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CRA EXPLORATION PTY LTD

RAPID RIVER EL 1/79

REPORT ON THE REDUCTION OF LICENCE AREA

OPEN FILE

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REPORT NO: 13107

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1. SUMMARY

Airborne magnetic, radiometric and INPUT-EM surveys were used to interpret geology and to identify exploration targets within Rapid River EL 1/79. Ground follow-up of these geophysical anomalies failed to locate any evidence of mineralisation over large portions of the EL. Therefore these areas are being relinquished to comply with regulations requiring that the Licence area be reduced to less than 125 square kilometres.

2. INTRODUCTION

Rapid River EL 1/79 lies approximately 15 kilometres north of the township of Savage River and comprises 365 square kilometres. The Licence was originally granted to Geopeko with CRAE as a Joint Venture partner. In June 1983 Geopeko withdrew from the Joint Venture agreement and CRAE assumed sole title to the EL.

The Licence must be reduced to less than 125 square kilometres in April 1985; this report covers work conducted over those areas of the EL which will be relinquished (Plan TASH 2496).

The major geological feature of the area is the belt of Precambrian metamorphic rocks known as the Arthur Lineament. Due to the paucity of geological knowledge and the lack of access within the area it was decided to delineate prospects by an airborne magnetic and radiometric survey. This was flown in February 1982. INPUT-EM anomalies located by a 1973 Esso airborne survey were also identified as ground targets, some aerial photography and Landsat imagery interpretation was also attempted.

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Ground follow-up of the geophysical anomalies consisted of rock, soil and stream sediment sampling, and ground magnetometry. A large number of the anomalies proved to be caused by either Tertiary basalt or carbonaceous black shales/phyllites. No encouraging results were obtained from those areas of the EL which will be relinquished.

3. CONCLUSIONS

Interpretation and follow-up of magnetic anomalies showed that most were caused by Tertiary basalts which proved to be more widespread than suspected. Of the magnetic anomalies over Precambrian metasediments and metavolcanics, none tested within the relinquishment area yielded any anomalous geochemistry.

The INPUT-EM anomalies tested proved to be caused by Tertiary basalts and Precambrian black shales and phyllites. Only a selection of the more accessible anomalies over black shale/phyllite units could be tested; the lack of elevated geochemistry in these units mitigates against further follow-up of EM anomalies caused by these units.

No other targets within the relinquishment area have been recognised. The area is the least prospective within EL 1/79 and should be dropped from the Licence.

4. RECOMMENDATIONS

The portions of EL 1/79 shown on Plan TASH 2496 should be relinquished to enable the total remaining area of the Licence to be reduced to less than 125 square kilometres as required by Tasmanian Mines Department regulations.

5. GEOLOGY5.1 Description (Plan TASH 2500)

Because of the limited access, the geology of EL 1/79 is poorly understood. Broadly the area may be divided into three distinct provinces. Most prominent of these is the Arthur Lineament; a belt of middle greenschist facies metamorphics comprising quartz-mica schists, phyllites, some quartzites and, especially in the south, amphibolites and iron formations. The Savage River iron deposits occur within these amphibolites. In the north the rocks of the Lineament are known as the Keith Beds whilst in the south and east of the Lineament, thick sequences of quartz-mica schists and phyllites are referred to as the Whyte Schists. Carbonates occur at a number of localities within the Lineament, principally the Savage River and Arthur River magnesites and carbonates/carbonate schists of Specimen Reef and Golden Ridges, but no large carbonate horizons have been found within EL 1/79.

To the west of the Lineament lie relatively unmetamorphosed siltstones, shales and quartzites of the Precambrian Rocky Cape Group. Within the EL these appear to be equivalents of the Neasey Formation (Longman and Matthews 1961). The contact between these sediments and the Arthur Lineament metamorphics is transitional (Turner 1984).

East of the Arthur Lineament are found rocks of the Precambrian Burnie Formation (which may be correlates of the Oonah Formation). These mudstones and quartz-wackes are believed to be younger than the Rocky Cape Group. The nature of the boundary between the Burnie Formation and the Lineament has not been established.

Permian shales and mudstones occur overlying the Keith Beds in the north of the EL. They are also found in (?) downfaulted blocks at two localities in the south of the Licence.

Tertiary basalts occur over very large areas of the EL. Sub-basaltic Tertiary gravels are also found.

A photo-interpretation and Landsat image study resulted in a lineament map of the EL, however lack of access prevented extensive field checking and no geological interpretation has been attempted (Plan TASH 2502).

5.2 Discussion

The origin of the Arthur Lineament has not been established. Some of the theories proposed include:-

- That it is the result of a northwesterly compression of the Rocky Cape Group against an unyielding older Precambrian basement to the south-east.
- The Lineament represents a basin margin. The older Rocky Cape Group provided detritus which shed into a subsiding basin to the south-east forming the Burnie Formation. The basin margin, being a zone of rapid facies change, downwarping and possibly a locus for basic volcanism. The resulting lithologies and competency contrasts along this margin resulted in the higher metamorphic gradient during later deformation.
- A further possibility, noting the concentration of basic volcanics, now amphibolites, is that the Lineament represented a basic volcanic rise within an otherwise fairly quiet sedimentary basin. During

the Penguin Orogeny the basic component proved much more susceptible to metamorphism, producing the amphibolite schist belt, ie the metamorphic grade is linked to pre-existing lithological differences. Alternatively the basic volcanism was controlled by a major crustal feature which subsequently became the centre of tectonic deformation with maximum metamorphism along its axis.

