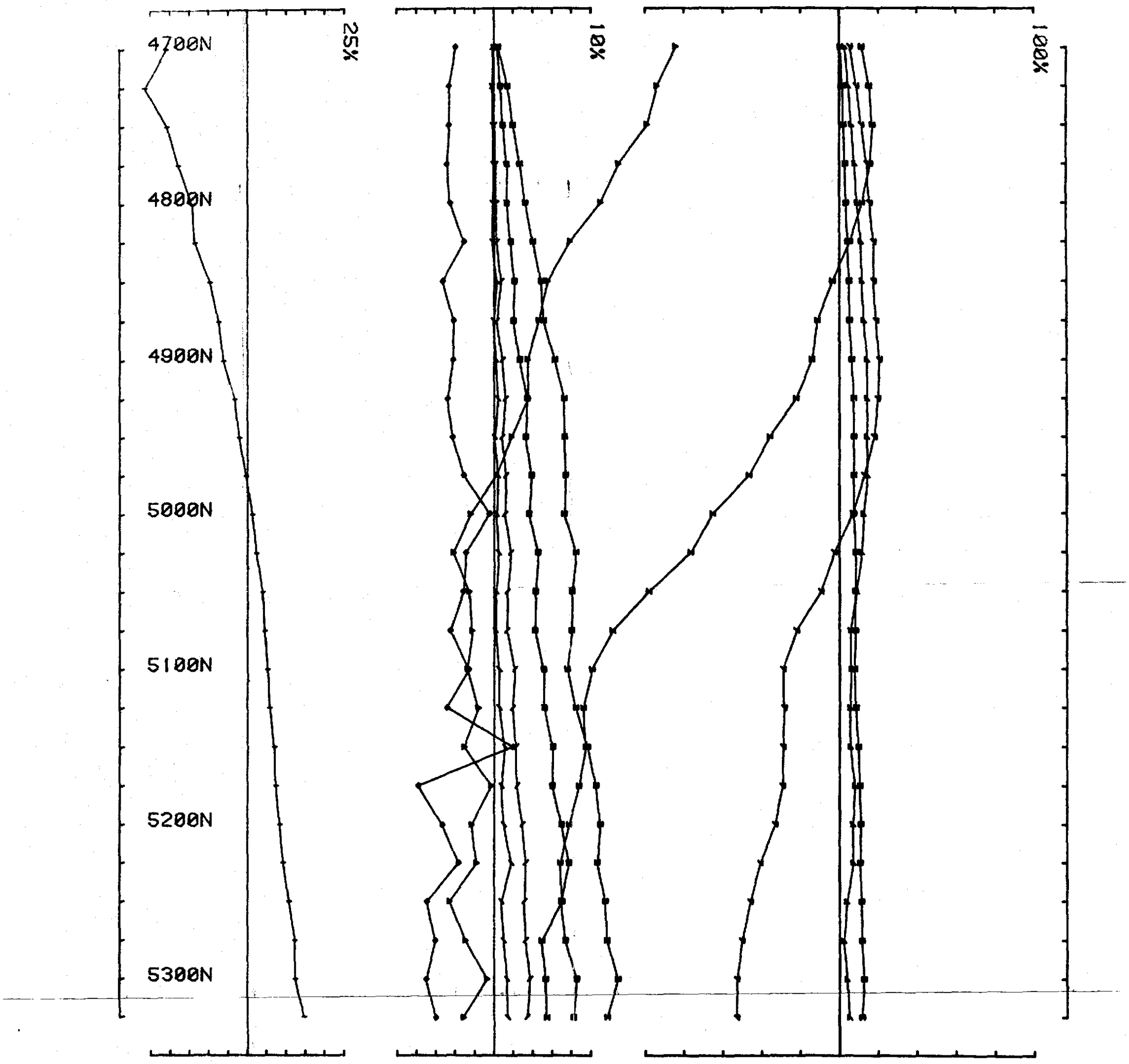

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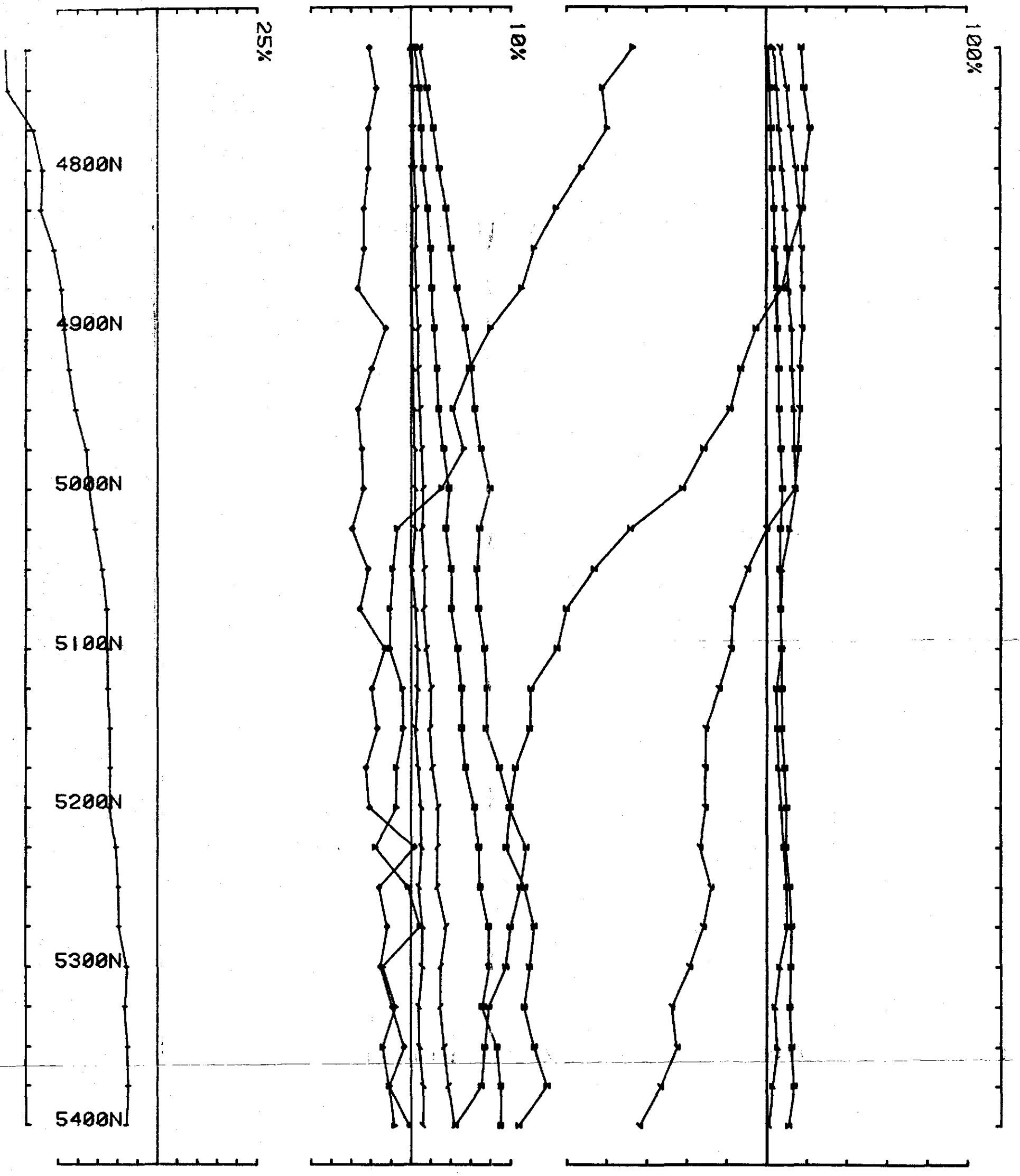

UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 5500E component Hz secondary Ch 1 .

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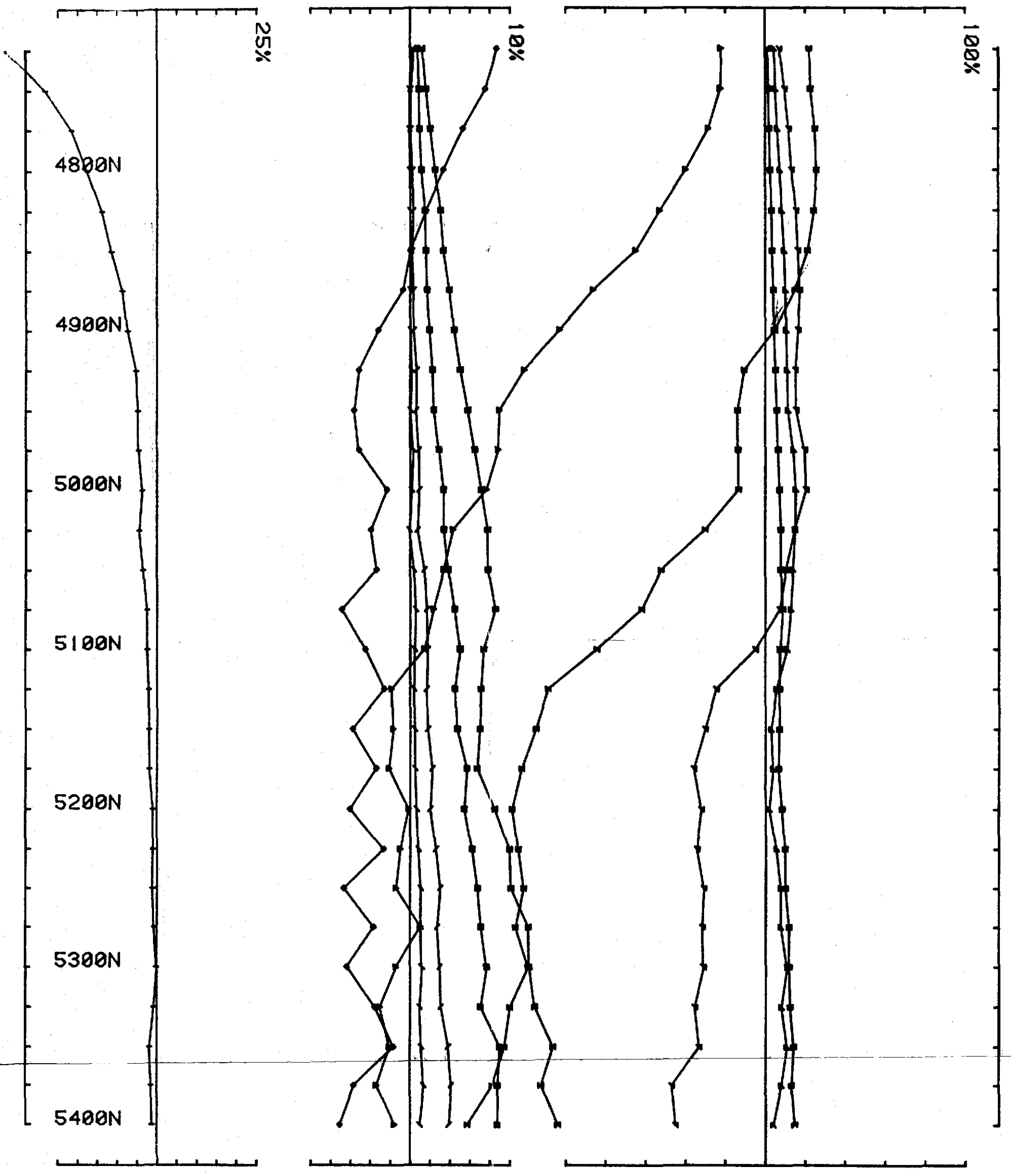

UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

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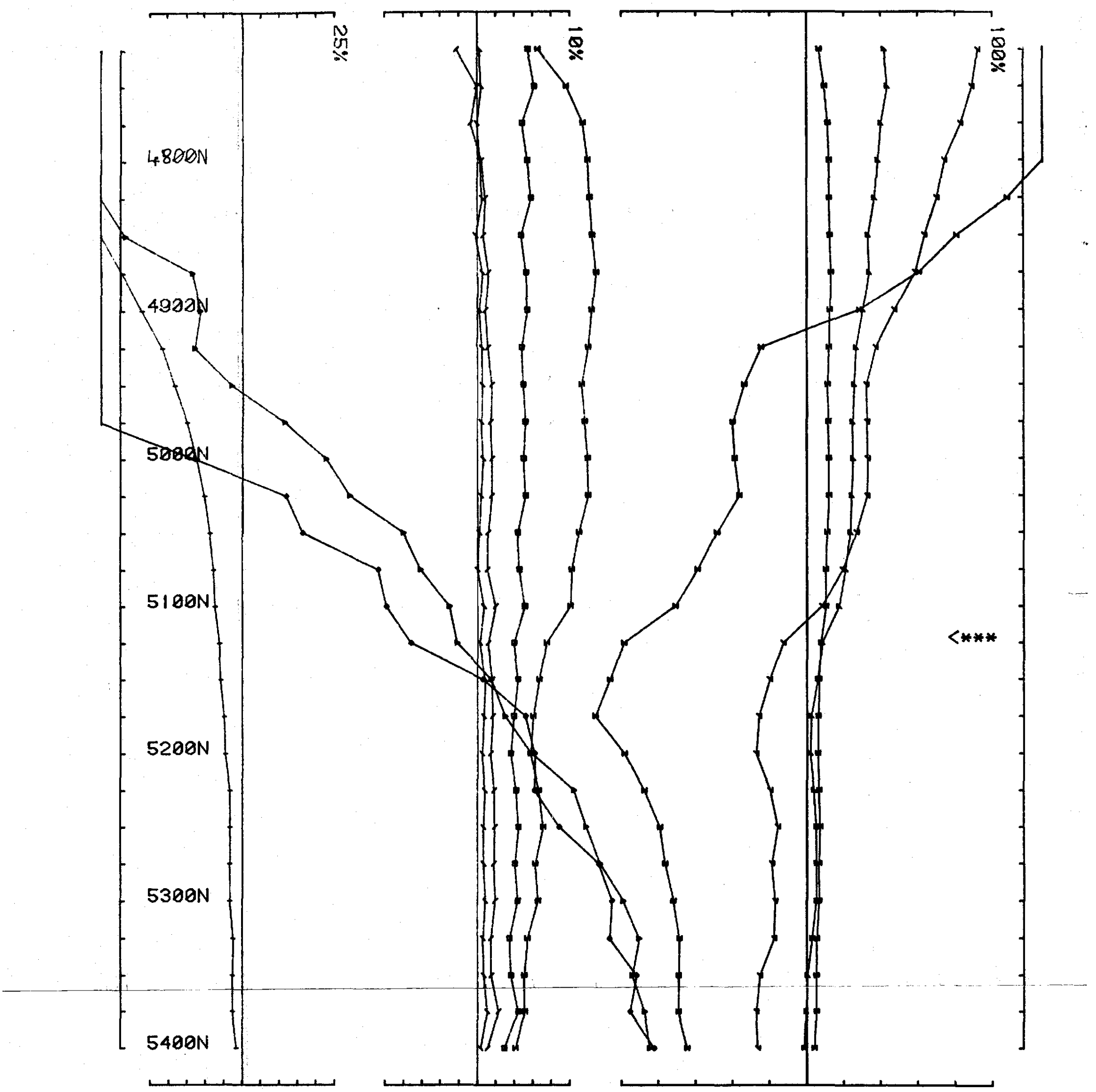
5 cm

TASh 2774

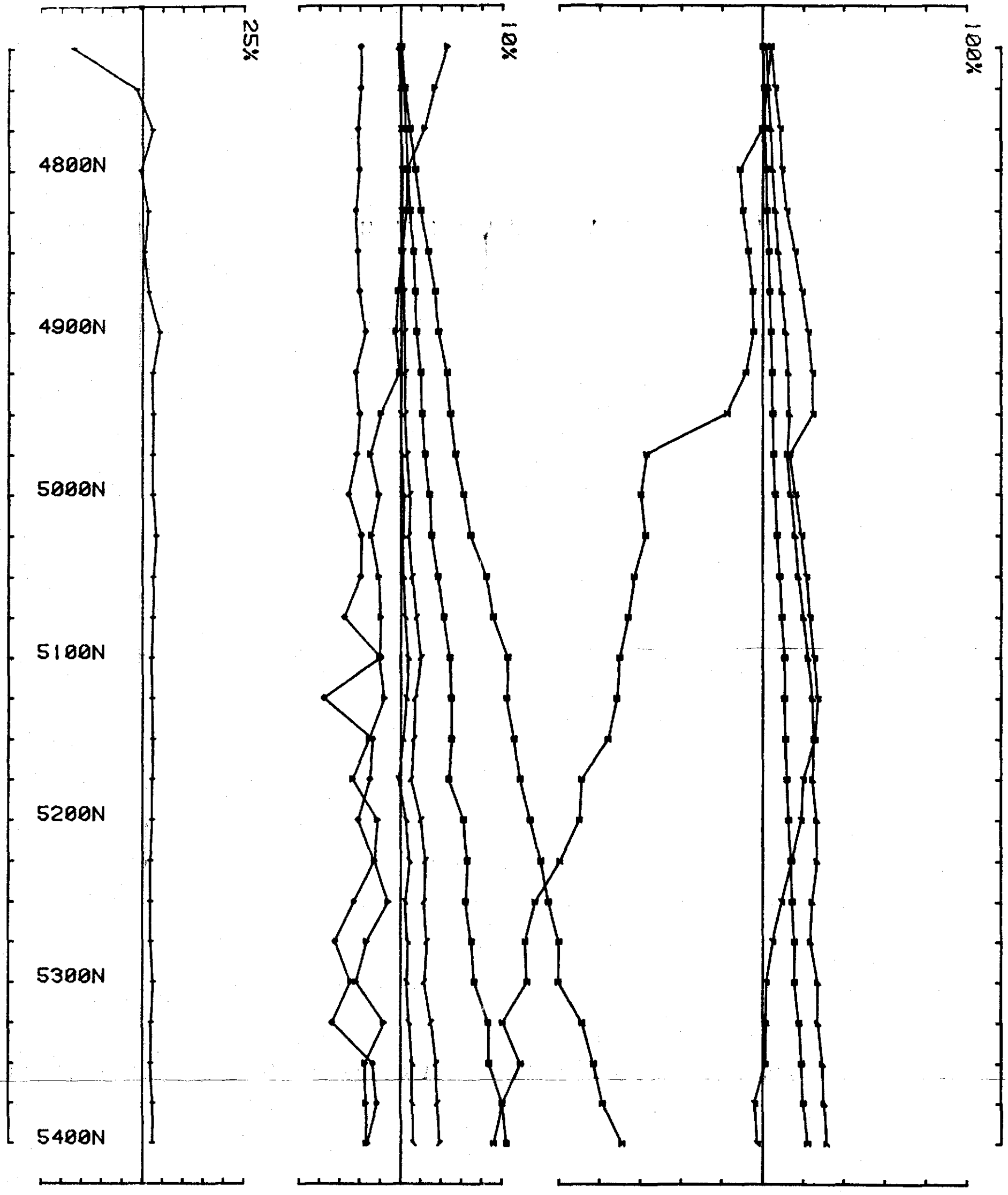


UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 5300E component Hz secondary Ch 1 .

5 cm



UTEM SURVEY conducted by PMM DGH Job 8501

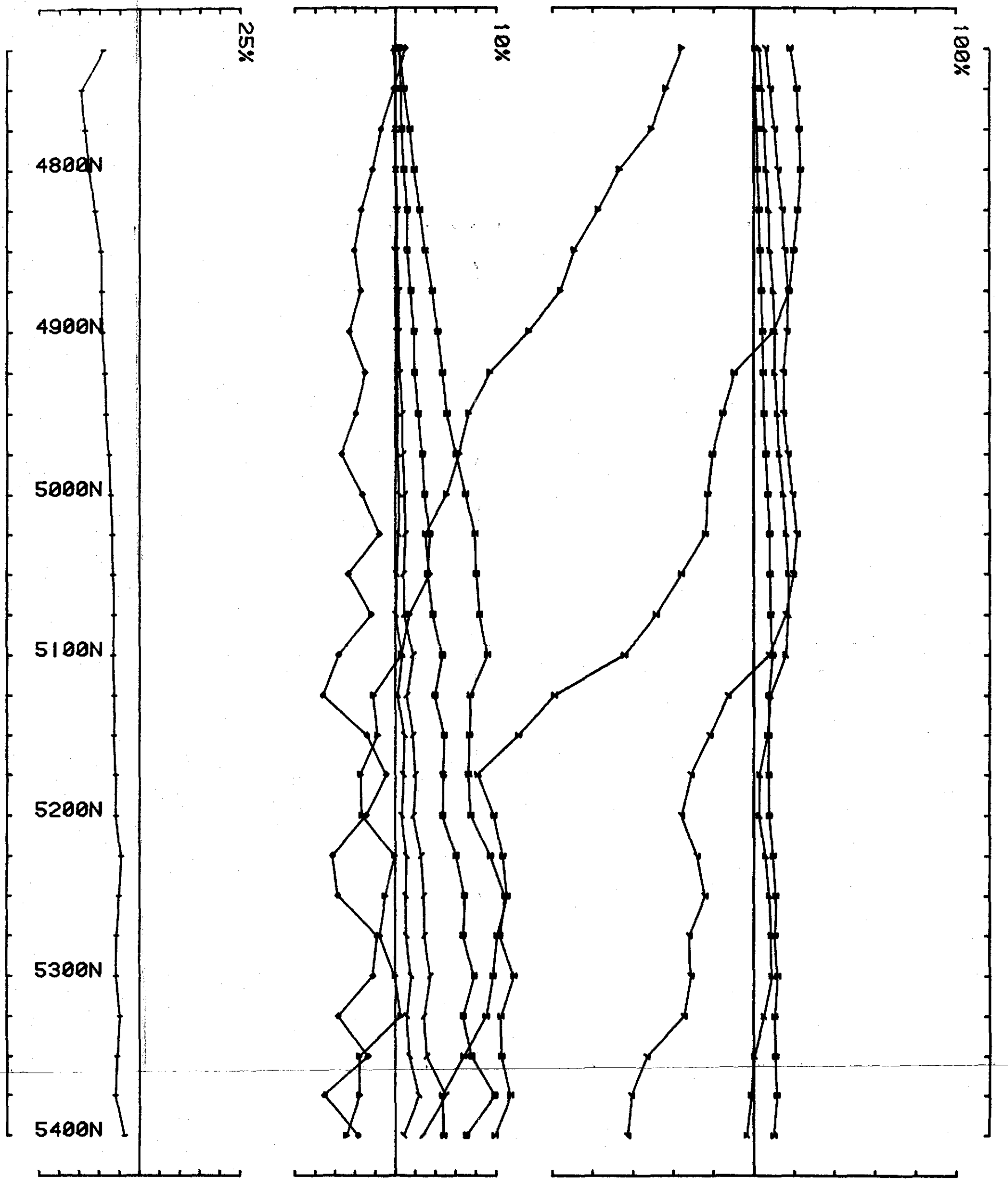
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 4900E component Hz secondary Ch 1

5 cm

TASh 2776

033



UTEM SURVEY conducted by PMM DGH Job 8501

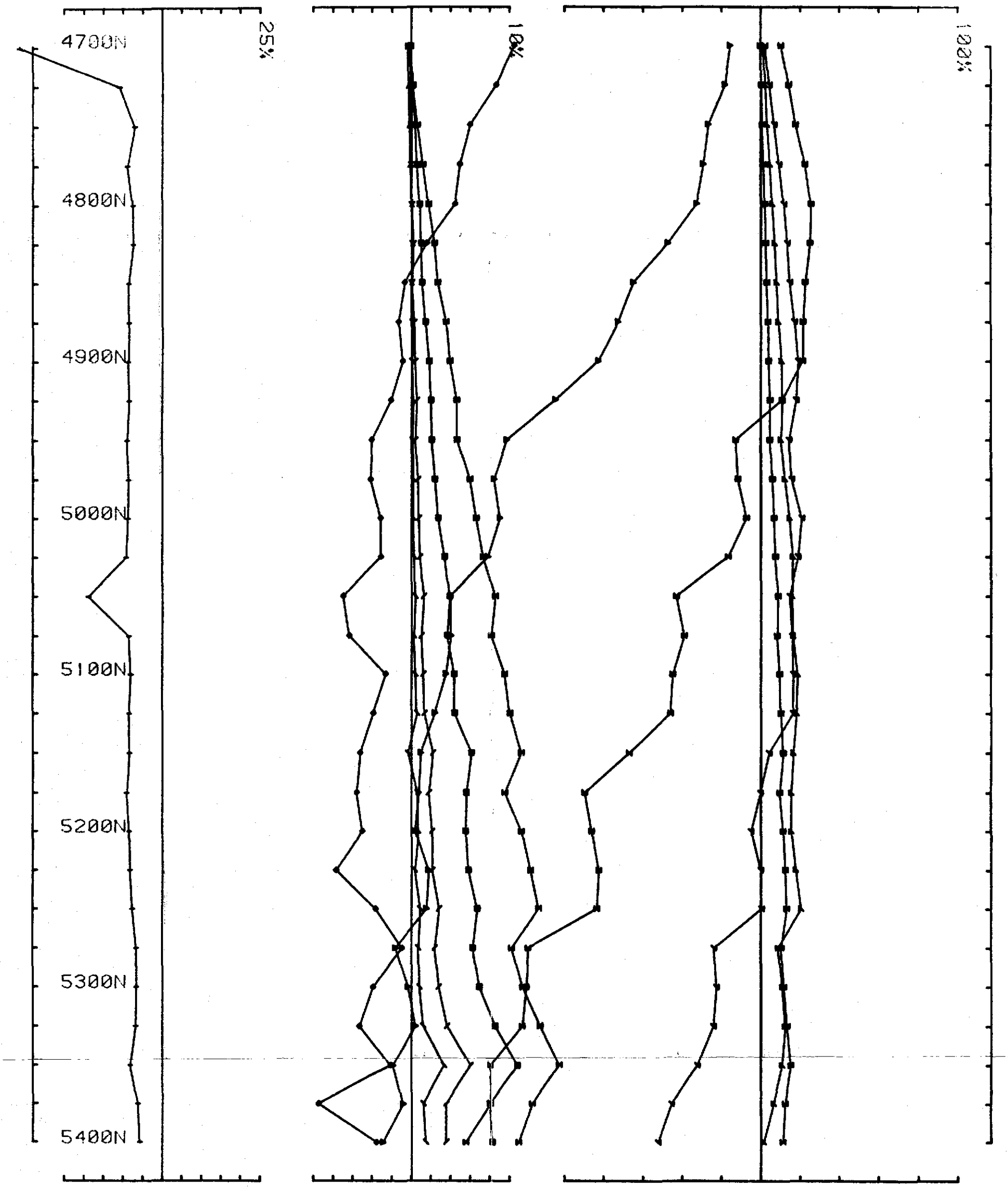
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 5300E component Hz secondary Ch 1 .

5 cm

TASh 2777

0490033



UTEM SURVEY conducted by PMM DGH Job 8501

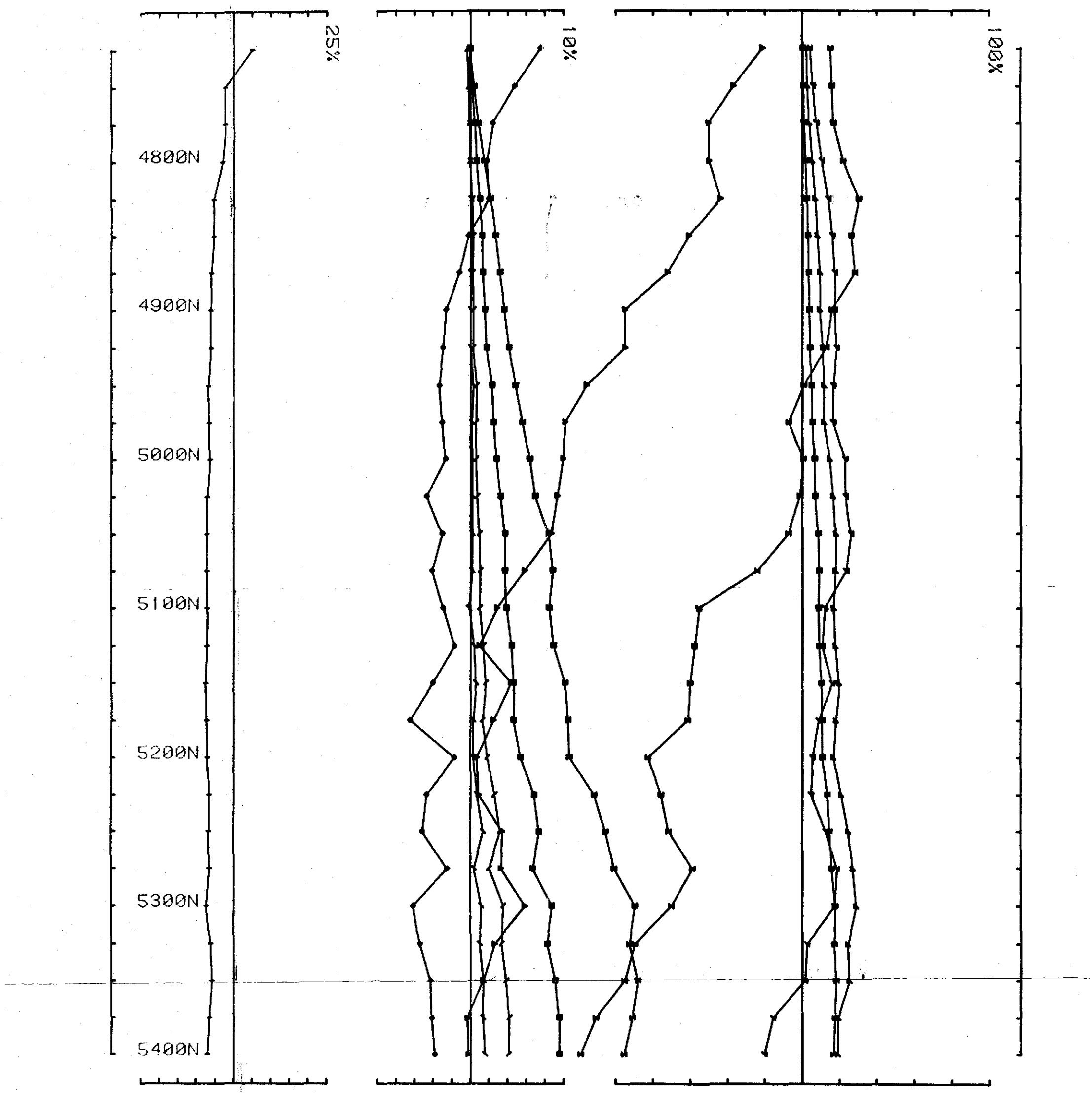
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 5200E component Hz secondary Ch 1 .

