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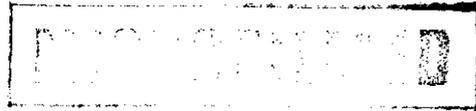
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EL 7/73 SHEFFIELD AREA, NORTHERN TASMANIA

REPORT ON EXPLORATION FOR 12 MONTHS

TO FEBRUARY 1987



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REPORT NO: 14326

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1. SUMMARY

Work carried out on the Sheffield EL 7/73 over the twelve month period to 15th February, 1987 includes diamond drilling, GENIE EM, downhole EM and Sirotem geophysical surveys, geological mapping and rock chip geochemistry.

Two diamond holes were drilled to test a UTEM anomaly on the Simonds grid. These holes traversed a sequence of black shales and greywackes.

One diamond hole was completed at the Garden of Eden prospect. This hole traversed a sequence of intermediate tuffs and volcanics with minor ignimbrite and agglomerate. No UTEM anomaly source was located in the drillhole.

Geological mapping, rock chip geochemistry and surface geophysical surveys failed to identify the likely cause of the Stonebridge gossan.

2. INTRODUCTION

This report describes all work carried out over Sheffield EL 7/73 for the twelve months ending 15th February 1987. The licence was the subject of a joint venture agreement between CRA Exploration and Asarco until 1983 when CRAE assumed sole title.

The licence area lies approximately 30 km south of Devonport and contains a mixture of native and pine forests and agricultural land. Work completed in the twelve month period includes diamond drilling, geophysics, rock chip geochemistry and geological mapping.

3. CONCLUSIONS

The drill testing of UTEM targets at Simonds and Garden of Eden prospects has significantly downgraded the Beulah area. The drilling failed to locate any major sulphide concentrations associated with the UTEM conductors.

Work at the Stonebridge prospect has not determined the cause of the gossan. Two possible origins are likely; firstly, a basal basalt feature with enriched geochemistry or a structure related feature where the gossan has formed by geochemical enrichment along a fault zone.

The Gog Range geochemical anomalies are not due to massive sulphide concentrations.

4. RECOMMENDATIONS

1. The gossan at the Stonebridge barite prospect should be costeamed so that its size and position within the stratigraphy can be better understood.
2. The Round Hill gold anomalies should be evaluated.
3. The volcanics around Staverton and east of Mt Roland should be reviewed to assess their Pb/Zn prospectivity.

5. GEOLOGY

The EL covers a portion of the northern extension of the Mt Read volcanic belt. These Cambrian volcanics and sediments are unconformably overlain by the Ordovician Roland Conglomerate which is in turn overlain by the Moina Sandstone and Gordon Limestone. For a detailed description of the regional geology refer to Jennings (1979).

6. BEULAH BARITE PROSPECT

The Beulah Barite prospect has been extensively explored by CRAE between 1973-1984. The prospect centres around an old barite mine which contains minor galena, sphalerite, chalcopyrite and tetrahedrite. The barite occurs as remobilised veins which parallel schistosity in a broad shear zone between andesites and schistose sediments.

Recent work on the prospect has concentrated on grid extensions to the east and west of the barite deposit. The grid to the west is referred to as the Simonds prospect and the easterly grid is Garden of Eden prospect. (See Plan No TASH 2507)

6.1 Simonds Grid

The Simonds grid lies at an angle to the west of the Beulah Barite prospect. The grid has been C-horizon soil sampled and had a UTEM geophysical survey conducted over it. This work resulted in a roughly coincident soil geochemistry anomaly (results up to 475 ppm Pb) and UTEM conductor. This UTEM feature was confirmed using the Scintrex GENIE system and ground magnetics were also completed.

6.1.1 Drilling

Two diamond holes were drilled to test the UTEM conductor. Reconnaissance geological mapping over the anomaly area revealed a sequence containing fine sediments (greywackes), volcanoclastics and acid-intermediate volcanics (andesites, quartz porphyries and pyroclastics).

The drillholes were designed to traverse a steeply dipping conductor hence a scissor test was used. No conclusive surface strike and dip measurements were located in the anomaly area. Some measurements were made to the west of the mapped area however these revealed steep dips which varied from north to south (see plan TASH 2920).

The first hole, DD86 SM1, was located at 2205W 5495N and was drilled at an azimuth of 328° (m) and inclination of -55° . The hole traversed a sequence of interbedded black shales and greywackes throughout its entire length. Pyrite was commonly observed along fracture surfaces and rarely developed into veinlets. Graded bedding features and core axis to bedding angles indicated that this hole was drilled down dip (see plan TASH 3083 and Appendix 1).

The second hole, DD86 SM2, was collared 250m to the east of SM1 at 2050W 5502N. This hole provided the completion of the scissor test of the UTEM anomaly hence it was drilled at an azimuth of 150° (m). This hole also traversed a sequence of pyritic interbedded greywackes and shales throughout its length (see plan TASH 3084 and Appendix 1).

Geochemical core grind samples were collected at 3m intervals throughout the holes. The results were of a uniformly low order with maximum values (in ppm) 100 Cu, 60 Pb, 175 Zn and 0.42 Au.

6.1.2 Downhole Geophysics

Both the Simonds drillholes were tested with downhole SIROTEM and the field results showed evidence that the black shales were generally conductive but no variations likely to be due to discrete conductors were noted. Following the contractors return to the mainland the digital data was lost so no plans are included.

6.1.3 Discussion

The disappointing drilling result plus the lack of any downhole geophysical conductors significantly downgrades the Simonds prospect. The interpreted cause of the UTEM conductor is the overall effect of the shale unit with enhancement in the target area from fracture zones. No significant geochemical response was obtained from drill core sampling. No further work is proposed.

6.2 Garden of Eden Grid

The Garden of Eden prospect lies to the west of the Beulah Barite grid. As with Simonds, this prospect has had C-horizon soil geochemistry, UTEM and GENIE geophysical surveys and ground magnetics carried out.

A UTEM anomaly was located on grid lines 5200E to 5600E. This anomaly has no associated soil geochemistry and was not detected by the GENIE system. It was decided however to drill test the anomaly with one diamond hole.

6.2.1 Drilling

One diamond hole, DD86 GE1, was drilled to test the UTEM conductor on line 5400E at 5008N. The hole was drilled at 012° (amg) azimuth and -50° dip and traversed a sequence of intermediate tuffs, altered andesites, acid ignimbrite and agglomerate. Haematite alteration is common throughout the hole with lesser carbonate (see Appendix 2 and plan TASH 3085). A number of thin sections were cut to aid in rock descriptions throughout the hole. These descriptions are contained in Appendix 3.

As with the Simonds drillholes, core grinds were collected at 3m intervals throughout the hole. Results were of a low order with maximum values (in ppm) 170 Cu, 30 Pb, 230 Zn and 14 Ag. All results are shown on the drill log included in Appendix 2.

6.2.2 Downhole Geophysics

The Garden of Eden grid was tested with downhole EM37 as access was impossible at the time of the Sirotem. Notwithstanding the casing of the hole with PVC it had unfortunately been blocked at above the postulated conductor depth. Even so it seems likely that evidence of a significant off-hole conductor would have been seen (plan TASH 3288). None was visible so the UTEM anomaly remains unexplained.

6.2.3 Discussion

No obvious source of the UTEM anomaly at Garden of Eden prospect was located in the drillcore. The lack of geochemical response plus the failure to locate any off hole conductors using downhole geophysics significantly downgrades the prospect. No further work is proposed.

7. STONEBRIDGE PROSPECT

7.1 Geology

Detailed geological mapping has been carried out over the western portion of the Stonebridge prospect. The mapping was designed to help determine the possible origin of the gossan (up to 1% Pb, 0.1% Zn, 0.15% Cu) located in early 1985.

The mapping identified a window of Cambrian intermediate volcanics and sediments bound to the north and west by Ordovician Roland Conglomerate and to the south by Tertiary basalt. The Cambrian volcanics are dark green mafic phenocryst rich intermediates which are often magnetic. The sediments consist of matrix rich tuffs which are feldspar rich and foliated, and tuffaceous and micaceous sandstones. An interpretive map based on fieldwork and ground magnetics is shown on plan TASH 3148.

The mapping failed to conclusively determine the cause of the gossan however two possibilities present themselves. The gossan could be a basal basalt feature which is geochemically enriched or alternatively it could be related to a possible fault structure interpreted from ground magnetics (plan TASH 3018).

7.2 Geophysics

ULF, Scintrex SE-88, Sirotec and ground magnetic geophysical techniques were attempted over the gossan and surrounding area. Due to the presence of power and phone lines, barbed wire fences, irrigation pipes and mobile electric fences over the intensive dairy farm which occupies the prospect, the electrical techniques were all unsuccessful. The results of the ground magnetic survey are included. The gossan, while having a susceptibility of around 300×10^{-5} SI units does not appear to have a response. At this stage it does not seem likely that geophysical techniques will be successful in the prospect area unless the electric fences are all removed. As many of them form complete or almost complete loops noise problems are not alleviated by simply switching the power off.

7.3 Geochemistry

A total of 17 rock chip samples were collected from the Stonebridge prospect while geological mapping was in progress. Elevated results were obtained for both copper (max 680 ppm) and lead (max 840 ppm) however this sampling did not enhance the gossan already located. All results and sample descriptions are contained in Appendix 4.

7.4 Discussion

Geological mapping and the geophysical techniques have failed to determine the nature and likely cause of the Stonebridge gossan. It is recommended that trenching be carried out over the gossan to determine its depth extent and possible source. This will determine whether more work is warranted on the prospect.

8. GOG RANGE PROSPECT

The area has been mapped and soil sampled in the past and a number of geochemical anomalies were outlined. The westernmost of these was further tested with VLF, ground magnetics and Crone PEM. No evidence of a major sulphide body was detected and the geochemical anomaly was put down to a local concentration in selected lithologies. The same explanation was used for the rest of the prospect. Following the discovery by Temby (1985) of a rhyolite dome in the centre of the prospect a general geophysical coverage was proposed. The Scintrex SE-88 Genie system was selected as a rapid cost effective means of traversing the area.

8.1 Geophysics

Not all the old lines were recoverable so in a number of cases lines were struck from the base line using compass and topofil. These were generally found to be well positioned. A number of weak conductive responses were noted but these are interpreted to be due to alteration and lithological effects rather than discrete conductors (see Appendix 5).

8.2 Discussion

The EM survey appears to bear out the previous assumption of a lithological basis for the geochemical anomalies. No further work is recommended.

9. REGIONAL GEOCHEMISTRY

The regional geochemical programme was largely completed in the previous reporting period. Significant gold anomalies drainage both north and south of the Round Hill mine were detected and these will require some further investigation.

10. FUTURE PROGRAMME

10.1 Stonebridge Barite

A programme of trenching should be carried out over the Stonebridge gossan in order to determine whether it is due to base metal sulphides. Work completed to date has failed to identify the source or cause of the gossan.

10.2 Round Hill

The Round Hill Pb-Ag-Au workings and the surrounding area require careful evaluation for their Au potential. The workings form part of a regional metal zoning around the Dolcoath Granite and analogies can be drawn with producing gold deposits such as Battle Mountain in the USA. The metal zoning around the Dolcoath granite has been well documented in the past (Jennings 1979) and varies from a Sn-W-Mo-Bi core close to and within the granite to a more Ag-Pb-Au-Cu-Zn rich outer zone.

Structures such as faults and fold axes may play an important part in any exploration for gold in this area. These structures may have provided conduits for mineralizing fluids and also been loci for the concentration of these fluids. The Round Hill workings appear to be structure related.

10.3 General

The area around the Staverton grid and the area to the east of Mt Roland both contain highly prospective volcanic suites with associated stream sediment geochemical anomalies. These need reviewing and possible further work before relinquishing the EL.

11. REFERENCES

- | | | |
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Weber G B 1984 Exploration Results Beulah, Staverton, Gog Range and Ireland Prospects - Sheffield EL 7/73, Tasmania. Report for the 12 months ending 15 February, 1984. CRAE Report No. 12497.

12. LOCATION

Burnie 1:250 000 Sheet SK5503

13. KEYWORDS

Acid volcanics, Andesite, Volcanogenic, Barite, Cambrian, Geochemistry, Soil, Rock, Drillcore, Drill Diamond, Geophysics, Ground, EM, UTEM, GENIE, Magnetics, Down hole

14. LIST OF PLANS

<u>Plan No</u>		<u>Scale</u>
✓ TASH 2665	Cambrian Volcanic Belt & Precambrian Area NW Tasmania with Sheffield EL shown	1:500 000

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|---|-----------|---|----------|
| ✓ | TASh 2661 | Sheffield EL 7/73, Cethana EL 10/76
Prospect Location Plan | 1:50 000 |
| ✓ | TASh 2507 | Sheffield EL 7/73 Simonds, Beulah &
Garden of Eden Grids | 1:5 000 |
| ✓ | TASh 3085 | Sheffield EL 7/73 Drillhole DD86 GE1
Garden of Eden Grid Line 5400
Section (Looking East) | 1:1 000 |
| ✓ | TASh 3083 | Sheffield EL 7/73 Drillhole DD86 SM1
Simonds Grid Line 2200W Section
(Looking East) | 1:1 000 |
| ✓ | TASh 3084 | Sheffield EL 7/73 Drillhole DD86 SM2
Simonds Grid Line 2050W Section
(Looking East) | 1:1 000 |
| ✓ | TASh 3288 | Sheffield EL 7/73 Garden of Eden
DD86 GE1 Downhole EM37 Profiles | 1:1 000 |
| ✓ | TASh 3148 | Sheffield EL 7/73 Stonebridge Barite
Grid Geological Interpretation Plan | 1:5 000 |
| ✓ | TASh 3018 | Sheffield EL 7/73 Stonebridge Barite
Grid Ground Magnetics | 1:5 000 |
| ✓ | TASh 3017 | Sheffield EL 7/73 Stonebridge Barite
Grid Extended Base Plan | 1:5 000 |
| ✓ | TASh 1226 | Sheffield EL 7/73 Gog Range
Geological Plan | 1:5 000 |
| ✓ | TASh 2969 | Sheffield EL 7/73 Gog Range Area
Soil Geochemistry Summary Plan | 1:5 000 |

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✓ TASH 2791	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 35 East	1:2 500
✓ TASH 2792	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 37 East	1:2 500
✓ TASH 2793	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 39 East	1:2 500
✓ TASH 2794	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 41 East	1:2 000
✓ TASH 3103	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 29 East	1:2 000
✓ TASH 3104	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 31 East	1:2 000
✓ TASH 3105	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 34 East	1:2 000
✓ TASH 3106	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 43 East	1:2 000
✓ TASH 3107	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 45 East	1:2 000

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✓ TASH 3108	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 47 East	1:2 000
✓ TASH 3109	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 49 East	1:2 000
✓ TASH 3110	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 51 East	1:2 000
✓ TASH 3111	Sheffield EL 7/73 Gog Range Grid Scintrex SE-88 Genie Profiles Line 53 East	1:2 000
✓ TASH 2863	Sheffield EL 7/73 1984-85 Stream Sediment Sample Locations West Sheet	1:25 000
✓ TASH 2864	Sheffield EL 7/73 1984-85 Stream Sediment Sample Locations East Sheet	1:25 000

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Appendix 1	Simonds Drill Logs and Results
Appendix 2	Garden of Eden Drill Logs and Results
Appendix 3	Garden of Eden Drillhole DD86 GE1 - Thin Section Descriptions
Appendix 4	Stonebridge Rock Chip Geochemistry
Appendix 5	Genie Survey at Gog

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APPENDIX 1

SIMONDS DRILL LOGS AND RESULTS

APPENDIX 2

GARDEN OF EDEN DRILL LOGS AND RESULTS

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 4

TENEMENT NAME SHEFFIELD EL No. 7/73

PLAN - MAP REFERENCE

CO-ORDINATES 5400E 500N AZIMUTH 012° AMG DRILLERS K. PARRY COMMENCED 7-4-86 DEPTH 182.0m HOLE No. DD866E1
RL COLLAR INCLINATION -30° DRILL TYPE Box & Bit COMPLETED 16-4-86 CASING LEFT 180.0m DPO No(s) 32038-9

DEPTH		Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)									
From (M)	To (M)										Cu	Pb	Zn	Ag	As	Fe	Mn	Ba	Au	
99.90	106.95				Pale brown-green porphyritic unit containing subhedral to angular phenocrysts which have been heavily haematized giving them a dark brown-olivaceous colour; phenocrysts give the impression of being sharded due to their flattened and aligned appearance → possible ignimbrite	Perovskite haematite alteration which is strongly developed to 101.00m; some sericitic and actinolite (?) alteration throughout. Minor quartz veining	1198075	101.0	104.0		30	<5	120	2	36	638	1200	920	01	
							076	104.0	107.0		110	15	80	2	38	591	1250	1050	01	
							1154448	102.8	102.9	Thin section										
106.95	135.05				Dark green magnesian andesite	Haematite alteration strongly developed along fractures & gives core a brecciated appearance Carbonate veins throughout 12.5-13.5km Fracture zone	1198077	107.0	110.0		30	5	90	2	6	569	1050	490	02	
							078	110.0	115.0		45	<5	170	1	6	634	620	790	04	
							079	115.0	120.0		30	5	120	1	6	688	760	820	01	
							080	120.0	125.0		20	5	130	2	3	526	800	760	01	
							081	125.0	130.0		45	15	165	2	9	496	980	880	02	
							082	130.0	134.0		25	10	190	2	9	457	950	790	01	
135.05	143.90				Pale brown green porphyritic unit - possibly ignimbrite; phenocrysts mostly haematized to red brown	136.5-136.8m Massive haematitic zone	1198083	134.0	137.80		125	20	125	2	38	498	1000	990	05	
37.90	143.25				Dark green magnesian andesite	Haematite strongly developed along fracture surfaces; minor carbonate veining	1198084	137.80	143.80		65	30	115	1	70	426	630	2300	01	

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 5

TENEMENT NAME... SHEFFIELD... No. 7/73

PLAN - MAP REFERENCE.....

CO-ORDINATES... 540E 500N AZIMUTH... 012° AMG... DRILLERS... K. PARRY... COMMENCED... 7-4-86... DEPTH... 182.0m... HOLE No. DD86GE1

RL COLLAR..... INCLINATION... -50°... DRILL TYPE... BORED... COMPLETED... 16-4-86... CASING LEFT... 180.0m... DPO No(s) 32038-9

DEPTH		Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)									
From (M)	To (M)										Cu	Pb	Zn	Ag	As	%	Fe	Mn	Ba	Au
143.25	152.7				Pale green altered andesite (?); appears to have minor coarse clasts with a fine matrix	Massive hematitic alteration strongly developed along fractures; minor carbonate veinlets	1198085	143.30	150.00		155	20	160	14	46	4.93	990	1000	0	
							086	150.00	152.70		55	15	110	2	20	4.61	950	890	0.02	
152.7	156.5				Dark green, speckled intermediate andesite; contains flattened subhedral - subhedral plagioclase after hornblende within a dark green matrix	Minor carbonate veining and weak pervasive carbonate; minor sericite along fractures	1198087	152.70	155.00		165	75	160	9	125	6.64	1150	870	0	
							1154449	152.70	152.80		Thin section									
156.5	158.5				Dominantly massive gray, hematitic intermediate tuffaceous andesite (?)	Weak-moderate pervasive carbonate and moderate - strong pervasive hematite; sericite developed along fractures	1198088	155.0	160.00		70	25	120	2	35	4.75	1300	840	0.02	
158.5	163.1				Pale brown and green fine grained porphyritic acid volcanic (rhyolite/trachyte)	Weak-moderate pervasive carbonate including veining and amygdaloid; sericite moderately developed along fractures Minor sulphide veinlets	1198089	160.00	165.00		60	25	85	2	28	3.54	1500	720	0	
							1154450	160.80	161.00		Thin section									
63.1	171.0				Moderately - strongly hematitic sequence of acid rhyolite and hornblende andesite	Zones of strong hematite alteration; weak-moderate pervasive carbonate; sericite developed along fractures	1198090	165.00	171.00		25	20	60	1	11	3.66	750	1500	0	
						165.5-167.0m Fault-scar zone														

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 6

TENEMENT NAME.....SHEFFIELD.....FL No. 7/73

PLAN - MAP REFERENCE.....