5 cm

TASh 2778

035



UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

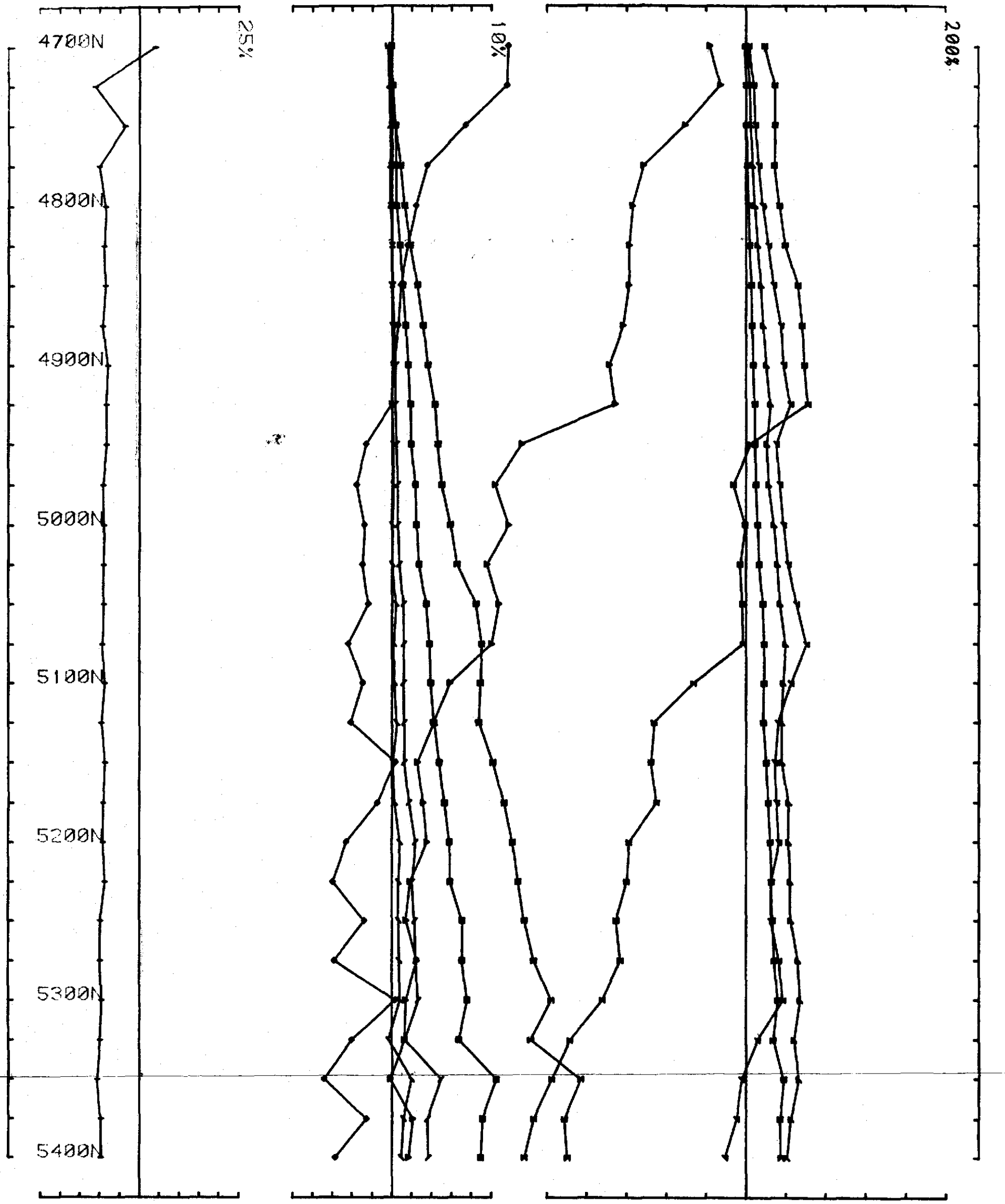
Loopno 0001 Line 5100E component Hz secondary Ch 1

5 cm

TASh 2779

0460035

036



UTEM SURVEY conducted by PMM DGH Job 8501

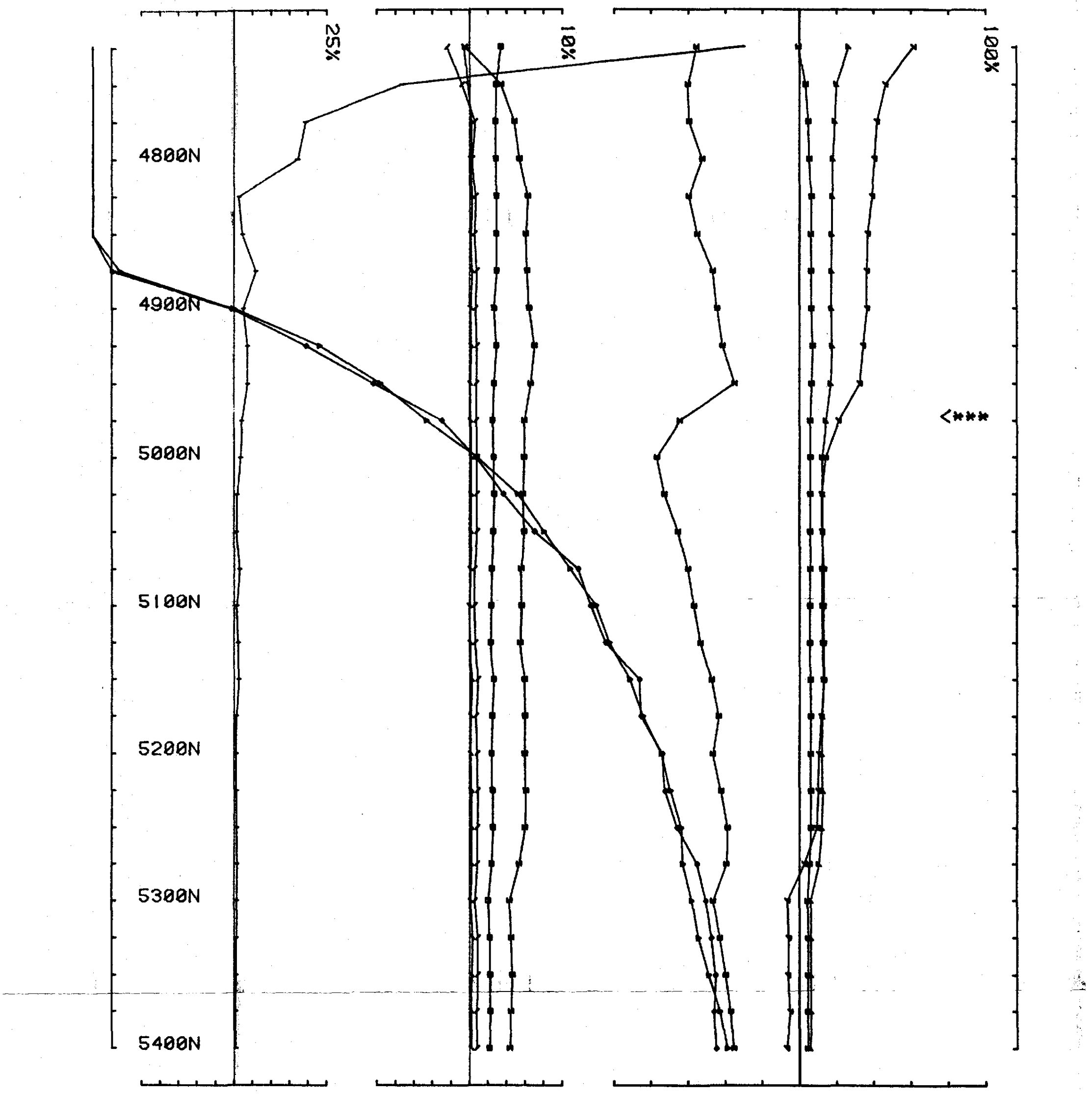
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 5000E component Hz secondary Ch 1

5 cm

TASh 2780

049039



UTEM SURVEY conducted by PMM DGH Job 8501

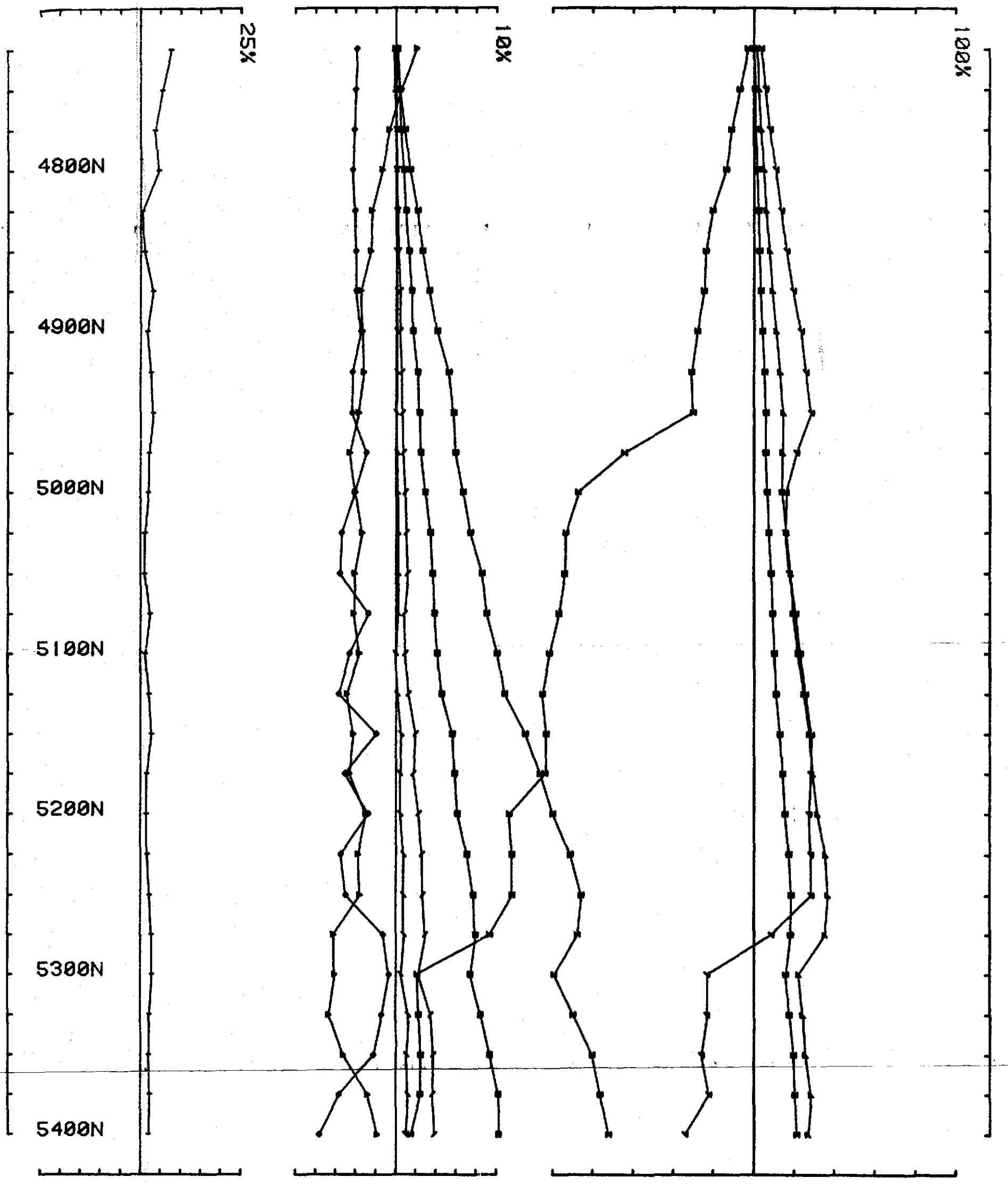
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 4800E component Hz secondary Ch 1 .

5 cm

TASh 2781

038



UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

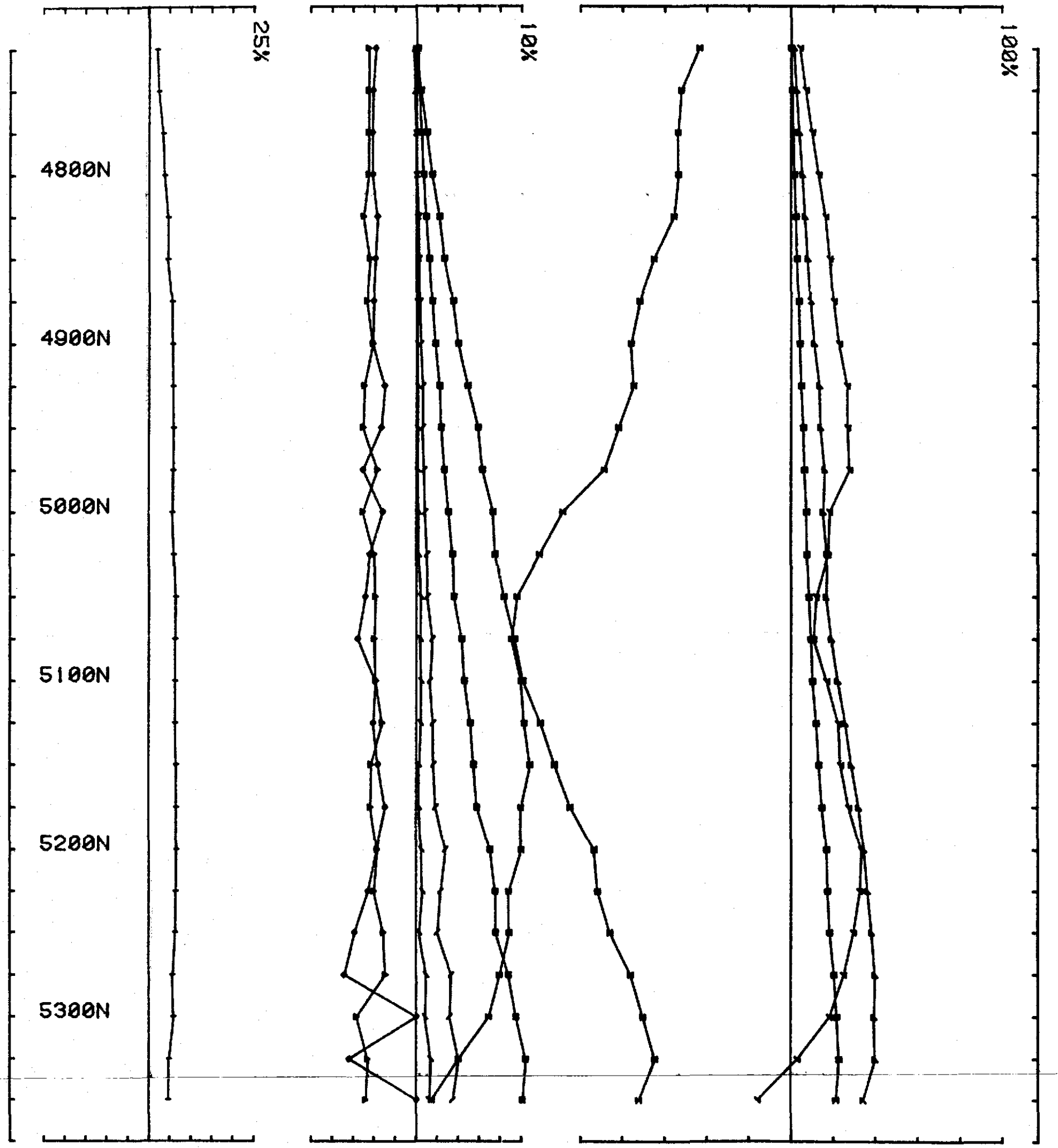
Loopno 0001 Line 4800E component Hz secondary Ch 1 .

5 cm

TASh 2782

0490038

039



UTEM SURVEY conducted by PMM DGH Job 8501

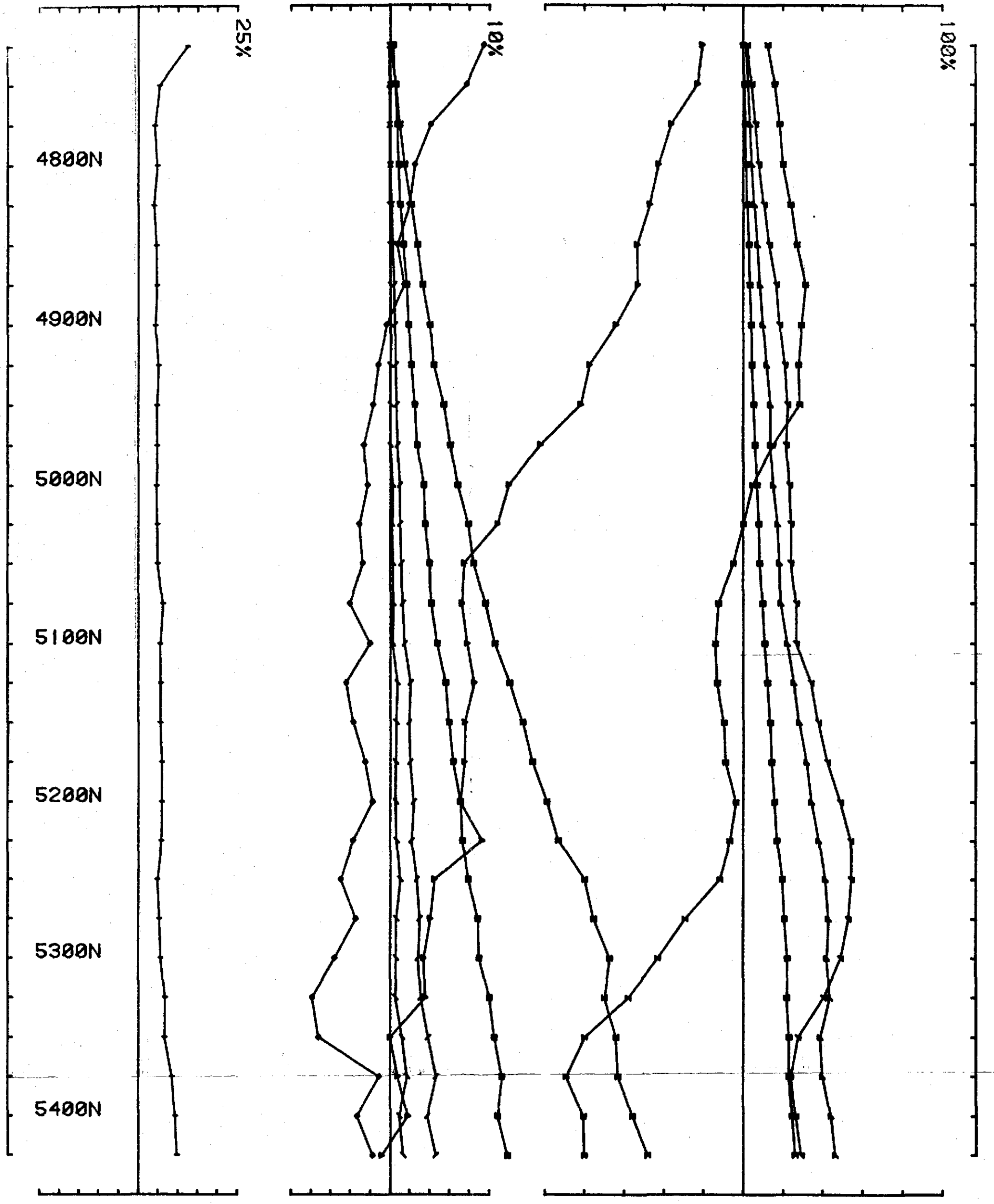
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 4700E component Hz secondary Ch 1 .

5 cm

TASh 2783

0490039



UTEM SURVEY conducted by PMM DGH Job 8501

Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

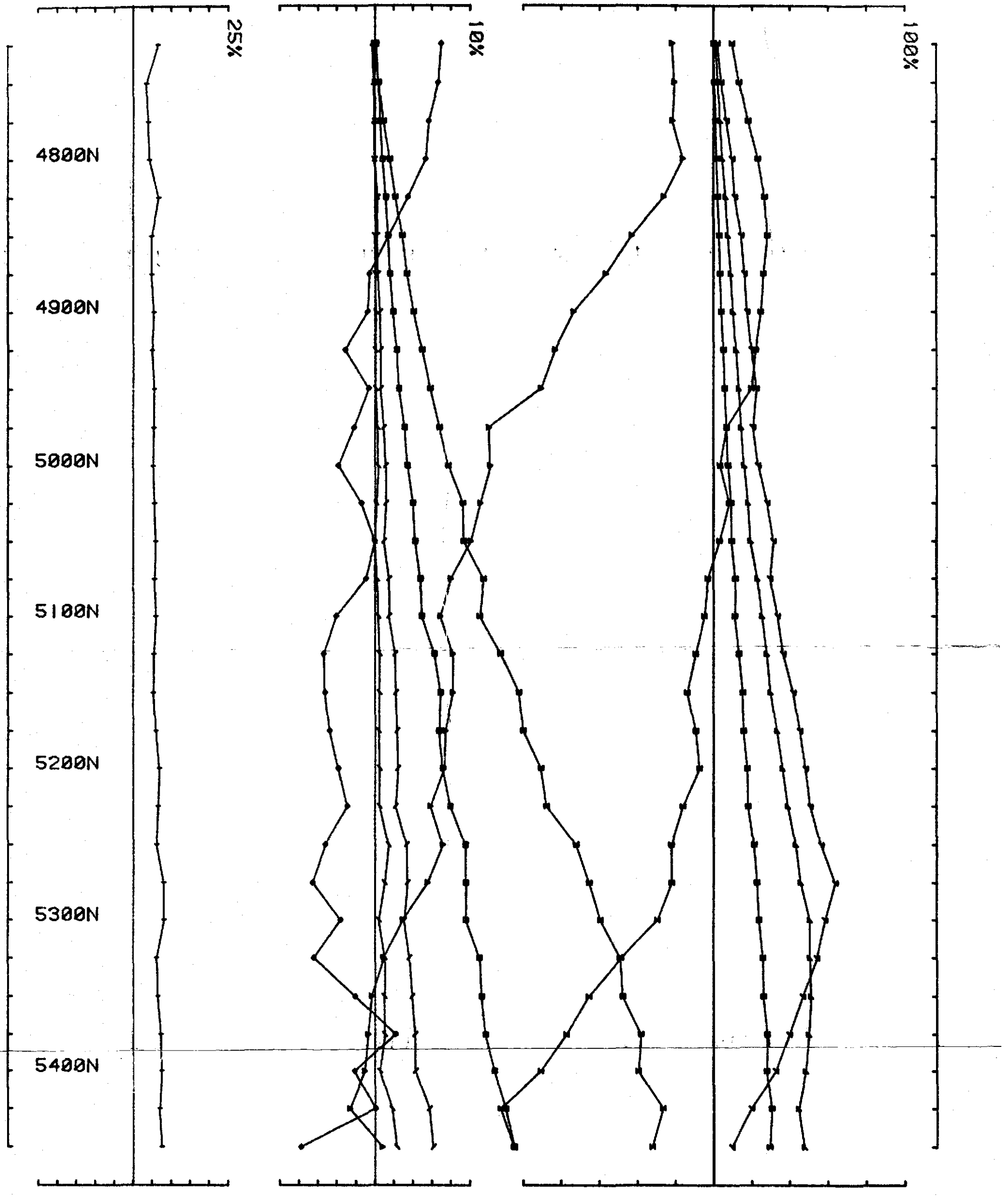
Loopno 0001 Line 4600E component Hz secondary Ch 1 .

5 cm

TASh 2784

040

041



UTEM SURVEY conducted by PMM DGH Job 8501

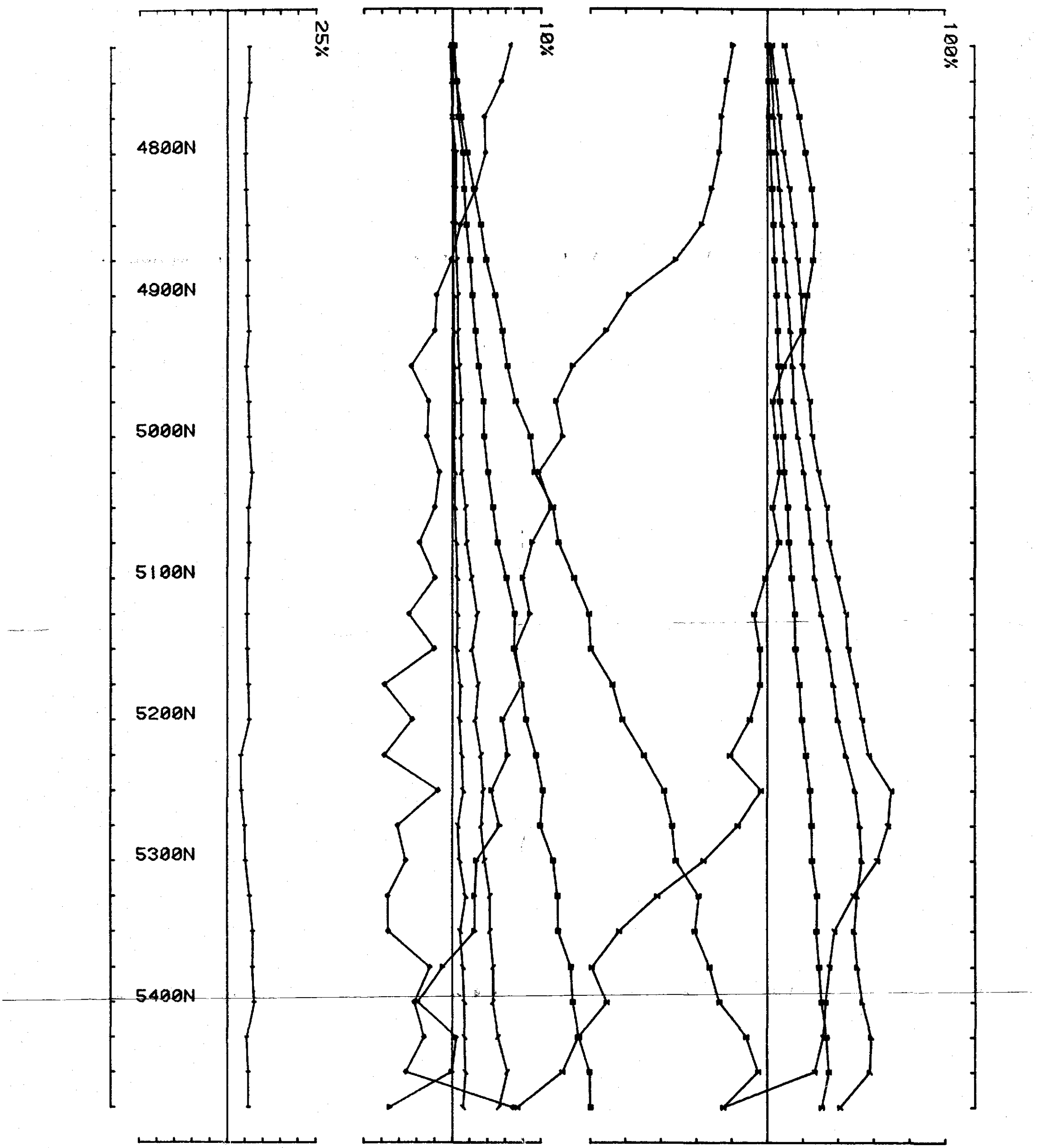
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 4500E component Hz secondary Ch 1 .

5 cm

TASh 2785

0490041



UTEM SURVEY conducted by PMM DGH Job 8501

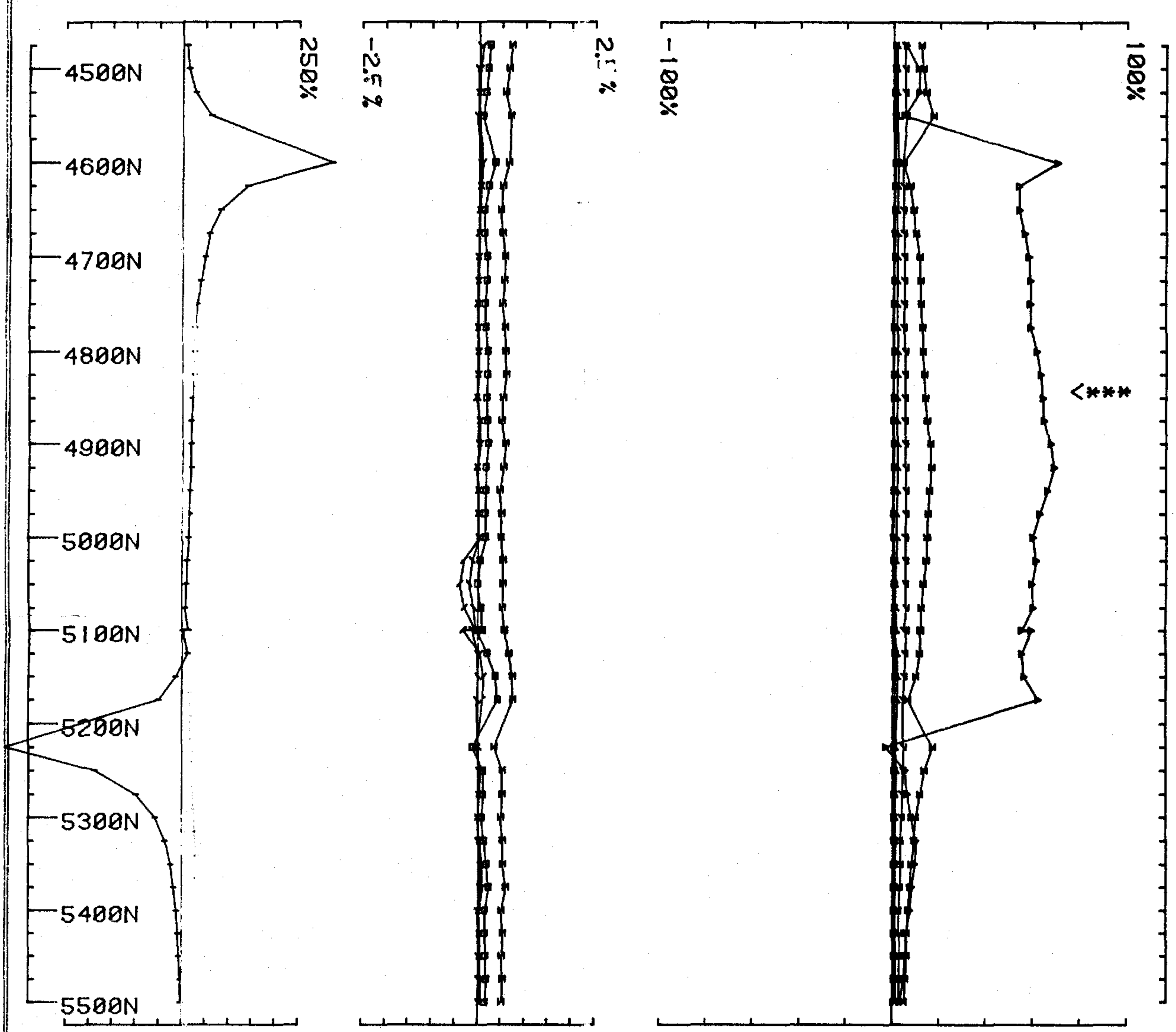
Project Area Garden of Eden Survey for CRA Exploration freq(hz) 26.230

Loopno 0001 Line 4400E component Hz secondary Ch 1

5 cm

TASh 2786

0490 42

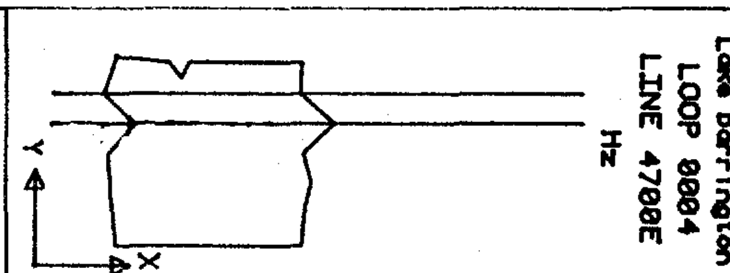


LAMONTAGNE GEOPHYSICS UTEM SURVEY JOB 8501

AREA Lake Barrington CLIENT CRA Exploration

L4700E Hz COMPONENT BASE FREQ. 26.230HERTZ

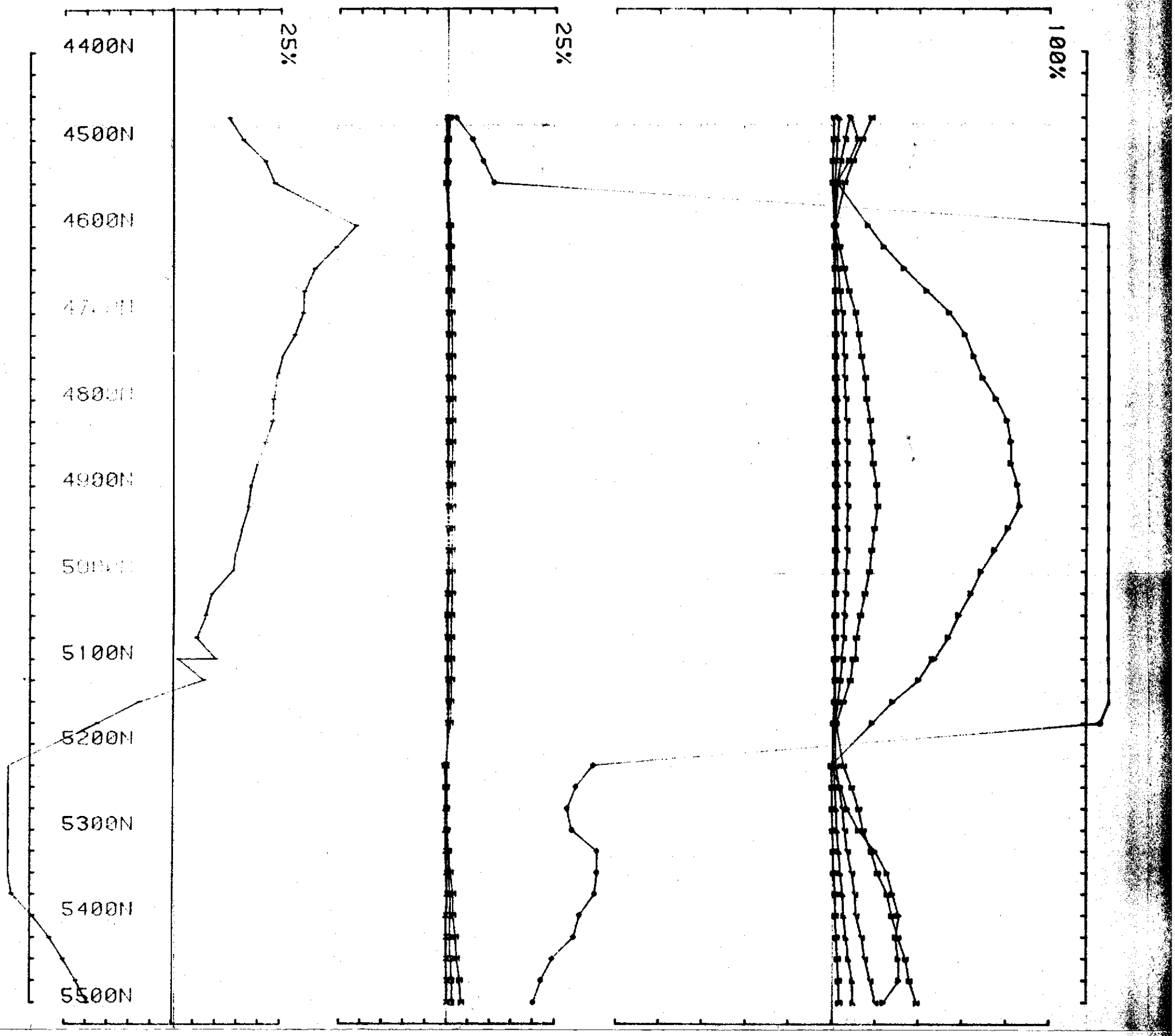
SECONDARY FIELD POINT Ch 1 NORMALIZATION



049043

5 cm

TASh 2749



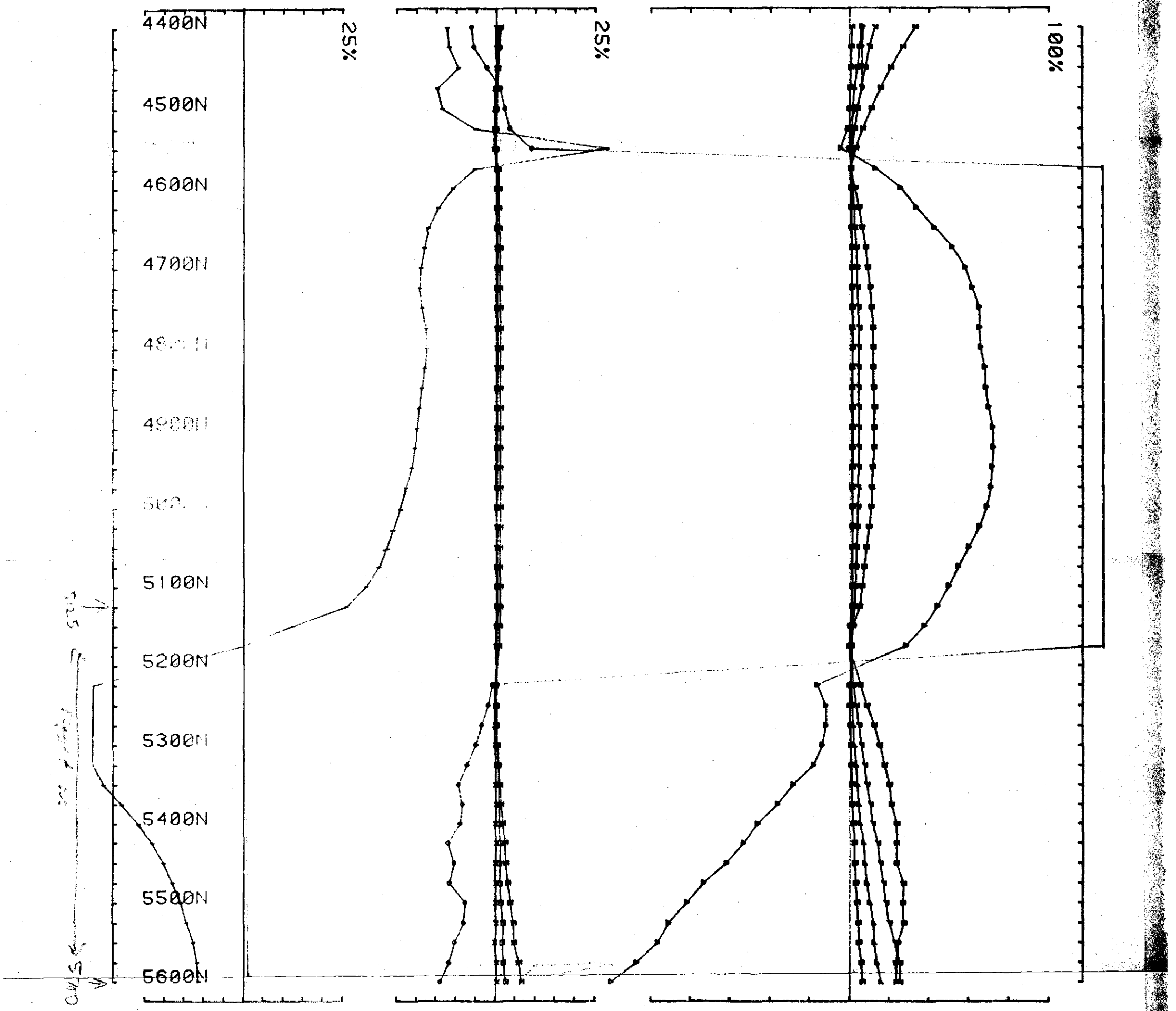
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4700E component Hz secondary Ch 1

5 cm

TASh 2750



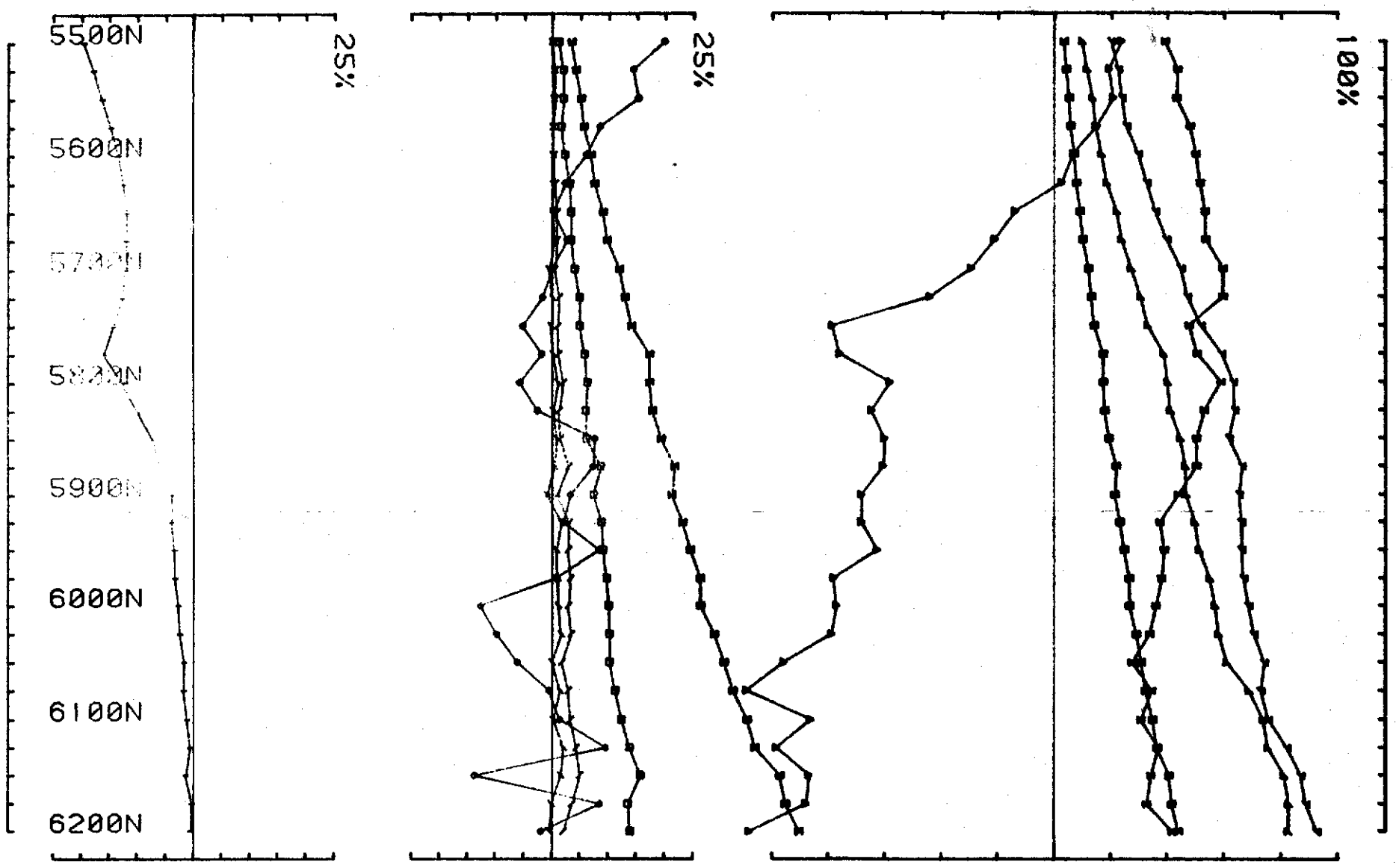
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4900E component Hz secondary Ch 1

5 cm

TASh 2751



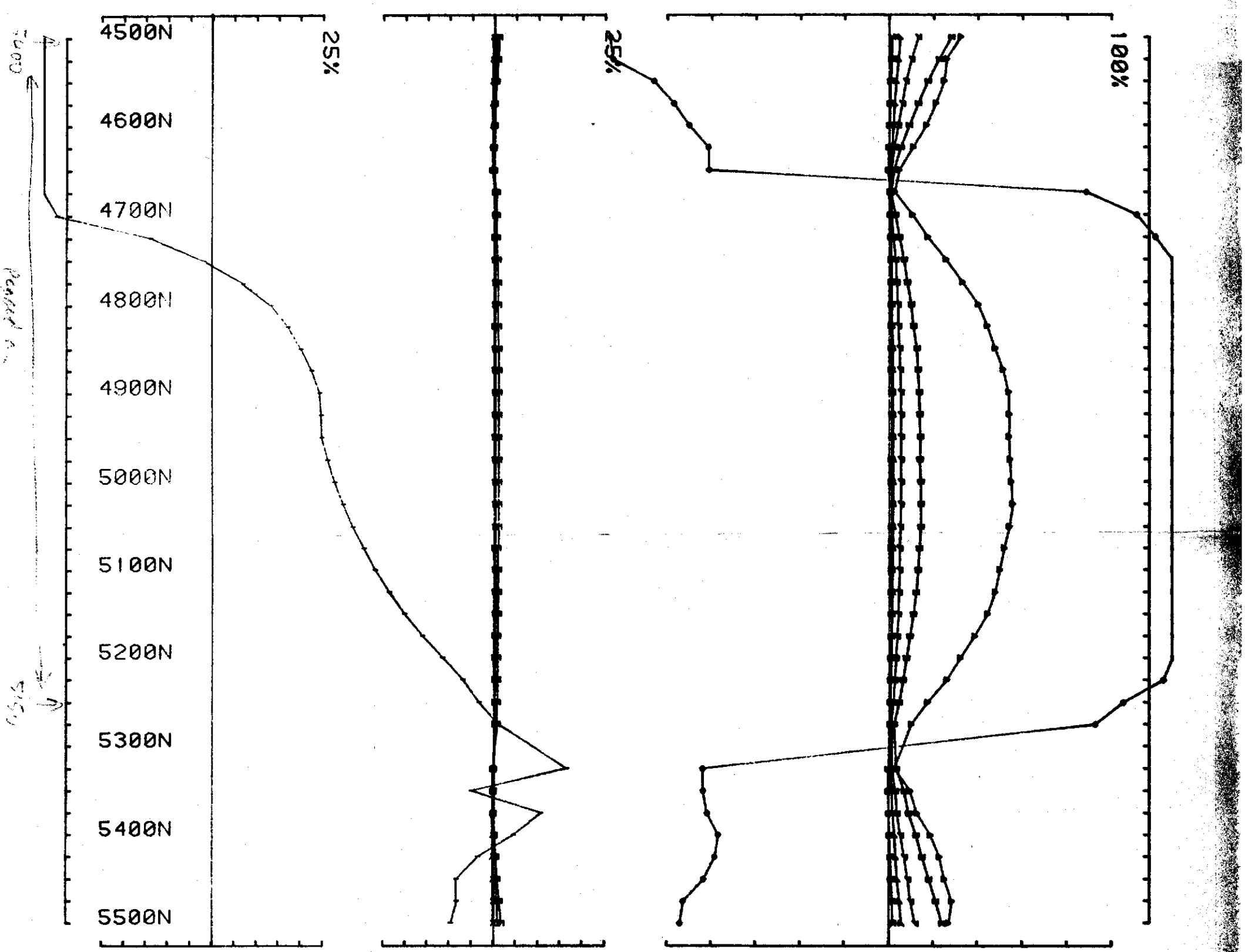
UTEM SURVEY conducted by PMM DA Jcb 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4700E component Hz secondary Ch 1

5 cm

TASh 2752



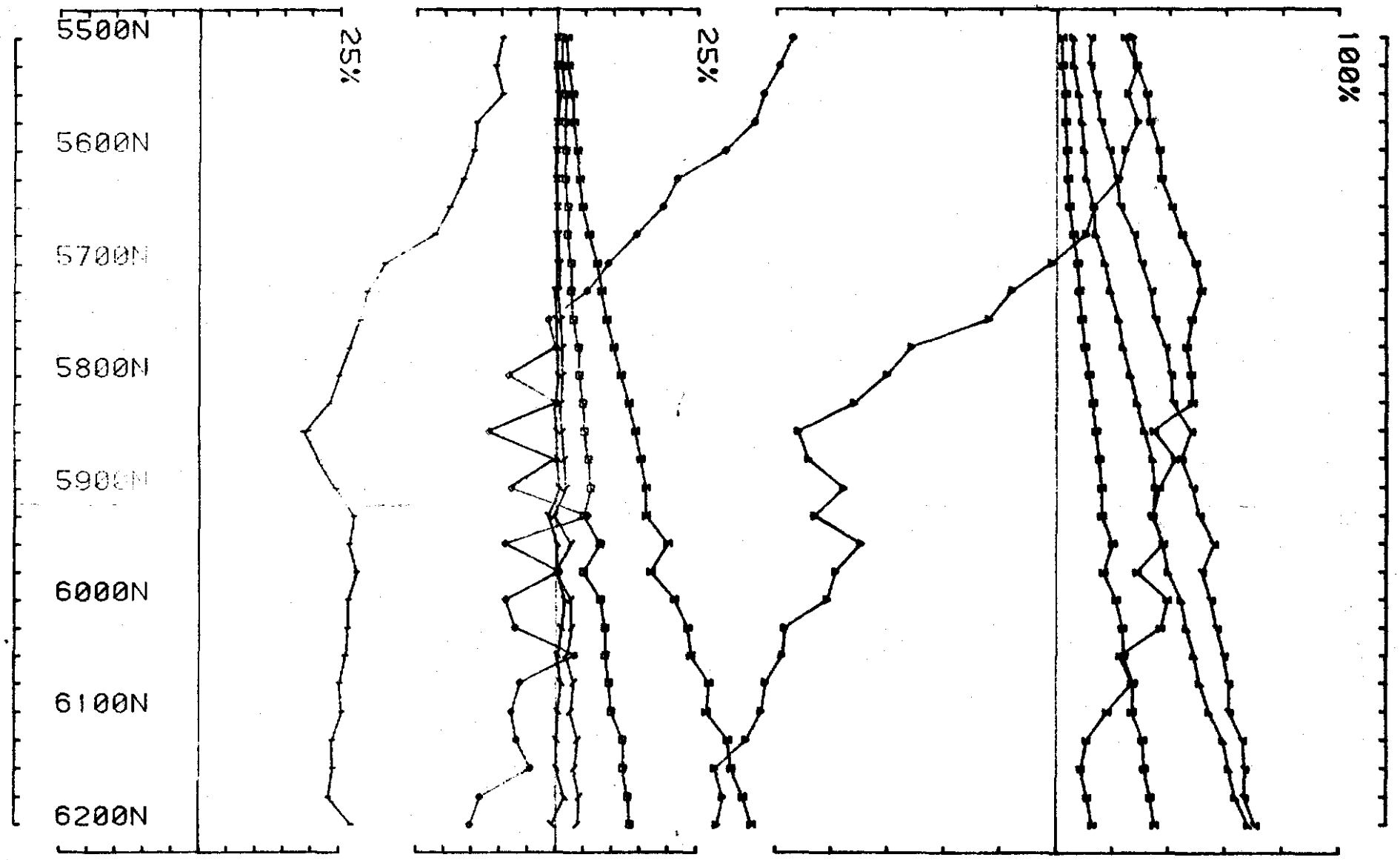
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4800E component Hz secondary Ch 1

5 cm

TASh 2753



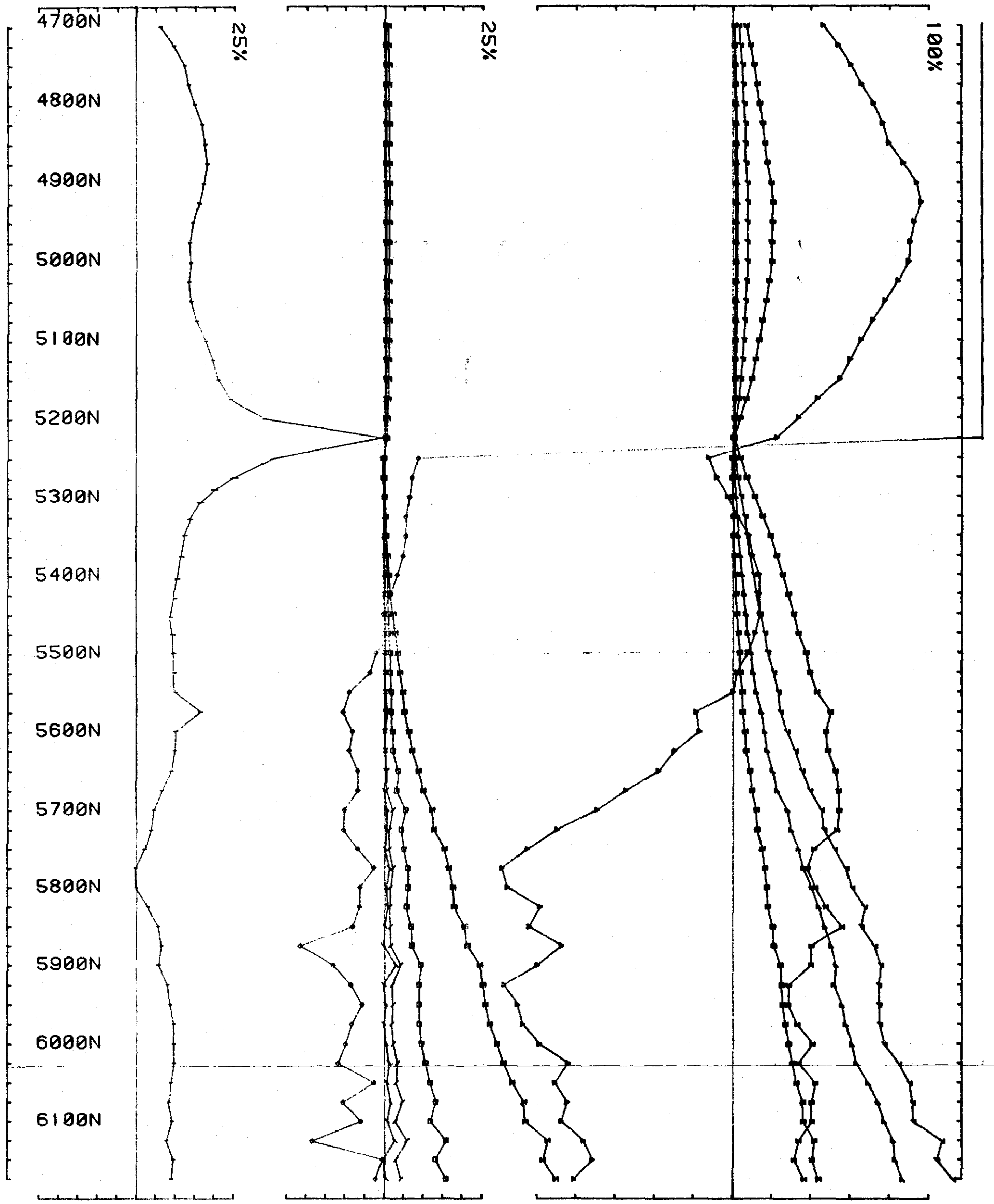
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4800E component Hz secondary Ch 1

5 cm

049



UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

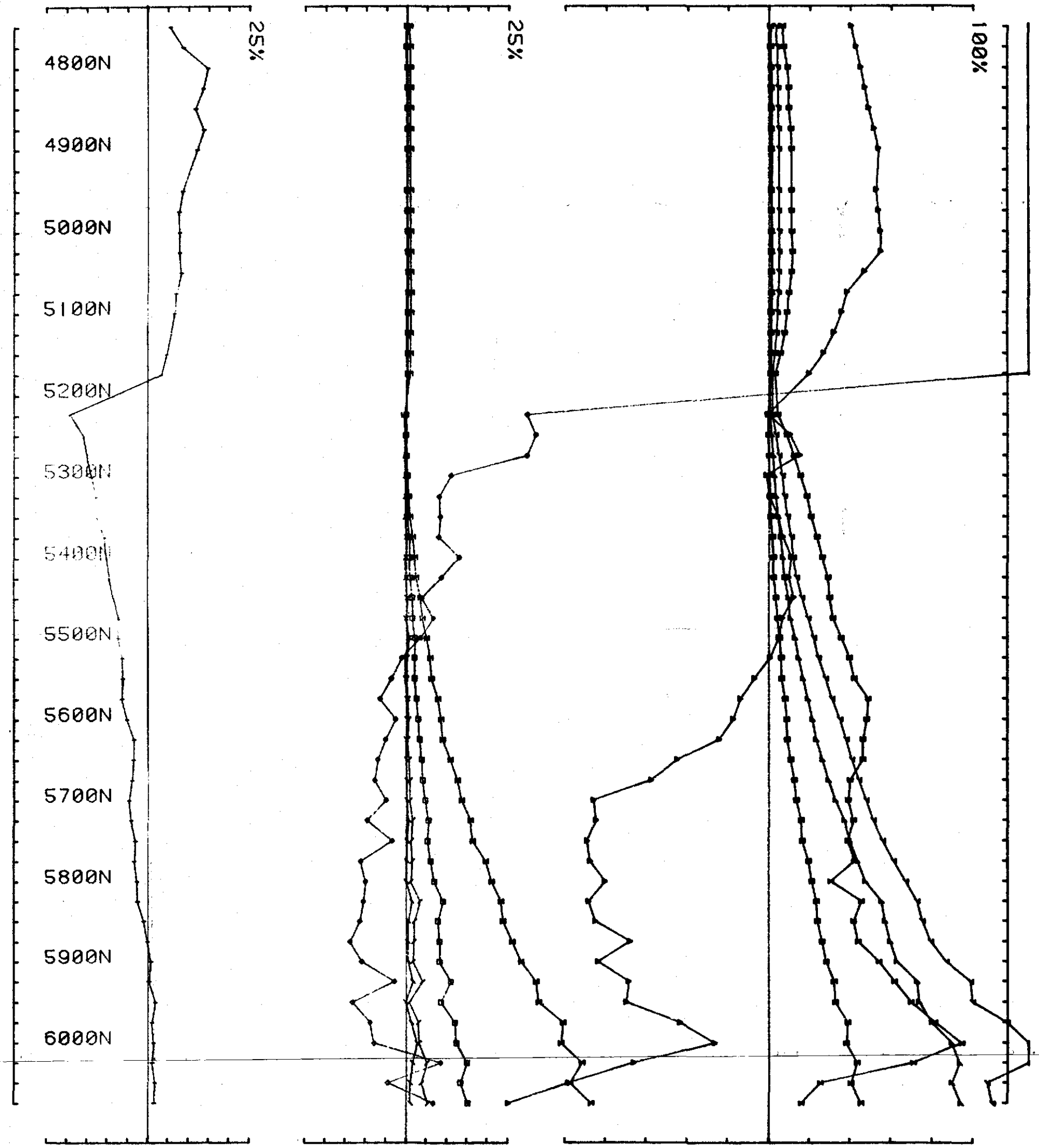
Loopno 0004 Line 4600E component Hz secondary Ch 1

5 cm

TASh 2755

049049

050



UTEM SURVEY conducted by PMM DA Job 8501

Project Area Lake Barrington Survey for CRA Exploration freq(hz) 26.230

Loopno 0004 Line 4500E component Hz secondary Ch 1

5 cm

TASh 2756

049050

051

049051

TASh 2746

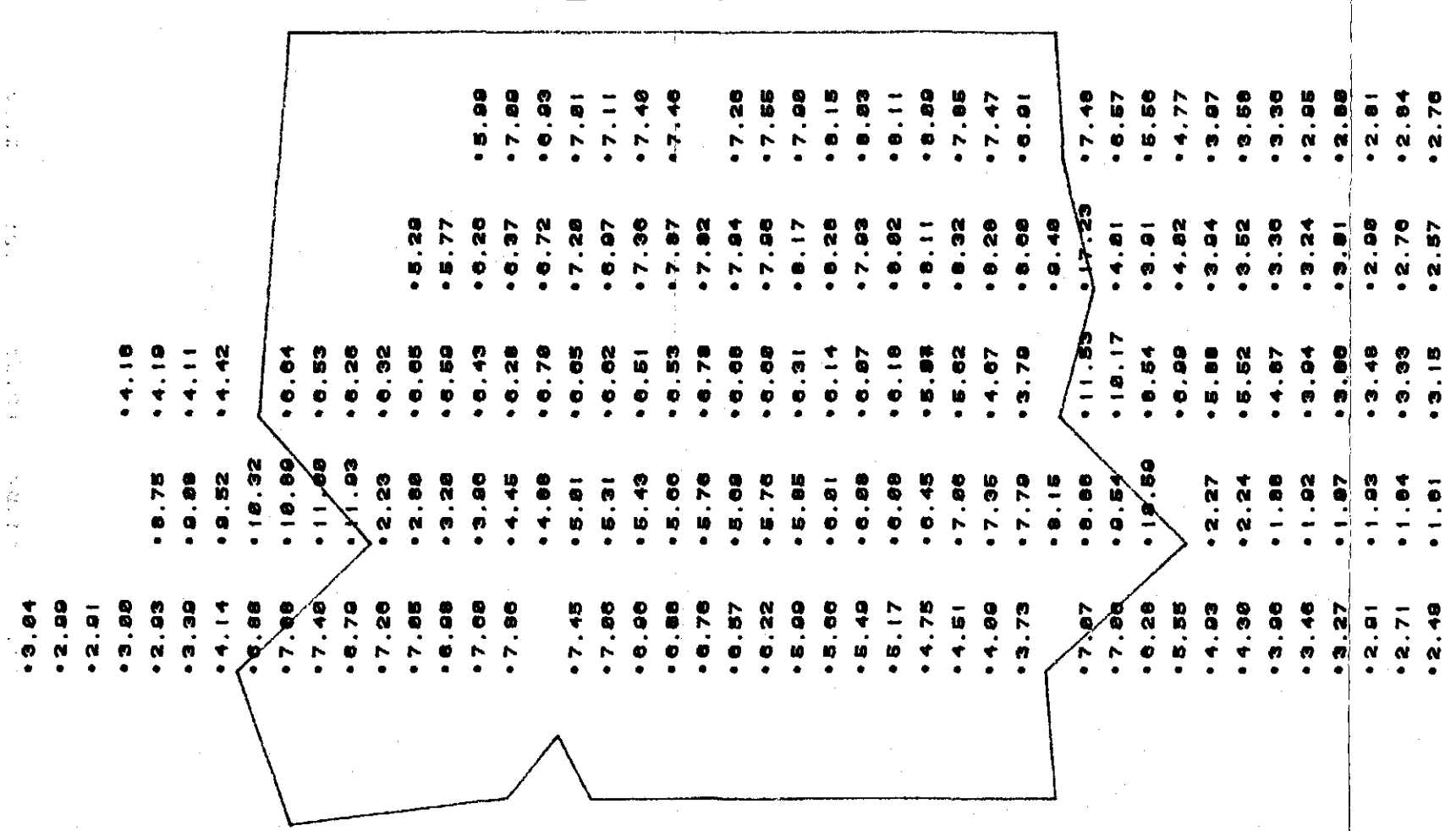
4400N

5500N

4500E

4900E

LOOP #0004



0 200 400 m

0 500 1000 f

SCALE

5 cm

UTEM III SURVEY PLAN

Area : Lake Barrington
For : CRA Exploration
Date : March 1985
Secondary field : Hz Comp.
Ch.7 , Delay = 144us
Point normalisation