CO-ORDINATES. ~~SIDE 300N~~ NAZIMUTH. 010° AMG. DRILLERS. K. PARRY. COMMENCED. 7-4-86. DEPTH. 182.0. HOLE No. DD86GE1

RL COLLAR..... INCLINATION. -50°. DRILL TYPE. ROULES. COMPLETED. 16-4-86. CASING LEFT. 180.0. DPO No(s). 32088-9

DEPTH		Core Rec. (M)	Core Size	Graphid Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)										
From (M)	To (M)										Cu	Pb	Zn	Ag	As	% Fe	Mn	Pb	Al		
171.0	179.1				Coarse haematitic agglomerate; coarse fragments up to 4cm with fine grained matrix; chert cuts it	Clasts commonly haematitic hence the normal colour. Haematite content decreases towards end of unit.	1198091 092 093	171.0 174.0 177.0	174.0 177.0 179.1		35	45	55	3	7	8.23	850	630	<0		
					decreases towards the end of the interval; chert are of variable composition and set with a pale fibric base.	Sericite developed along fractures.	1154451	172.9	178.0	This section											
179.1	182.0				Dark green, speckled and magnetic hornblende schists.	Carbonate veining and minor potassic alteration.	1198094	179.1	182.0		100	30	230	2	17	6.34	1250	1400	<0		

APPENDIX 3

GARDEN OF EDEN DRILLHOLE DD86 GE1

- THIN SECTION DESCRIPTIONS

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
1154-446 (T.S. 56339)	Altered ?Andesite. Dominantly composed of very finely intergrown quartz, chlorite, sericite and carbonate, representing ferromagnesians, feldspars; a few small argillised feldspar phenocrysts.	Streaky subparallel fabric; fine lath-like textures. Lenses with different fabric.	Conspicuous fine leucoxenised magnetite. Veinlets, patches of fine pyrite.	Pervasive deuteric alteration has destroyed diagnostic features, but suggested interpretation is of andesitic volcanic, probably lava.
1154-447	Altered ?Andesite. Vaguely defined interlocking patches of quartz, crowded with fine carbonate, chlorite and sericite. Scattered, completely altered ?feldspar phenocrysts.	Very fine-grained, streaky and lensoid. Poor devitrification textures. Some fracturing.	Fine leucoxenised magnetite. Recognisable plagioclase phenocrysts, chlorite after hornblende. Apatite. Fe-staining.	Broadly similar to 1154446; completely, deuterically altered, with hematite impregnation adjacent to fractures. Pyrite veinlets.
1154-448	Sheared, Altered ?Obsidian. Mostly fine quartz and streaky, semi-schistose fine sericite, with microgranular carbonate; more quartzose lenses. Conspicuous apatite crystals.	Fine lens-like textures suggest sheared perlitic features. Very fine-grained, no recognisable phenocrysts.	Leucoxenic streaks. Scattered fine pyrite. A few patches of microcrystalline quartz. e phenocrysts.	Interpretation is tentative, but relict features suggest an altered felsic-feldspathic lava or perhaps ignimbrite. Abundance of apatite is unusual.
1154-449	Altered, Sheared Porphyritic ?Andesite. Many phenocrysts of ?hornblende represented by carbonate-sericite-leucoxene pseudomorphs, in a fine sericite-chlorite-carbonate groundmass. Sericite streaks after ?feldspar.	Phenocrysts are well-lined. Groundmass is streaky, incipiently schistose. Relict cleavage in amphiboles	Conspicuous leucoxene (after ?magnetite). Scattered pyrite crystals. Conspicuous apatite.	Believed to have been a hornblende-andesite; thoroughly deuterically altered, followed by minor shearing.
1154-450	Sheared Volcanic. Mainly composed of semi-schistose streaks of sericite, with carbonate-rich lenses and subparallel bands; interspersed fine quartz.	Fine-grained, largely schistose, but with relict phenocryst textures. Fragmented veins.	Ultrafine leucoxene throughout. Bands with small pyrite crystals. Chalcedony-carbonate veins.	Shearing and alteration preclude accurate classification, but rock was probably a porphyritic lava of rhyolitic/trachytic composition.
1154-451 (T.S. 56344)	Mixed Lava. Darker lenses, bands are completely altered basic lava (?olivine-basalt); lighter bands, largely quartz/sericite, are intermediate to felsic type.	Both are fine-grained with microphenocrysts, but fabrics differ. Incipiently schistose.	Fine carbonate throughout; fine leucoxene. Pale lava contains smaller volcanic xenoliths.	Textural relationships suggest that the pale felsic lava is the host for the darker, more basic material and that both were fluid.

APPENDIX 4

STONEBRIDGE ROCK CHIP GEOCHEMISTRY

035

947036

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION			ANALYSES									Geological Observations		
	Easting	Northing	Sample Type	Cu	Pb	Zn	Ag	As	Fe %	Mn	Ba	Au ppb			
1231649	442365	5410230	Rockchip	20	45	240	1	<1	12.1	105	380	<3	limonitic intermediate (andesitic?) tuff; foliated and chloritic		
1231650	442445	5410210	r.c.	15	35	30	1	<1	4.67	210	810	<3	Foliated and limonitic feldspar porphyry		
1231651	442760	5410200	r.c.	25	25	45	1	<1	5.32	820	1450	3	Andesite; subhedral-subeuhedral hornblende(?) phenocrysts in a fine green matrix		
1231652	441995	5410190	r.c.	230	840	40	4	310	7.61	10	710	<3	Massive tuffaceous intermediate; hematitic and limonitic in places; foliated		
1231653			r.c.	25	35	25	2	<1	5.97	300	630	<3	Weathered intermediate tuff.		
1231654	442005	5410200	r.c.	40	50	75	2	<1	8.82	1700	270	<3	Dark green silicified tuff containing coarse cherts, quartz crystals + limonite pitting.		
1231655	442320	5410520	r.c.	5	80	145	2	46	15.1	750	130	10	Intermediate tuffaceous volcanic with ironstone development at the surface		
1231656	442195	5410620	r.c.	90	80	420	3	17	20.4	7200	2650	5	Ironstone float.		
DETECTION LIMIT															
ANALYTICAL METHOD															
Project : SHEFFIELD - Moins				1 : 250 000 Sheet : BURNIE				AMG Zone :				Sheet No. : 1/2			
Tenement : SHEFFIELD EL 7/73				DPO's : 32020								Laboratory : ALS			
Area / Prospect : STONEBRIDGE												Collected By : J. CATHNESS Date : MARCH 1986			

036

947037

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES										Geological Observations
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe %	Mn	Ba	Au ppb		
1231657	442270	5410630	r.c.	220	155	65	1	300	10.5	140	320	25	Pitted + gossans weathered tuff; limonitic + sericitic.	
1231658	442485	5410750	r.c.	110	95	30	1	<1	12.9	100	310	<3	Highly weathered and ferruginous rock (tuff??); stockwork with qz.	
1231659	442490	5410895	r.c.	370	45	25	<1	<1	5.0	120	2050	3	Weathered limonitic sediment.	
1231660	442490	5411135	r.c.	260	60	45	1	6	15.2	130	640	5	limonite and limonite intermediate tuff.	
1231661	442235	5410995	r.c.	540	50	25	1	<1	9.65	100	810	35	limonitic black-green rock which is argillically altered.	
1231662	442405	5411065	r.c.	680	110	10	7	200	11.9	40	30	15	Micaceous + tuffaceous sediment; Fe staining.	
1231663	442420	5411160	r.c.	270	330	105	2	165	13.1	160	460	3	Micaceous tuff; Magnetite + hematite veins; limonite + ferruginous; qz stockwork.	
664			r.c.	230	50	40	1	<1	12.1	60	670	<3		
665			r.c.	195	25	55	1	<1	13.5	80	400	<3		
DETECTION LIMIT				5	5	5	1	1	0.01	10	10	3		
ANALYTICAL METHOD				IC586							XRF1 FT105			
Project : SHEFFIELD - MOINA			1 : 250 000 Sheet : BUNNIE			AMG Zone :			Sheet No. : 2/2					
Tenement : SHEFFIELD EL 7/73			DPO's : 32020			Laboratory : ALS								
Area / Prospect : STONEBRIDGE			Collected By : S. CAITHNESS			Date : MARCH 1986								

5 cm

PROJECT SHEFFIELD MINE

GEOCHEMICAL SAMPLING LEDGER

DATES : MARCH 1985

TENEMENT SHEFFIELD ELTHS

LAB. ARDEL/CMS

AREA / PROSPECT STONEBRIDGE BAY (PARADISE)

GEOLOGIST J.M. CLEMENTSON

SAMPLE TYPE Rock

PAGE NO. 1

SAMPLE NUMBER	GRID REF.	ANALYSES											DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE			
		Cu	Pb	Zn	Ag	As	Fe %	Mn	Au									
988970	442320 ^E 5410210 ^N	38	1220	680	<1	90	40.2	870	0.10								Flint: Ferruginous and manganese ironstone or goethite. (in dam excavation)	
988971	442320 ^E 5410210 ^N																Flint: volcanic or volcanoclastic with prominent coarse musc. mica	
988972	442400 ^E	275	1.04%	630	5	72	47.6	1.00%	0.015								lc: ironstone or goethite	
973	5410275 ^N	390	7580	1320	18	165	34.7	3.31%	0.010								Highly ferrug. and Mniferous	
974		450	8700	1240	2	80	37.2	17.7%	0.015								Al ₂ O ₃ 2 ^o Al ₂ (sericite) -	
975		1460	7560	1120	2	600	38.1	7000	0.125								pale green - crystalline. Outcrop in road near base.	
988976	442425E 5410670N	1480	35	23	<1	10	20.6	105	0.025								lc: massive (unfoliated) volcaniclastic (epidiotic) with interwork of fine Mn-chlorite-silica and hematite limonite epifite	
988977	442425E 5410670N	2520	38	58	5	10	33.1	80	0.55								As above but with ? arsenical pyrite aggregations.	

947038

METHOD
OCT 1987

APPENDIX 5

GENIE SURVEY AT GOG RANGE



C.R.A. EXPLORATION PTY. LIMITED

(INC. IN N.S.W.)

1207 TASMAN HIGHWAY, CAMBRIDGE, TASMANIA 7170

947040
 P.O. BOX 138
 BELLERIVE 7018
 TELEGRAMS: CRAEX
 TELEX: AA57144
 TELEPHONE: 48 5499
 AREA CODE: (002)

IN REPLY PLEASE QUOTE

TVS.W2.8.7/73

4 July 1986

Memorandum to: S J CAITHNESS
 Copy to: T W DICKSON
 From: T von STROKIRCH

GENIE SURVEY AT GOG RANGE

SHEFFIELD EL 7/73

INTRODUCTION

In the 1984/85 field season, 5 lines of Genie EM traverses were completed across the central geochemical anomaly on the Gog Range prospect. A small anomaly was located on the westernmost line (line 35E) and it was suggested that the survey be extended. When the system became available it was decided that the rest of the geochemical anomalies should also be traversed. As the bush was fairly open and as some vestige of the old geochemical lines was locatable it was decided that it would be more cost efficient not to cut lines but rather to take somewhat longer over the survey.

FIELD PROGRAMME

Traverses were put in with topofil and compass where lines were not locatable. Lines were 200m apart and readings were taken every 25 metres using the Scintrex SE-88 GENIE system. The transmitter and receiver were kept at a separation of 75 metres. The transmitter was in the north in all cases. The change from 100m to 75m separation on the lines between the two survey periods was due to an attempt to minimise noise because of the poor distance control. The resultant anomaly over a conductor would be expected to be 25m narrower and the penetration might be somewhat less but the gross effective would be similar.

RESULTS

By and large the survey results were not exciting. The anomaly recorded on line 35E was not evident 100m further west on line 34E.

Line 35E exhibits a higher conductivity north of 4700N which perhaps indicates a generally higher degree of alteration in the rocks. A similar response is visible on line 29E north of 4800N but in neither case is there any accompanying conductor.

An anomaly is present on line 47E at 4810N which continues as a weak response on line 45E at 4860N. This anomaly is by no means a good conductor but it does coincide with the geochemical anomaly recorded in the soils. A is located close to a contact between more conductive (more altered?) rocks to the south and the more resistive rocks to the north.

Interpretation on line 47E

Position	75 Degrees south
Depth to Top	20m
Time Constant	600s
Depth Extent	Greater than 50m

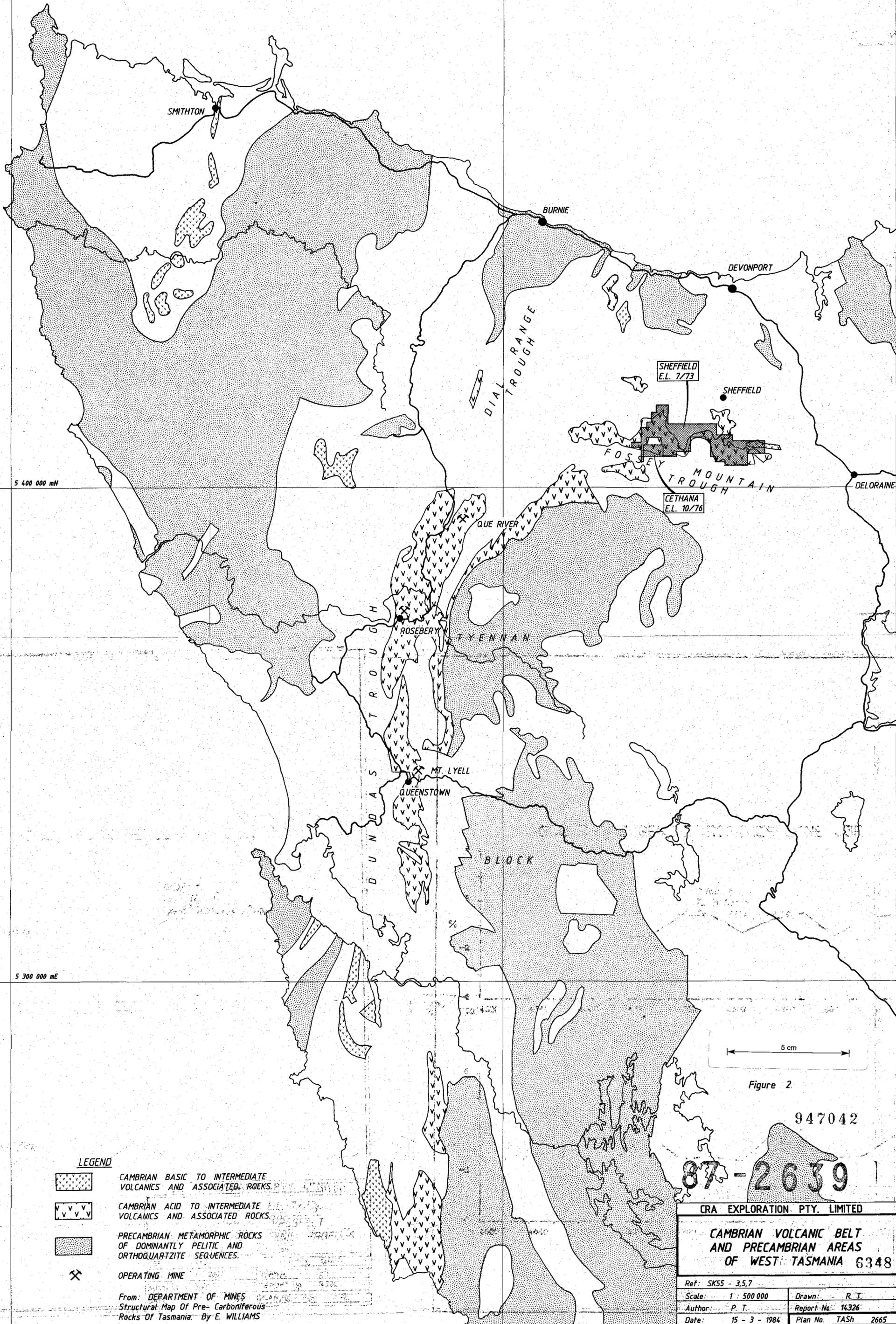
The time constant indicates that this is an extremely conductive body but this is clearly not the case. If we had a body of 600s conductivity within 20m of the surface it would produce an anomaly of about 100% rather than just 7%. The anomaly is in fact not far above the noise level for this survey and is clearly being distorted by this and by the contact. The values for the position and depth to top are the only ones that any reliance can be placed in.

CONCLUSIONS

The small anomaly on line 47E is the only feature of interest to come out of the programme and it is probably too small to be due to a significant massive sulphide ore body. I would be reluctant to suggest drilling or further geophysics over it so this could be the end for Gog Range.

T von STROKIRCH

300 000 mE
5 500 000 mN
400 000 mE



LEGEND

-  CAMBRIAN BASIC TO INTERMEDIATE VOLCANICS AND ASSOCIATED ROCKS.
-  CAMBRIAN ACID TO INTERMEDIATE VOLCANICS AND ASSOCIATED ROCKS.
-  PRECAMBRIAN METAMORPHIC ROCKS OF DOMINANTLY PELITIC AND ORTHOQUARTZITE SEQUENCES.
-  OPERATING MINE

From: DEPARTMENT OF MINES
Structural Map Of Pre-Carboniferous
Rocks Of Tasmania. By E. WILLIAMS

5 cm

Figure 2

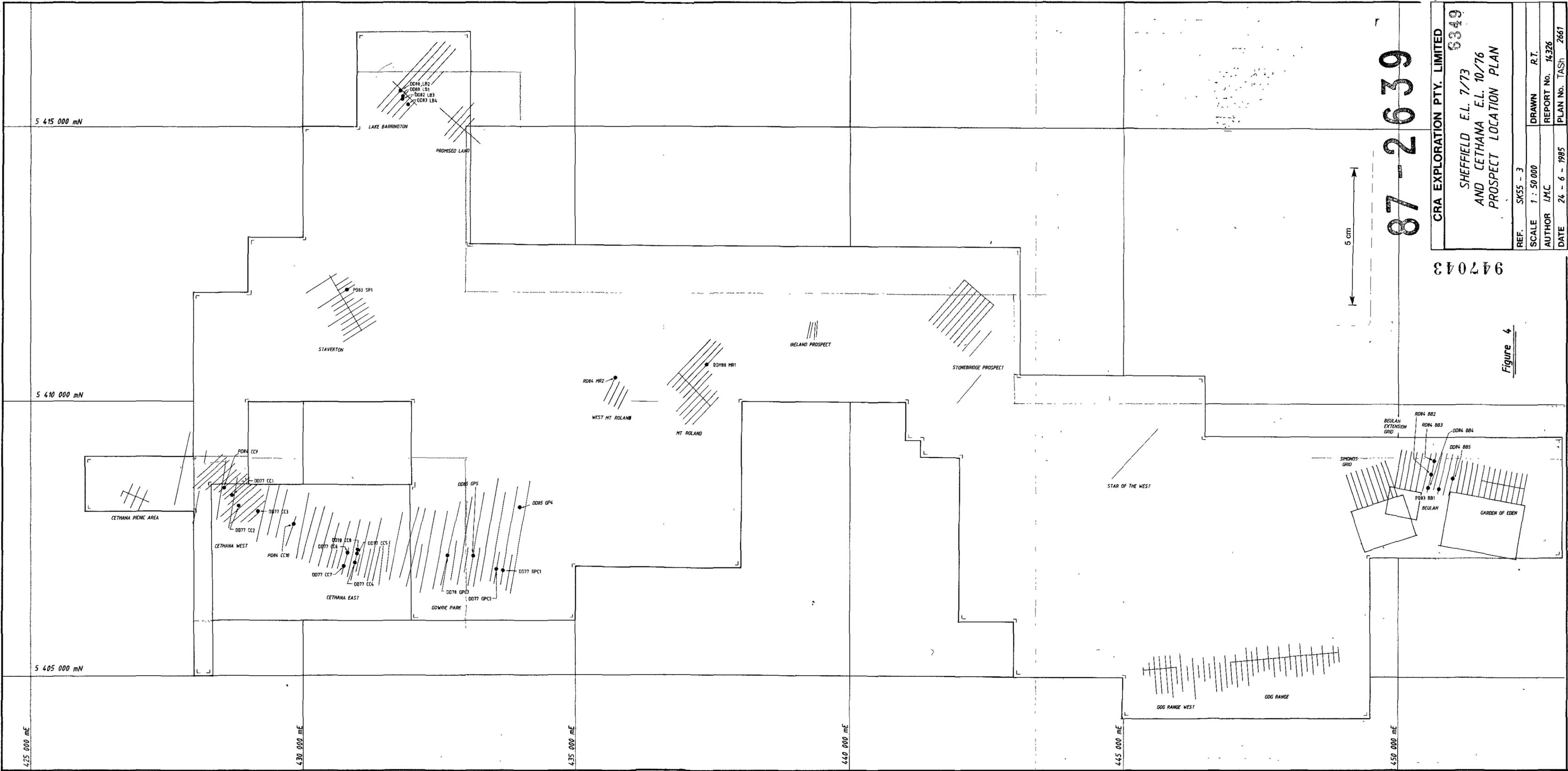
947042

87-2639

CRA EXPLORATION PTY. LIMITED

CAMBRIAN VOLCANIC BELT AND PRECAMBRIAN AREAS OF WEST TASMANIA 6348

Ref: SK55 - 3,5,7	Drawn: R. T.
Scale: 1 : 500 000	Report No: 14326
Author: P. T.	Plan No. TASH 2665
Date: 15 - 3 - 1984	



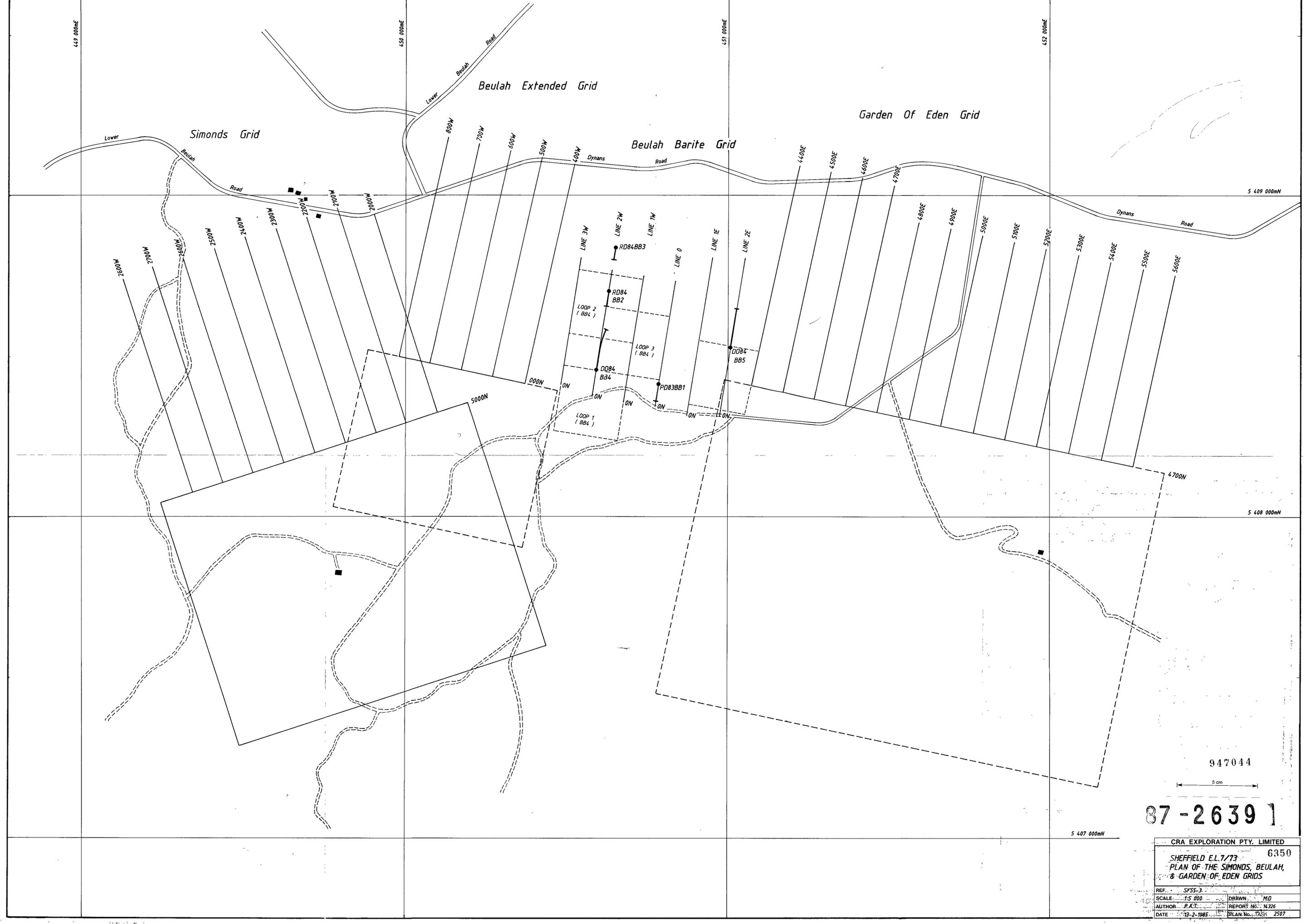
5 cm

87-2639

947043

Figure 4

CRA EXPLORATION PTY. LIMITED	
6349	
SHEFFIELD E.L. 7/73	
AND CETHANA E.L. 10/76	
PROSPECT LOCATION PLAN	
REF. SK55 - 3	DRAWN R.T.
SCALE 1 : 50 000	REPORT NO. 14326
AUTHOR J.M.C.	DATE 24 - 6 - 1985
PLAN No. TASH	2661



947044

5 cm

87-2639 1

CRA EXPLORATION PTY. LIMITED		6350
SHEFFIELD E.L.7/73		
PLAN OF THE SIMONDS, BEULAH, & GARDEN OF EDEN GRIDS		
REF.	SP55-3	
SCALE	1:5 000	DRAWN
AUTHOR	P.A.T.	REPORT NO.
DATE	13-2-1985	PLAN No.
		2507

5200mN

5100mN

5000mN

>100 ppm Zn & Pb in Soils

>100 ppm Zn
in Soils

250m AMSL
MAGNETIC UNIT

200m AMSL
VOLCANICS

150m AMSL

100m AMSL

ANDESITE
FLOAT

HAEMATISED TUFF
(FLOAT)

LITHIC TUFFS
(FLOAT)

DD86 GE1

precollar
no core
6.0m

SCHISTOSE
TUFFS (FLOAT)

LITHIC TUFFS
(FLOAT)

weathered tuffaceous
intermediate

intermediate tuff

VOLCANICLASTICS

VOLCANICLASTICS

E.O.H.
182.0m

INTERPRETED UTEM CONDUCTOR

947045

5 cm

87-2639

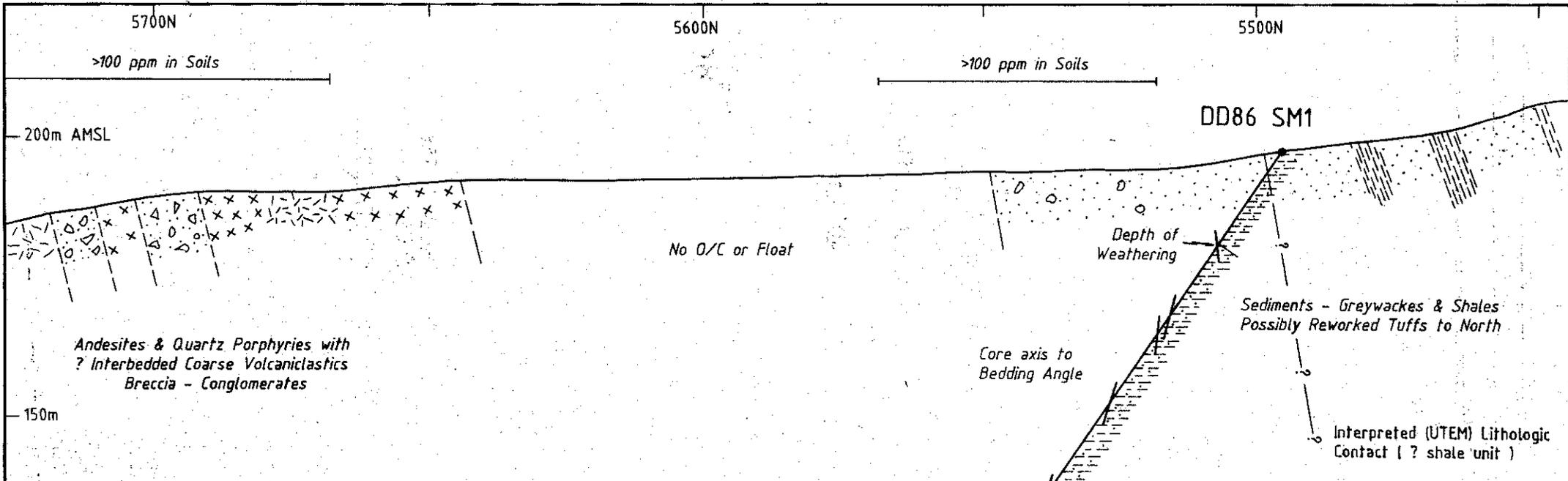
6351

Collar Co-ords : 5400E
 : 5008N
 A.M.G. Approx. : 452 125 E
 : 5 408 500 N
 Inclination : -50°
 Azimuth : 12° A.M.G.
 Total Depth : 182 metres

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
 GARDEN OF EDEN GRID
 DRILL HOLE DD86 GE1
 Section - Line 5400E (Looking East)

REF	SK55-3	(8015-8014)
SCALE	1:1000	DRAWN R.T.
AUTHOR	S.J.C.	REPORT No. 14326
DATE	19-8-1986	PLAN No. TASH 3085



CRA EXPLORATION PTY. LIMITED	
SHEFFIELD EL. 7/73	
SIMONDS GRID	
DRILLHOLE SECTION DD86 SM1	
Section - Line 2205W (Looking East)	
REF	SK55 - 3
SCALE	1 : 1000
AUTHOR	S.J.C.
DATE	29 - 7 - 1986
DRAWN	R.T.
REPORT NO.	14326
PLAN NO.	TASH 3083

VOLCANICS

87-2639

947046

50m

100m

6352

50m

VOLCANICLASTICS

SEDIMENTS

Interbedded Greywacke & Shale

Shear Zone

Interpreted U.T.E.M. Conductor

6352

DIAMOND DRILLHOLE DD86 SM1

Collar Co-ords. : 2205 W
: 5495 N

Approx. A.M.G. : 449 730mE
: 5 408 720mN

Inclination : -55°

Azimuth : 340° A.M.G.

Total Drilled Depth : 159m

5600N

5500N

5400N

5300N

>100 ppm Pb
>100 ppm Zn in Soils

200m AMSL

150m

100m

50m

DD86 SM2

GREYWACKES
AND SHALES

SEDIMENTS

FLOAT DOMINANTLY
GREYWACKES
(Hill Creep)

FLOAT OF LITHIC TUFFS

ANDESITE
FLOAT

Interbedded
Greywacke
& Shale

Core axis to
Bedding Angle

VOLCANICS AND
VOLCANICLASTICS

x Interpreted
U.T.E.M.
x Conductor

Shear Zone

? VOLCANICLASTICS
OR SEDIMENTS

? Lithological Contact
(U.T.E.M. Interpreted)
? Shale Unit

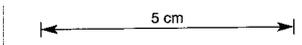
Shear Zone

947047

87-2639

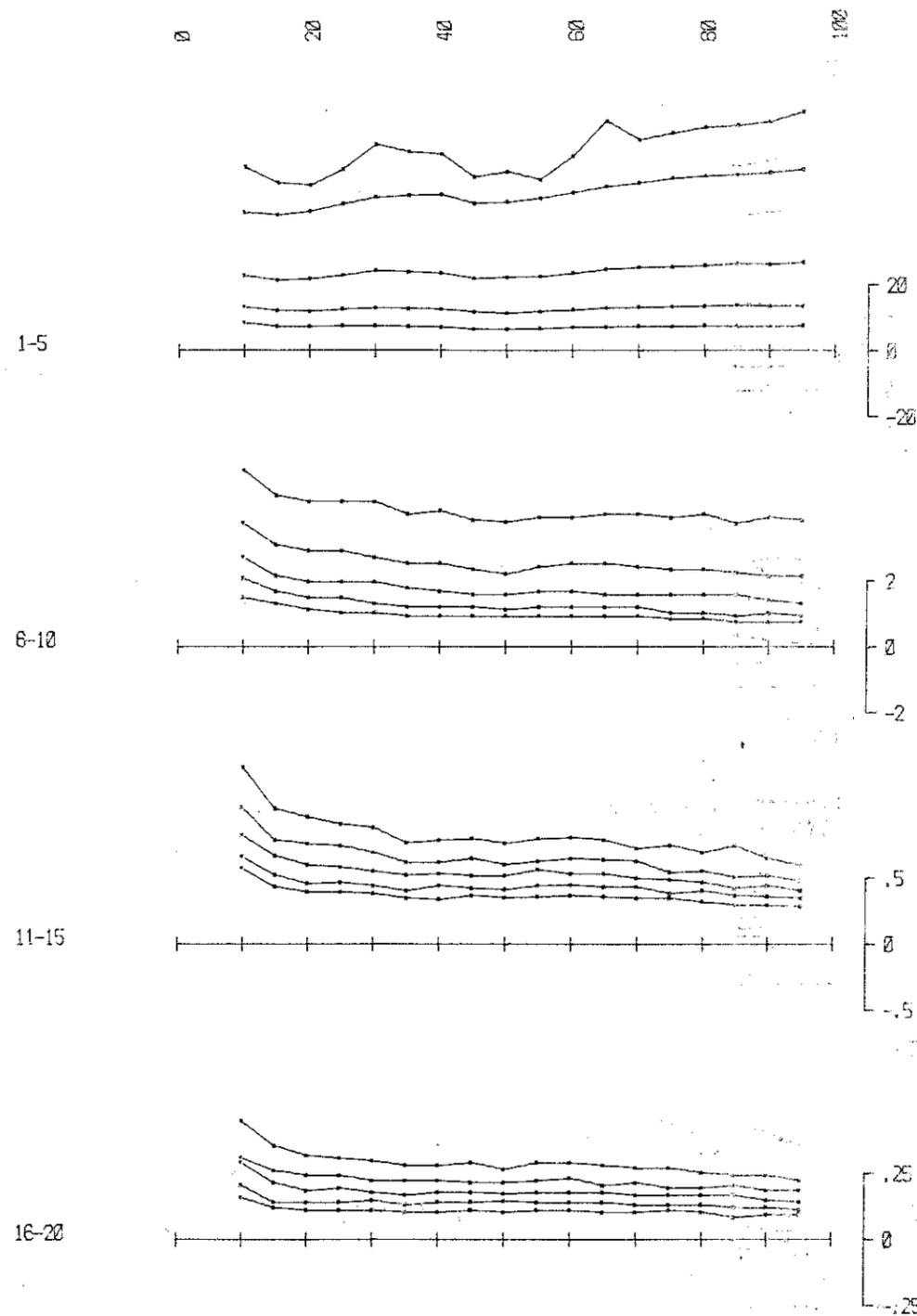
6353

DIAMOND DRILLHOLE DD86 SM2
 Collar Co-ords. : 2050 W
 : 5502 N
 Approx. A.M.G. : 449 900mE
 : 5 408 780mN
 Inclination : -55°
 Azimuth : 162° A.M.G.
 Total Drilled Depth : 179m



CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 SIMONDS GRID DRILLHOLE SECTION DD86 SM2 Section - Line 2050W (Looking East)	
REF. SK55 - 3	(8015 - 8014)
SCALE 1 : 1000	DRAWN R.T.
AUTHOR S.J.C.	REPORT No. 14326
DATE 29 - 7 - 1986	PLAN No. TASH 3084

AXIAL COMPONENT \dot{B} (A)



nanovolts per amp metre squared

EM-37

BOREHOLE SURVEY

ELECTROMOTIVE FORCE INDUCED BY SECONDARY FIELD

TIME DERIVATIVE OF FLUX DENSITY (B)

TX LOOP SIDES : 04900N 05300E
 : 05100N 05500E
 TX LOOP SIZE : 200 m X 200 m
 TX TURN OFF TIME : 120 microseconds
 FIRST DATE TIME : 08.5 microseconds
 CURRENT : 16.0 amps
 FREQUENCY : 25 Hz
 INTEGRATION TIME : 256 cycles
 SYNC MODE : CRYSTAL
 HORIZONTAL SCALE : 1:1000
 SURVEYED BY : CHSD
 DATE : 09/11/1996



SURVEYED AND COMPILED BY
 GEOTREX PTY. LTD.

PROJECT NO.
 4-914

CLIENT : CRA Exploration
 PROJECT : Garden of Eden
 AREA : Sheffield Tas.
 BOREHOLE : GE1
 TX LOOP : TASH 3288

947048

5 cm

87-2639

6354

CRA EXPLORATION PTY. LIMITED
 SHEFFIELD E.L. 7/73
 STONEBRIDGE BARYTE GRID
 SPINIPLEX BESS BEND PROJECT
 LINE 43 EAST

S 412 000 mN

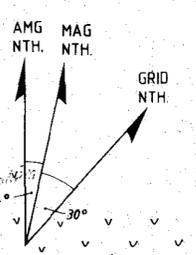
S 411 000 mN

S 410 000 mN

-  Tertiary basalt
-  Matrix rich tuffs: feldspar rich with minor quartz: foliated. Often has spotted appearance with white clasts in maroon matrix.
-  Tuffaceous and micaceous sandy unit.
-  Mafic phenocryst rich intermediate volcanic: magnetic.
-  Conglomerate
-  Shear Zone postulated from ground magnetics

★ 62 Sample Number ■ Building

* N.B. *
 All sample numbers
 have 12316..... prefix.