052

049052

TASh 2747

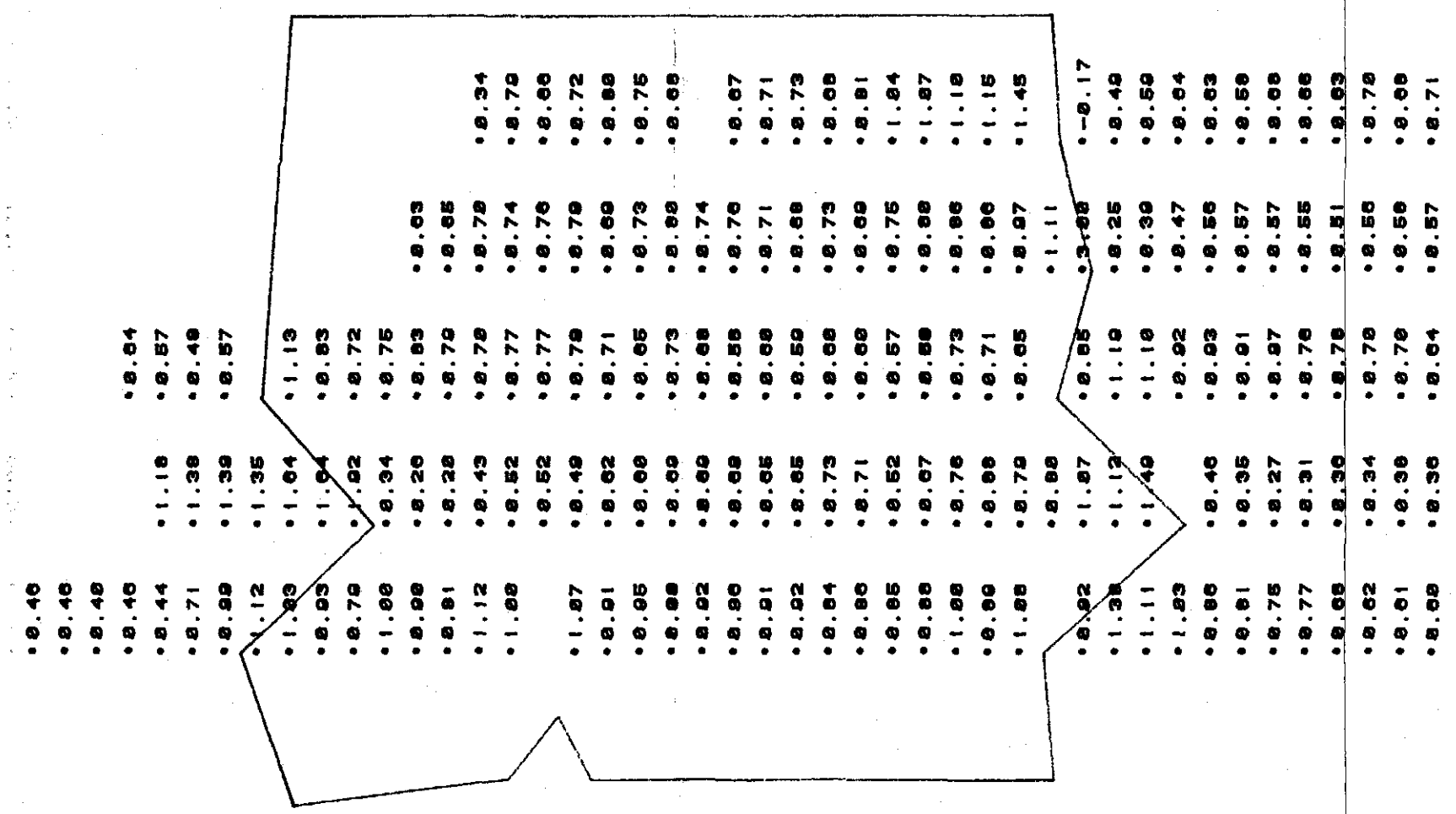
4400N

5500N

4500E

4900E

LOOP #0004



0 200 400 m

0 500 1000 f

SCALE

5 cm

5 cm

UTEM III SURVEY PLAN

Area : Lake Barrington
For : CRA Exploration
Date : March 1985
Secondary field : Hz Comp.
Ch.5 , Delay = 576us
Point normalisation

053

049053

TASh 2748

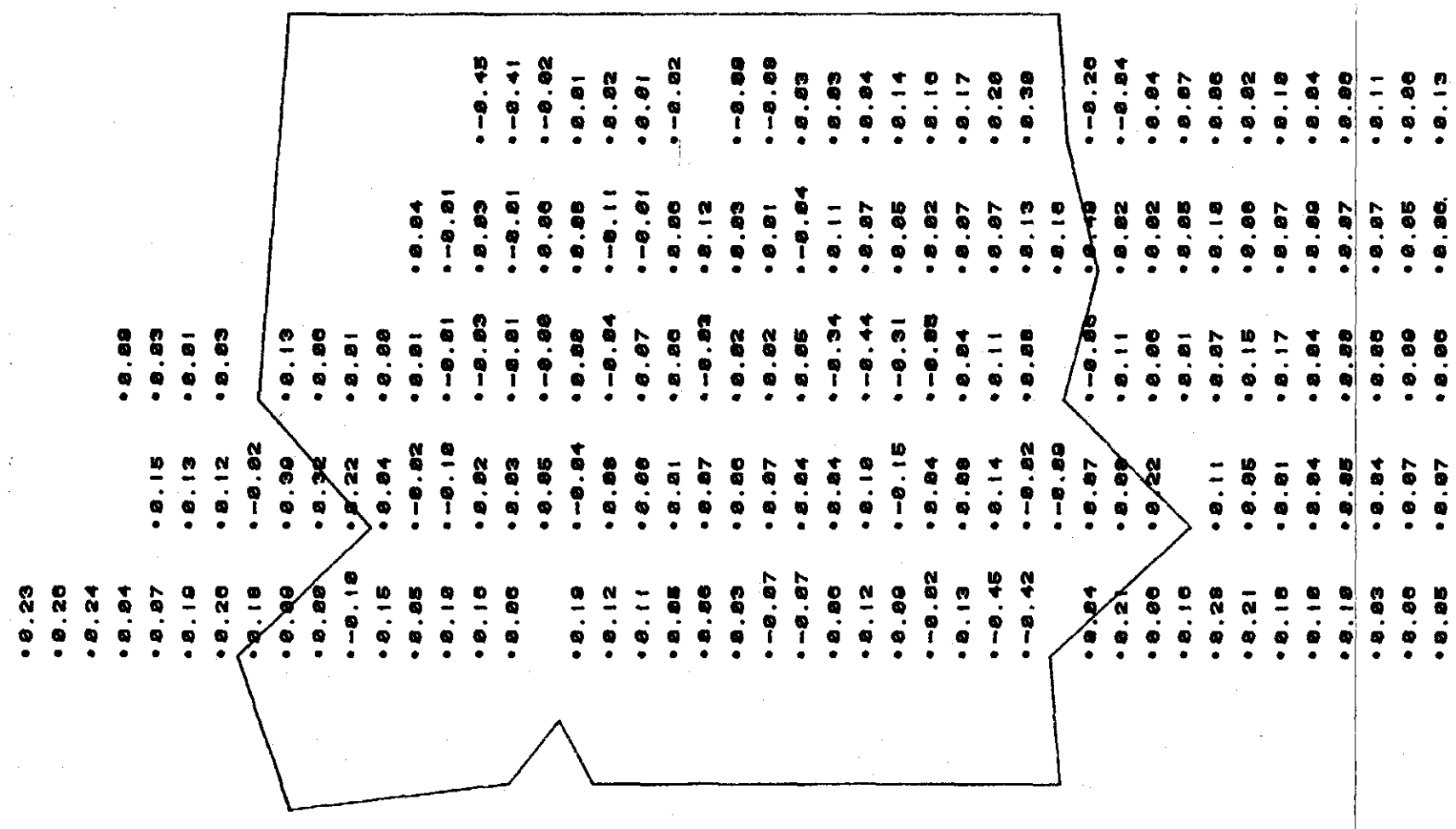
4400N

5500N

4700E

4900E

LOOP #0004



0 200 400 m

0 500 1000 f

SCALE

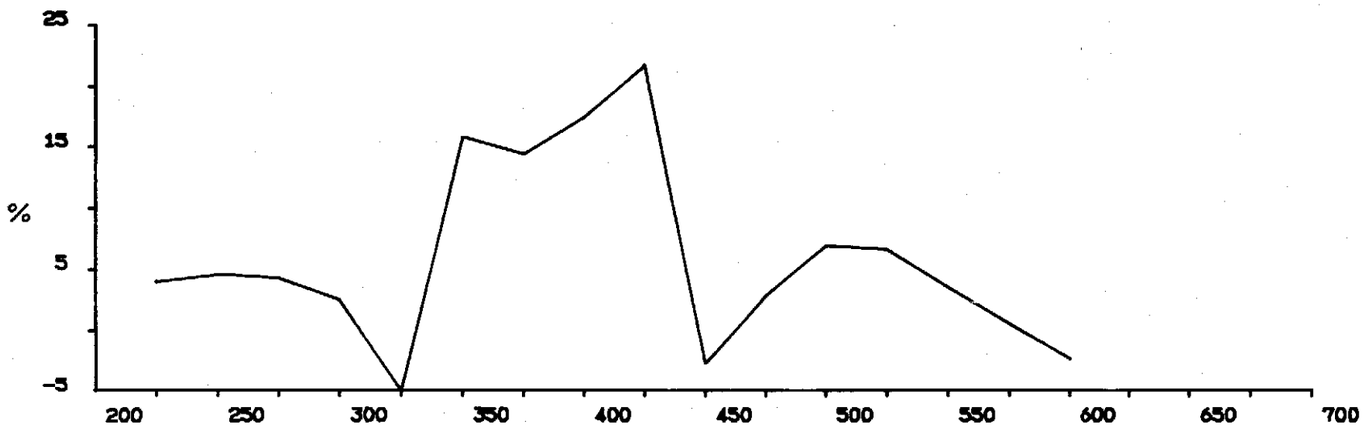
5 cm

5 cm

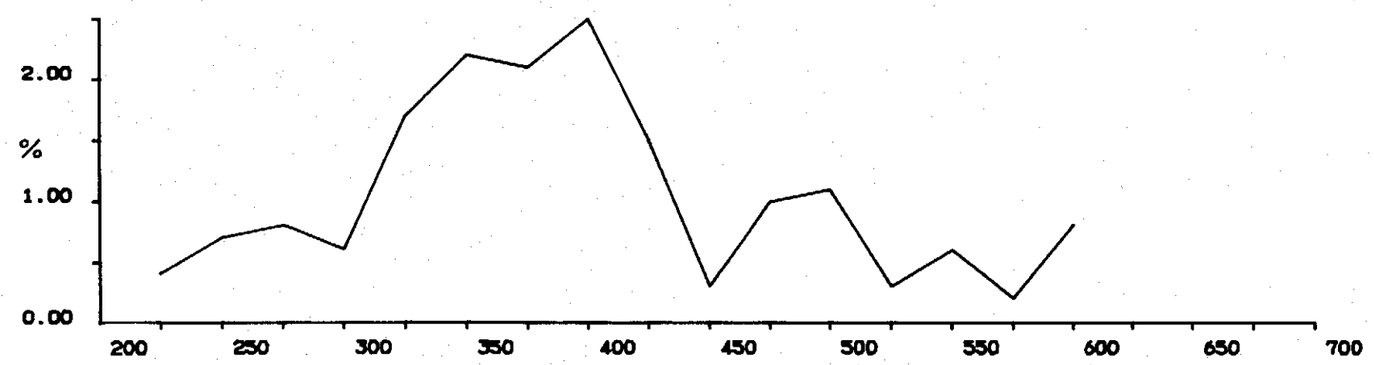
UTEM III SURVEY PLAN

Area : Lake Barrington
For : CRA Exploration
Date : March 1985
Secondary field : Hz Comp.
Ch.3 , Delay = 2304us
Point normalisation
Loop #0004

SIMONDS GRID: GENIE, LINE 2000W



3037/112 HZ



337/112 HZ

5 cm

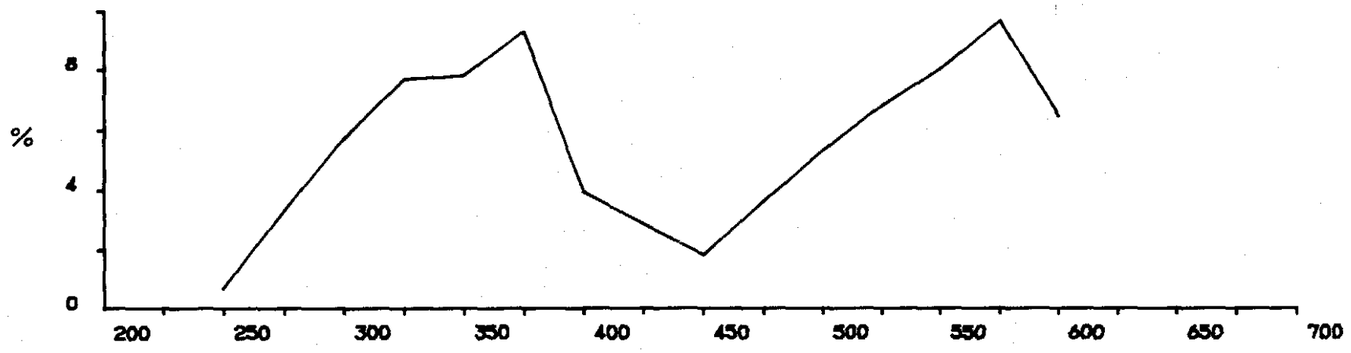
* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

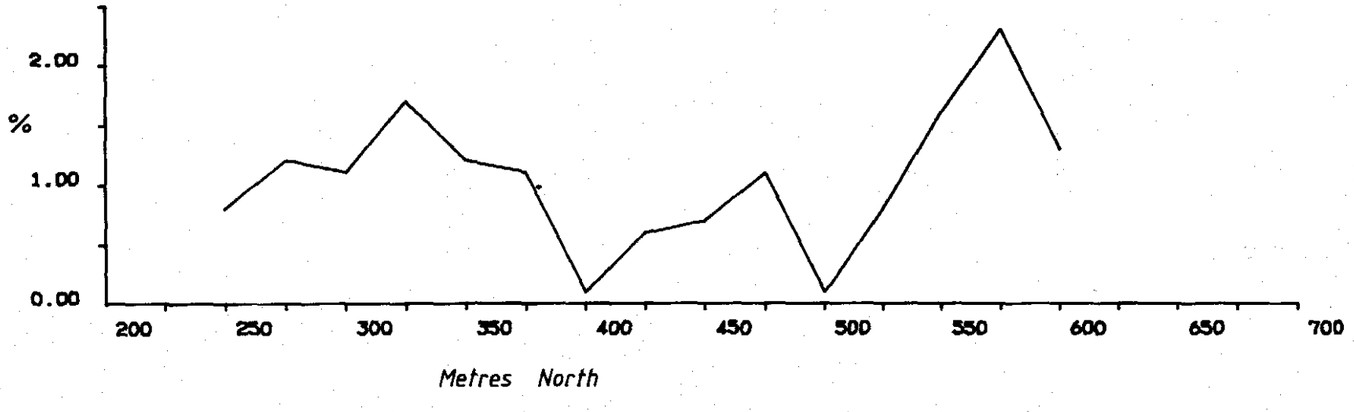
SHEFFIELD E.L. 7/73
SIMONDS GRID
SCINTREX SE-88 GENIE PROFILES
LINE 2000 West

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASh	2787

SIMONDS GRID: GENIE, LINE 2100W



3037/112 HZ



337/112 HZ

5 cm

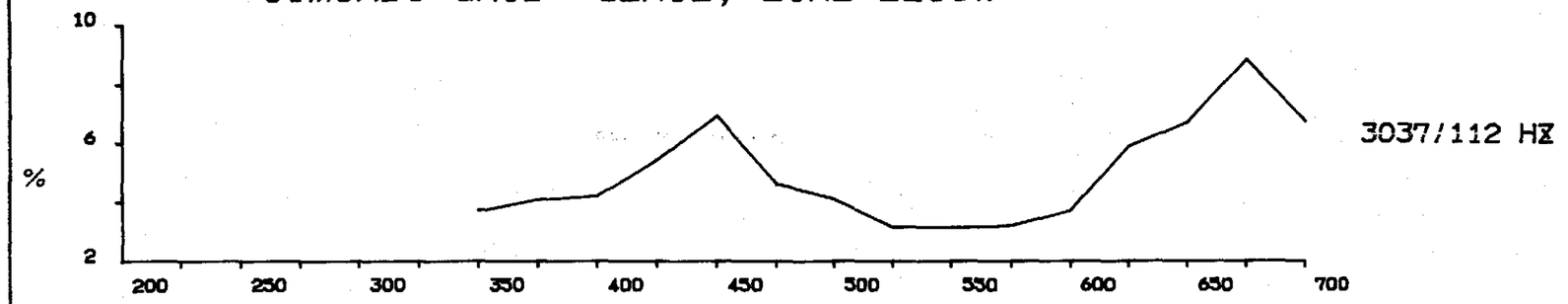
*. N.B. *
Transmitter in South.
Separation 100 metres.

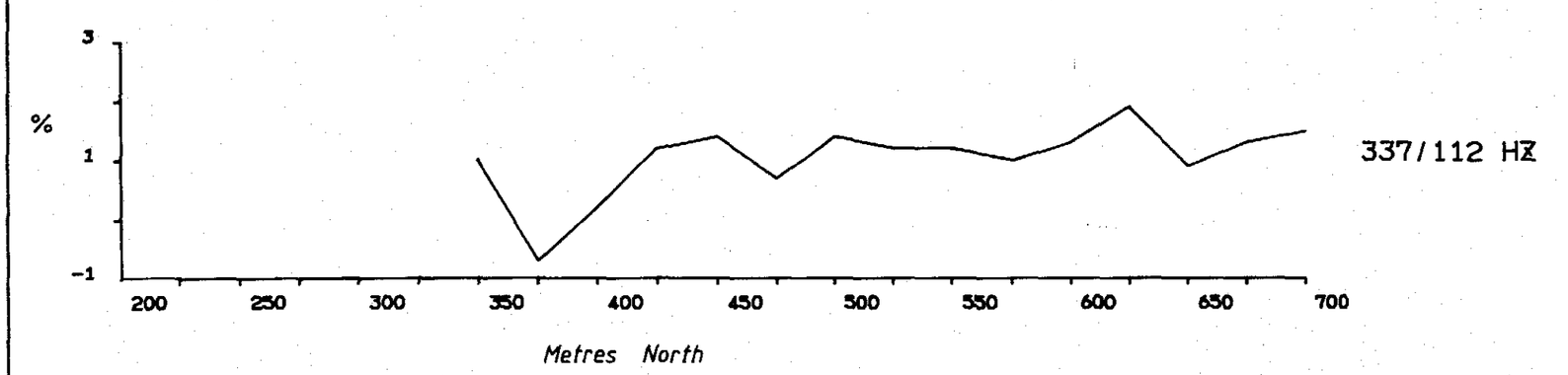
CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS GRID
SCINTREX SE-88 GENIE PROFILES
LINE 2100 West

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASn	2788

SIMONDS GRID: GENIE, LINE 2200W





5 cm

* N.B. *
Transmitter in South.
Separation 100 metres.

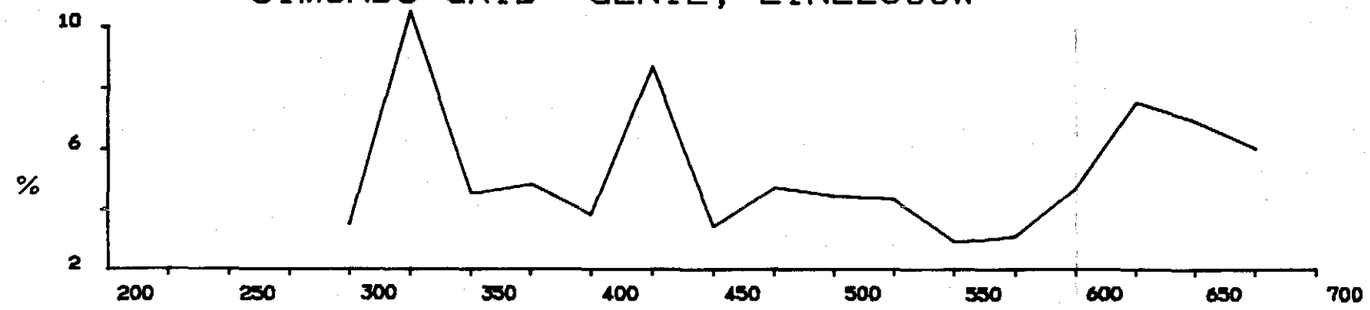
CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS GRID
SCINTREX SE-88 GENIE PROFILES
LINE 2200 West

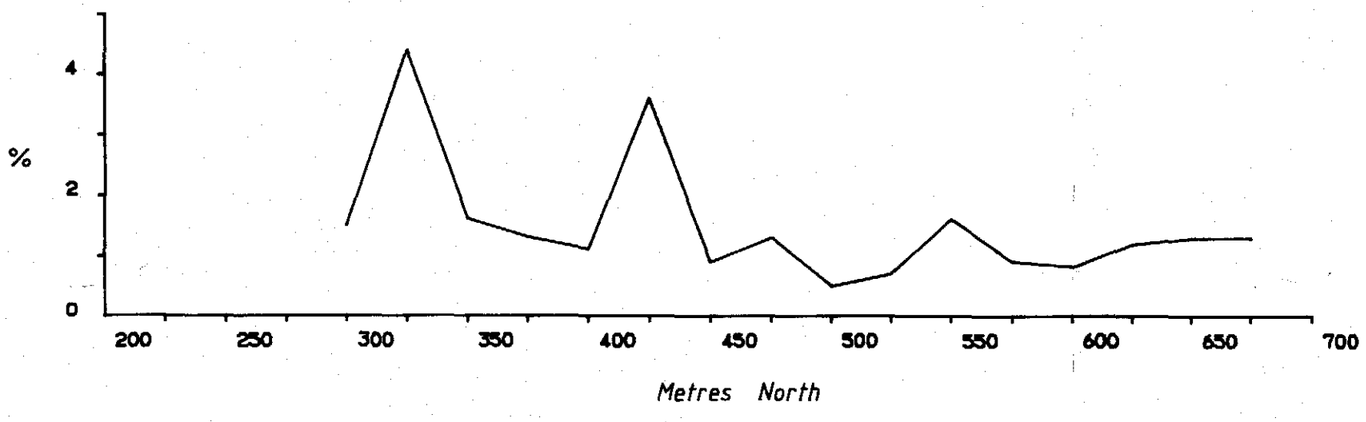
REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASh	2789

049057

SIMONDS GRID: GENIE, LINE2300W



3037/112 HZ



337/112 HZ

5 cm

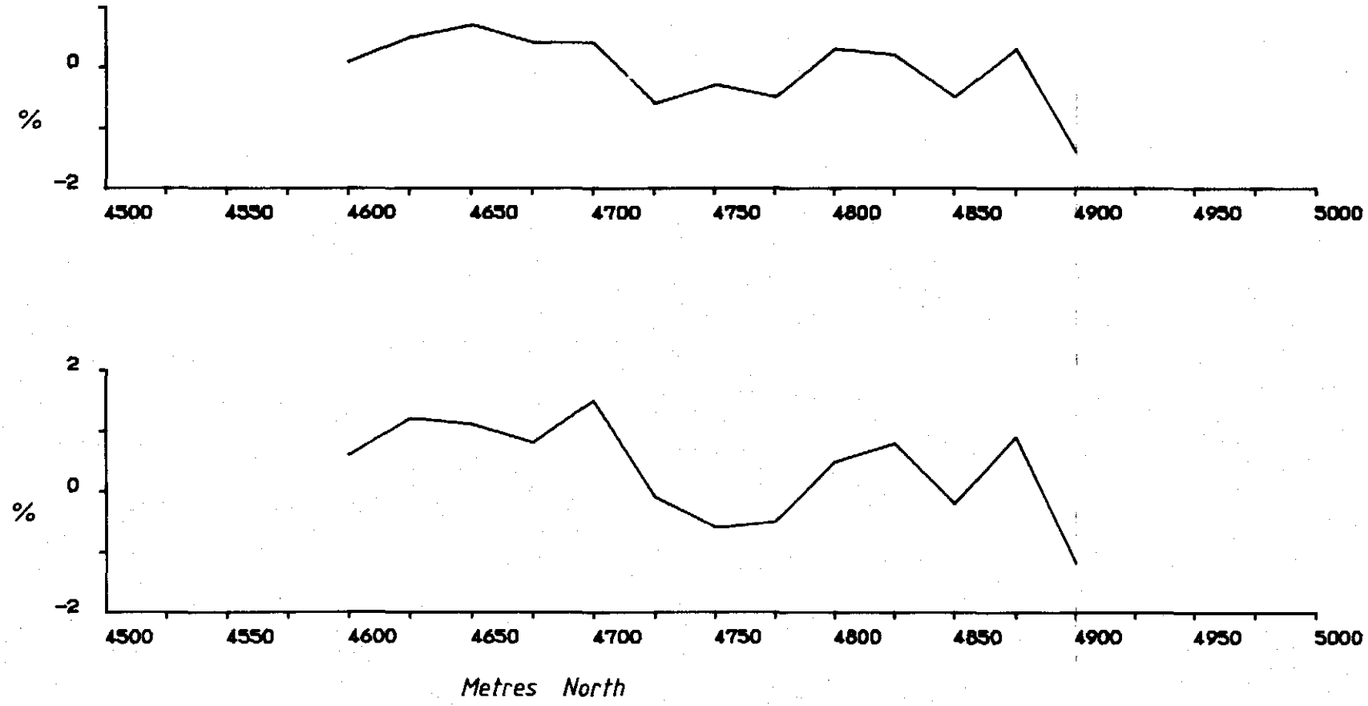
* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS GRID
SCINTREX SE-88 GENIE PROFILES
LINE 2300 West

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASn	2790

GOG RANGE: GENIE, LINE 35E



5 cm

* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

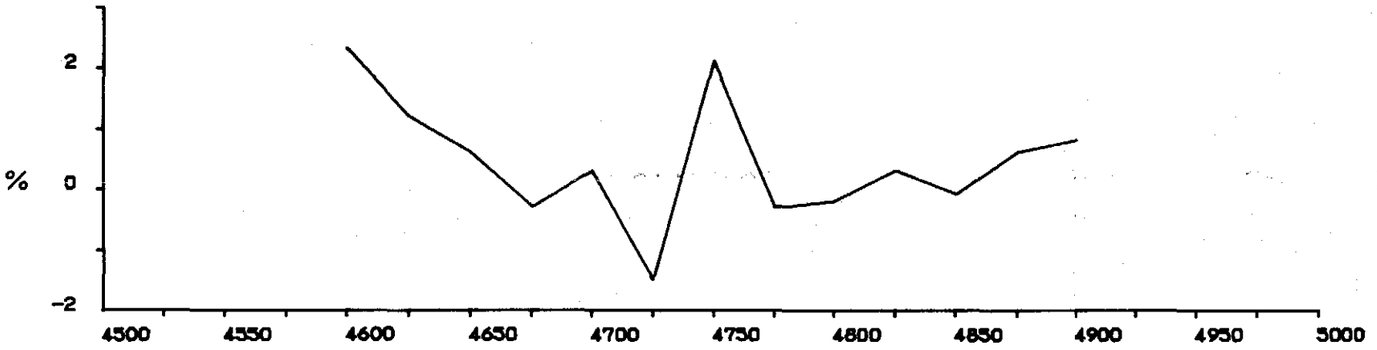
SHEFFIELD E.L. 7/73
GOG RANGE
SCINTREX SE-88 GENIE PROFILES
LINE 35 East

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASh	2791

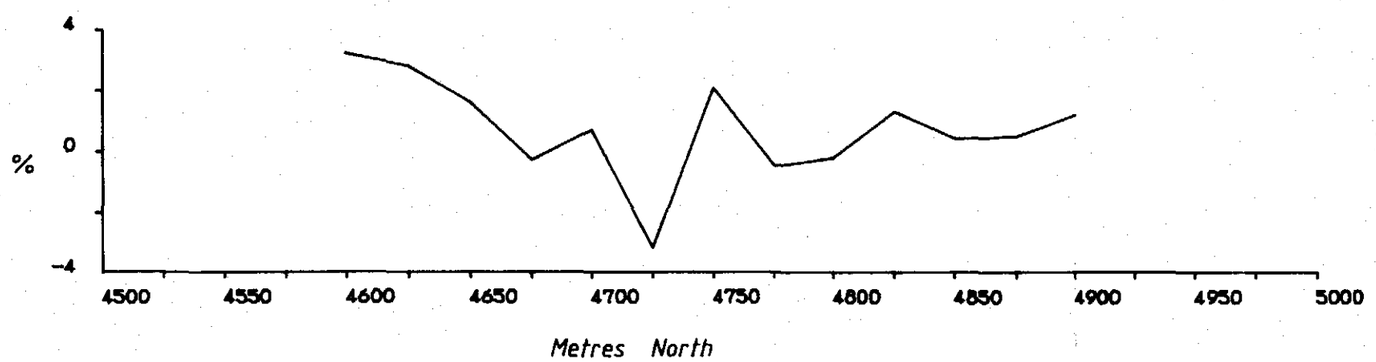
059

049059

GOG RANGE: GENIE, LINE 37E



3037/112 HZ



337/112 HZ

5 cm

* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

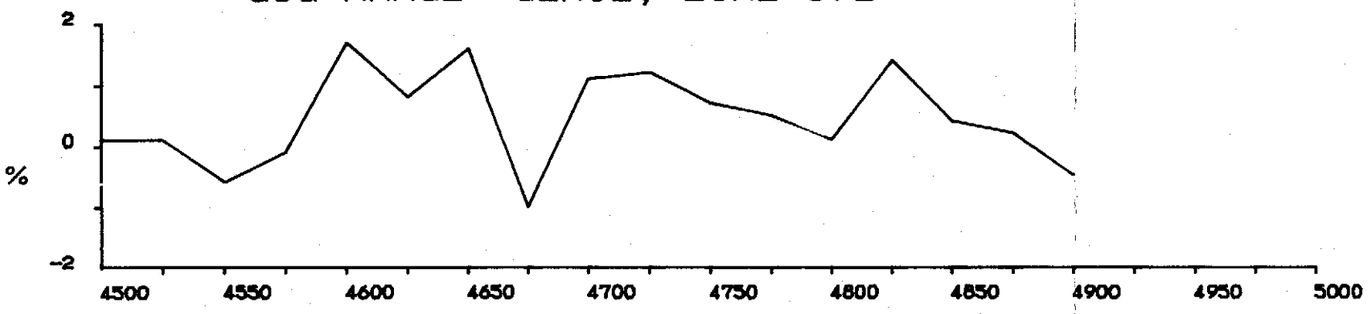
SHEFFIELD E.L. 7/73
GOG RANGE
SCINTREX SE-88 GENIE PROFILES
LINE 37 East

REF.	SK55 - 3 (8115)		
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASn	2792

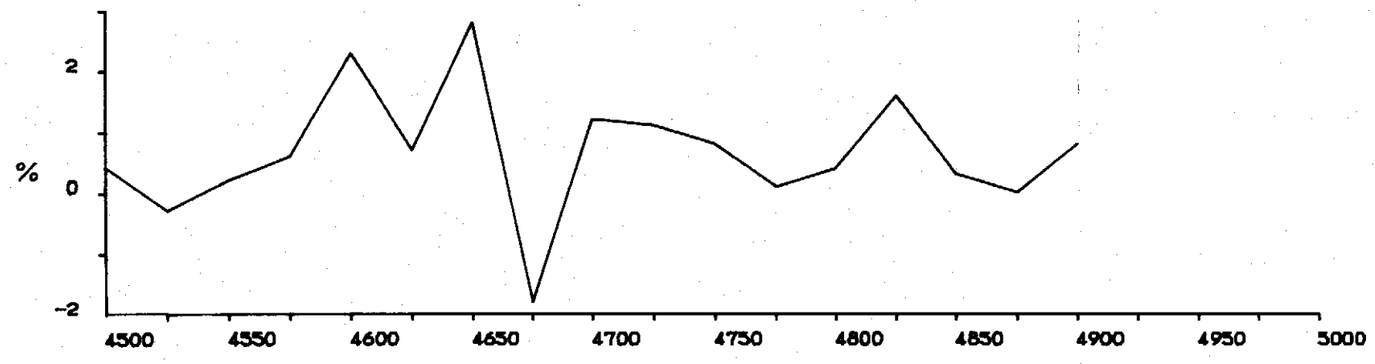
060

049060

GOG RANGE: GENIE, LINE 39E



3037/112 HZ



337/112 HZ

5 cm

* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

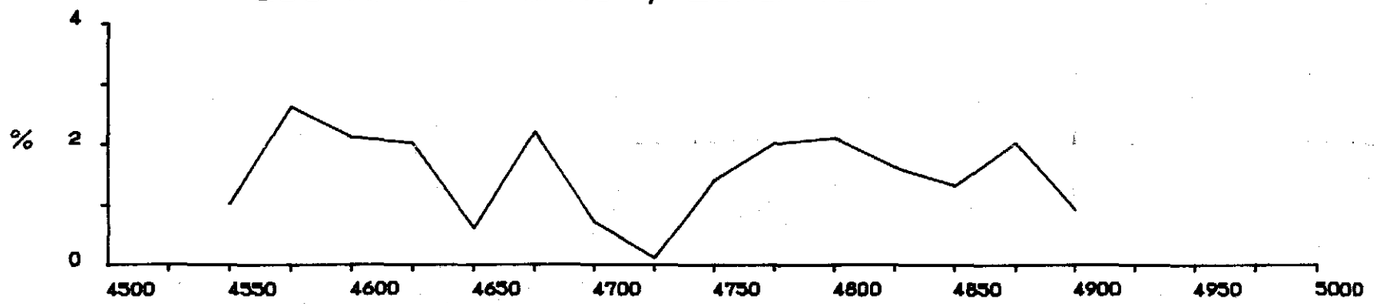
SHEFFIELD E.L. 7/73
GOG RANGE
SCINTREX SE-88 GENIE PROFILES
LINE 39 East

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASh	2793

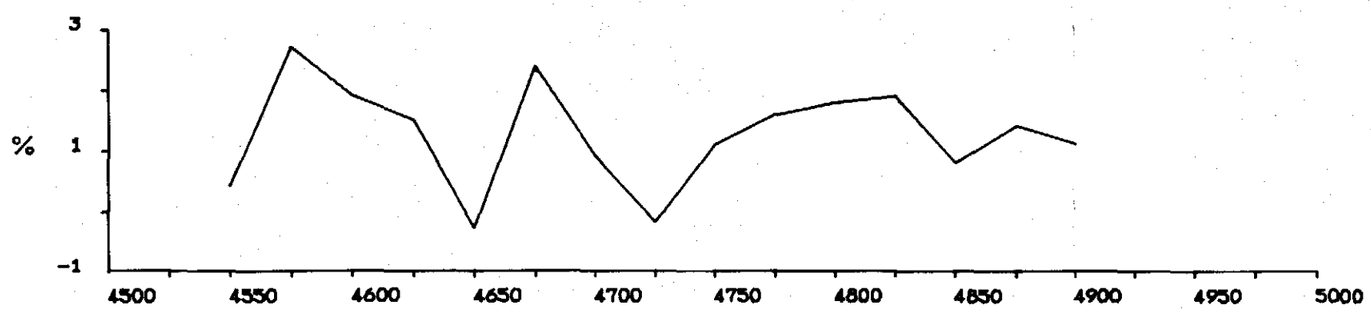
061

049061

GOG RANGE: GENIE, LINE 41E



3037/112 HZ



337/112 HZ

5 cm

* N.B. *
Transmitter in South.
Separation 100 metres.