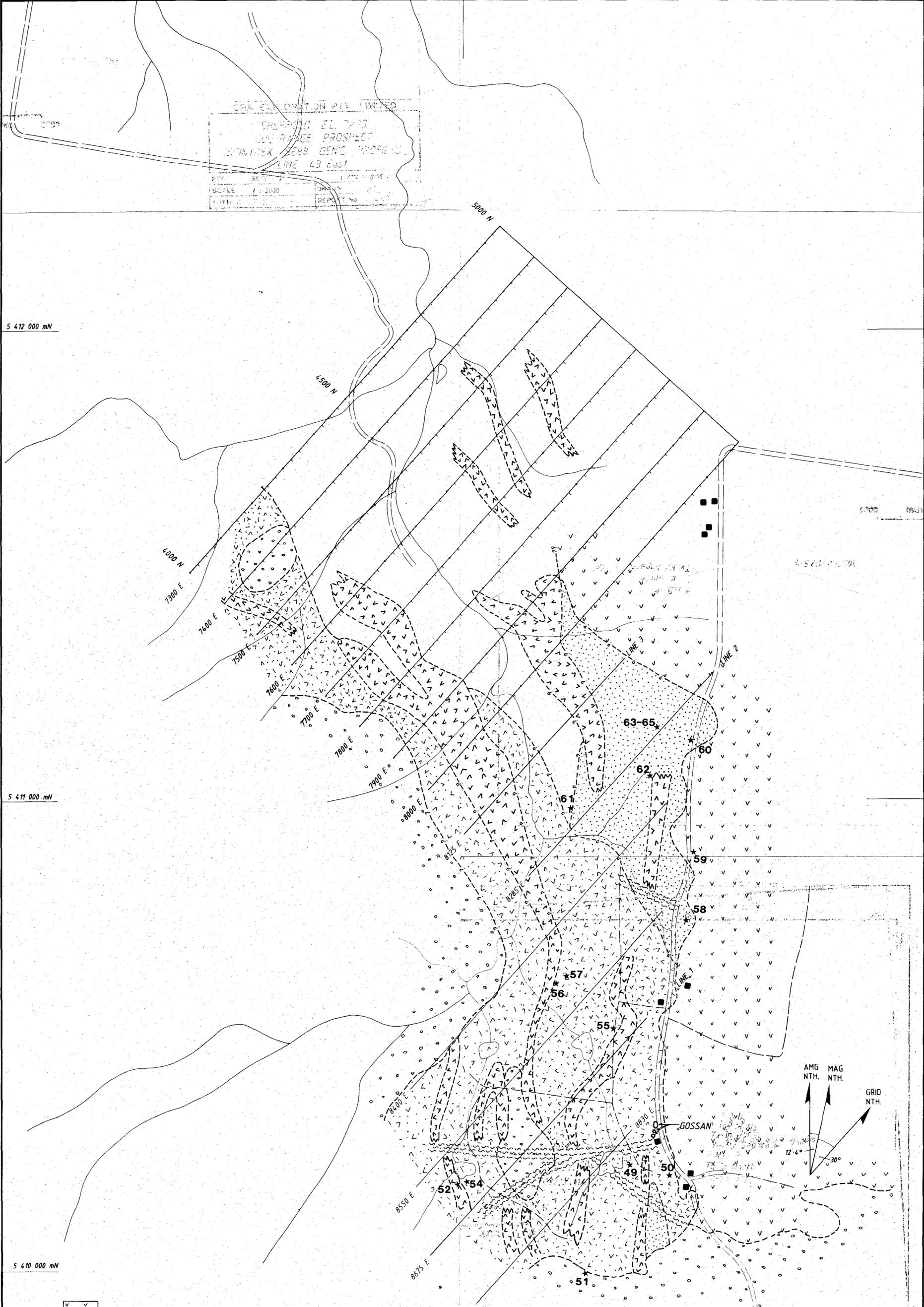
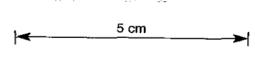


947049

6355

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 STONEBRIDGE BARYTE GRID GEOLOGICAL INTERPRETATION PLAN	
REF: SK55-3	(0174-0115.1)
SCALE 1:5000	DRAWN R.T.
AUTHOR S.J.E.	REPORT No. 74326
DATE 29-1-1986	PLAN No. TASH 3148

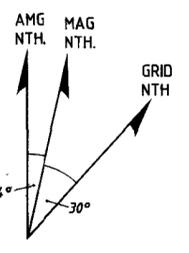
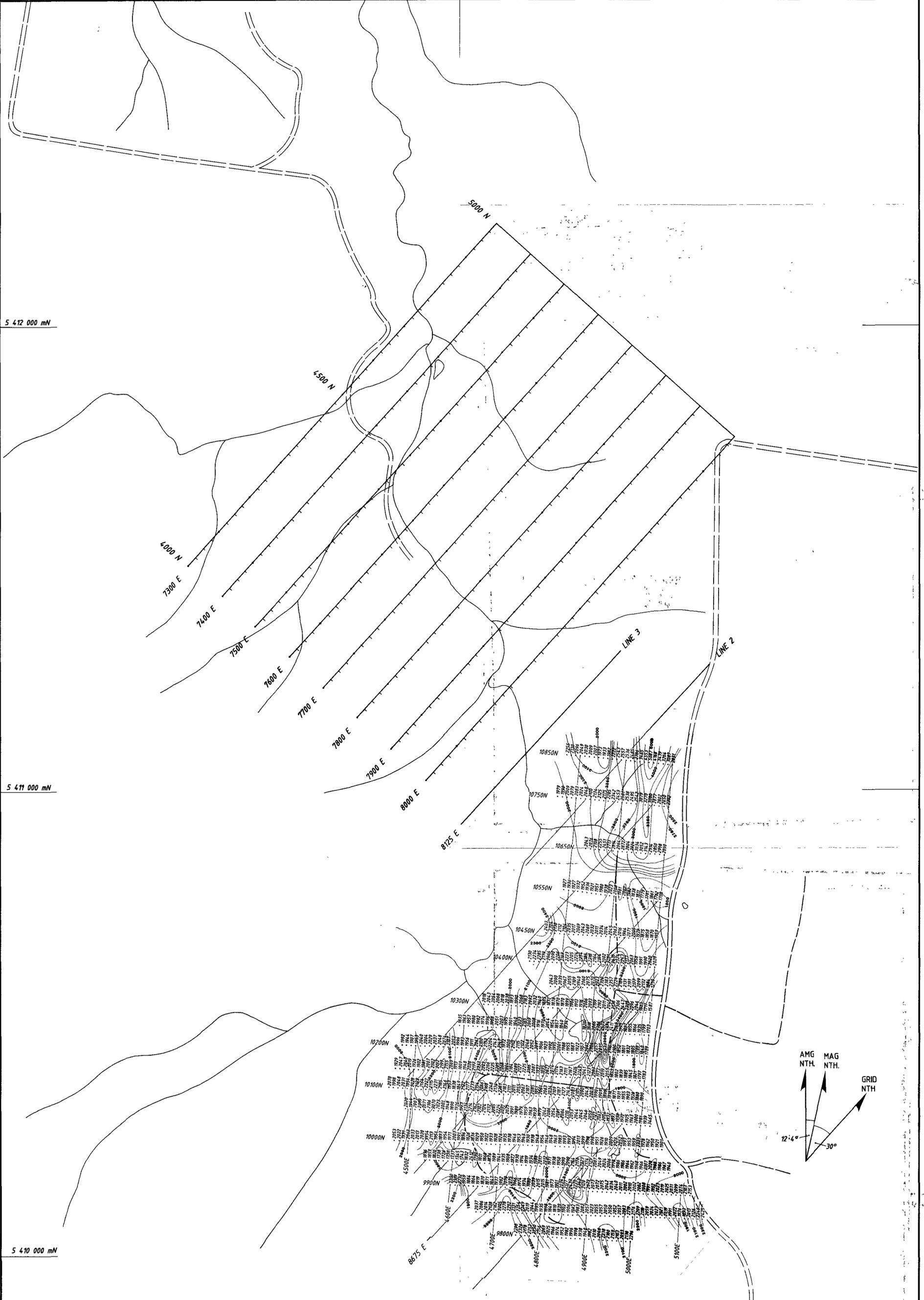
87-2639



5 412 000 mN

5 411 000 mN

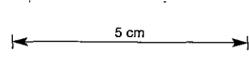
5 410 000 mN



947050
87-2639 6356

Ground Magnetics +60 000nT
 Readings taken using
 Geometrics G816 Magnetometer
 at 10 metre stations.

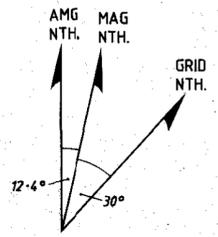
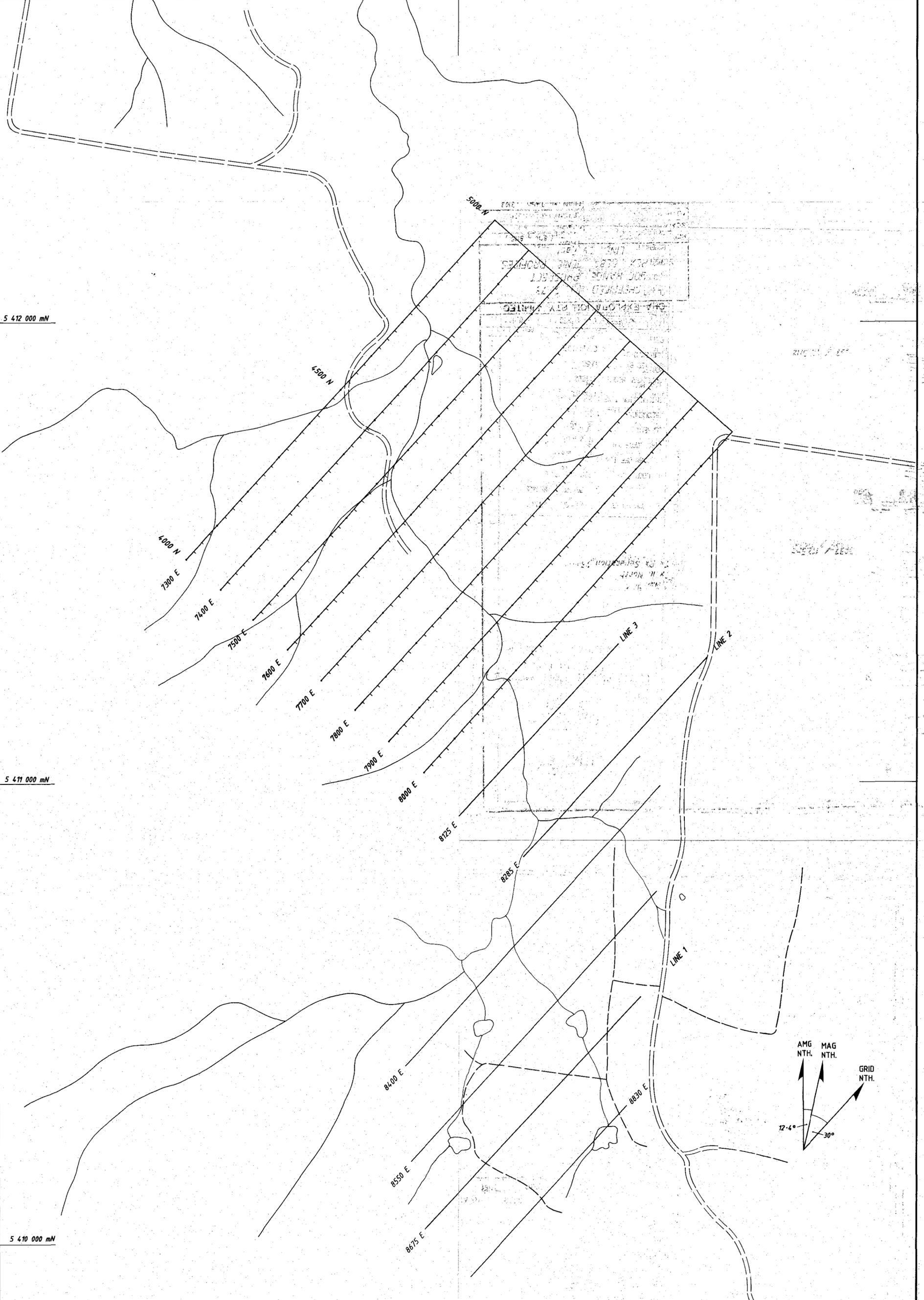
CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 STONEBRIDGE BARITE GRID DETAILED GROUND MAGNETICS	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 5000	DRAWN R.T.
AUTHOR T. vS	REPORT No. 14326
DATE 12 - 5 - 1986	PLAN No. TASH 3018



5 412 000 mN

5 411 000 mN

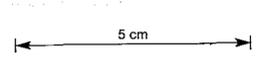
5 410 000 mN



947051

87-2639 6357

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
STONEBRIDGE BARYTE GRID	
EXTENDED GRID BASE PLAN	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 5000	DRAWN R.T.
AUTHOR S.J.C.	REPORT No. 14326
DATE 12-5-1986	PLAN No. TASH 3017



Mag. N

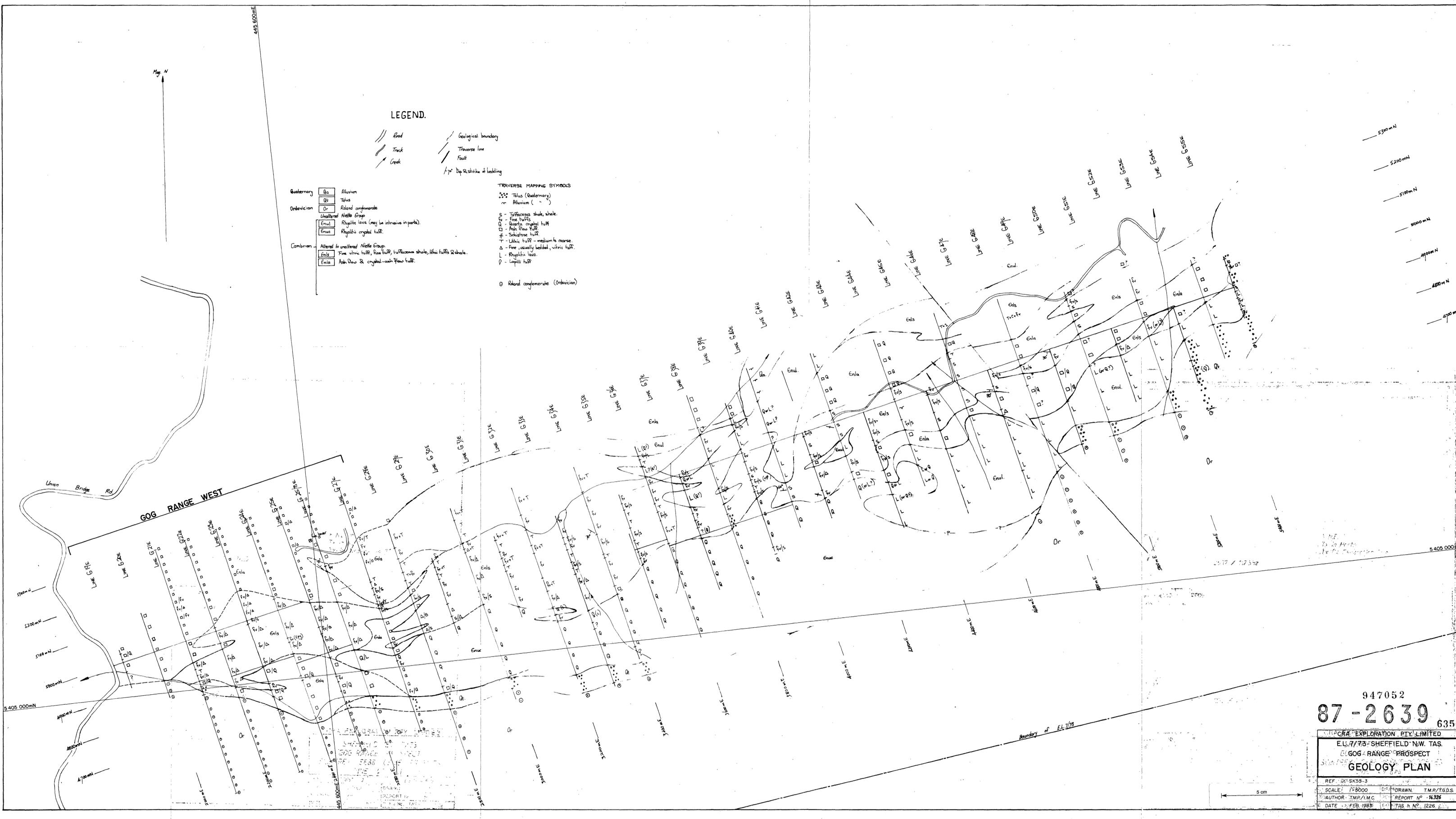
445 600ME

LEGEND.

- Road
- Track
- Creek
- Geological boundary
- Traverse line
- Fault
- Dip Strike of bedding

Quaternary	Qa	Alluvium
	Qt	Talus
Ordovician	Or	Roland conglomerate
Unaltered Niella Group		
	Enul	Rhyolite lava (may be intrusive in parts)
	Enul	Rhyolite crystal tuff
Cambrian		
	Al	Altered to unaltered Niella Group
	Enls	Fine vitric tuff, fine tuff, tuffaceous shale, lithic tuffs, Rabala
	Enla	Ash flow & crystal-ash flow tuff

TRAVERSE MAPPING SYMBOLS	
	Talus (Quaternary)
	Alluvium (-)
	Tuffaceous shale, shale
	Fine tuffs
	Quartz crystal tuff
	Ash flow tuff
	Schistose tuff
	Lithic tuff - medium to coarse
	Fine, usually bedded, vitric tuff
	Rhyolite lava
	Lapilli tuff
	Roland conglomerate (Ordovician)



947052
87-2639 6358

CRA EXPLORATION PTY. LIMITED
ELS 77/73 SHEFFIELD NW, TAS.
GOG RANGE PROSPECT
GEOLOGY PLAN

REF: SK55-3	DRAWN: T.M.P./T.G.D.S.
SCALE: 1:2000	REPORT NO: 14326
AUTHOR: T.M.P./I.M.C.	TAS. N. NO: 1226
DATE: FEB. 1983	

5 cm

GOG WEST PROSPECT

GOG PROSPECT

GOG EAST PROSPECT

GOG RANGE GULF PROFILES LINE

AMG
North

MAG
North

2000mE

3000mE

4000mE

5000mE

5000mN

20

22

24

26

28

30

32

34

36

38

40

42

44

46

48

50

52

54

947053

5 405 000mN

87-2639

6359



Cu > 100 ≤ 980 ppm

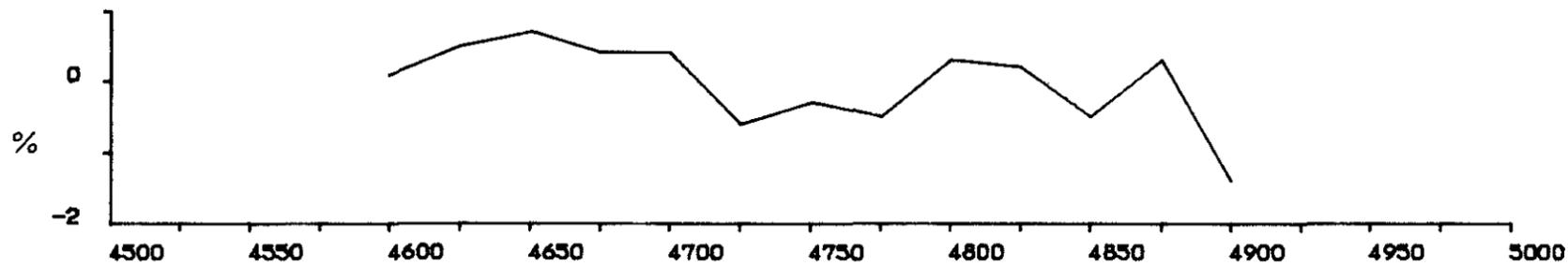


Pb > 200 ≤ 1080 ppm

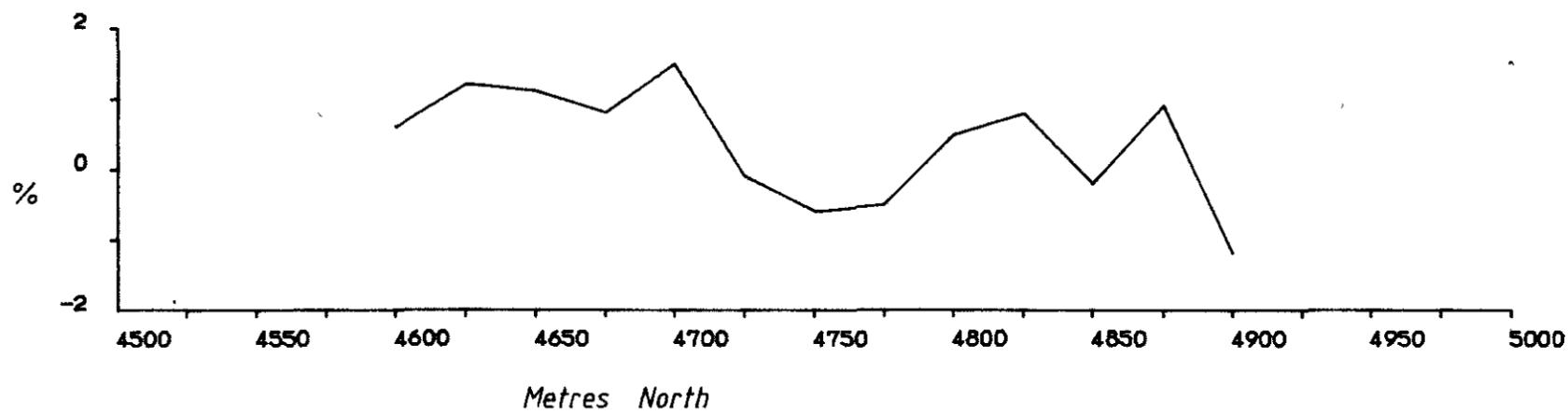
5 cm

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 1/73	
GOG RANGE PROSPECTS	
SOIL GEOCHEMISTRY	
SUMMARY PLAN	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 10 000	DRAWN R.T.
AUTHOR S.J.C.	REPORT No. 14326
DATE 28 - 4 - 1986	PLAN No. TASH 2969