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73

SCINTREX SE-88 GENIE PROFILES
LINE 41 East

REF.	SK55 - 3	(8115)	
SCALE	1 : 2500	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	13461
DATE	19 - 8 - 1985	PLAN No. TASh	2794

062

049062

TASh 2757
P.T.O.

5025N

5700N

2800W

2000W

LOOP #0003

-4.17 -8.49 -7.85 -8.88 -5.25 -2.56 -1.84 -2.53 -3.84
-8.22 -1.81 -1.36 -8.89 -8.57 -1.48 -8.24 -1.33 -8.24 -1.76
-1.85 -2.88 -1.48 -1.78 -2.34 -2.04 -2.34 -2.59 -1.76 -2.34
-2.84 -2.47 -1.51 -2.82 -2.86 -2.68 -2.66 -3.41 -2.34 -2.66
-3.18 -3.21 -2.84 -3.21 -3.38 -3.57 -3.14 -3.03 -3.14 -3.14
-3.67 -3.67 -3.58 -3.78 -3.57 -3.57 -3.44 -3.68 -3.44 -3.44
-8.71 -3.78 -3.84 -3.97 -3.77 -3.42 -3.34 -3.76 -3.34 -3.34
-3.82 -3.85 -3.68 -4.18 -4.06 -4.24 -4.19 -3.67 -3.28 -3.28
-4.18 -4.18 -3.88 -3.97 -4.25 -4.25 -4.37 -3.48 -3.17 -3.17
-4.38 -8.88 -4.85 -4.88 -4.13 -4.11 -4.49 -3.47 -3.31 -3.31
-4.11 -3.85 -4.28 -4.28 -4.53 -4.28 -3.58 -3.56 -2.88 -2.88
-4.48 -4.14 -4.28 -4.55 -4.66 -4.18 -4.48 -3.36 -3.24 -3.24
-4.35 -4.41 -4.27 -4.32 -4.48 -4.25 -4.57 -3.52 -2.51 -2.51
-4.51 -4.44 -4.44 -4.48 -4.64 -4.11 -4.64 -3.42 -2.52 -2.52
-4.52 -4.41 -4.41 -4.48 -4.48 -4.13 -4.35 -3.51 -2.01 -2.01
-4.51 -4.38 -4.38 -4.26 -4.26 -4.13 -4.17 -3.18 -1.57 -1.57
-4.61 -4.34 -4.34 -4.45 -4.45 -4.21 -4.17 -2.42 -1.68 -1.68
-4.58 -4.38 -4.38 -4.38 -4.38 -3.86 -4.28 -2.17 -1.21 -1.21
-4.42 -4.36 -4.36 -4.80 -4.80 -4.18 -4.27 -2.82 -8.87 -8.87
-4.57 -4.25 -4.25 -4.15 -4.15 -4.20 -4.17 -1.76 -8.84 -8.84
-4.49 -4.18 -4.18 -4.18 -4.18 -4.12 -4.88 -1.37 -8.88 -8.88
-4.43 -4.18 -4.82 -4.82 -4.82 -3.82 -4.28 -1.83 -1.00 -1.00
-4.39 -4.18 -4.18 -4.01 -3.01 -3.72 -4.15 -1.58 -1.38 -1.38
-4.28 -4.84 -4.10 -4.35 -4.74 -3.54 -3.78 -1.18 -2.55 -2.55
-4.12 -4.10 -3.88 -3.05 -3.58 -3.49 -3.58 -1.20 -1.00 -1.00
-3.83 -3.88 -4.88 -3.58 -3.38 -3.14 -3.38 -1.83
-3.81 -4.88 -3.58 -3.18
-2.56 -1.48 -2.62 -2.84 -3.08 -3.57 -3.72 -3.86 -4.85 -8.88 -3.86 -3.87 -4.26 -4.25 -5.85 -3.88 -3.87 -3.73 -3.87 -3.85 -3.88 -3.51 -3.38 -3.13 -3.11 -2.48 -2.88 -2.53
-1.84 -8.25 -2.44 -3.35 -3.88 -3.81 -3.58 -3.73 -3.78 -3.71 -3.57 -3.52 -3.55 -3.58 -3.84 -3.76 -3.82 -3.83 -3.58 -3.76 -3.15 -3.87 -2.88 -2.57 -2.14 -2.32 -1.87 -1.88
-2.53 -1.33 -2.58 -3.41 -3.83 -3.88 -3.78 -3.57 -3.67 -3.48 -3.47 -3.58 -3.38 -3.52 -3.42 -3.51 -3.18 -2.42 -2.17 -2.82 -1.78 -1.37 -1.83 -1.58 -1.18 -1.28 -1.83 -8.55
-3.84 -8.24 -1.76 -2.34 -2.88 -3.14 -3.44 -3.34 -3.28 -3.17 -3.31 -2.88 -3.24 -2.51 -2.52 -2.81 -1.57 -1.88 -1.21 -8.87 -8.84 -8.88 -1.88 -1.38 -2.55 -1.88

0 200 400 m
0 500 1000 ft
SCALE

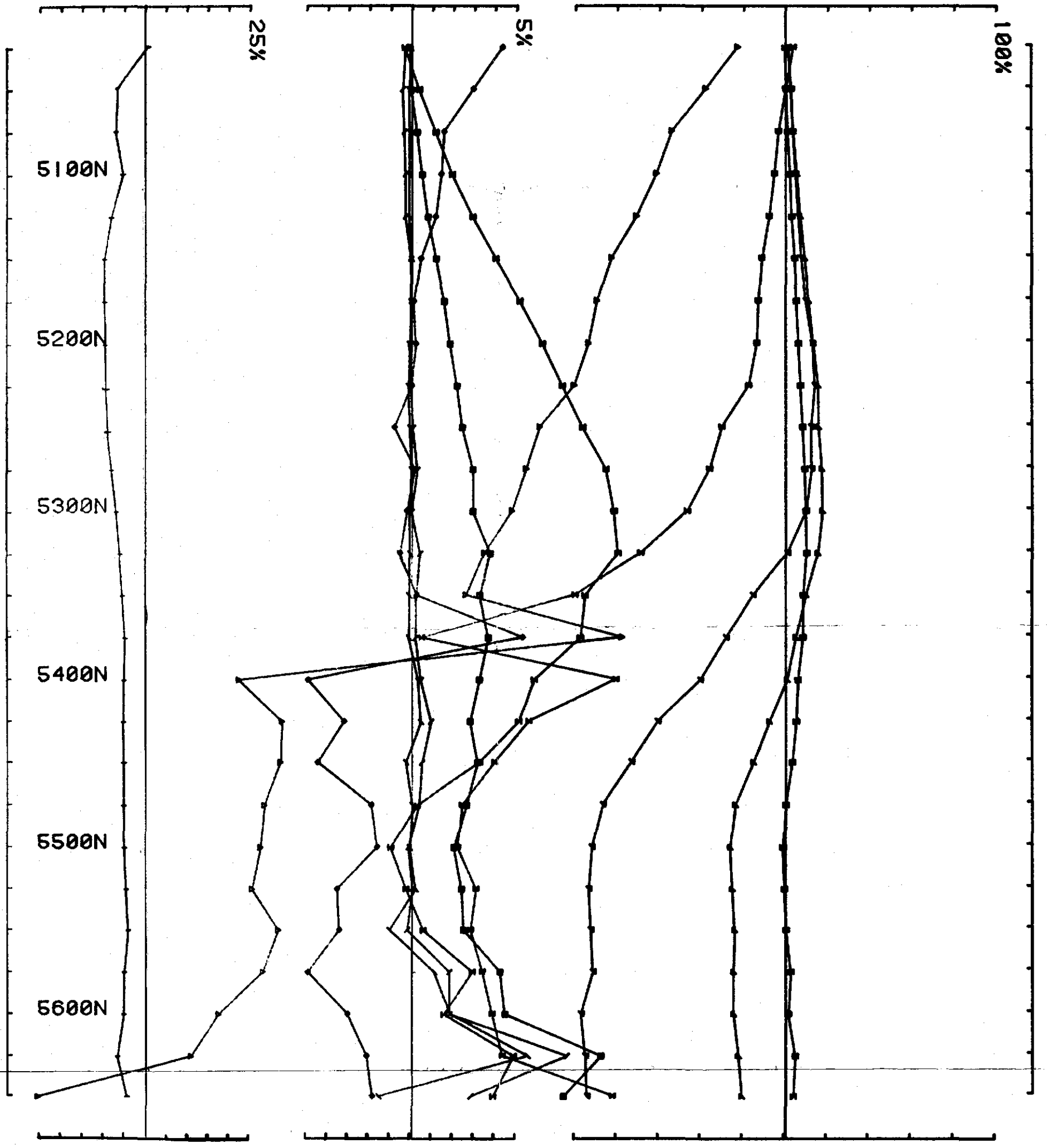
5 cm

UTEM III SURVEY PLAN

Area : Simonds Grid
For : CRA Exploration
Date : March 1985
Secondary field : Hz Comp.
Ch.4 , Delay = 1152us
Point normalisation

LOOP #0003

-0.11	-0.00
-0.02	0.18
0.25	0.33
0.40	0.62
0.75	0.88
1.14	1.12
1.50	1.44
1.83	1.68
2.15	2.07
2.43	2.31
2.83	2.68
2.82	3.11
3.73	3.48
3.25	4.84
3.05	4.41
	5.85
	5.80
	4.28
	4.24
	4.33
	4.18
	3.58
	5.38
	4.54
	3.88
	4.56
	3.91
	2.24



UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2000W component Hz secondary Ch 1

5 cm

TASh 2758

064

25%

5%

100%

5100N

5200N

5300N

5400N

5500N

5600N

5700N

UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

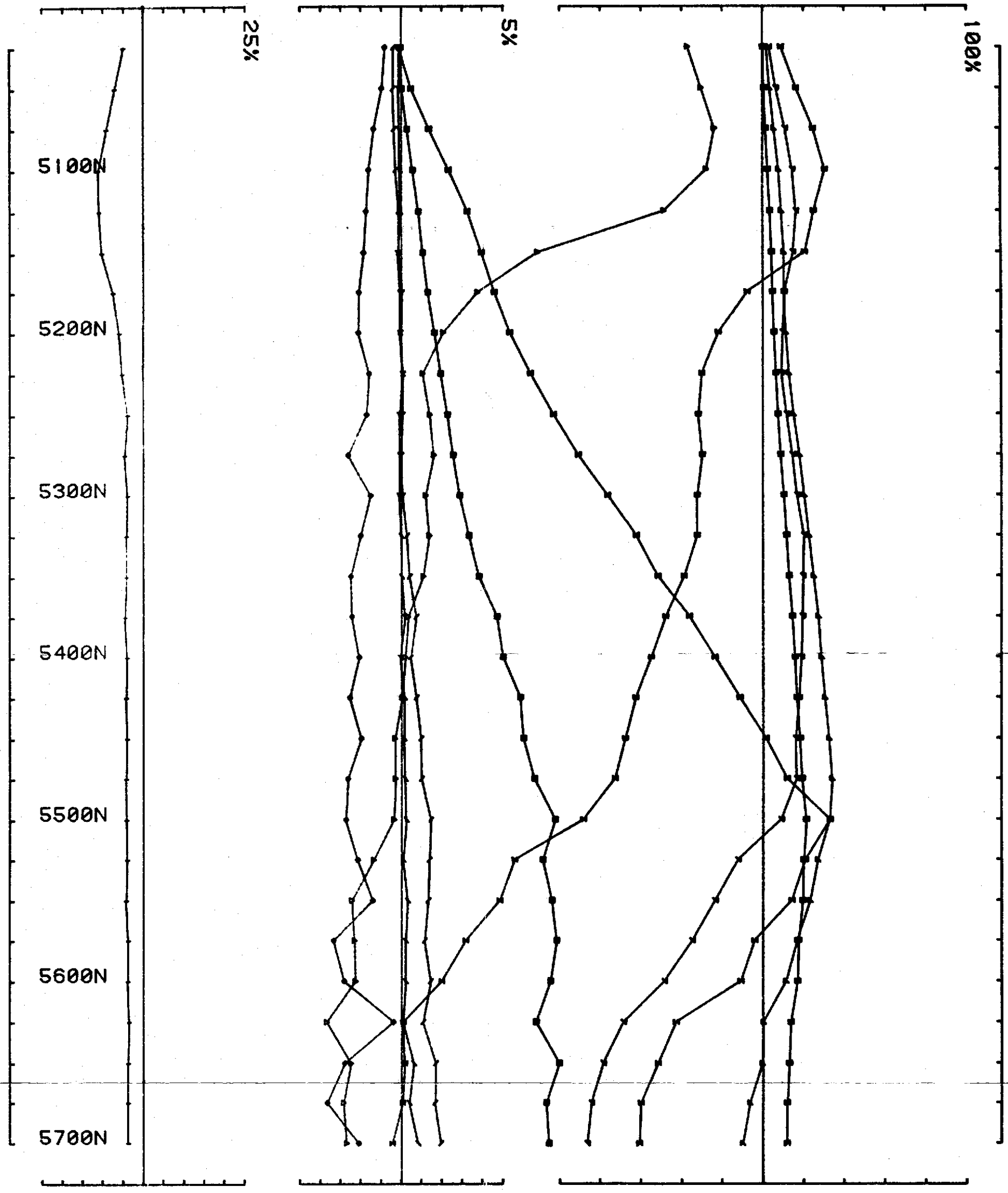
Loopno 0003 Line 2100W component Hz secondary Ch 1

5 cm

TASh 2759

0490064

065



UTEM SURVEY conducted by PMM DA Job 8501

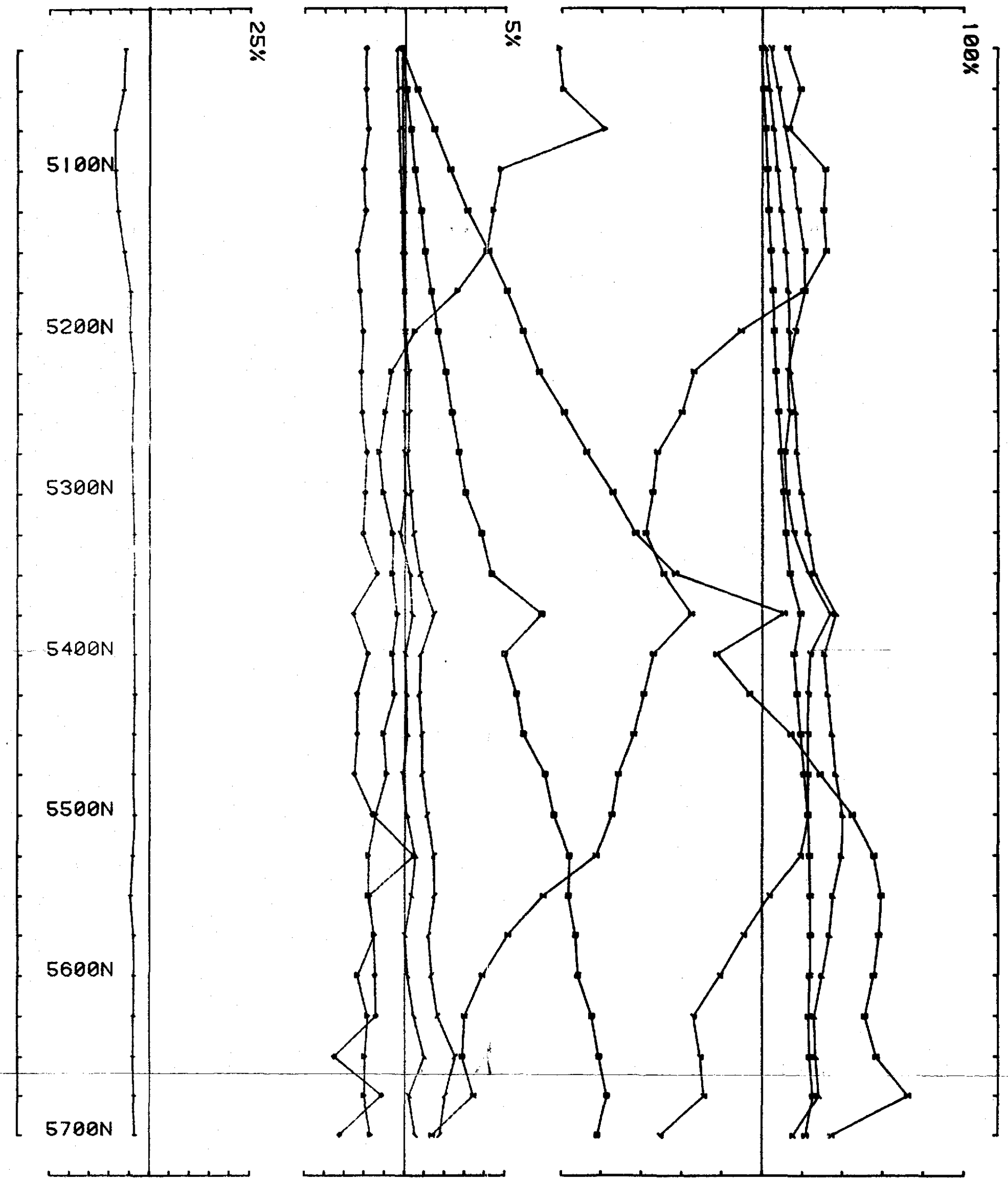
Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2200W component Hz secondary Ch 1

5 cm

TASh 2760

049065



UTEM SURVEY conducted by PMM DA Job 8501

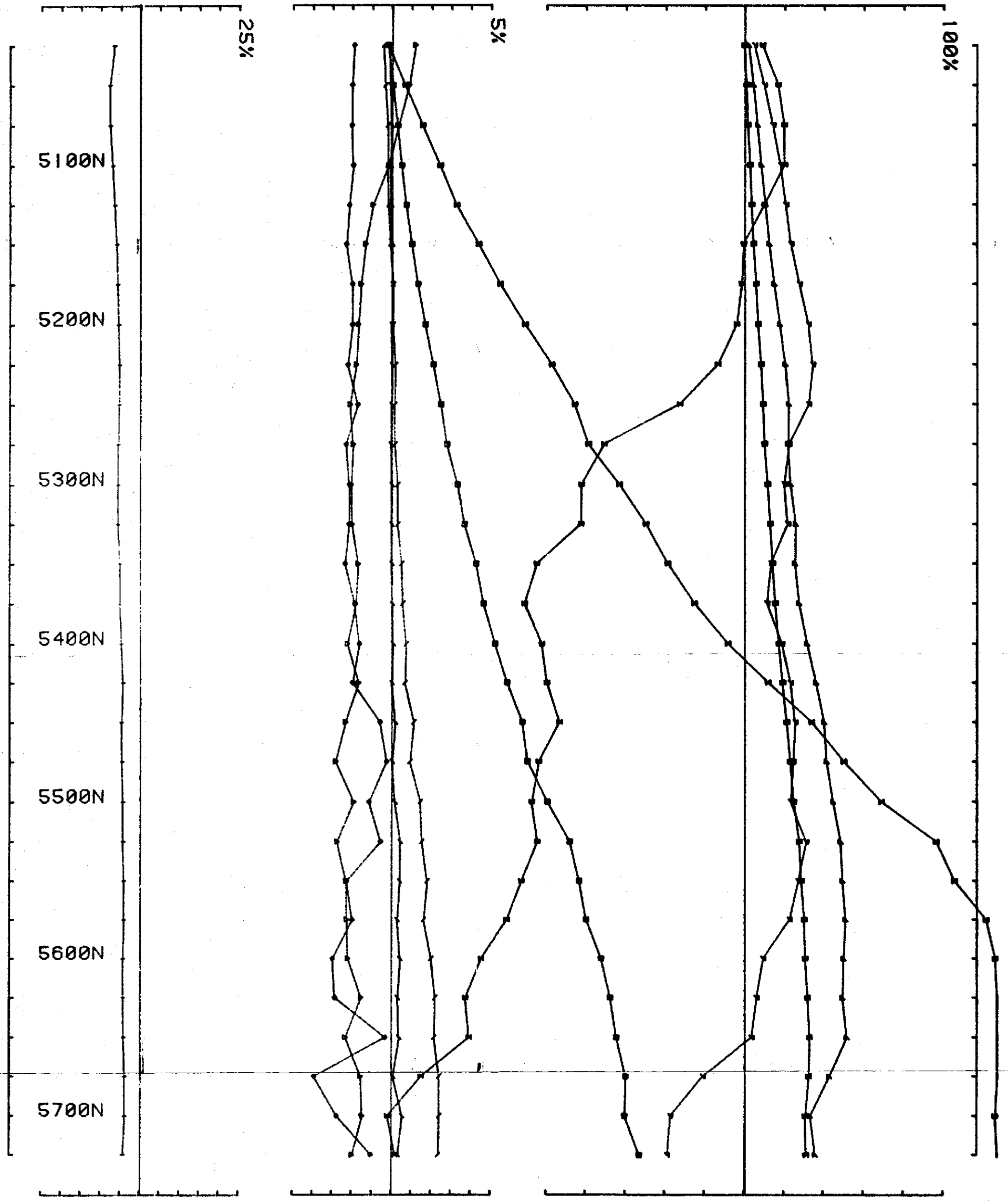
Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2300W component Hz secondary Ch 1

5 cm

TASh 2761

049066



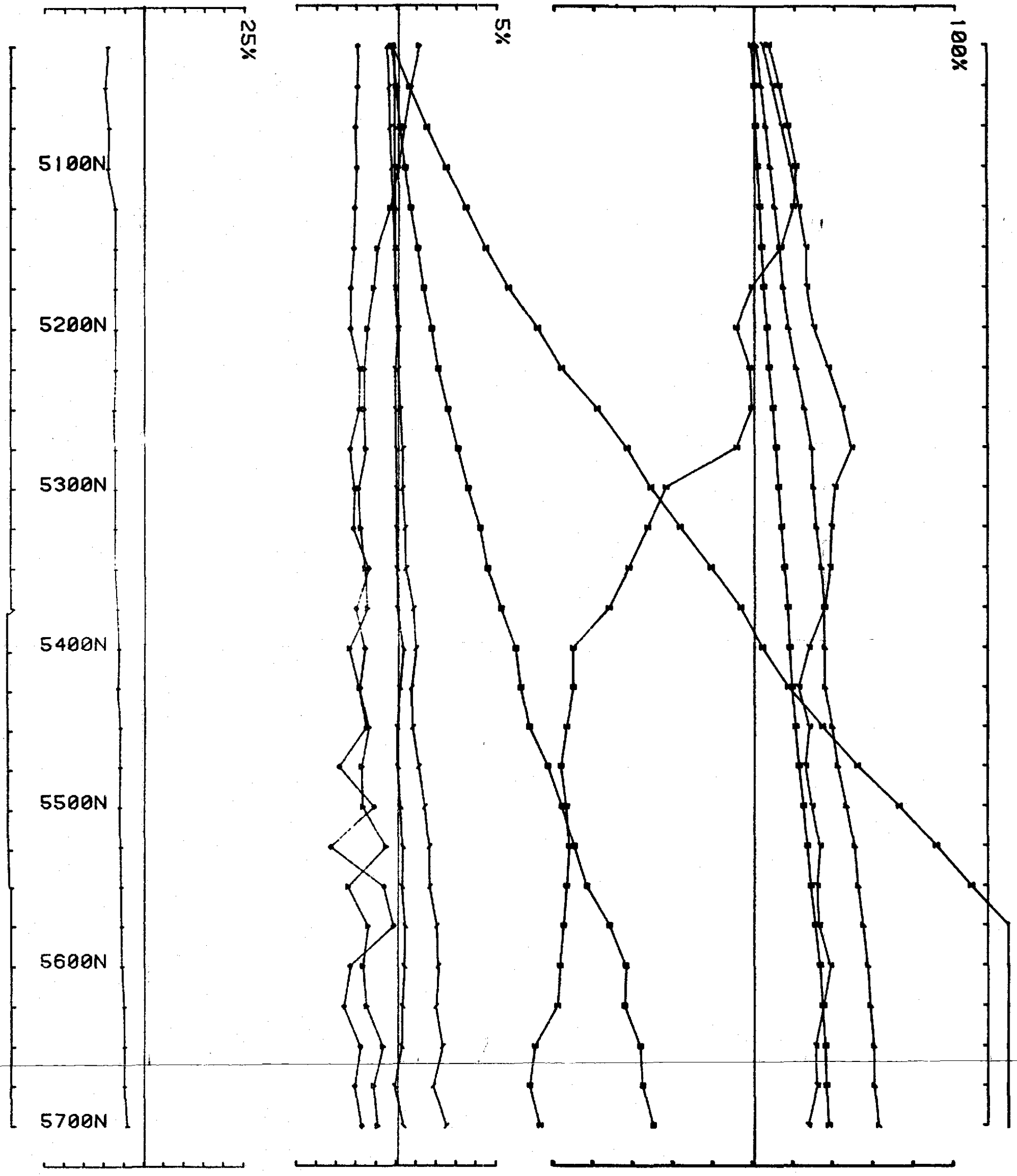
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2400W component Hz secondary Ch 1