GOG RANGE: GENIE, LINE 35E



3037/112 HZ



337/112 HZ

947054

87 - 2639

* N.B *
Transmitter in South
Separation 100 metres

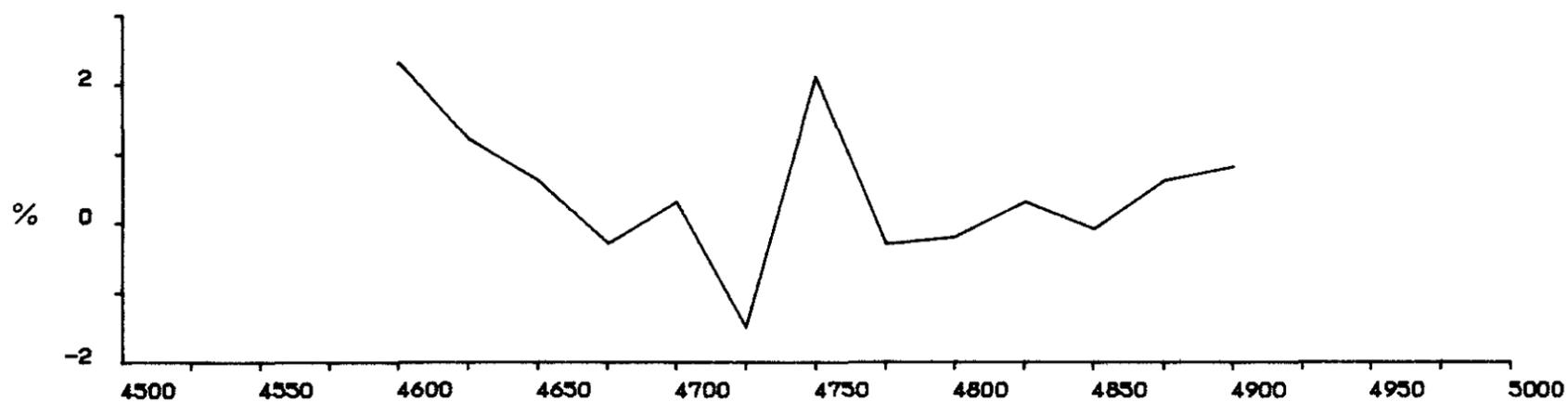
041

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	14326
DATE	19 - 8 - 1985	PLAN No.	TASh 2791

5 cm

041

GOG RANGE: GENIE, LINE 37E



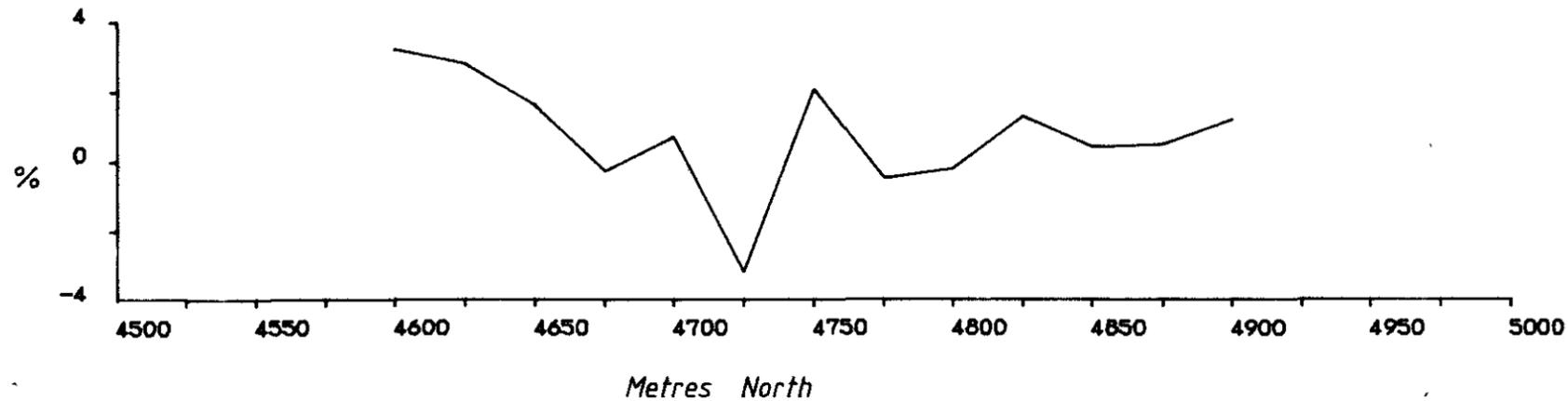
3037/112 HZ

947055

87-2639

* NB *
Transmitter in South
Separation 100 metres

042

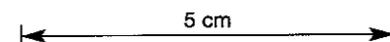


337/112 HZ

CRA EXPLORATION PTY. LIMITED

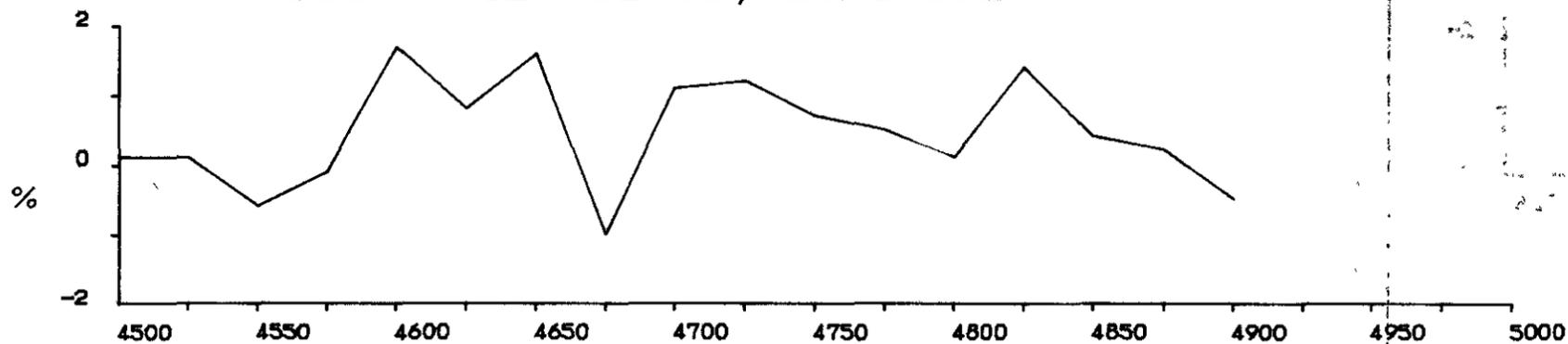
SHEFFIELD E.L. 7/73
GOG RANGE
SCINTREX SE-88 GENIE PROFILES
LINE 37 East

REF.	SK55 - 3	(8115)
SCALE	1 : 2500	DRAWN T.v.S.
AUTHOR	T.v.S.	REPORT No 14326
DATE	19 - 8 - 1985	PLAN No. TASH 2792

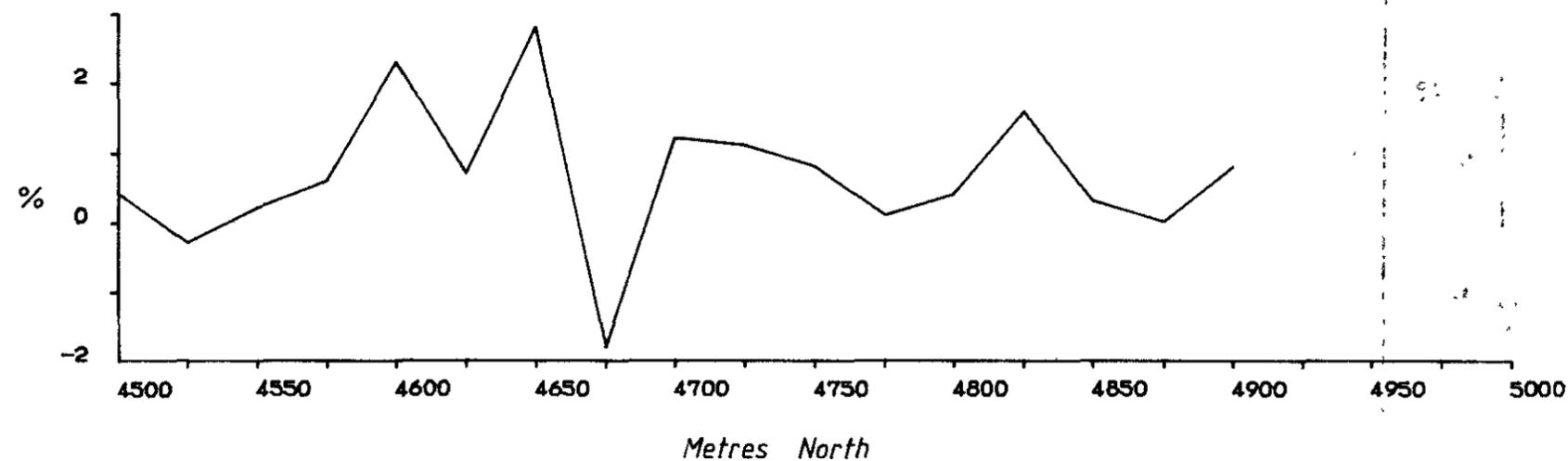


042

GOG RANGE: GENIE, LINE 39E



3037/112 HZ



337/112 HZ

947056

* NB *
Transmitter in South.
Separation 100 metres

043

CRA EXPLORATION PTY. LIMITED

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

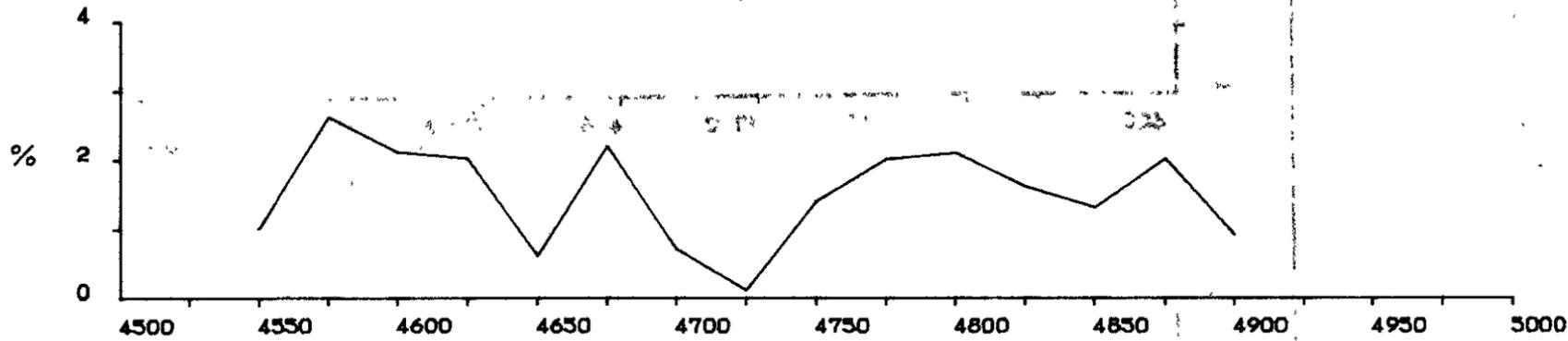
5 cm

87 - 2639

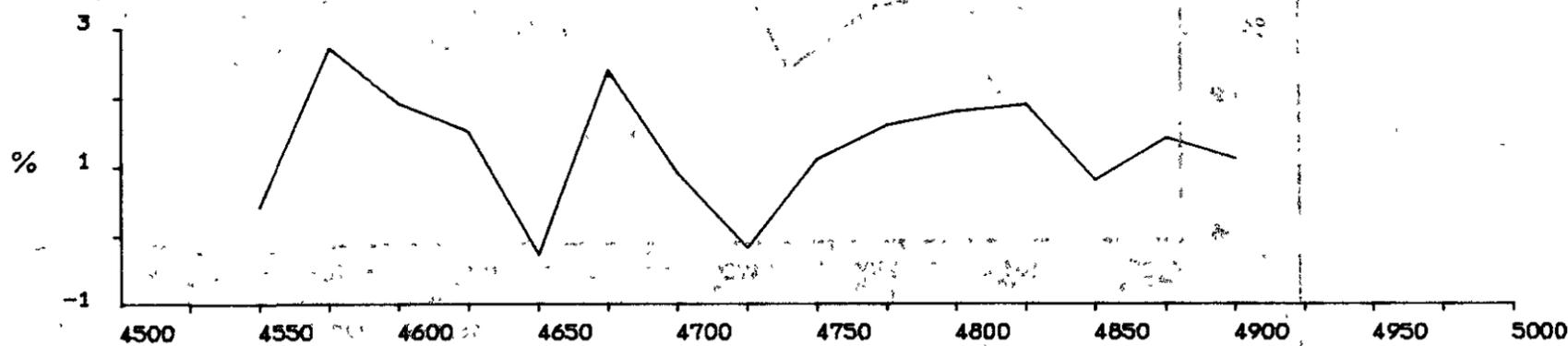
REF.	SK55 - 3	(8115)
SCALE	1 : 2500	DRAWN T.v.S.
AUTHOR	T.v.S.	REPORT No 14326
DATE	19 - 8 - 1985	PLAN No TASH 2793

043

GOG RANGE: GENIE, LINE 41E



3037/112 HZ



337/112 HZ

Metres North

5 cm

947057

* NB *
Transmitter in South.
Separation 100 metres.

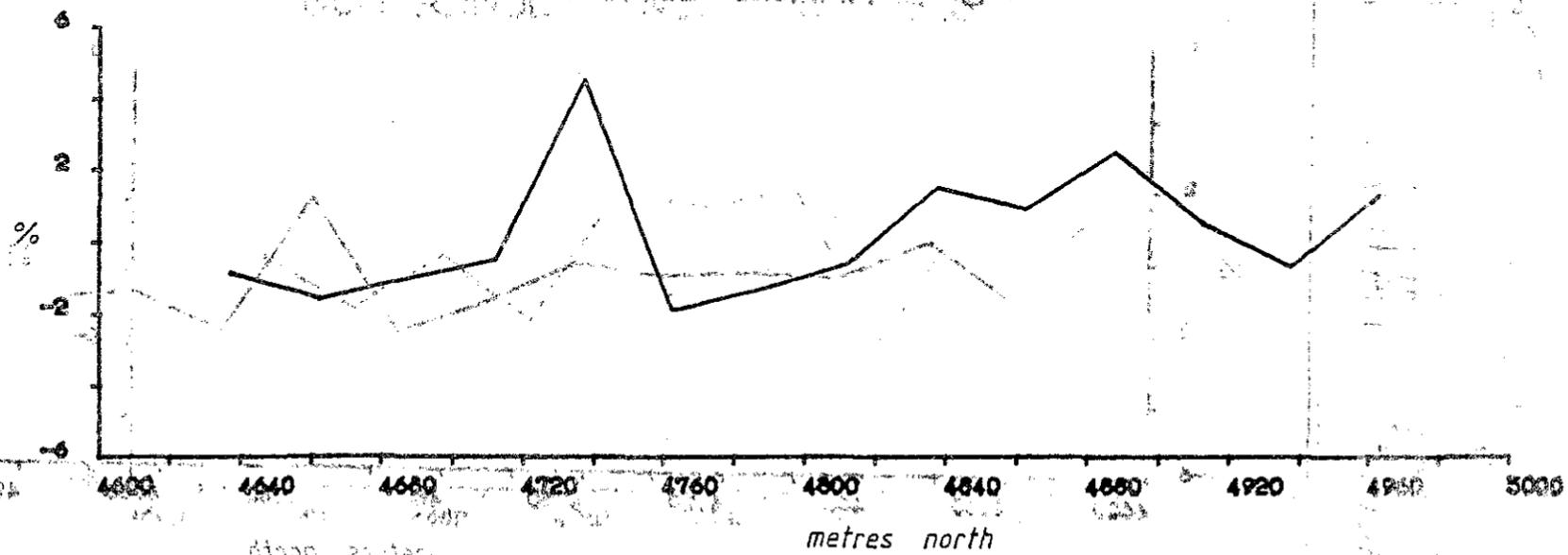
044

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.v.S.
AUTHOR	T.v.S.	REPORT No.	14326
DATE	19 - 8 - 1985	PLAN No.	TASh 2794