5 cm

TASh 2762



UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

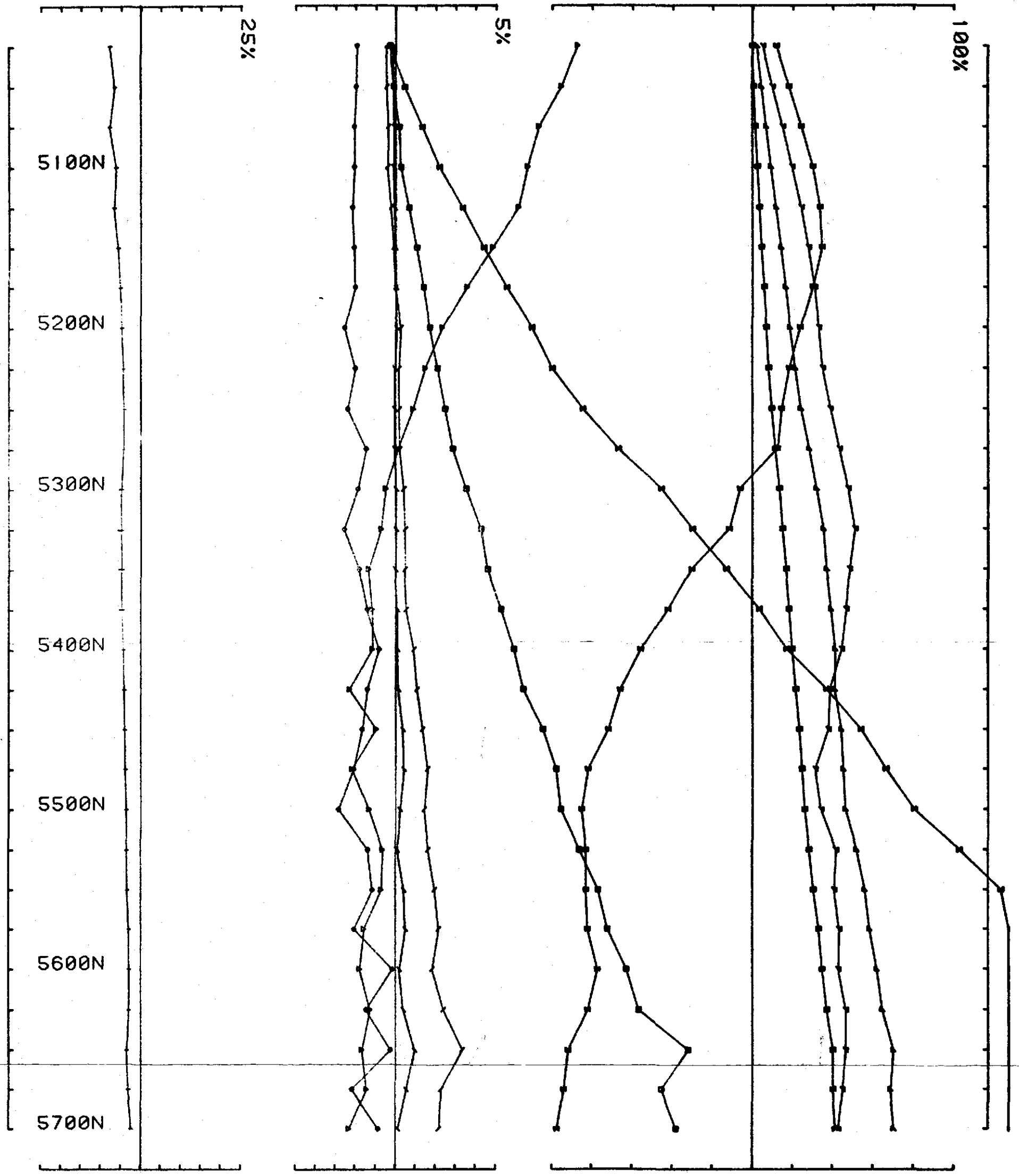
Loopno 0003 Line 2500W component Hz secondary Ch 1

5 cm

TASh 2763

049068

690



UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2600W component Hz secondary Ch 1

5 cm

TASh 2764

0490069

070

25%

5%

100%

5100N

5200N

5300N

5400N

5500N

5600N

5700N

UTEM SURVEY conducted by PMM DA Job 8501

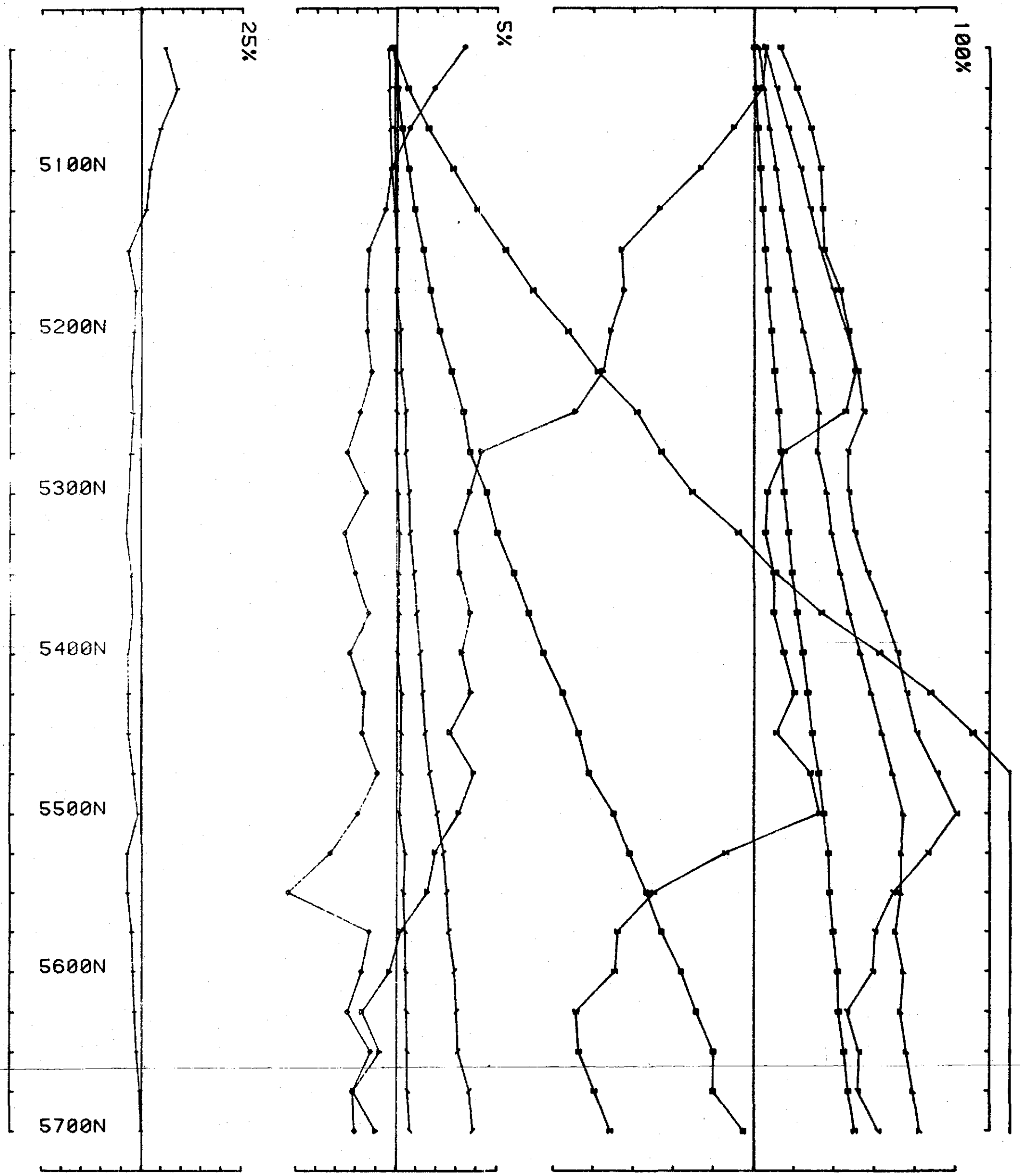
Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2700W component Hz secondary Ch 1

5 cm

TASh 2765

049070



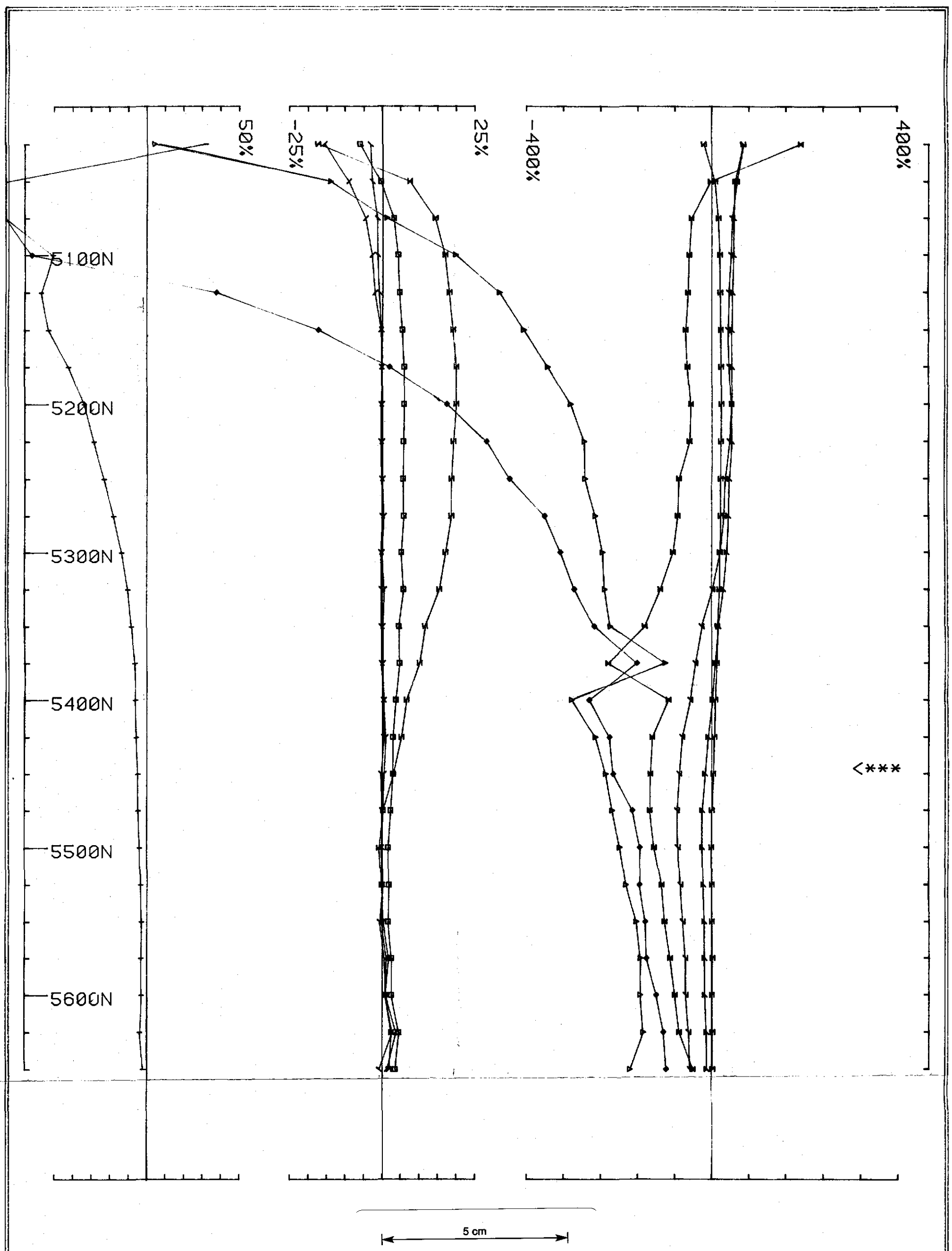
UTEM SURVEY conducted by PMM DA Job 8501

Project Area Simonds Grid Survey for CRA Exploration freq(hz) 26.230

Loopno 0003 Line 2800W component Hz secondary Ch 1

5 cm

TASh 2766

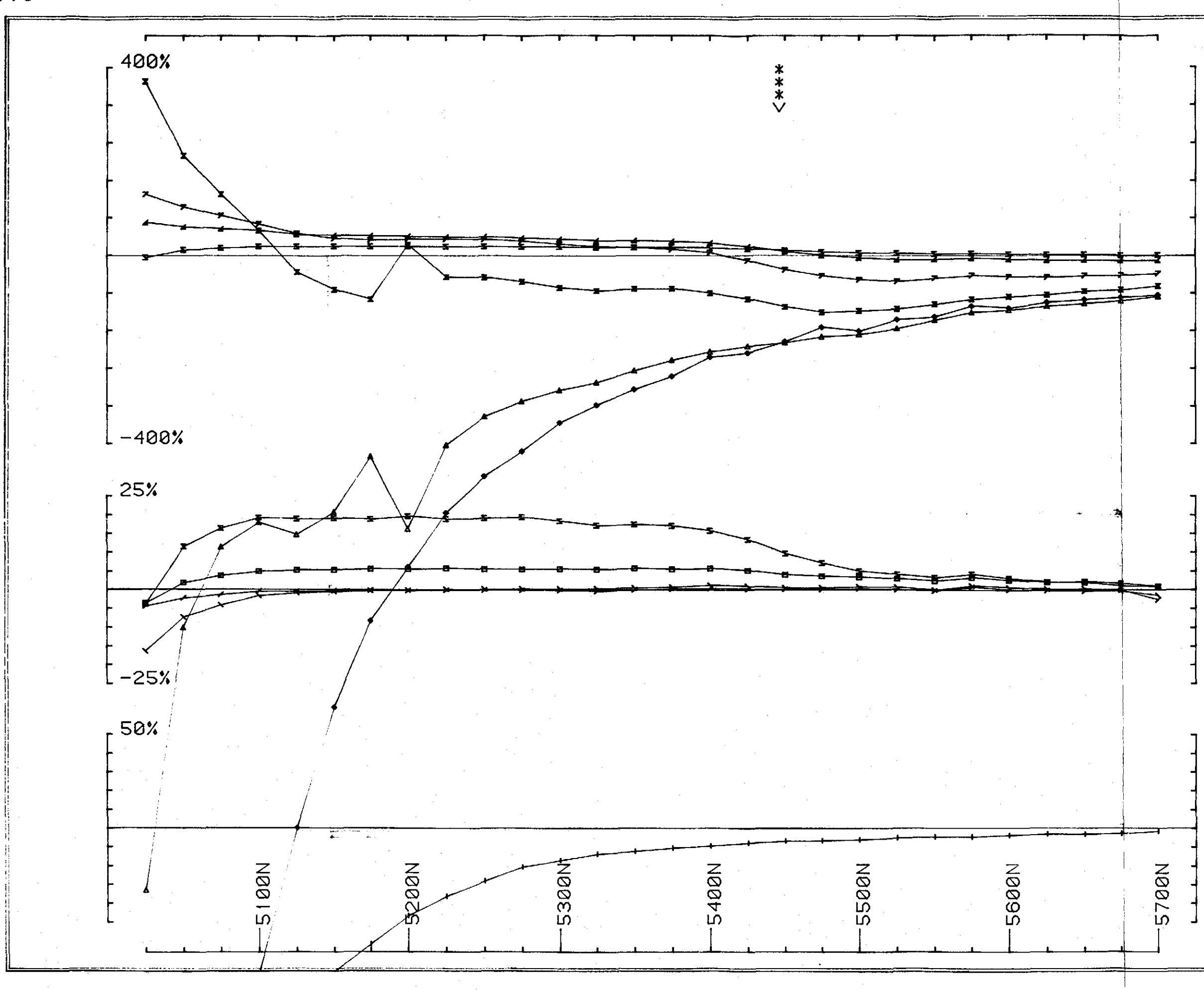


LAMONTAGNE GEOPHYSICS UTEM SURVEY JOB 8501
AREA :- Simonds Grid
CLIENT :- CRA Exploration CREW :- PMM DA
L2000W Hz COMPONENT BASE FREQ :- 26.230HERTZ
SECONDARY FIELD POINT Ch 1 NORMALIZATION

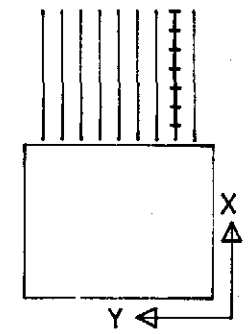
Y
X

Simonds Grid
LOOP 0003
LINE 2000W
Hz

TASh 2743



Simonds Grid
LOOP 0003
LINE 2100W
Hz

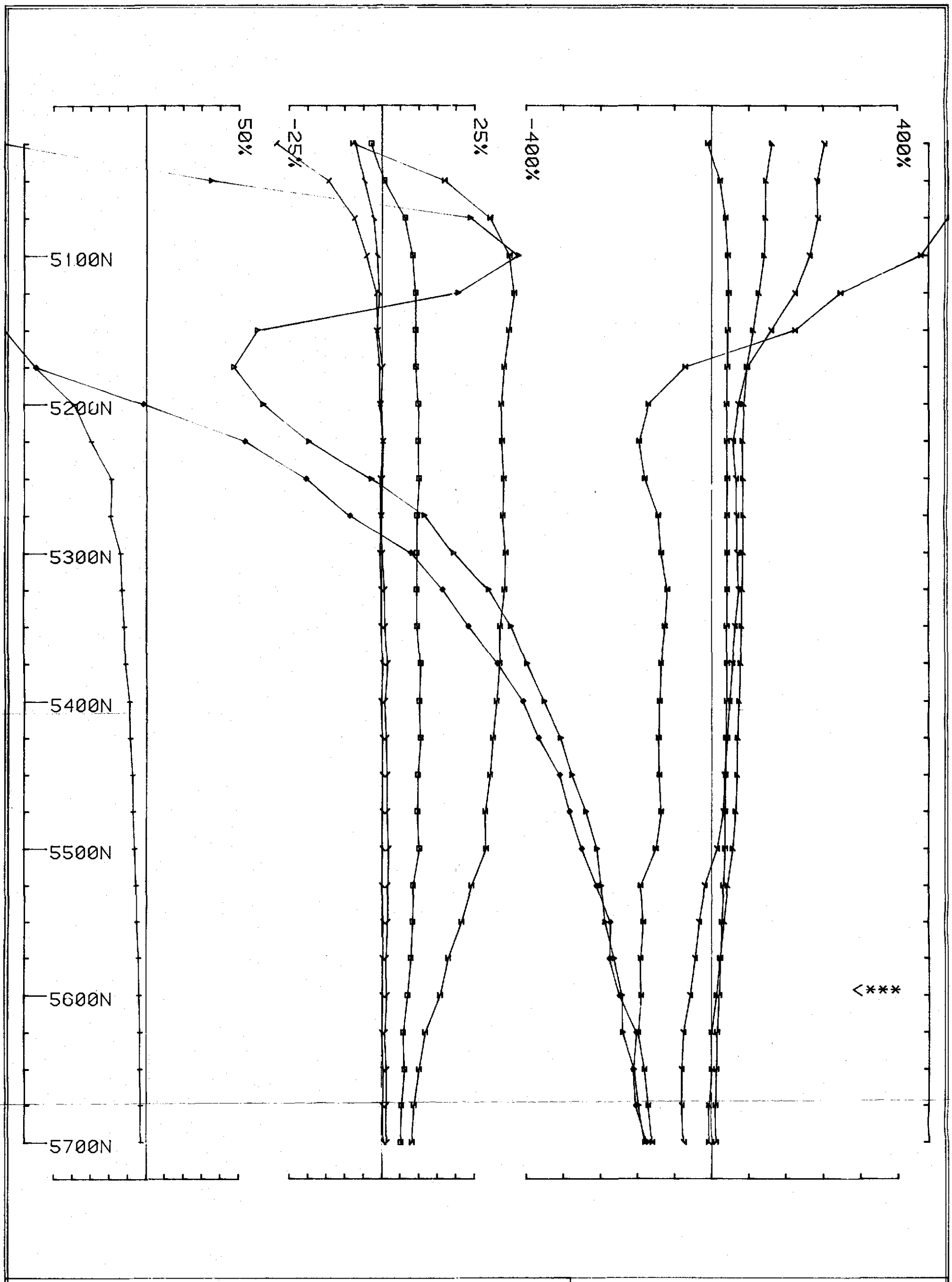


JOB 8501

LAMONTAGNE GEOPHYSICS UTEM SURVEY
AREA :- Simonds Grid
CLIENT :- CRA Exploration CREW :- PMM DA
L2100W Hz COMPONENT BASE FREQ :- 26.230HERTZ
SECONDARY FIELD POINT Ch 1 NORMALIZATION

5 cm

TASh 2744



LAMONTAGNE GEOPHYSICS UTEM SURVEY JOB 8501
AREA :- Simonds Grid
CLIENT :- CRA Exploration CREW :- PMM DA
L2200W Hz COMPONENT BASE FREQ :- 26.230HERTZ
SECONDARY FIELD POINT Ch 1 NORMALIZATION

Y
X

Simonds Grid
LOOP 0003
LINE 2200W
Hz

5 cm

TASh 2745

APPENDIX I

GEOPHYSICS OVER THE STONEBRIDGE BARITE PROSPECT

EL 7/73

076

049076

Sheffield - Geophys.

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

2ND FLOOR, BELLERIVE QUAY,
31 CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
ROSNY PARK 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

4/Dec/84

MEMO TO :P. A. TEMBY
COPY TO :T. W. DICKSON

MEMO FROM :T.VON STROKIRCH

SUBJECT: GEOPHYSICS OVER THE STONEBRIDGE BARITE PROSPECT EL 7/73

INTRODUCTION

Ground EM and magnetics were performed over the eight one kilometre lines of the Stonebridge Barite prospect. Magnetic readings were taken every 12.5 metres and EM readings using the Scintrex GENIE system were taken every 25 metres with a transmitter/receiver separation of 100 metres. Two frequencies pairs (337Hz/112Hz and 3037Hz/112Hz) were monitored at all stations. Some problems were encountered with electric fences but these were alleviated when the local property owners kindly agreed to turn them off.

INTERPRETATION

No major conductors were located on this grid. The area tends to have generally noisy EM and magnetic responses which is due to highly changeable geology rather than to cultural effects. This tends perhaps to obscure minor anomalies. The dominant response on the eastern lines was the basalt which has a high frequency conductive response asociated with it. Some minor conductors were detected which may need followins up when geological and geochemical evidence is considered. A line by line interpretation follows.

Line 7300E
There is a conductivity contrast between the northern and

southern ends of the line with the contact appearing to be at 4200N. Possible conductors occur at 4150N and 4350N. The former is the deeper of the two but little more can be said as they are both very small and the response is close to the noise level.

Line 7400E
Contacts between rock types are indicated from magnetics at 4290N,4560N and 4710N. A magnetic unit lies between 4290N and 4560N. There is a possible conductor at 4050N but the line does not extend far enough to be sure. It appears from the available information that the conductor would in any case be shallow and thus geochemistry should confirm whether or not it is of interest.

Line 7500E
Station 4700N on this line is the approximate position of a DIGHEM conductor located on this grid. On the ground this is visible as a conductive feature of about 35 metres width dipping to the south at 70deg. at a depth of 30-50 metres. It is most probably due to a slightly more conductive rock type as the conductivity appears to be quite of quite a low order. There is a magnetic peak in the centre of the conductor which is due to a source at a depth of 30 metres. An apparent conductor occurs at 4250N. It dips at a shallow angle to the south and is again interpreted as being due to a more conductive rock type. In this case there is some question in my mind as to whether the response on the lower frequency is in fact due to the same feature or whether there is a deeper source as well. Another deeper penetration EM system might be needed to solve this problem. If there is a deeper source then I feel that it might be from 40-60 metres down but this is just an intuitive guess. A magnetic low is centred on the same point as the centre of the deeper response. A magnetic contact occurs at 4450N.

Line 7600N
The 800nT drop in the magnetic response at the northern end of the line indicates the edge of the basalts that lie across the northern edge of the grid. A magnetic unit lies between 4075N and 4300N to the south of which the magnetic response is lower possibly indicating sediments. The low frequency response at the southern end of the line is very noisy, indicating considerable conductivity variation in the

rocks at some depth. At the surface the higher frequency indicates that the rocks are generally more conductive than elsewhere. If there is any sort of geochemical response this area should be considered interesting even though there is no well defined conductor. At 4625N there is a small deepish (50-60 metres) conductor with a 150nT magnetic peak on its southern edge. Again the conductor is poorly defined and no quantitative estimates of dip and conductivity are possible, though it appears to dip steeply to the south.

Line 7700N

The shallow conductive response of the basalt is becoming visible on this line. The edge of the basalt as interpreted from the magnetics (4875N) and the EM (4650N) is quite different. I assume that there is a fairly broad area of weathered basaltic material off the edge of the fresh basalt, and that this produces the conductive response when the magnetics show no sign of shallow fresh basalt. At the end of the line at 4925N there is a plunge in the values of both the high and the low frequencies as well as the magnetics. This is interesting though I can't explain what it is caused by. Most likely it has something to do with the basalt but it may be a conductor under thin basaltic material. If no geochemical sampling has been done here it might be worth while. There is a slight increase in surface conductivity and a decrease in the deeper conductivity south of 4250N. Between 4325N and 4425N there is a unit with a low magnetic signature. At 4650N there is a magnetic contact. The background EM response for the whole line is unusually low which indicates generally high conductivity. Perhaps this is indicative of a lot of alteration or fracturing.

Line 7800E

The edge of the basaltic material appears to be at 4650N from the EM and at 4900N from the magnetic information. There are magnetic contacts visible at 4325N, 4690N and 4825N where the fresh basalt appears to commence. Possible conductors are present at 4100N, 4225N and 4400N. None of the responses are very strong and all must be at greater than 30 metres depth. The dips appear to be generally to the north. I feel that further EM with a more discriminating system would be necessary to determine whether these conductors are real. I don't feel nearly as pleased with the

conductors on this line as I indicated after the first pass. As is often the case, 'they looked better the first time'.

Line 7900N
The EM and the magnetics agree quite well on the postion of the edge of the basalt on this line, both putting it at 4700N. At the northern end of this line a DIGHEM conductor was found. This is clearly on the basalt and is probably due to it. The low frequency response is somewhat depressed underneath the basalt which may indicate a rock type change as you go under the basalt. Other magnetic contacts are present at 4260N and 4400N. A small conductor lies at 4300N. The source is at a depth of 50 metres dipping at 60deg. to the north. There is a magnetic low at 4600N which may correlate with the similar feature on line 7800N.

Line 8000N
Again there is a curious disparity between the position of the basalt as determined by the two techniques, but this time it is in the opposite direction. The EM response is dominated by a broad shallow conductor at the edge of the basalt which dips at a shallow angle to the north. This is probably related to the base of the basalt. There is a magnetic contact at 4200N. The end of the line is once again characterised by a somewhat more anomalous response on the EM, this time solely on the low frequency. I would have liked to see the line extend a little further to the south to completely cover the anomaly in this case, as it appears to be caused by a non-surface source (greater than 40 metres depth) which might not produce a strong geochemical response if it were a small ore body which might be related to a larger one at depth.

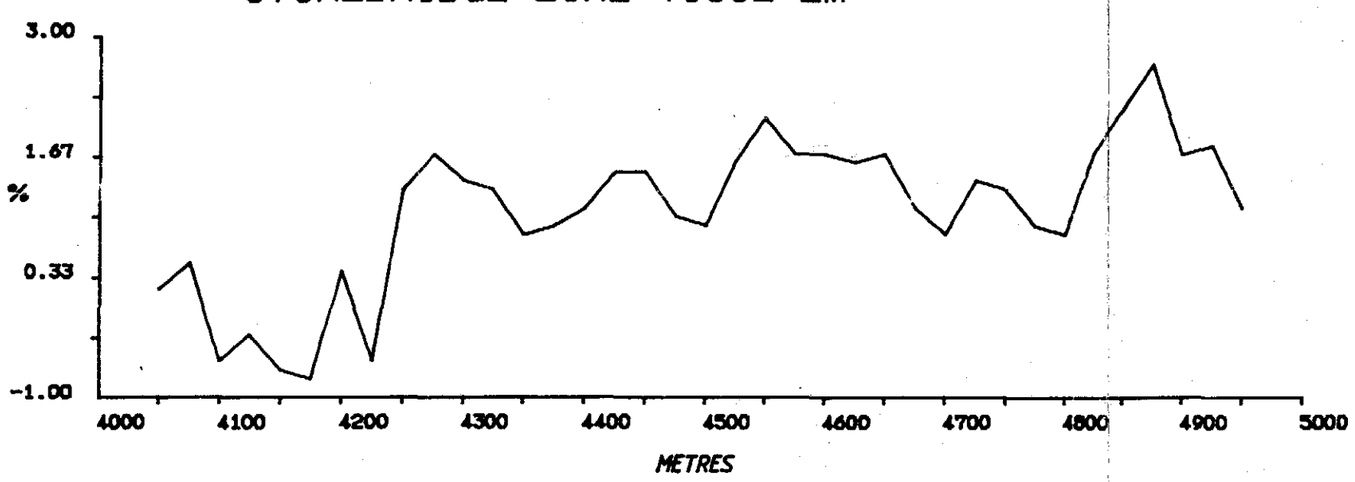
CONCLUSIONS

Reading back through this memorandum, I find that I have spent a large portion of it discussing the position of the basalt rather than any interesting responses from the rocks which might be expected to be the hosts for any ore. This reflects the general value of the results. The GENIE system is basically a cheap, rapid reconnaisance EM tool which finds large anomalies. Unfortunately there do not appear to be many 'elephants' lurking on the Stonebridge grid that are

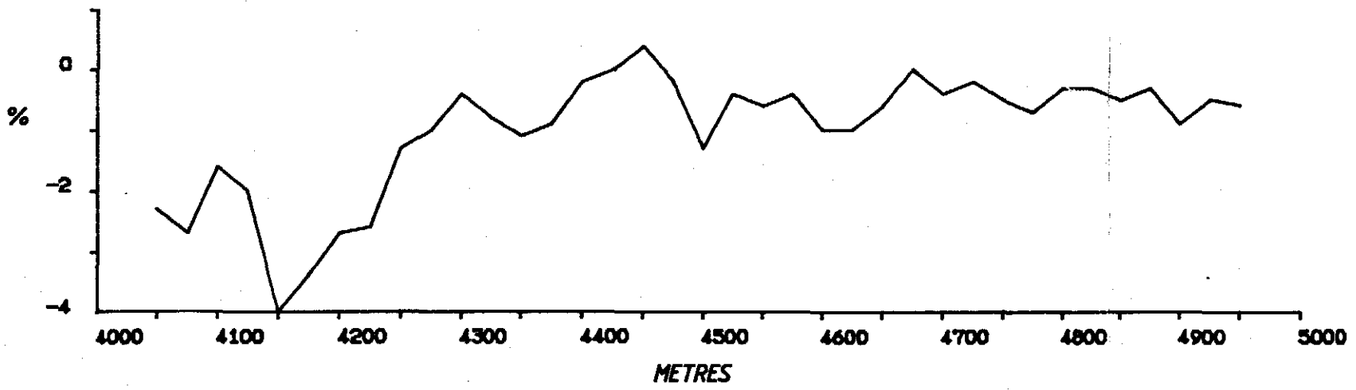
in reach of the GENIE. Most of the responses that we have received have been somewhat ambivalent but may be significantly upgraded by even minor geochemical anomalies. If any follow up work is to be done I recommend using a more discriminating, deeper penetrating, large loop system such as UTEM. Problems will arise with current channeling due to the large variations in rock conductivities - a la Beulah - and careful interpretation will be necessary to sort out these spurious anomalies.

T. von Strokirch

STONEBRIDGE LINE 7300E EM



3037 Hz / 112 Hz

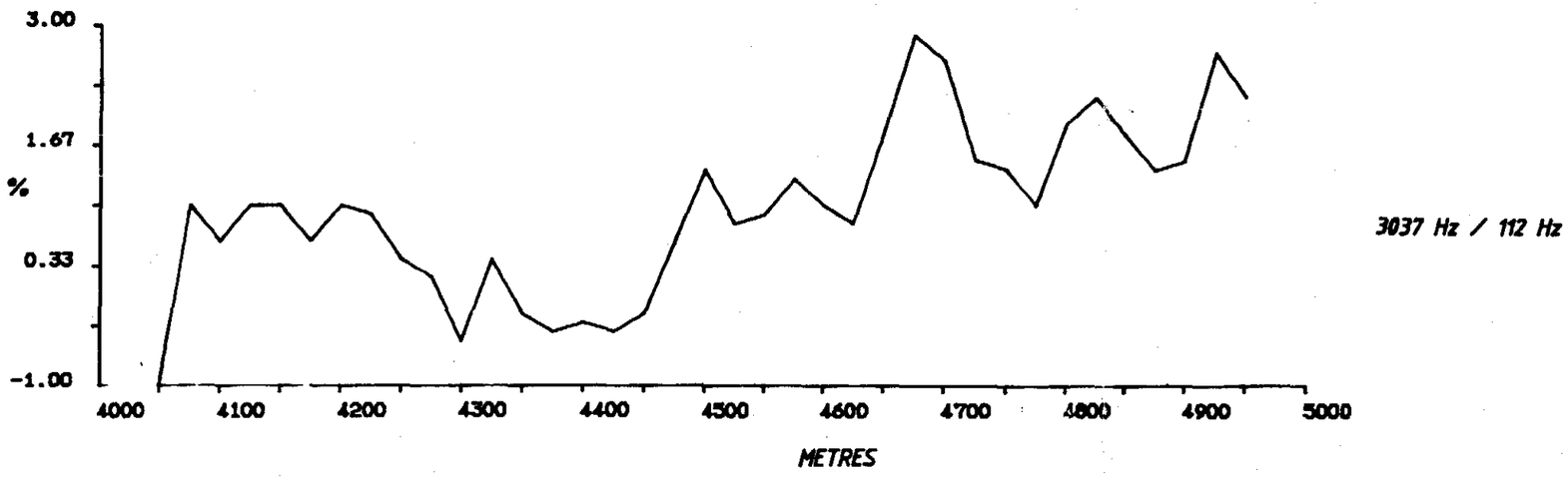


337 Hz / 112 Hz

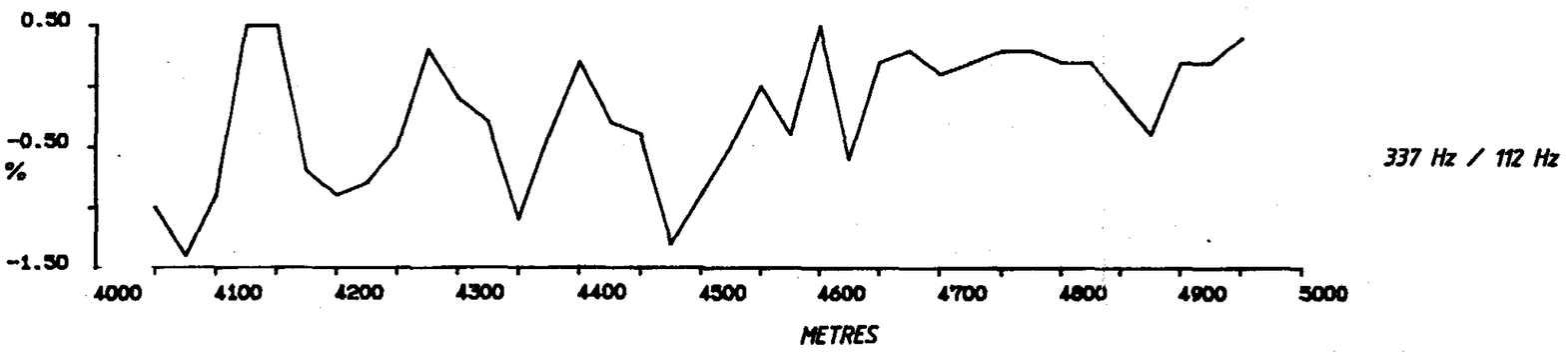
5 cm

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 7300 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	R.T.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2276

STONEBRIDGE LINE 7400E EM



3037 Hz / 112 Hz



337 Hz / 112 Hz

5 cm

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 7400 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.r.S.
AUTHOR	T.r.S.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2275

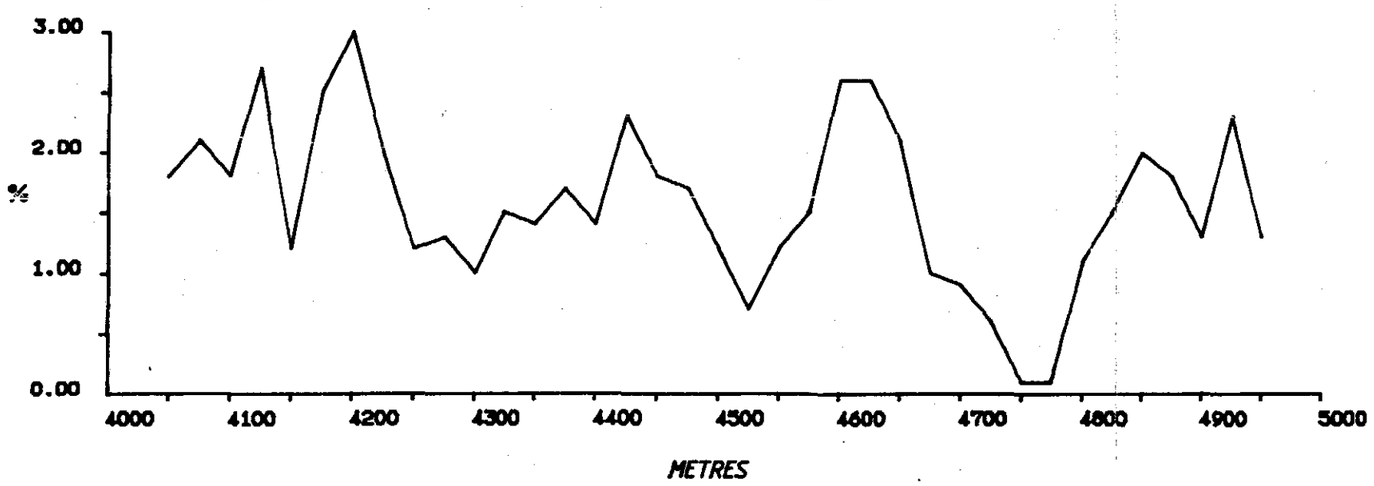
085

049083

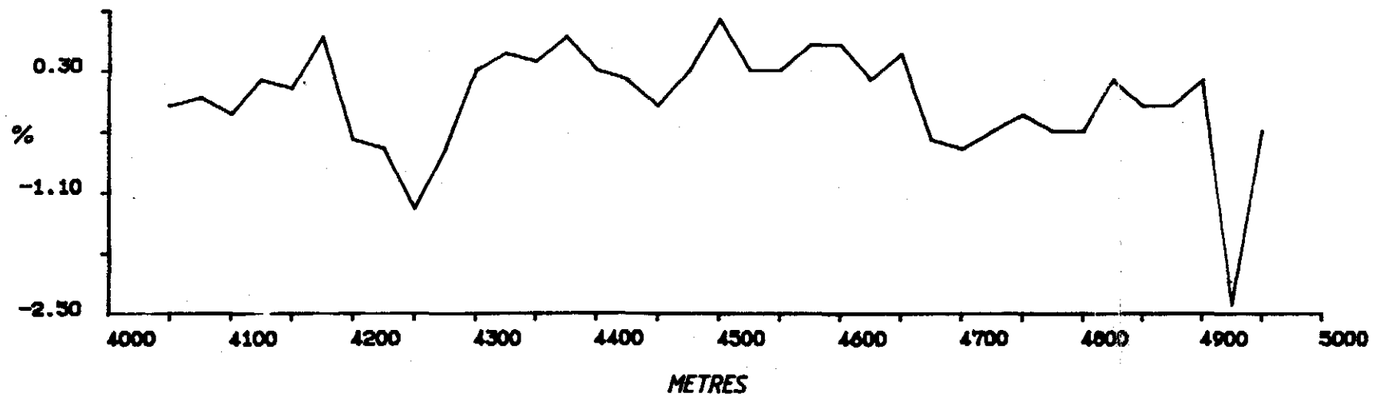
STONEBRIDGE BARYTES LINE 7400E

CRA EXPLORATION PTY. LIMITED		
5 cm		
REF.		
SCALE		DRAWN
AUTHOR		REPORT No.
DATE		PLAN No. TAPE

STONEBRIDGE LINE 7500E EM



3037 Hz / 112 Hz



337 Hz / 112 Hz

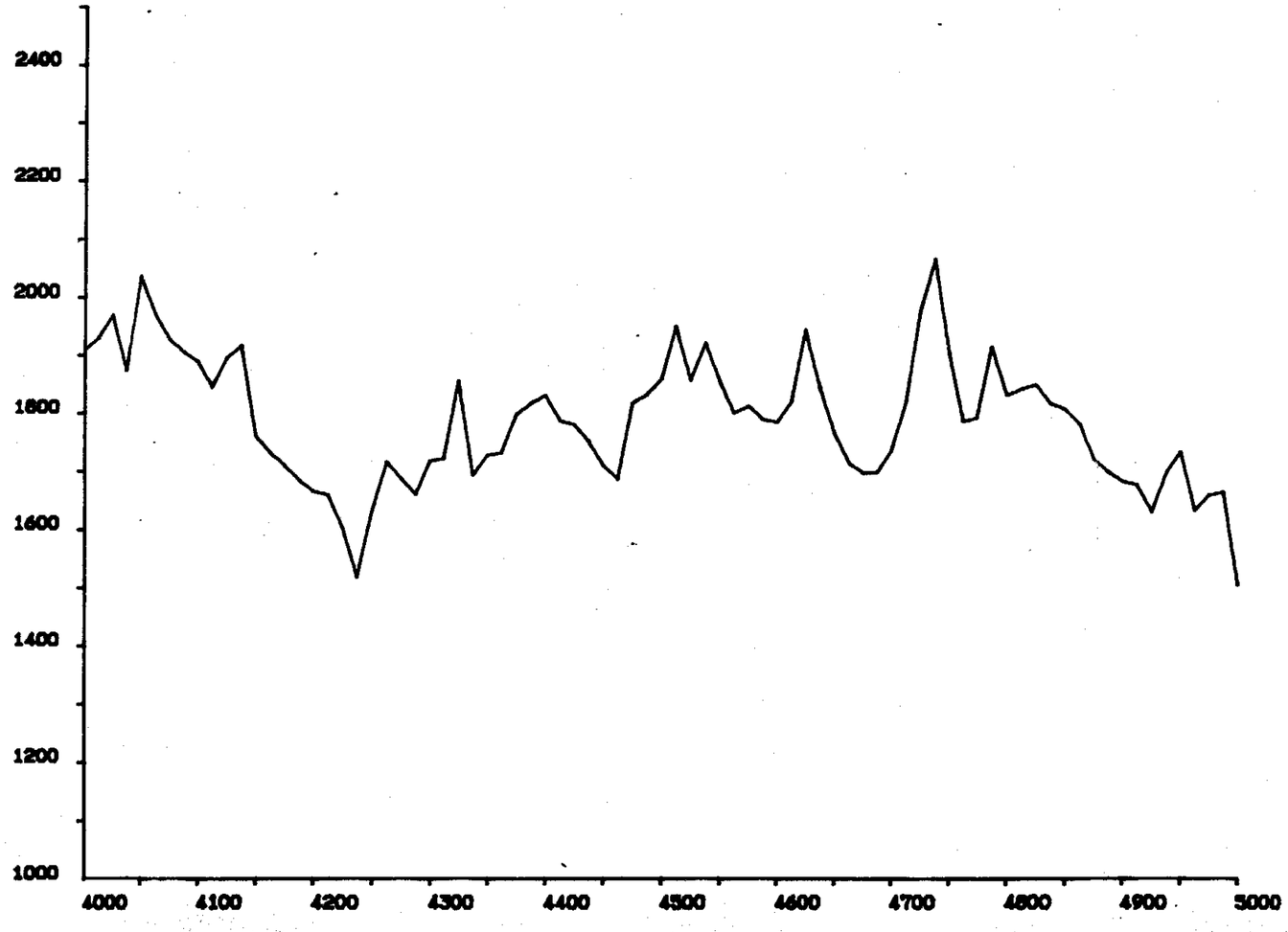
5 cm

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
STONEBRIDGE BARITE PROSPECT
LINE 7500 mE
GENIE PROFILES

REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2276

STONEBRIDGE BARYTES LINE 7500E

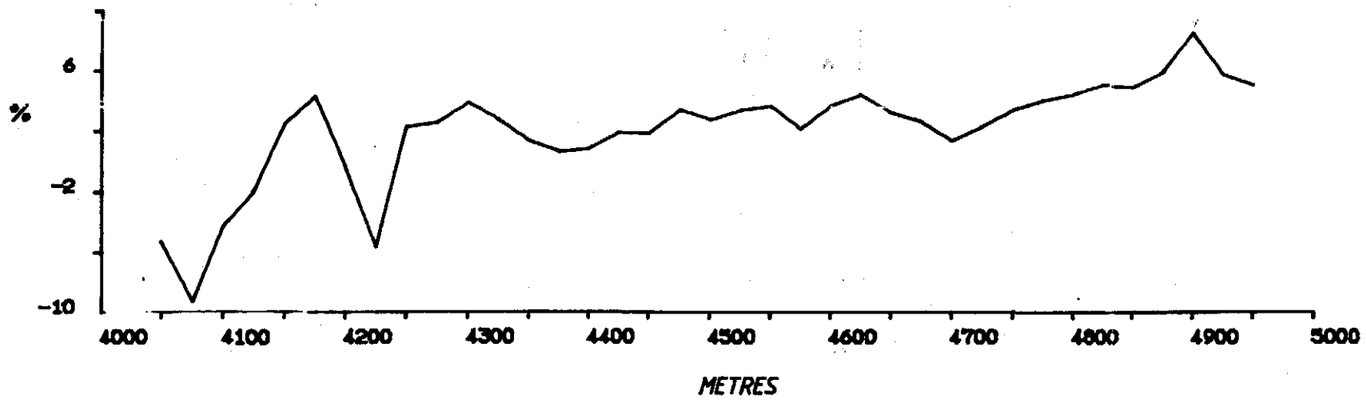


ORA EXPLORATION PTY. LIMITED	
5 cm	
REF.	
SCALE	DRAWN
AUTHOR	REPORT No.
DATE	PLAN No. Fig.

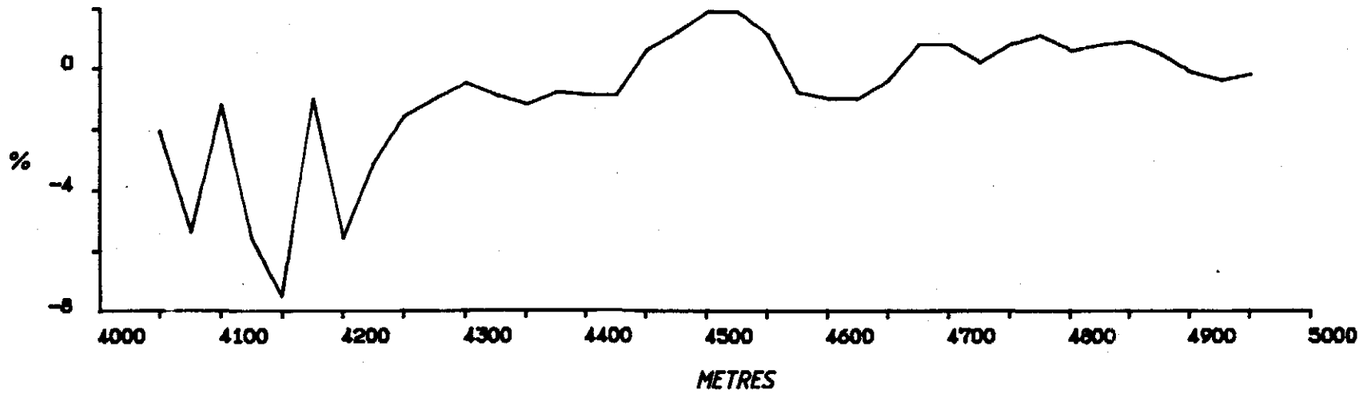
086

049086

STONEBRIDGE LINE 7600E EM



3037 Hz / 112 Hz

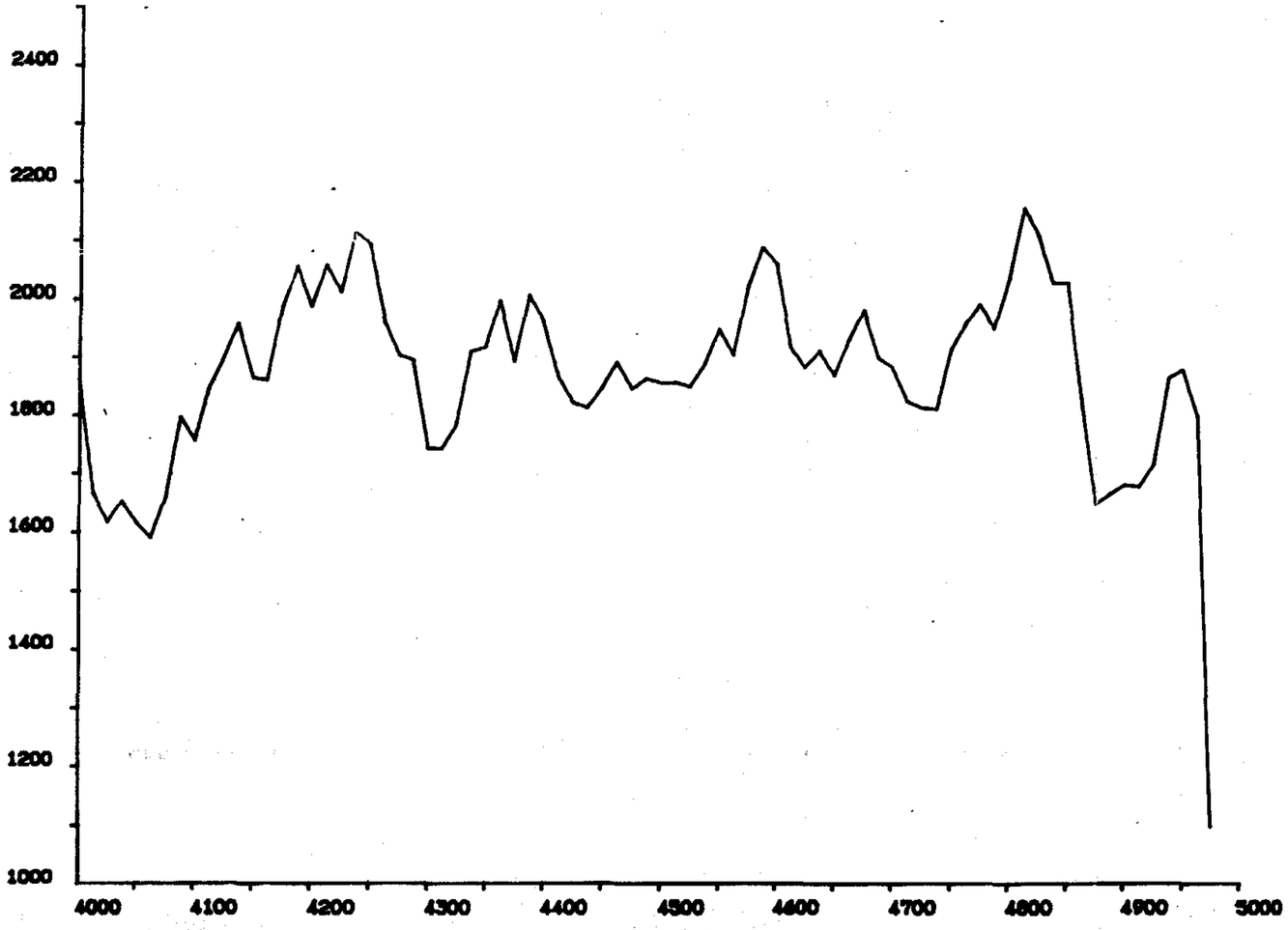


337 Hz / 112 Hz

5 cm

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 7600 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2277

STONEBRIDGE BARYTES LINE 7600E

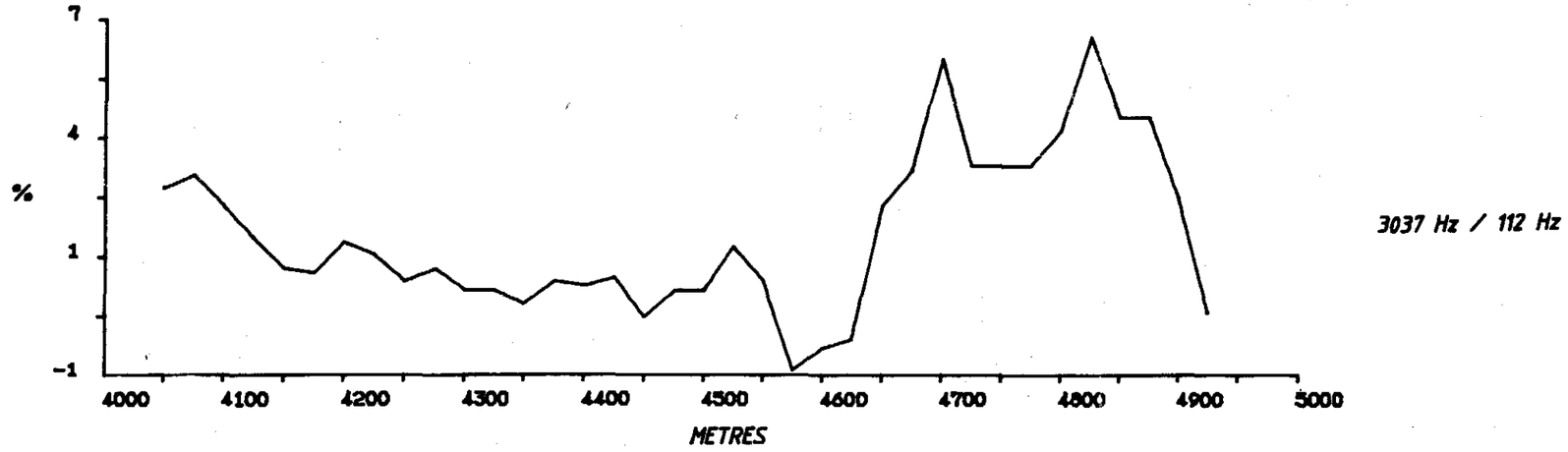


CRA EXPLORATION PTY. LIMITED	
5 cm	
REF.	
SCALE	DRAWN:
APPROVED	REPORT No.
DATE	PLAN No. TRACE:

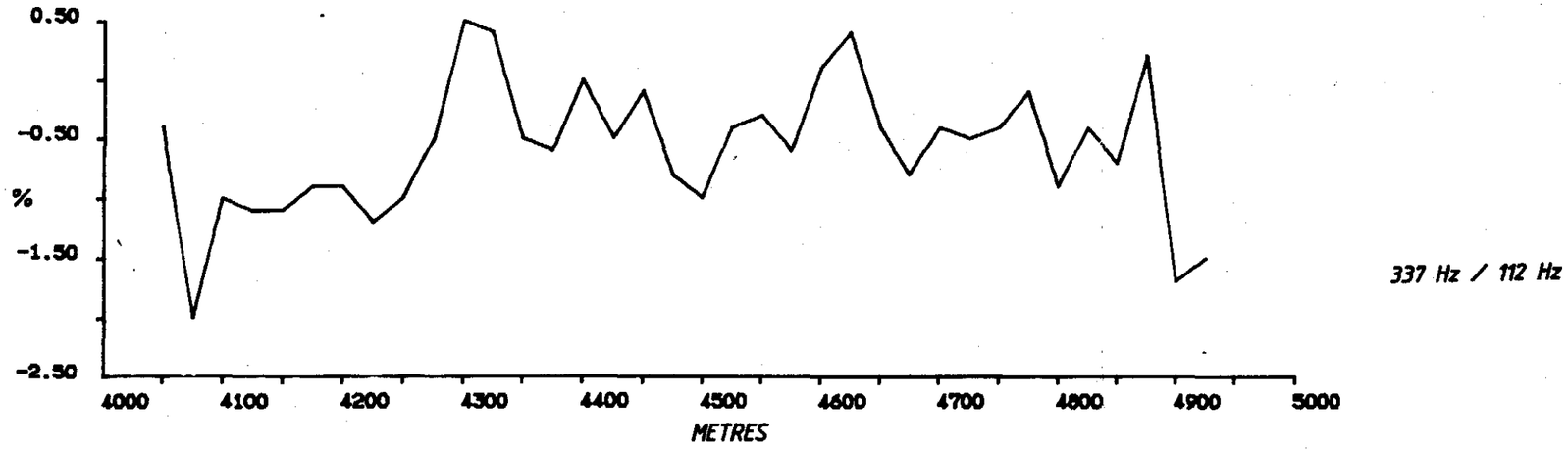
088

049088

STONEBRIDGE LINE 7700E EM



3037 Hz / 112 Hz

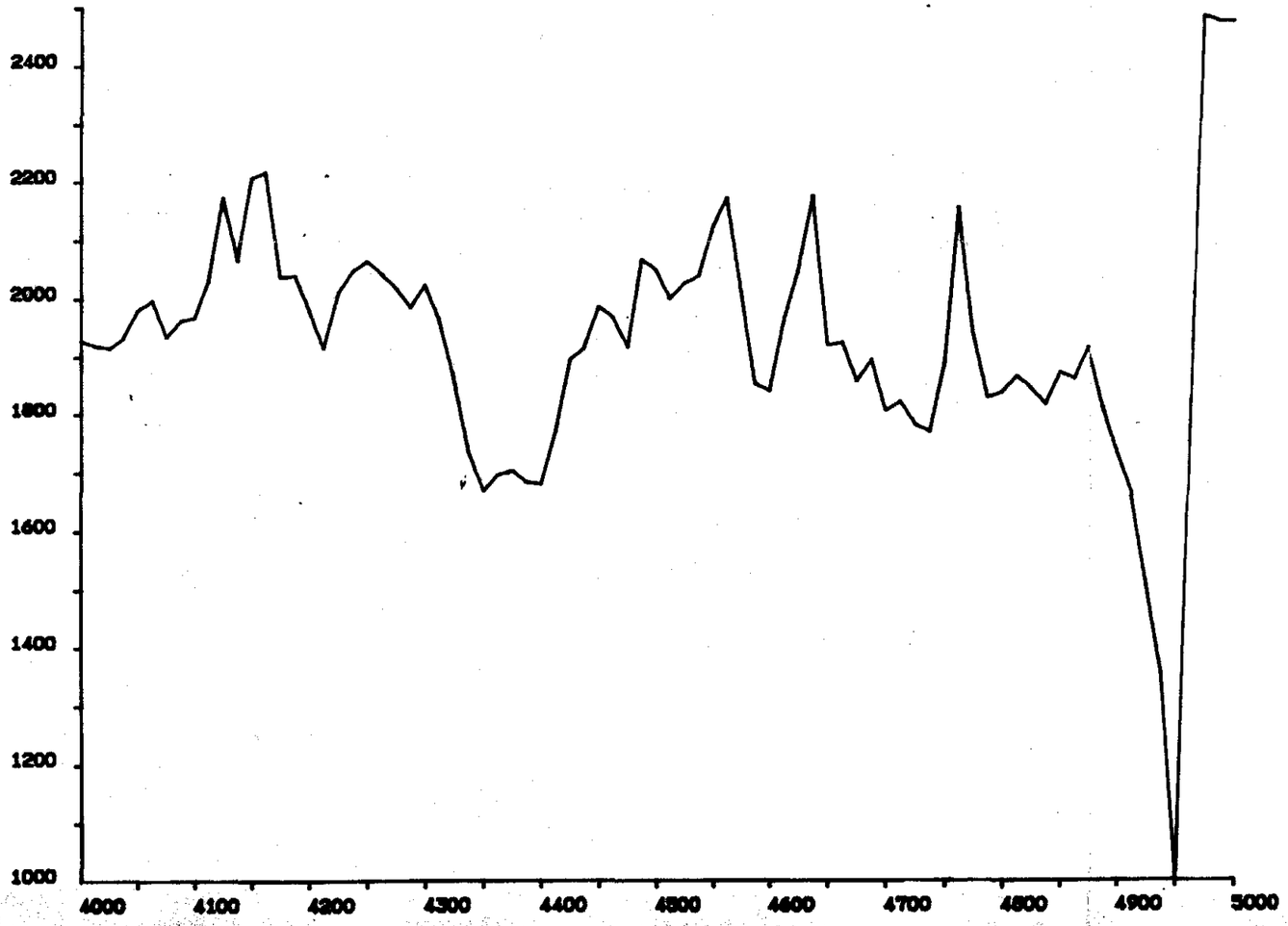


337 Hz / 112 Hz

5 cm

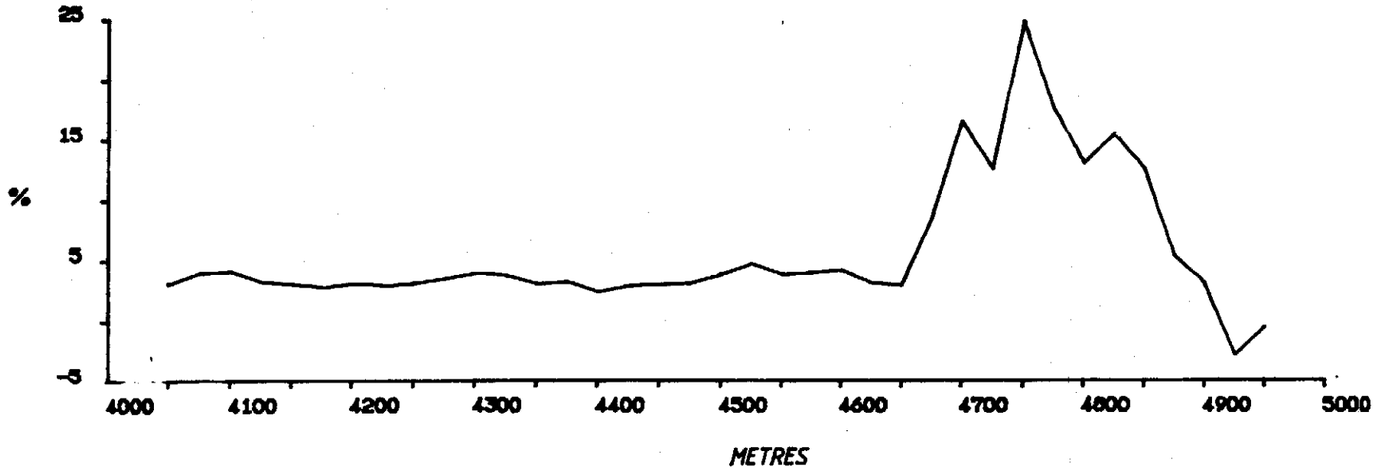
CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 7700 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2278