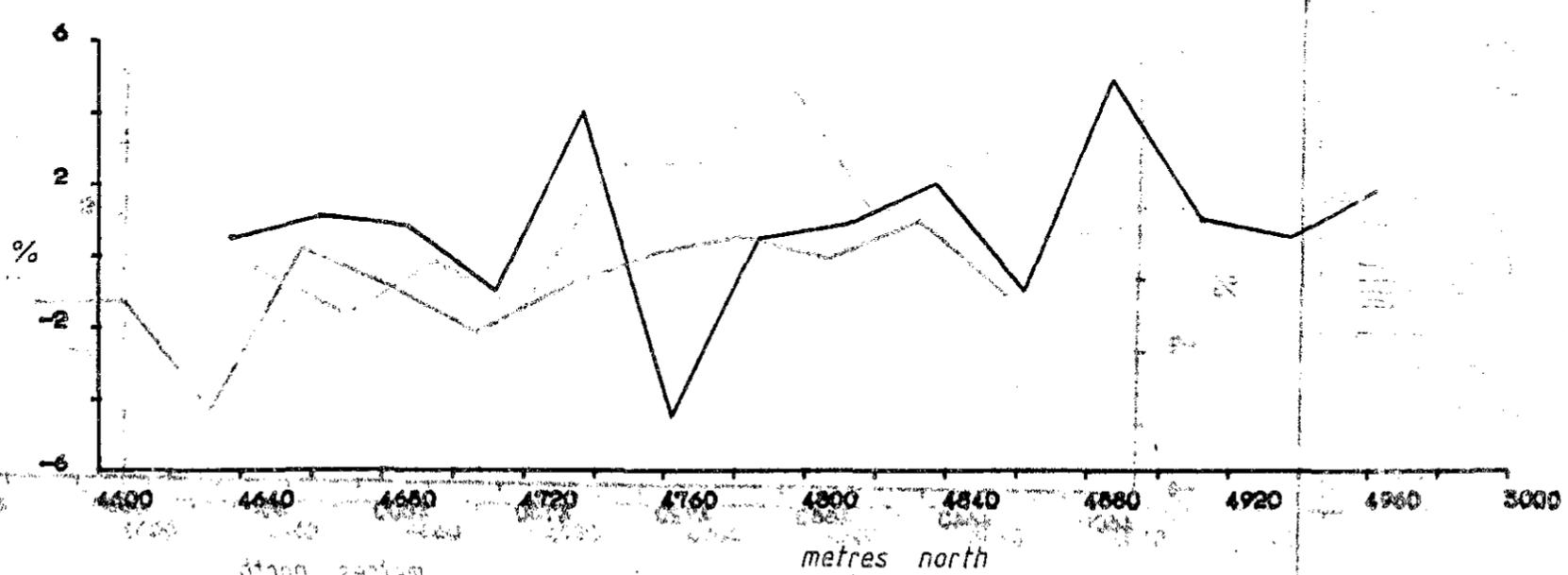
87 - 2639

044

GENIE PROFILES LINE 29E



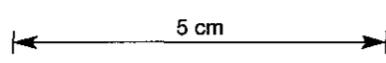
* N.B. 3°
Tx in North
Tx-Rx Separation 75m



947058

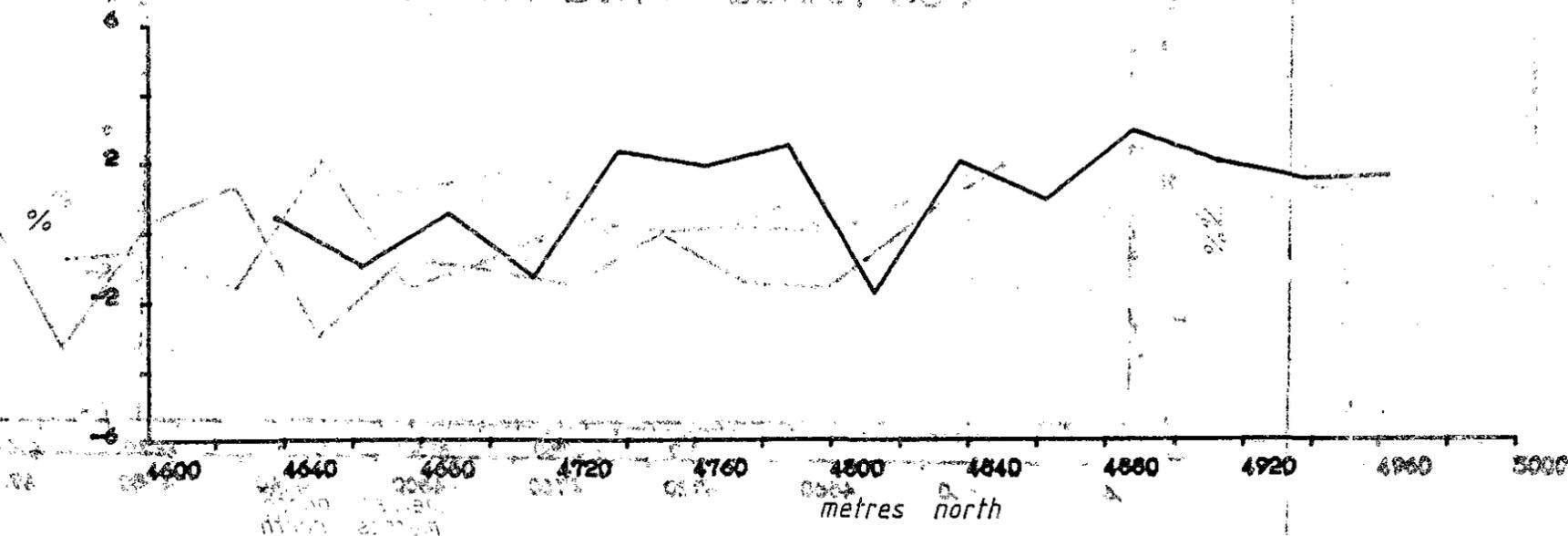
87-2639

GEO EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
GOG RANGE PROSPECT	
SCINTREX SE88 GENIE PROFILES	
LINE 29 East	
REF. SK55-3	(8114 - 8115)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.Y.S.	REPORT NO. 94326
DATE 22 - 7 - 1986	PLAN No. TASH 3103

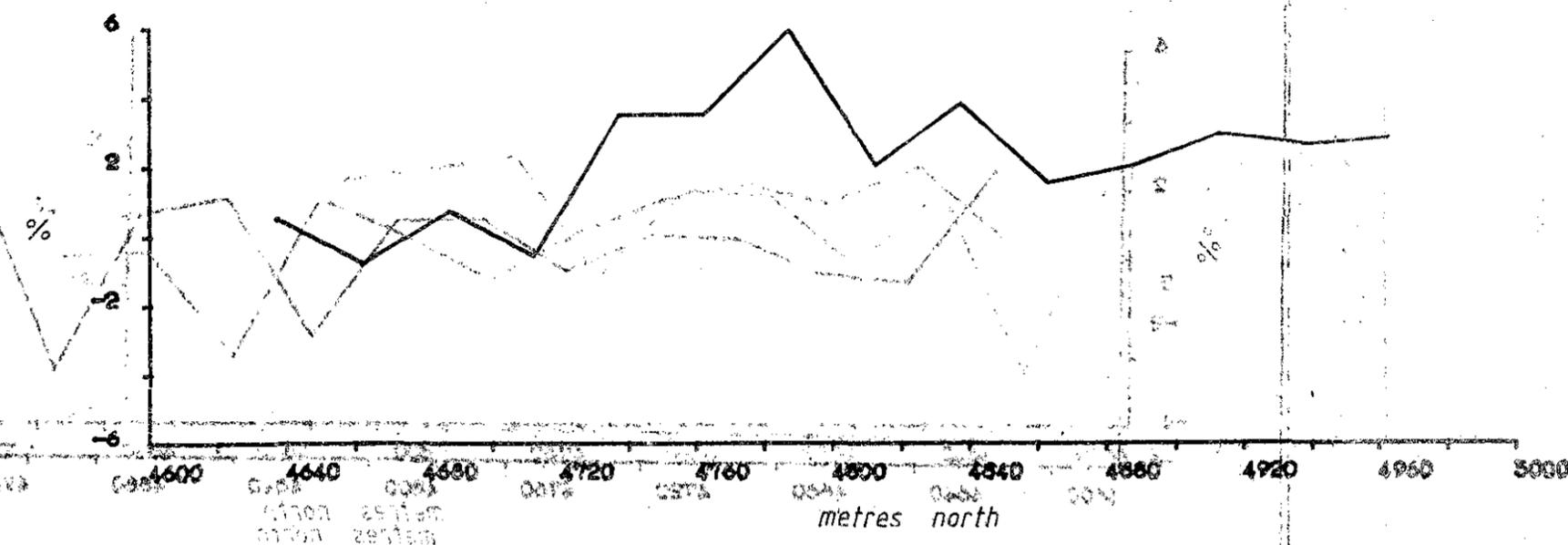


045

GOG RANGE GENIE PROFILES LINE 31E

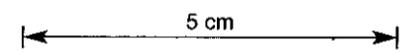


* N.B. *
Tx in North
Tx-Rx Separation 75m



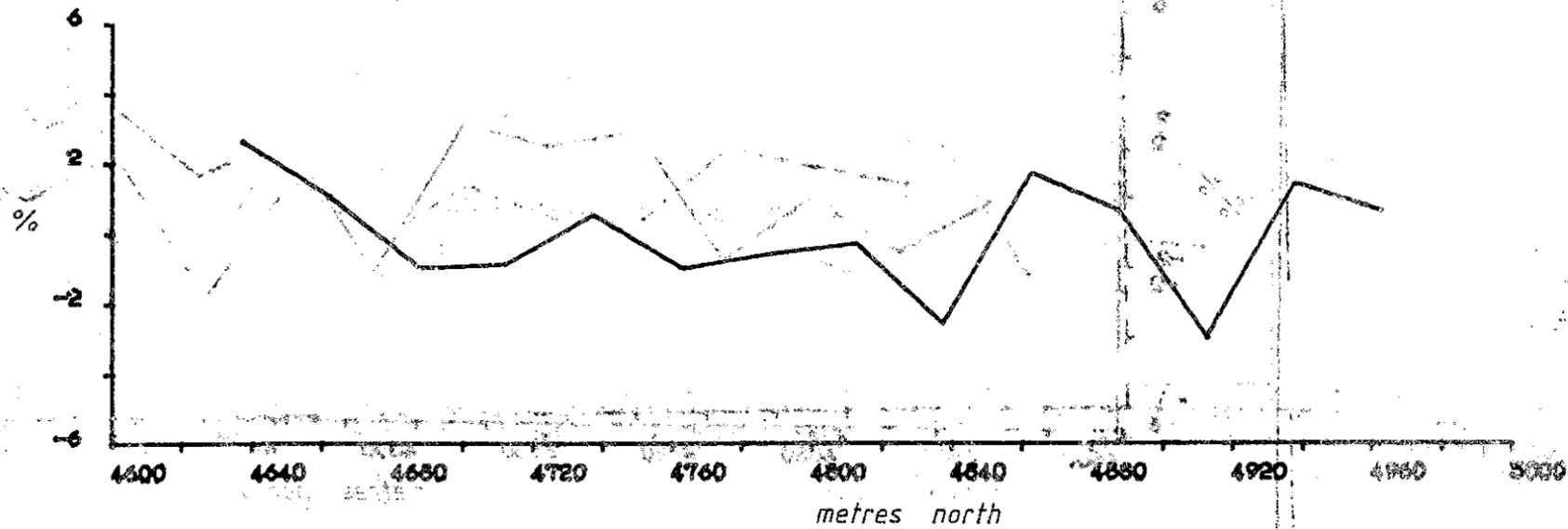
947059
87-2639

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD - E.L. 7/73	
GOG RANGE PROSPECT	
SCINTREX SE88 GENIE PROFILES	
LINE 31 East	
REF. 5855 - 3	(8114 - 8115)
SCALE 1:400-2000	DRAWN R.T.
AUTHOR T.V.S.	REPORT No. 16326
DATE 22 - 7 - 1986	PLAN No. TASH 3104

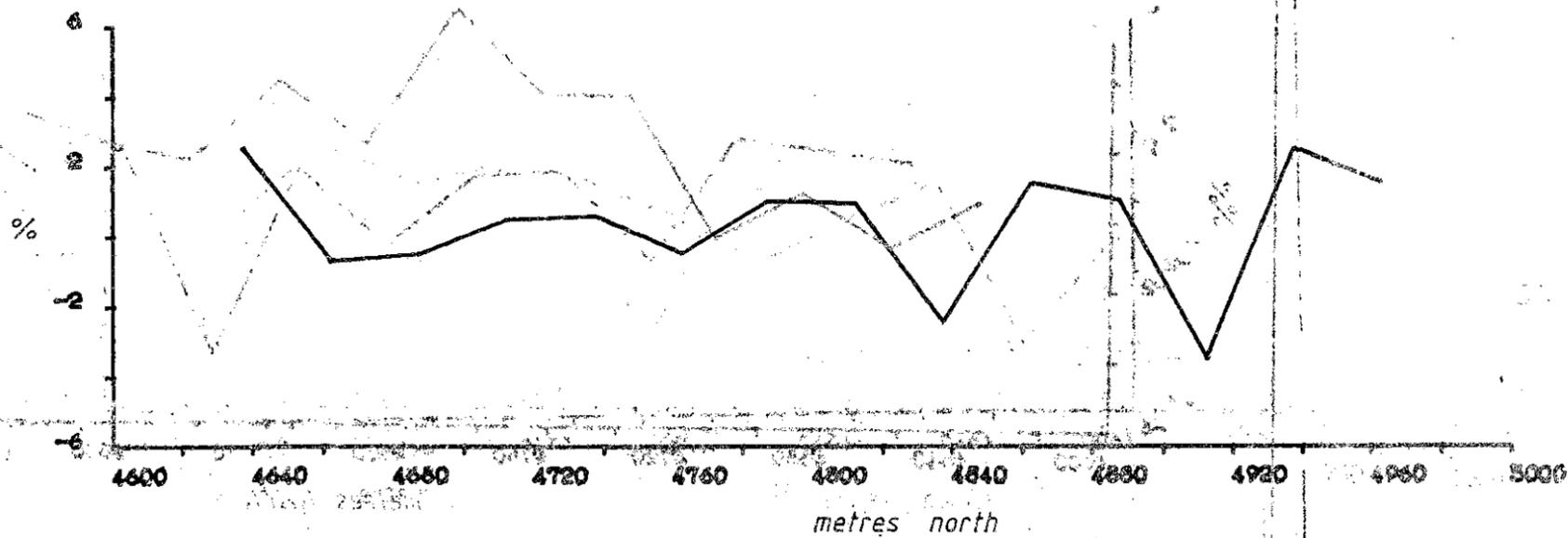


046

GOG RANGE GENIE PROFILES LINE 34E



* N.B. *
Tx in North
Tx-Rx Separation 75m



947060

87-2639

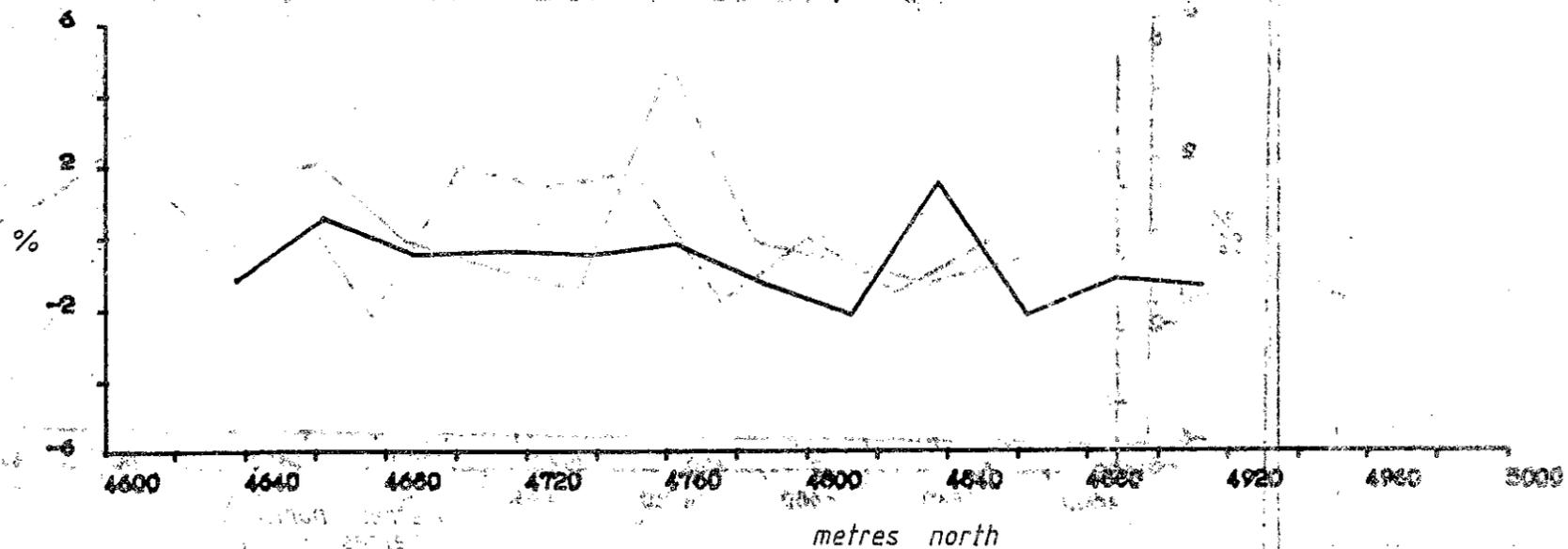
CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
GOG RANGE PROSPECT
SCINTREX SE88 GENIE PROFILES
LINE 34 East

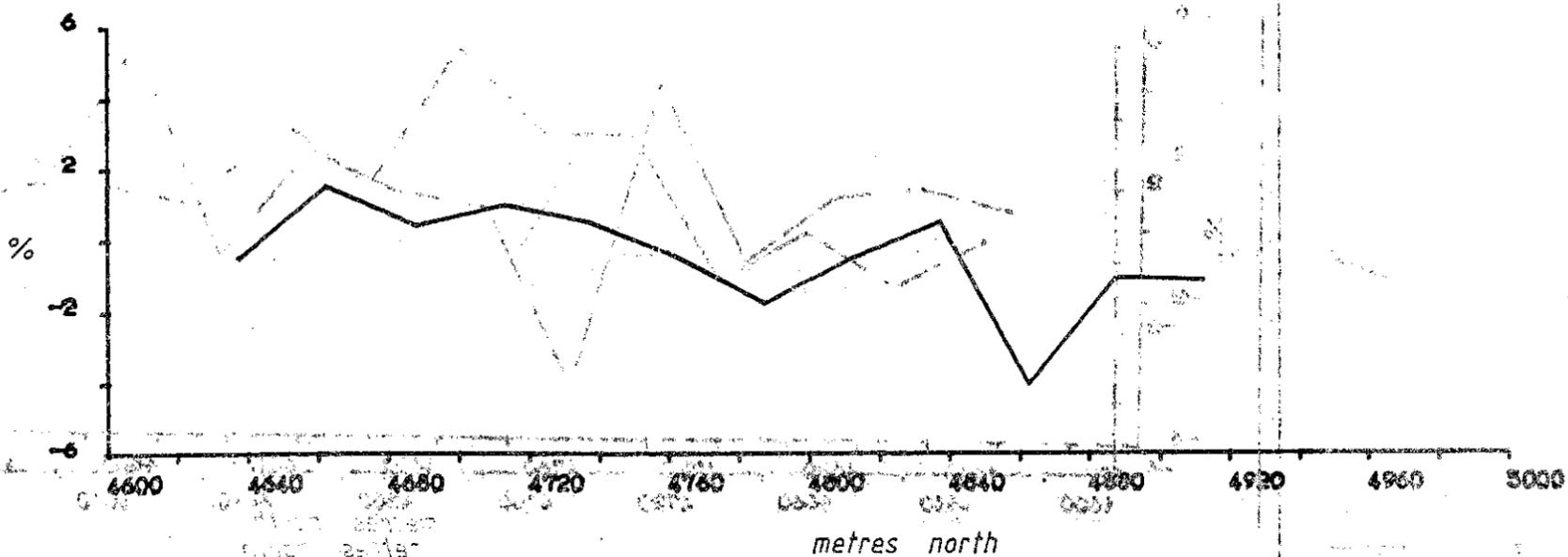
REF.	SK55 - 3	(8114 - 8115)
SCALE	1 : 2000	DRAWN R.T.
AUTHOR	T.V.S.	REPORT NO. 16326
DATE	22 - 7 - 1985	PLAN NO. TASH 3105