STONEBRIDGE BARYTES MAGNETICS LINE 7700E

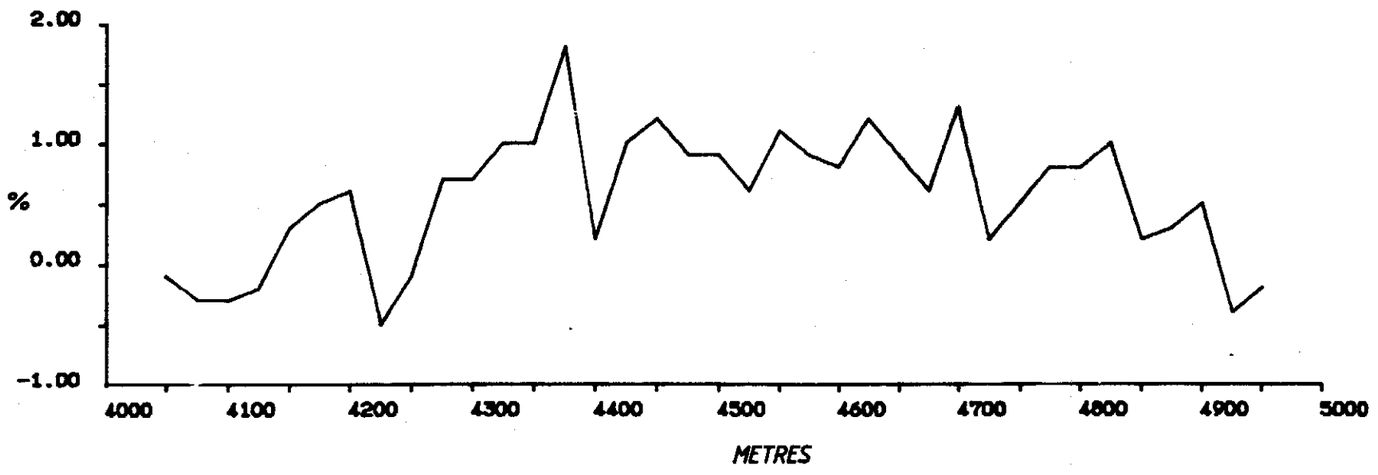


CRA EXPLORATION PTY. LIMITED	
5 cm	
REF.	
SCALE	DRAWN
AUTHOR	REPORT No.
DATE	DRAWING No. TRACE

STONEBRIDGE LINE 7800E EM



3037 Hz / 112 Hz



337 Hz / 112 Hz

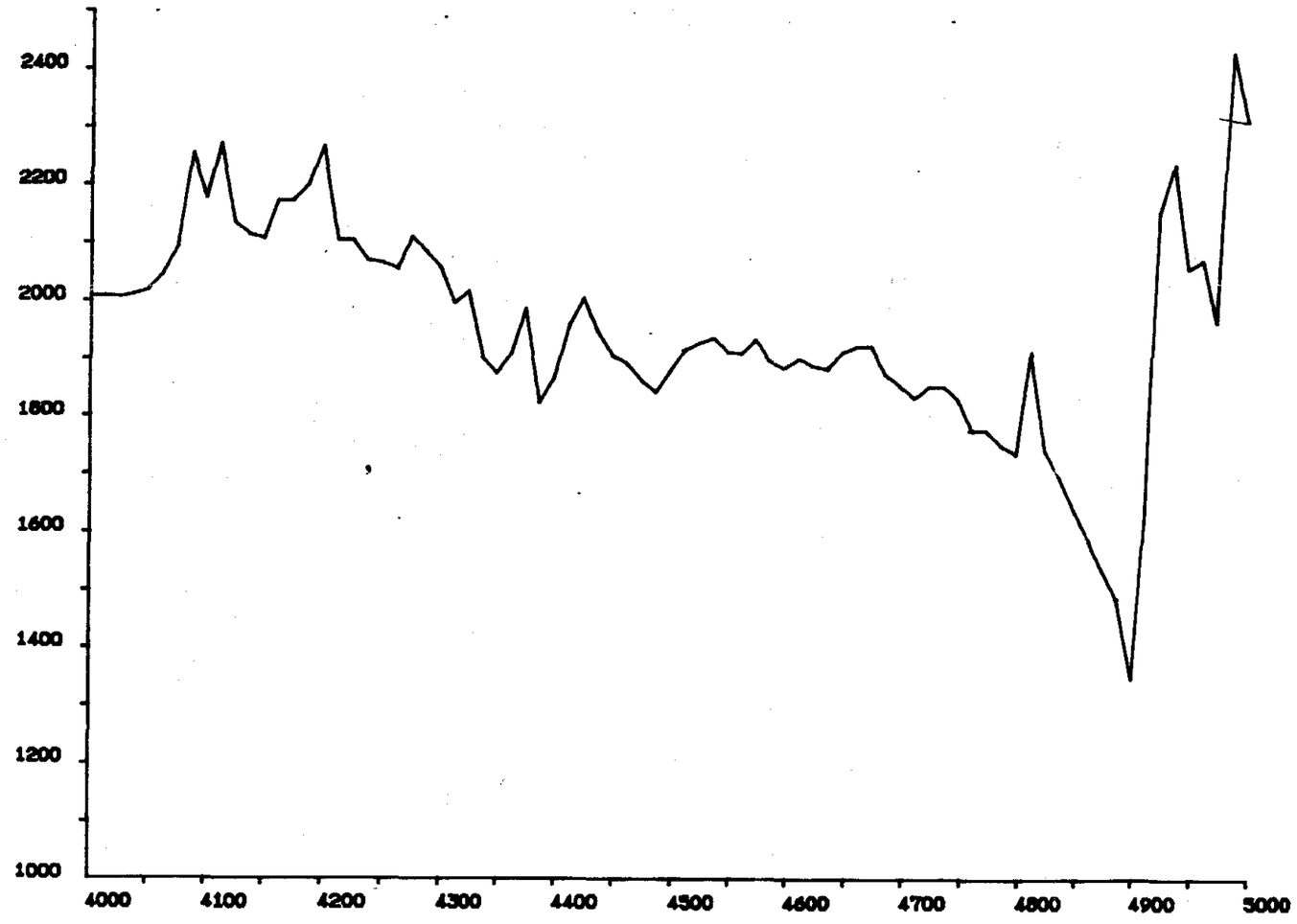
5 cm

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 7800 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2279

091

049091

STONEBRIDGE BARYTES MAGNETICS LINE 7800E

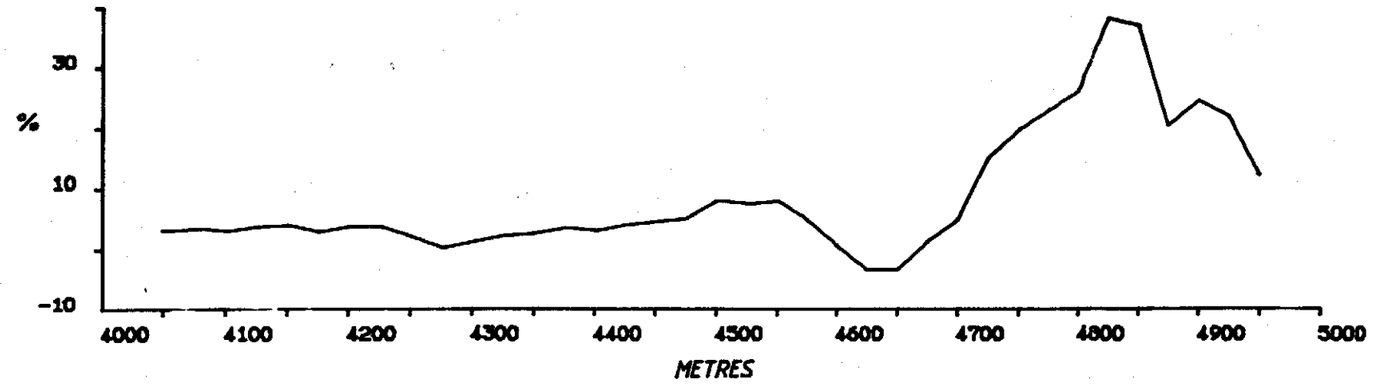


CRA EXPLORATION PTY. LIMITED

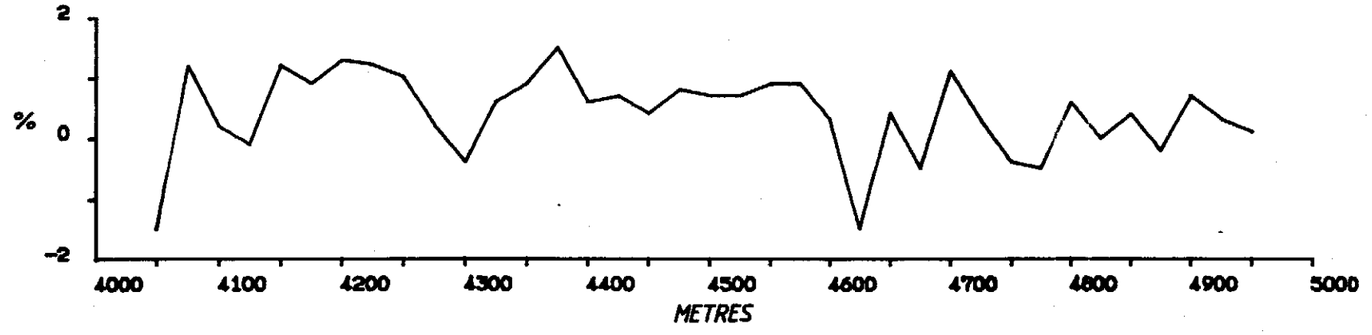
5 cm

REF.	
SCALE	DRAWN:
AUTHOR	REPORT No.
DATE	PLAN No. TAS-

STONEBRIDGE LINE 7900E EM



3037 Hz / 112 Hz



337 Hz / 112 Hz

5 cm

CRA EXPLORATION PTY. LIMITED

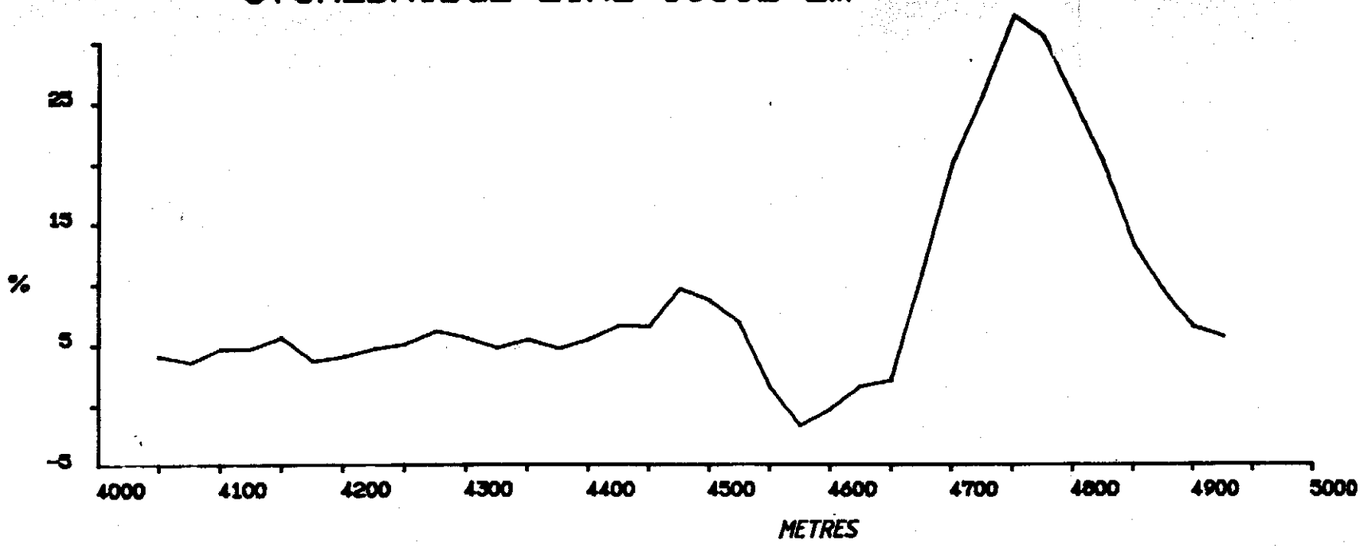
SHEFFIELD E.L. 7/73
STONEBRIDGE BARITE PROSPECT
LINE 7900 mE
GENIE PROFILES

REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	2289

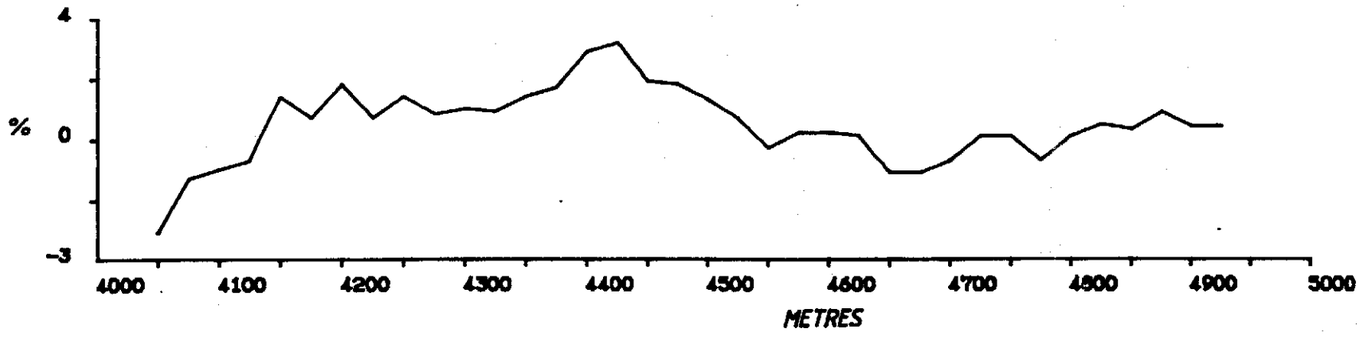
STONEBRIDGE BARYTES MAGNETICS LINE 7900E

CRA EXPLORATION PTY. LIMITED	
5 cm	
REF.	
SCALE	DRAWN
AUTHOR	REPORT No.
DATE	PLAN No. TAS/

STONEBRIDGE LINE 8000E EM



3037 Hz / 112 Hz

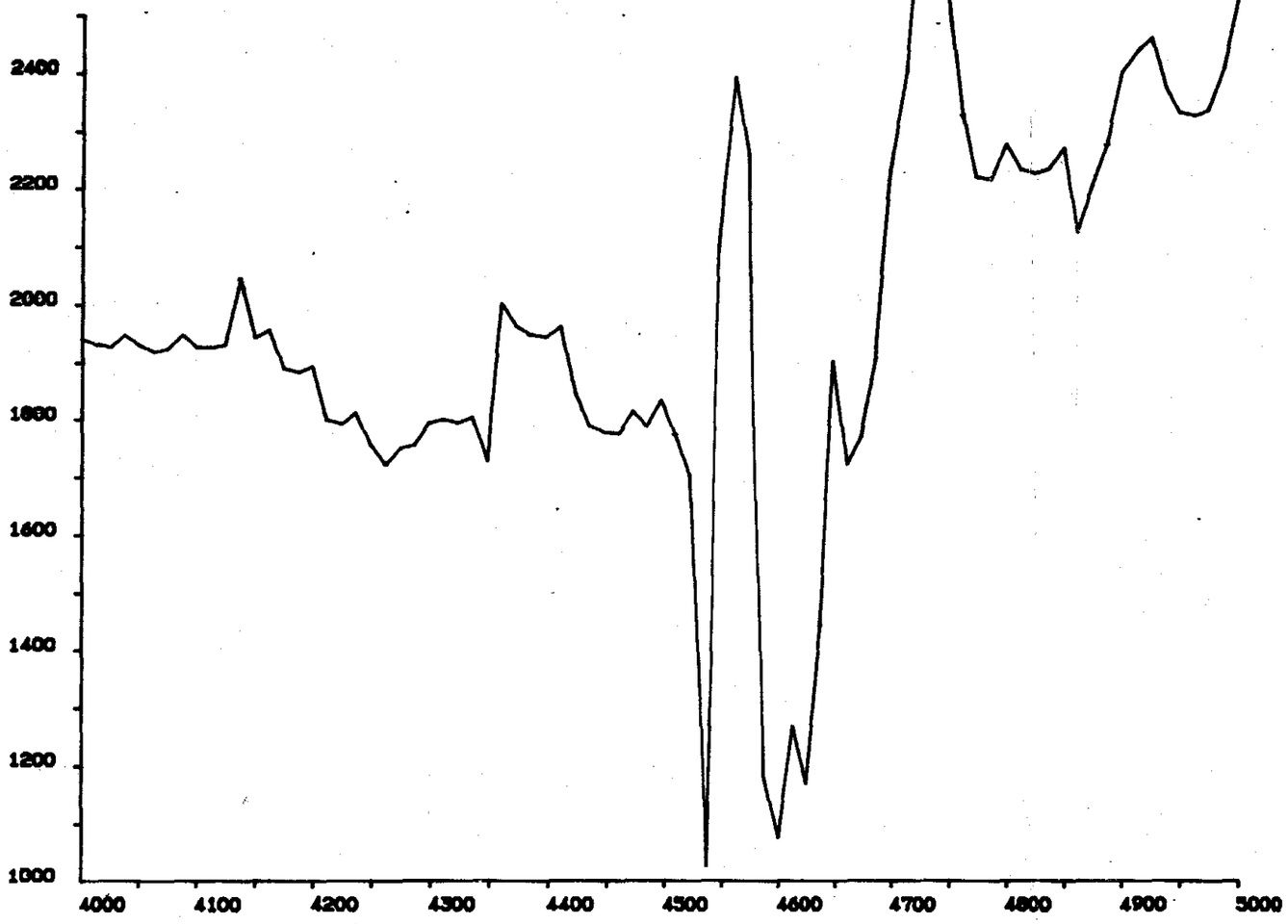


337 Hz / 112 Hz

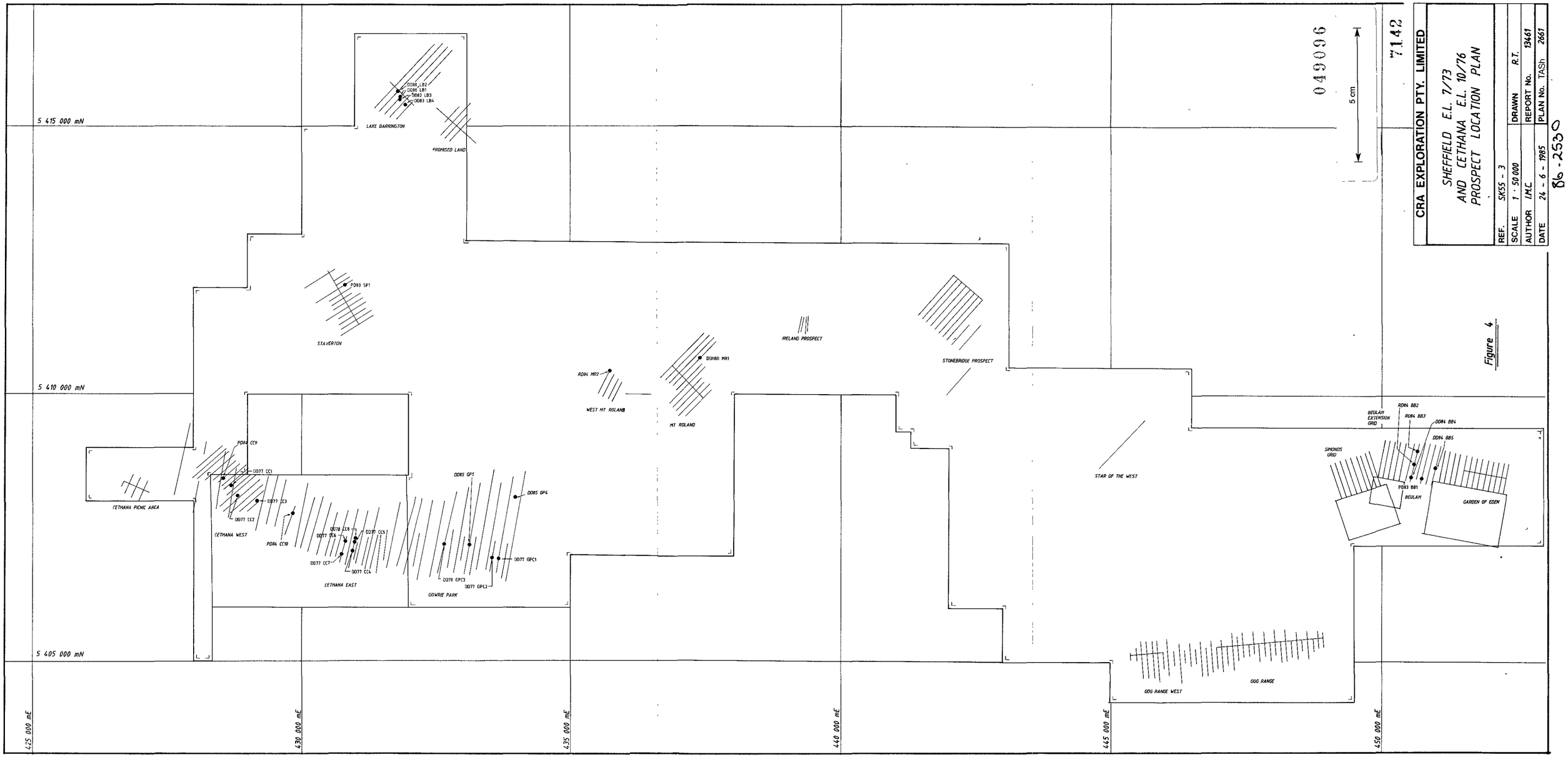
5 cm

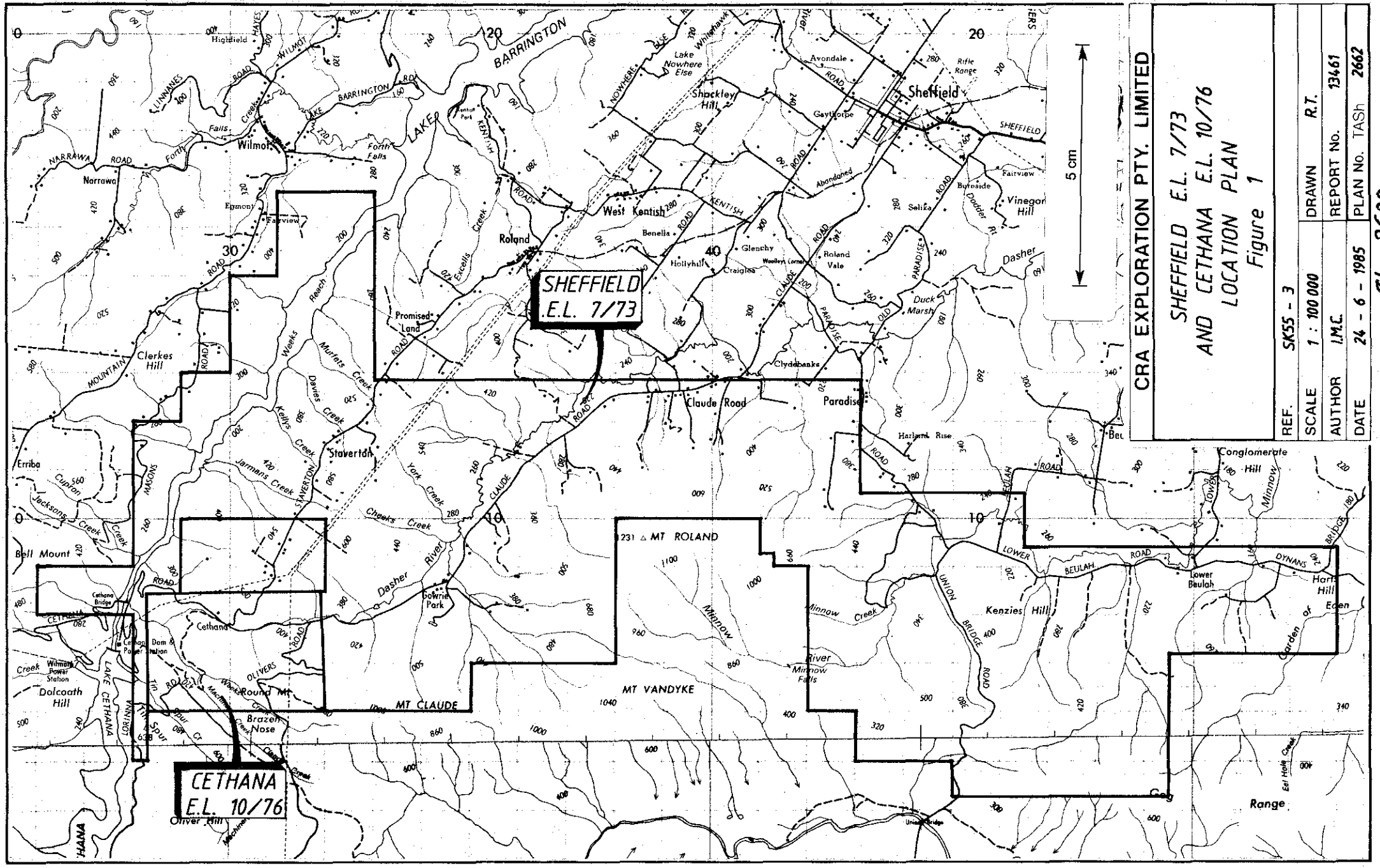
CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE PROSPECT LINE 8000 mE GENIE PROFILES			
REF.	SK55 - 3		
SCALE	1 : 5000	DRAWN	T.vS.
AUTHOR	T.vS.	REPORT No.	
DATE	23 - 11 - 1984	PLAN No. TASh	228

STONEBRIDGE BARYTES MAGNETICS LINE 8000E



CRA EXPLORATION PTY. LIMITED	
5 cm	
REF.	
SCALE	DRAWN
AUTHOR	REPORT No.
DATE	PLAN No. TASh


5 415 000 mN
5 410 000 mN
5 405 000 mN
425 000 mE
430 000 mE
435 000 mE
440 000 mE
445 000 mE
450 000 mE
DD86 LB2
DD86 LB1
DD82 LB3
DD83 LB4
LAKE BARRINGTON
PROMISED LAND
PD83 SP1
STAVERTON
RD84 MR2
WEST MT ROLAND
DDH86 MR1
MT ROLAND
IRELAND PROSPECT
STONEBRIDGE PROSPECT
STAR OF THE WEST
PD84 CC9
DD77 CC1
DD77 CC2
DD77 CC3
CETHANA PICNIC AREA
CETHANA WEST
PD84 CC10
DD78 CC6
DD77 CC5
DD77 CC7
DD77 CC4
CETHANA EAST
DD85 GP5
DD85 GP4
DD76 GPC3
DD77 GPC2
DD77 GPC1
GOWRIE PARK
BEULAH EXTENSION GRID
RD84 BB2
RD84 BB3
DD84 BB4
DD84 BB5
SIMONDS GRID
PD83 BB1
BEULAH
GARDEN OF EDEN
GOG RANGE WEST
GOG RANGE
0 5 cm
049096
71142
CRA EXPLORATION PTY. LIMITED
SHEFFIELD E.L. 7/73
AND CETHANA E.L. 10/76
PROSPECT LOCATION PLAN
REF. SK55 - 3
SCALE 1 : 50 000
AUTHOR I.M.C.
DATE 24 - 6 - 1985
DRAWN R.T.
REPORT No. 13461
PLAN No. TASh 2661
Figure 4
86-2539


SHEFFIELD
E.L. 7/73
CETHANA
E.L. 10/76
5 cm
CRA EXPLORATION PTY. LIMITED
SHEFFIELD E.L. 7/73
AND CETHANA E.L. 10/76
LOCATION PLAN
Figure 1
REF. SK55 - 3
SCALE 1 : 100 000
AUTHOR I.M.C.
DATE 24 - 6 - 1985
DRAWN R.T.
REPORT No. 13461
PLAN No. TASh 2662
86 - 2530
MT ROLAND
MT VANDYKE
MT CLAUDE
Sheffield
Wilmot
Roland
Staverton
Claude Road
Paradise
Cethana
Dasher River
Minnow River
Lake Barrington
Lake Cethana
Lake Nowhere Else
Lower Beulah
Kenzies Hill
Conglomerate Hill
Dolcoath Hill
Clerkes Hill
Bell Mount
Erriba
Range

449 000mE

450 000mE

451 000mE

452 000mE

453 000 mE

Lower Beulah Road

Beulah Extended Grid

Simonds Grid

Beulah Barite Grid

Garden Of Eden Grid

Dynans Road

5 409 000 mN

5800E

6000E

6200E

4700N

5 408 000 mN

5 407 000 mN

U.T.E.M. Data: 2 millisecond
Empirical Half-space Removed.
Fraser Filtered

049098

7143

5 cm

86-2530

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS, BEULAH, AND
GARDEN OF EDEN GRIDS
U.T.E.M. DATA CHANNEL 4

REF.	SK55 - 3		
SCALE	1 : 5,000	DRAWN	R.T.
AUTHOR	T.V.S.	REPORT No.	13461
DATE	29 - 5 - 1985	PLAN No. TASn	2636

449 000mE
450 000mE
451 000mE
452 000mE
453 000 mE

Beulah Extended Grid

Garden Of Eden Grid

Simonds Grid

Beulah Barite Grid

Lower Beulah Road

Dynans Road

5 409 000 mN

5 408 000 mN

5 407 000 mN

800W 700W 600W 500W 400W 300W 200W 100W 000N 100W 200W 300W 400W 500W 600W 700W 800W 900W 1000W 1100W 1200W 1300W 1400W 1500W 1600W 1700W 1800W 1900W 2000W 2100W 2200W 2300W 2400W 2500W 2600W 2700W 2800W 2900W 3000W 3100W 3200W 3300W 3400W 3500W 3600W 3700W 3800W 3900W 4000W 4100W 4200W 4300W 4400E 4500E 4600E 4700E 4800E 4900E 5000E 5100E 5200E 5300E 5400E 5500E 5600E 5700E 5800E 5900E 6000E 6100E 6200E

5000N

4700N

U.T.E.M. Data: 1 millisecond
Empirical Half-space Removed.
Fraser Filtered.

049099

7144

5 cm

86-2530

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS, BEULAH, AND
GARDEN OF EDEN GRIDS
U.T.E.M. DATA CHANNEL 5

REF.	SK55 - 3		
SCALE	1 : 5.000	DRAWN	R.T.
AUTHOR	T.v.S.	REPORT No.	13461
DATE	29 - 5 - 1985	PLAN No. TASh	2637

449 000mE
450 000mE
451 000mE
452 000mE
453 000 mE

Beulah Extended Grid

Garden Of Eden Grid

Simonds Grid

Beulah Barite Grid

Lower Beulah Road

Dynans Road

5 409 000 mN

5 408 000 mN

5 407 000 mN

5000N

4700N

U.T.E.M. Data: .5 millisecond
Empirical Half-space Removed.
Fraser Filtered.

049100

7115

5 cm

86-2530

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS, BEULAH, AND
GARDEN OF EDEN GRIDS
U.T.E.M. DATA CHANNEL 6

REF.	SK55 - 3		
SCALE	1 : 5.000	DRAWN	R.T.
AUTHOR	T.v.S.	REPORT No.	13461
DATE	29 - 5 - 1985	PLAN No. TASn	~~3368~~ 2631

449 000mE
450 000mE
451 000mE
452 000mE
453 000 mE

Beulah Extended Grid

Garden Of Eden Grid

Simonds Grid

Beulah Barite Grid

Lower Beulah Road

Dynans Road

800W 1200W 500W 500W 400W 4400E 4500E 4600E 4700E 4800E 4900E 5000E 5100E 5200E 5300E 5400E 5500E 5600E 5800E 6000E 6200E

2800W 2700W 2600W 2500W 2400W 2300W 2200W 2100W 2000W

LINE 3W LINE 2W LINE 1W LINE 0 LINE 1E LINE 2E

RD84BB3

RD84 BB2

RD84 B34

RD84 BB5

RD83BB1

LOOP 2 (BB4)

LOOP 3 (BB4)

LOOP 1 (BB4)

000N 0N 0N 0N 0N 0N 0N 0N

5000N

4700N

5 409 000 mN

5 408 000 mN

5 407 000 mN

—*——*— MAJOR CONDUCTOR

—*——*— CONDUCTOR

049101

7146

5 cm

86-2530

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
SIMONDS, BEULAH, AND
GARDEN OF EDEN GRIDS
U.T.E.M. CONDUCTOR TRACES

REF.	SK55 - 3		
SCALE	1 : 5.000	DRAWN	R.T.
AUTHOR	T.vS.	REPORT No.	13461
DATE	29 - 5 - 1985	PLAN No. TASn	2639