5 cm

GOG RANGE GENIE PROFILES LINE 43E



* N.B. *
Tx in North
Tx-Rx Separation 75m

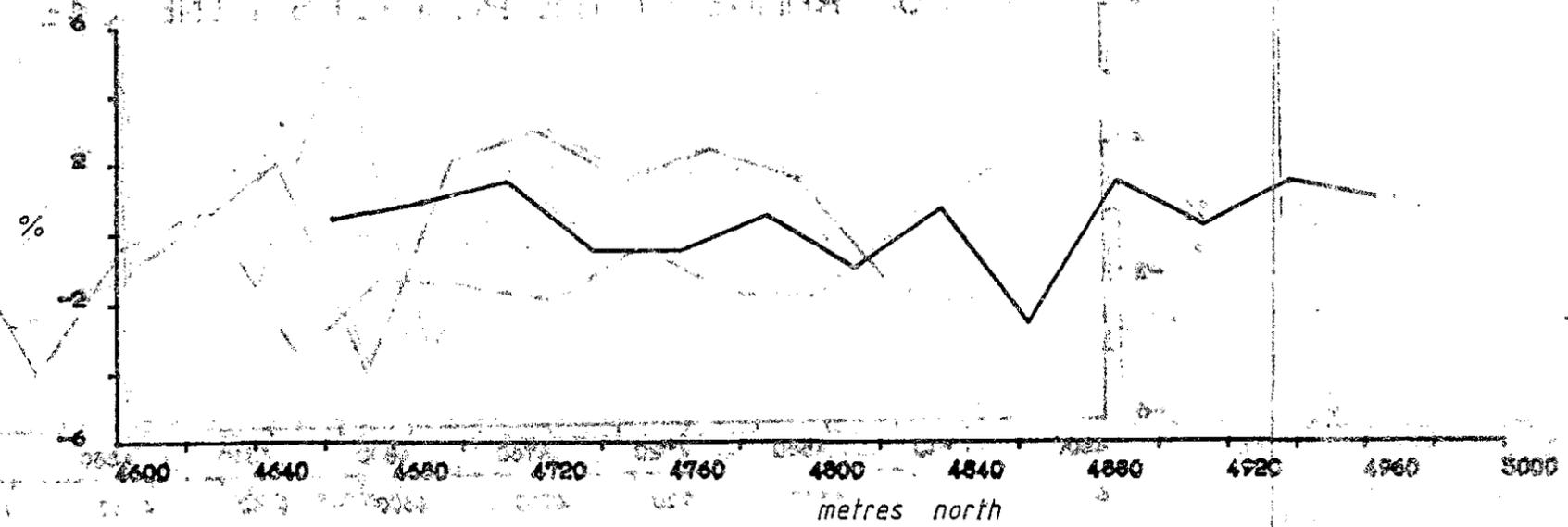


947061
87-2639

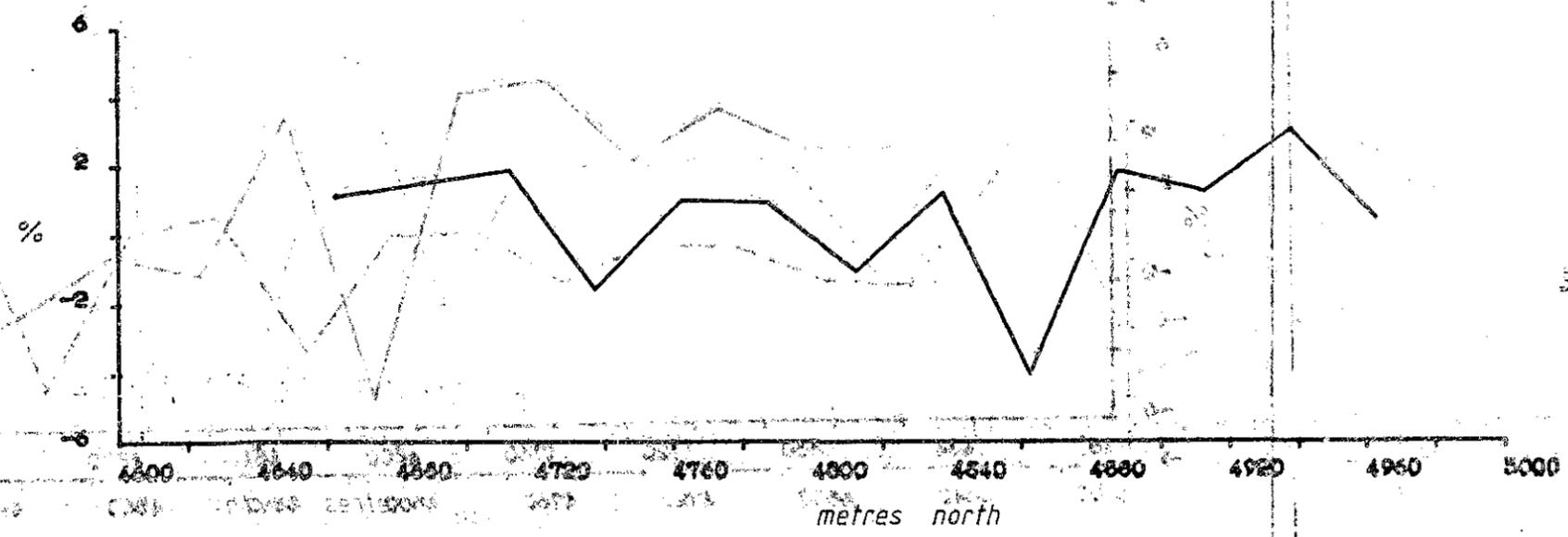
CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
GOG RANGE PROSPECT	
SCINTREX SE88 GENIE PROFILES	
LINE 43 East	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.V.S.	REPORT NO. 14326
DATE 22 - 7 - 1986	PLAN NO. TASH 3106

5 cm

GOG RANGE GENIE PROFILES LINE 45E



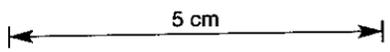
* N.B. *
Tx in North
Tx-Rx Separation 75m



947062

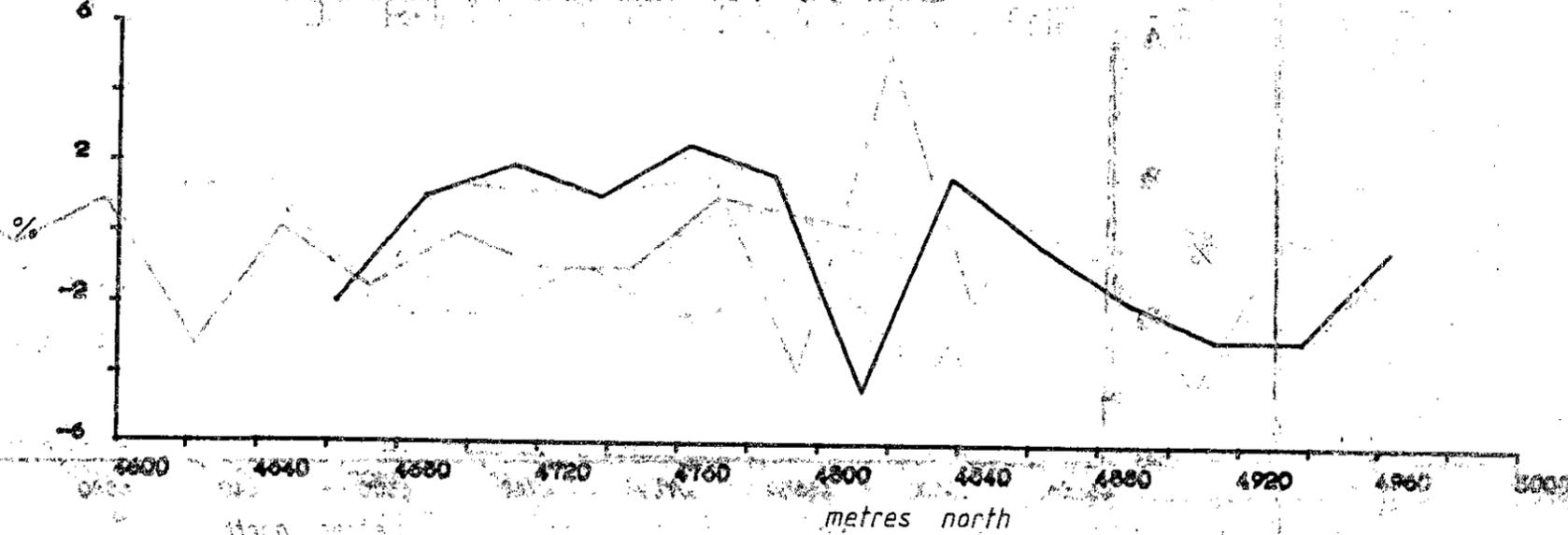
87 - 2639

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 GOG RANGE PROSPECT SCINTREX SE88 GENIE PROFILES LINE 45 East	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.V.S.	REPORT No. 14326
DATE 22.7.1986	PLAN No. TASH 3107

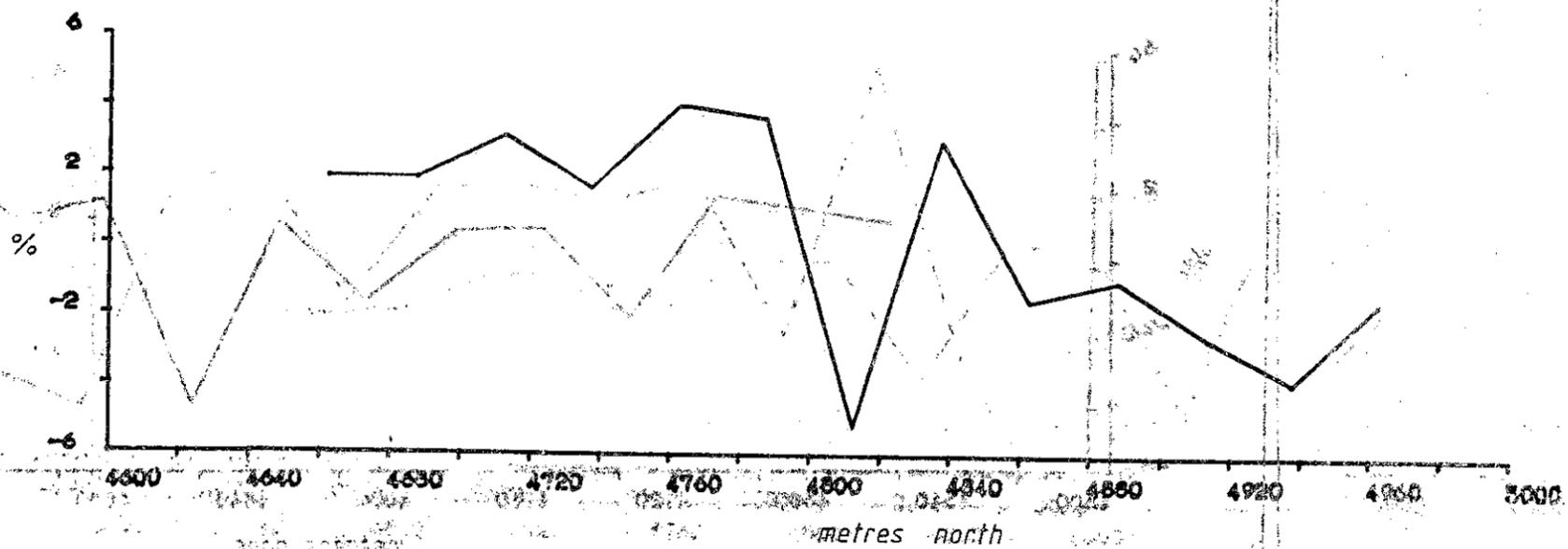


049

GOG RANGE GENIE PROFILES LINE 47E



* N.B. *
Tx in North
Tx-Rx Separation 75m



947063

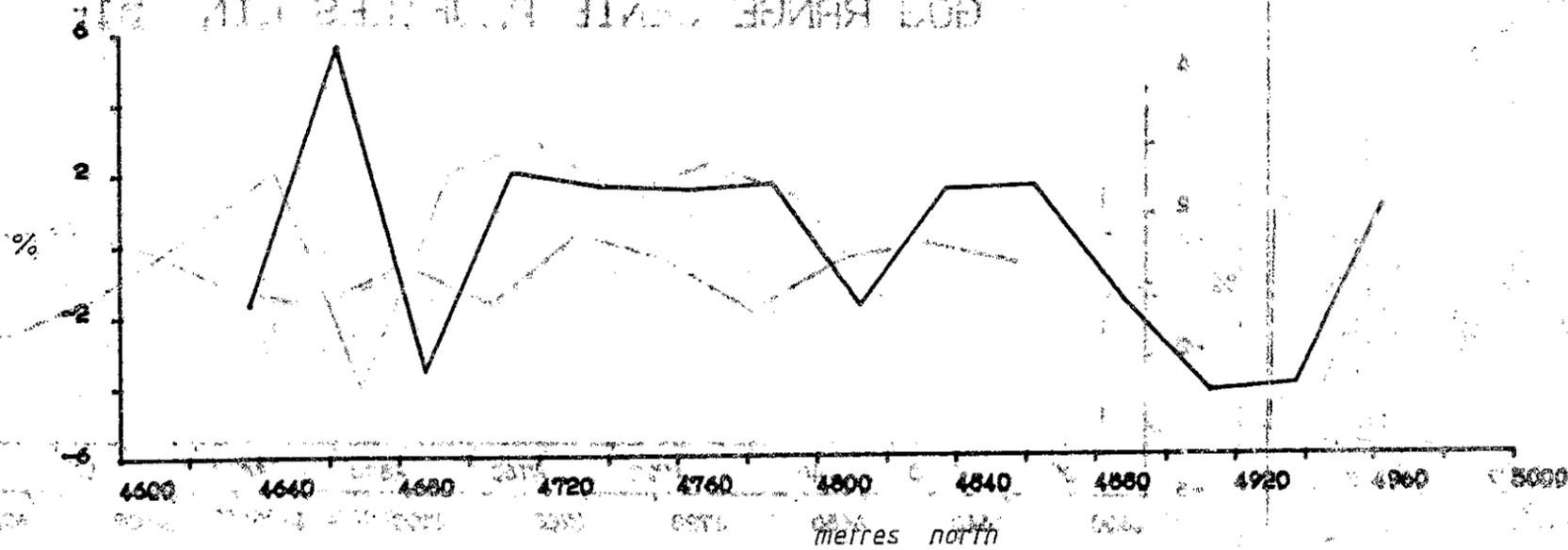
87-2639

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73			
GOG RANGE PROSPECT			
SCINTREX SE88 GENIE PROFILES			
LINE 47 East			
REF	SK55 - 3	(8114 - 8115)	
SCALE	1 : 2000	DRAWN	R.T.
AUTHOR	T.v.S.	REPORT NO.	14326
DATE	22 - 7 - 1986	PLAN No.	TASH 3108

5 cm

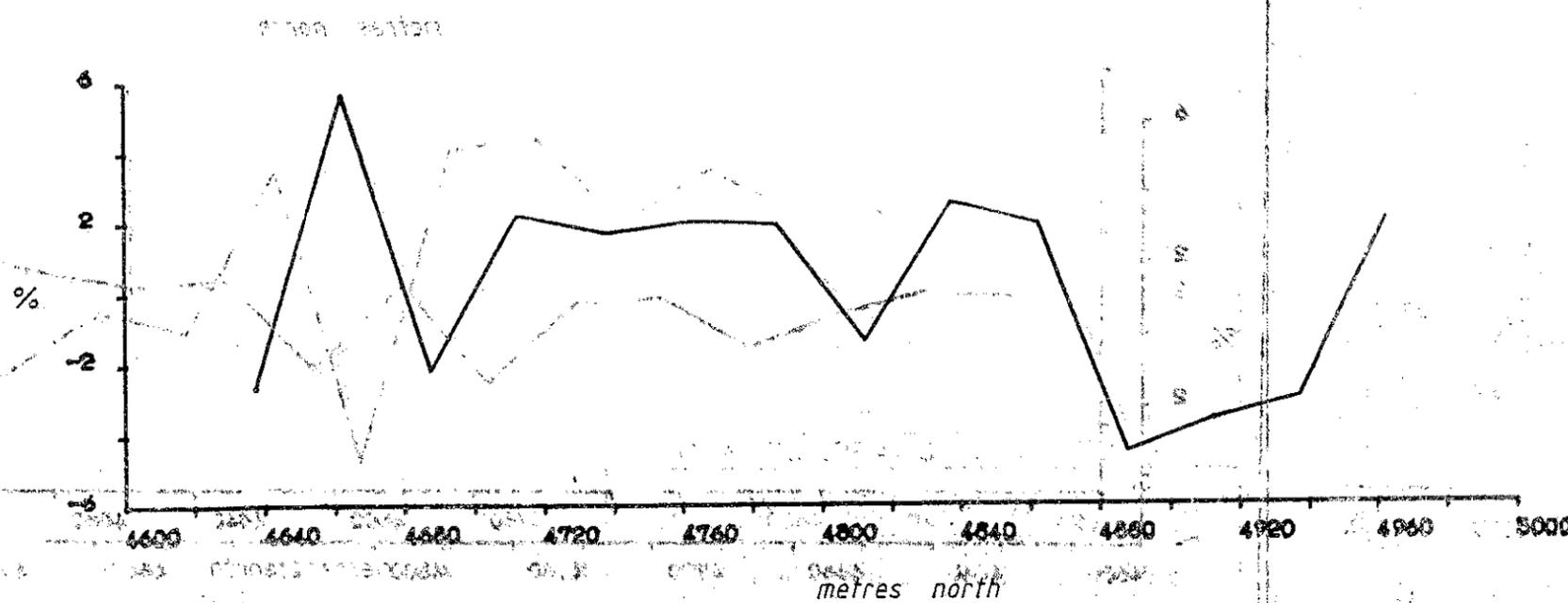
000

GOG RANGE GENIE PROFILES LINE 49E



* N.B. *
Tx in North
Tx-Rx Separation 75m

3037 / 112.5Hz

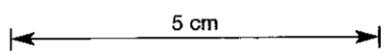


337 / 112.5Hz

947064

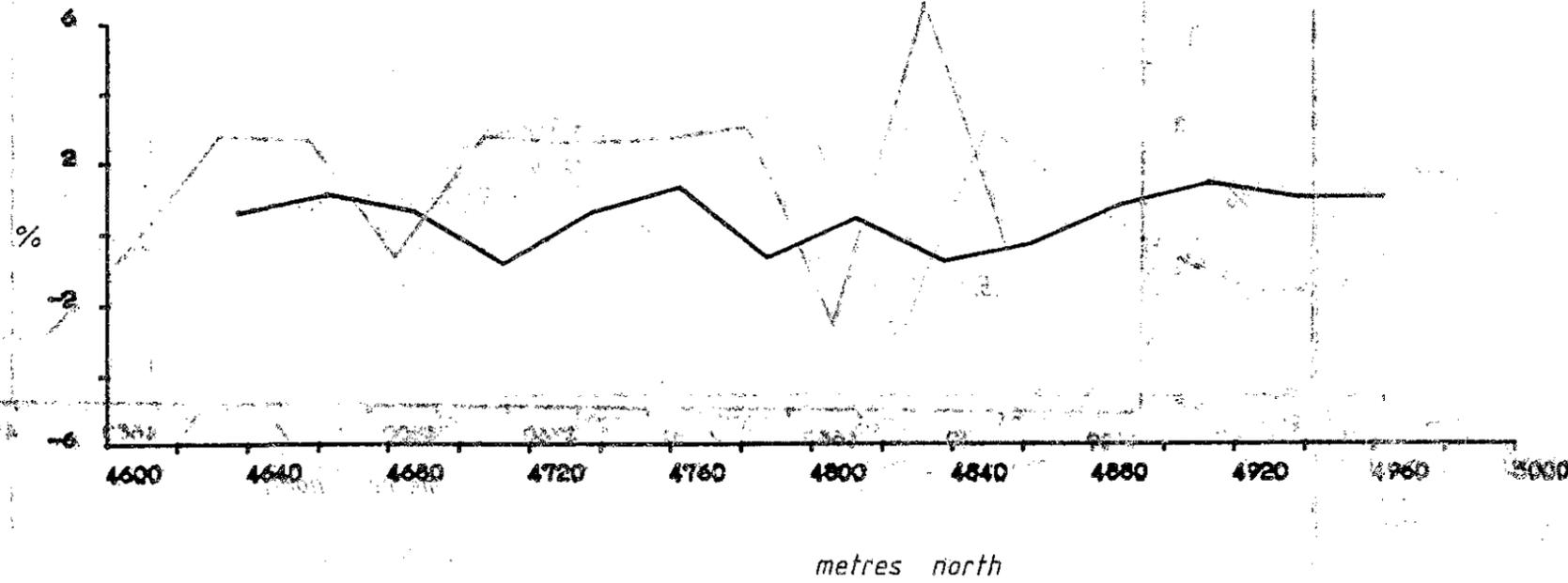
87-2639

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 GOG RANGE PROSPECT SCINTREX SE88 GENIE PROFILES LINE 49 East	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.V.S.	REPORT No. 14326
DATE 22-7-1986	PLAN No. TASH 3109

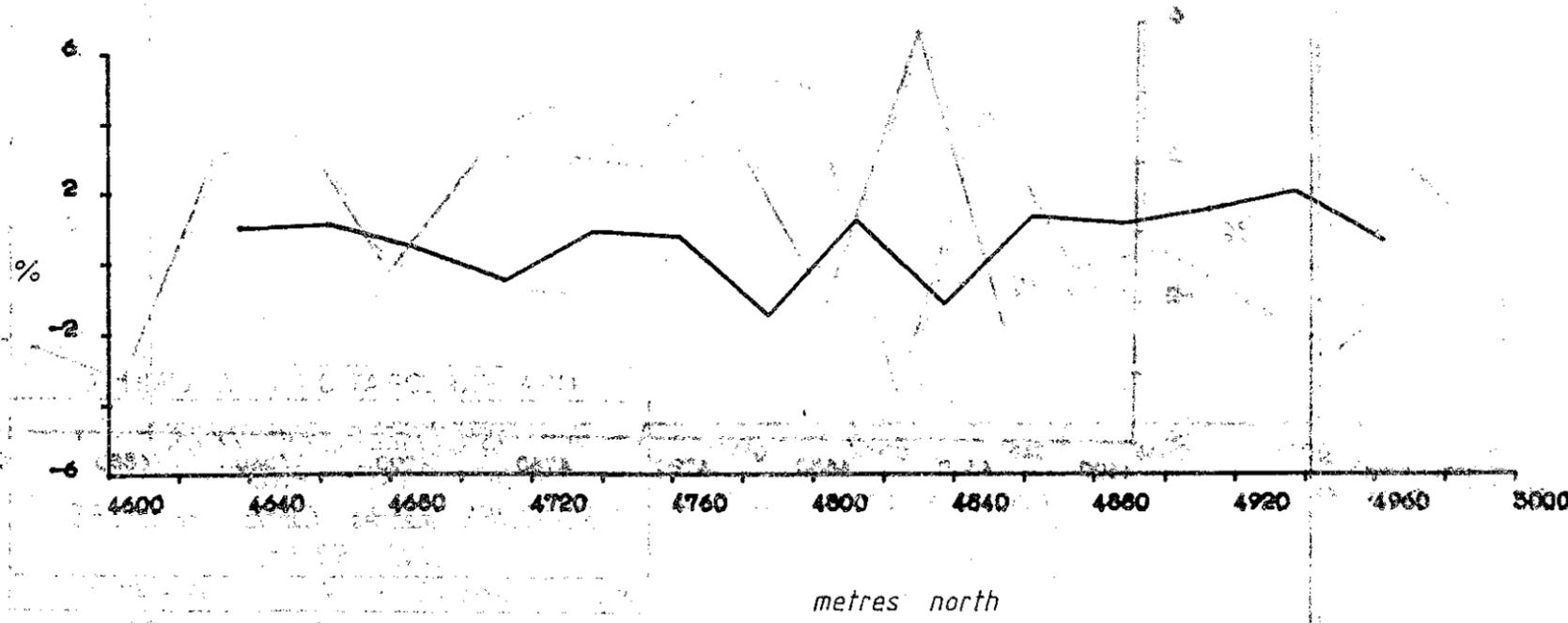


051

GOG RANGE GENIE PROFILES LINE 51E

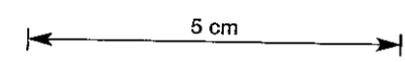


* N.B. *
Tx in North
Tx-Rx Separation 75m



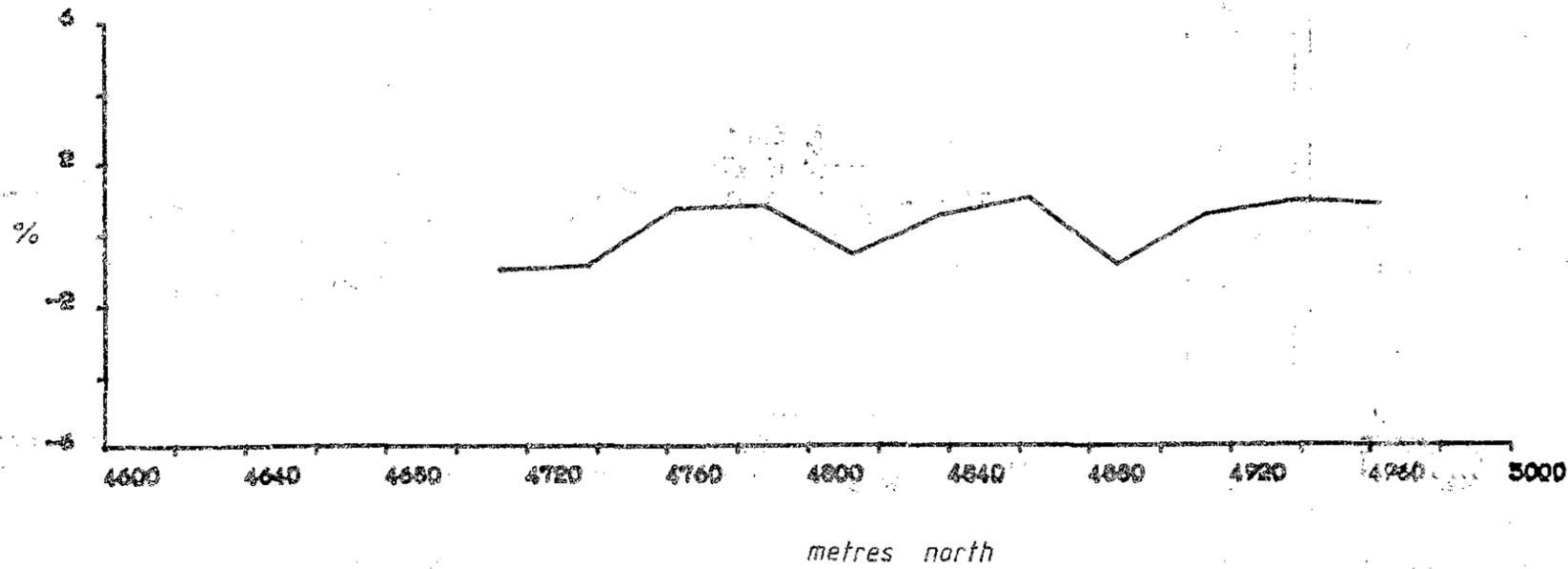
947065
87-2639

ORA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
GOG RANGE PROSPECT	
SCINTREX SE88 GENIE PROFILES	
LINE 51 East	
REF. SX55 - 3	(814 - 815)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.V.S.	REPORT No. 14326
DATE 22 - 7 - 1986	PLAN No. TAsn 3110

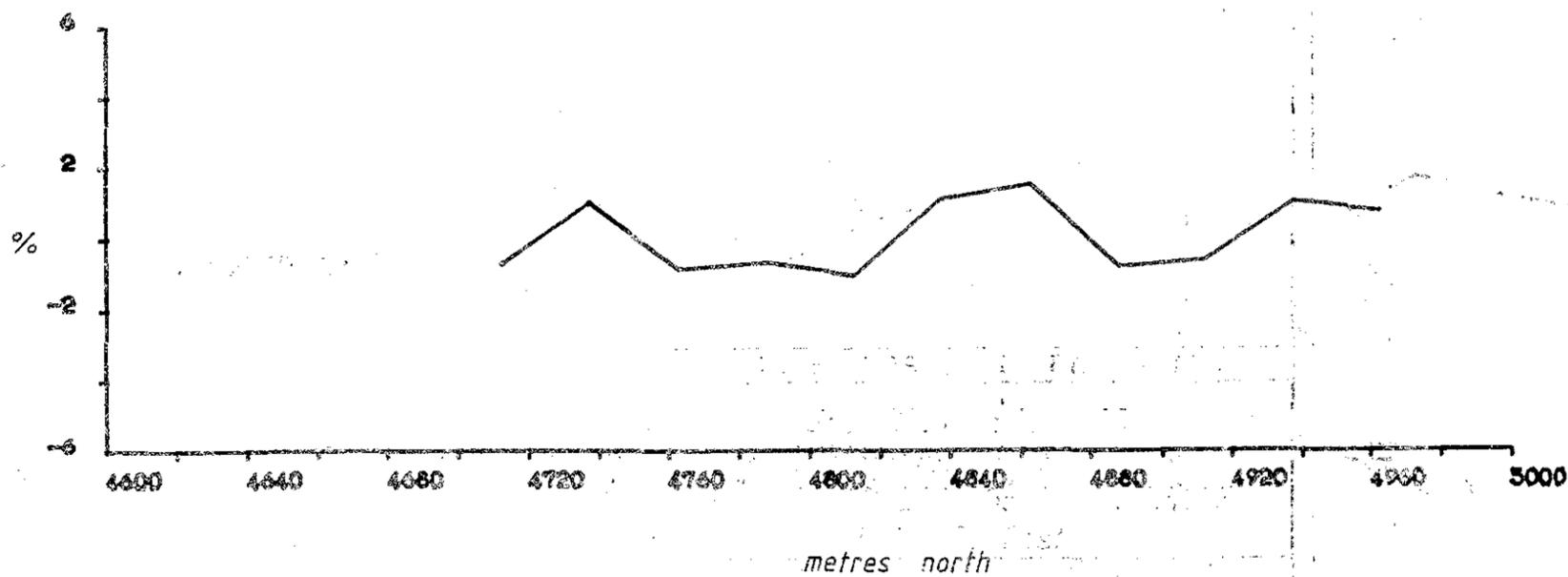


052

GOG RANGE GENIE PROFILES LINE 53E



* N.B. *
Tx in North
Tx-Rx Separation 75m



947066

87-2639

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
GOG RANGE PROSPECT	
SCINTREX SE88 GENIE PROFILES	
LINE 53 East	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 2000	DRAWN R.T.
AUTHOR T.v.S.	REPORT No. 14326
DATE 22 - 7 - 1986	PLAN No. TASH 3111

5 cm

053

5 420 000 mN

5 415 000 mN

5 410 000 mN

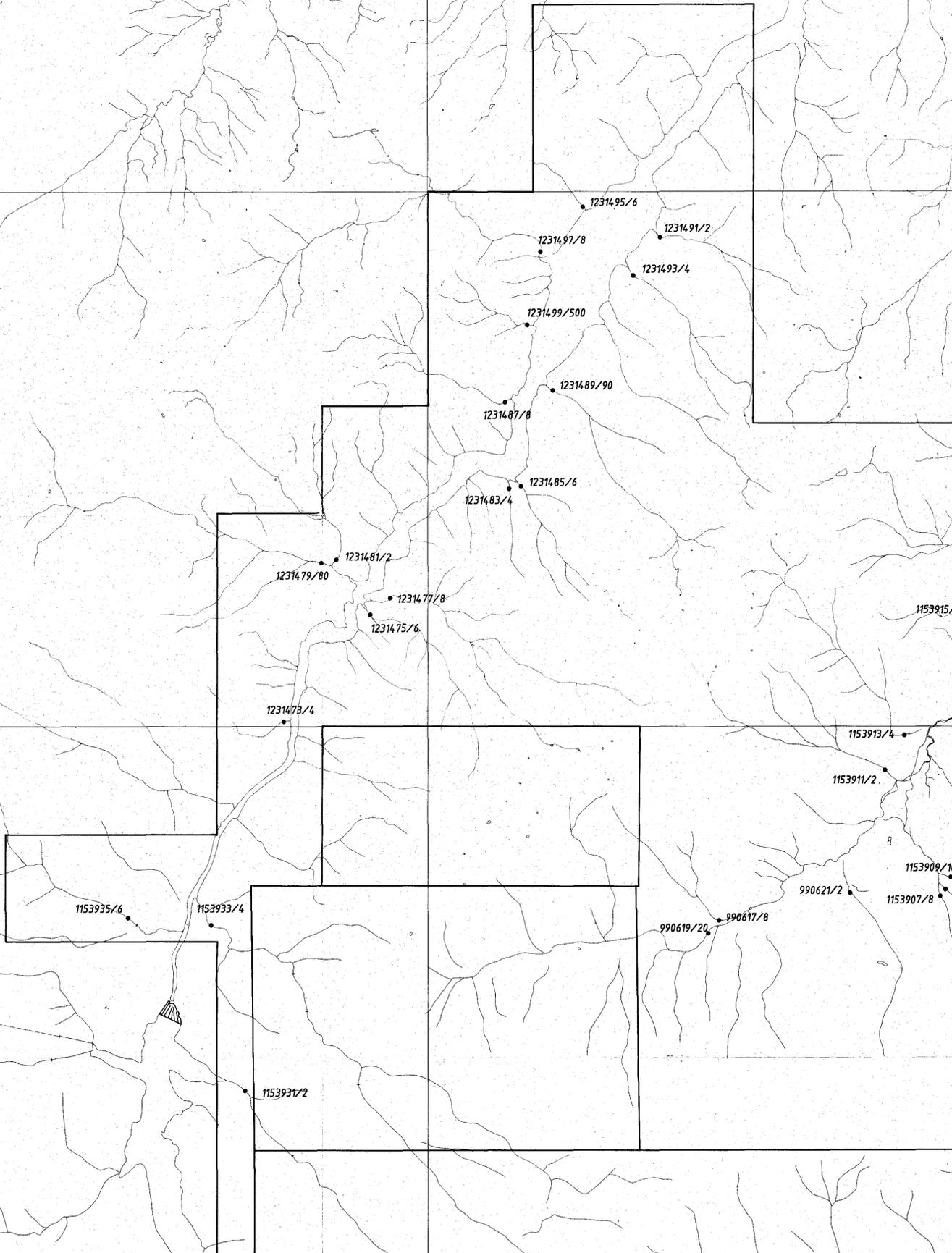
5 405 000 mN

425 000 mE

420 000 mE

425 000 mE

055

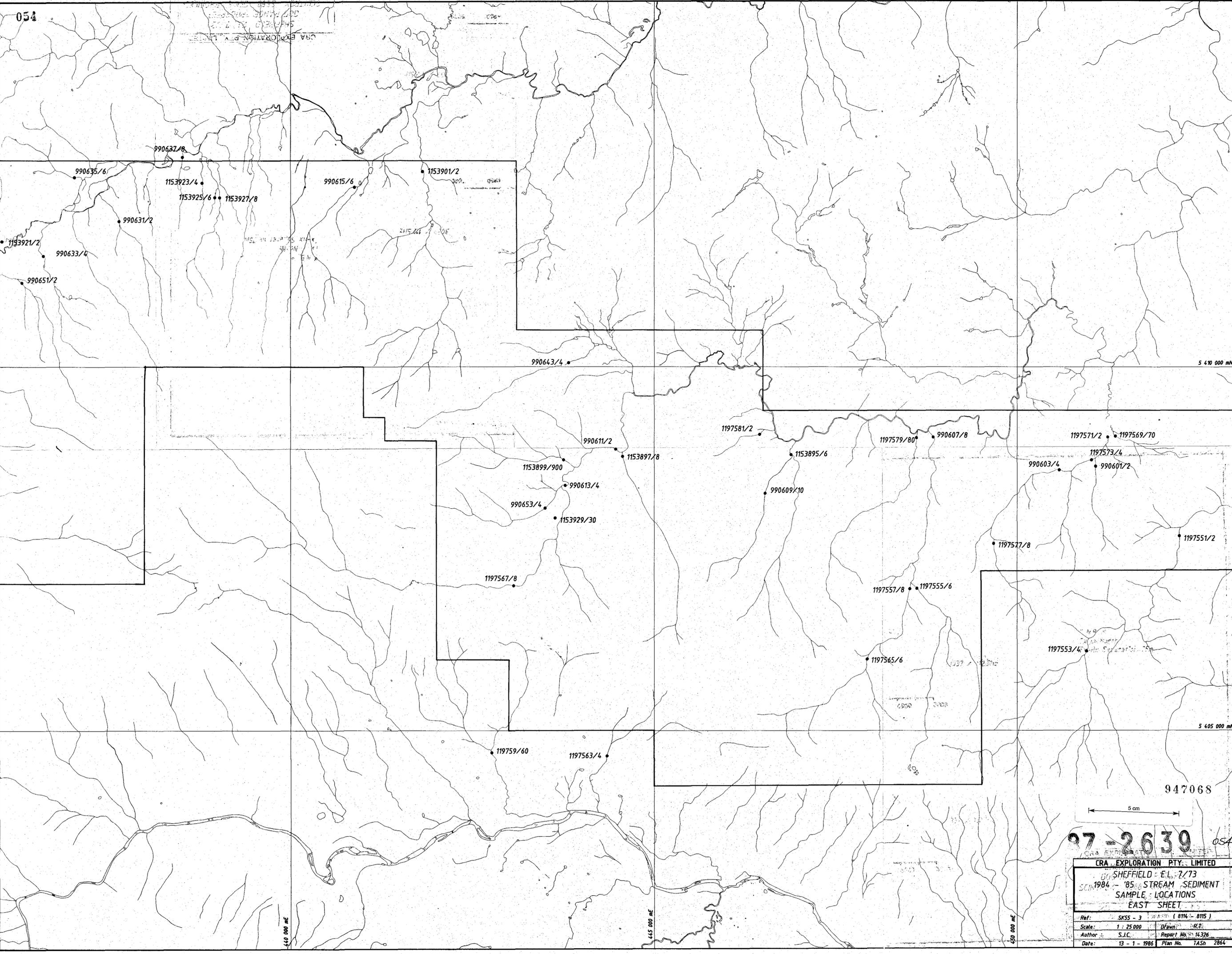


947067

87-2639 1

5 cm

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73			
1984 - '85 STREAM SEDIMENT			
SAMPLE LOCATIONS			
WEST SHEET			
Ref:	SK55 - 3	(8114 - 8115)	
Scale:	1 : 25 000	Drawn:	R.T.
Author:	S.J.C.	Report No.:	14326
Date:	13 - 1 - 1986	Plan No.:	TASH 2863



5 400 000 mN

5 405 000 mN

947068

5 cm

07-2639 054

CRA EXPLORATION PTY. LIMITED

SHEFFIELD - E.L. 7/73

1984 - '85 STREAM SEDIMENT

SAMPLE LOCATIONS

EAST SHEET

Ref:	SK55 - 3	(814 - 815)
Scale:	1 : 25 000	Drawn: R.T.
Author:	S.J.C.	Report No. 14326
Date:	13 - 1 - 1986	Plan No. TASH 2864