6. GEOPHYSICS

6.1 Previous Geophysical Surveys

The area of the EL has been included in two previous airborne geophysical surveys. The first of these was an aeromagnetic survey flown for Rio Tinto Australian Exploration Pty Ltd in 1958. The survey was flown by Adastra-Hunting using east-west flight lines spaced at 800 metres. Sensor altitude was 150 metres (McCarthy 1958).

The second survey was an INPUT electromagnetic (EM) survey flown for Esso Aust Ltd by Geoterrex Ltd in 1973 (Neal 1974). Flight lines were east-west with 1600 metre spacing (some 800 metre infills) at an altitude of 150 metres. Aeromagnetic data was also recorded. Data from this survey has been replotted for use in this investigation; INPUT-EM anomaly locations are included on Plan TASH 2503.

The Tasmanian Department of Mines has recently completed an aeromagnetic survey of the west coast. Although the surveyed area does not include any of the Rapid River EL, it does adjoin its southern margin. As a result, the southern extension of the Arthur Lineament has been further clarified in a magnetic sense. The survey was flown by Geoex Ltd using east-west flight lines with a 500 metre spacing at a height of 135 metres.

Regional BMR gravity data is available for the entire area.

6.2 CRAE Geophysical Surveys

An aeromagnetic/radiometric survey was conducted over the EL in February 1982. The survey specifications were:-

Line Spacing	250 metres
Line Direction	East-West
Sensor Height	100 metres
Magnetometer Noise	1 nanoTesla
Crystal Volume	16,780 c.c.
Contractor	Austirex Int Ltd

Maps of total magnetic intensity (Plan TASH 2504) and total count radiometrics (Plan TASH 2505) were produced and a qualitative interpretation was produced (Plan TASH 2506). Magnetic anomalies were identified and were modelled to select targets for follow-up.

6.2.1 Magnetics - Interpretation

The dominant feature of the total magnetic intensity map (Plan TASH 2504) is the north-easterly trending belt of intense magnetic highs associated with the Arthur Lineament. A major magnetic marker horizon within the southern portion of the belt is indicative of the Cambrian amphibolites in which the Savage River magnetite deposits occur 20 kilometres to the south. A repeat of this occurs to the west on the southern edge of the map. Department of Mines aeromagnetism indicates that this horizon is the western limb of a bifurcation which occurs 5 kilometres to the north of the Savage River Mine.

The amphibolite zone appears to terminate about one kilometre south of a major north-west trending fault - the Rapid River Fault - along which the Rapid River flows. Amphibolites may continue, at depth, to the north along the well defined linear magnetic feature seen there. However, this would require a transcurrent fault movement of at least 3 kilometres, which is not seen in other features transected by the fault. In addition, the character of the anomaly has changed; to the north it appears to be caused by two distinct parallel horizons which would necessitate either the reappearance of the western limb seen in the south, or further structural complications.

The magnetic character of the lineament is further complicated by the presence of widespread Tertiary basalts. These basalts appear to contain a reversed remanent magnetization giving rise to predominantly negative magnetic anomalies. This would suggest that these basalts are of the same age as that seen at Mt Bischoff.

To the west of the Lineament a swarm of dolerite dykes trending north-south are the major feature in a relatively quiet magnetic area. The significance of the dyke-like anomaly in the north-west corner of the area is unknown at this stage. Its intensity and size are markedly different from other dykes seen in the area.

Similarly the magnetic activity in the north-north-west corner of the area cannot be attributed to anything until field investigations are carried out. It may be associated with the Lineament, but the relationship is not clear.

Magnetic activity to the east of the Lineament is confined to areas with Tertiary basalt cover. One exception to this is in the south-east corner of the area where a steep magnetic gradient indicates the presence of a major change in lithology in the Permian.

6.2.2 Radiometrics - Interpretation

Although it was not expected that radiometrics would show marked relief over the area, it was included in the survey to maximize information and aid in magnetic target evaluation. Indeed, the range in gamma counts in the four channels was not large: 12 to 262 c.p.s. in total count, 0 to 72 c.p.s. in potassium, 0 to 36 c.p.s. in uranium, and 0 to 47 c.p.s. in thorium. The total count and potassium channels proved most useful in the interpretation process, possibly due to their higher relief.

A major problem in radiometrics, pertinent to this locale, is the attenuation of gamma rays by soil, water, and vegetation cover. As the survey was carried out in February, attenuation by water soaked soils is minimal, but not by any means insignificant as the area is never really dry. Vegetation varies from grass plains to myrtle and eucalypt forests with up to 100% crown cover. The relationship between vegetation cover (from Forestry Commission photo-interpretation) and count rate is not clear. Some areas of grass plains show a high count rate while others do not. The relationship in forested areas is even less predictable.

Given the obvious limitations of radiometric data from an area such as this, the following observations could still be made from the data:-

- (a) all major rivers, creeks and watersheds show as high counts in all channels. This may be due to the increase in exposed outcrop along the deeply incised river valleys or the presence of accumulations of weathered out minerals (such as monazite and micas);
- (b) in general, all channels are sympathetic as can be seen from the raw data correlation matrix:

	U	Th	K
U	1.0		
Th	0.65	1.0	
K	0.67	0.75	1.0

- (c) Tertiary basalts show as low counts on all channels, but particularly the potassium channel. Generally $U > Th > K$;
- (d) the Arthur Lineament is typically potassium deficient along its entire length and thorium deficient towards the south. This is surprising as one would expect a high potassium count from the mica schists present in the Lineament. The presence of basalts may be swamping the signal, however. In general $U > Th > K$ south of the Rapid River Fault whilst $Th > U > K$ north of it;

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- (e) rocks to the west of the Lineament tend to be very potassic and may reflect the marine character of these sediments. Generally $K > Th > U$;
- (f) sedimentary sequences to the east of the Lineament are bimodal; a wedge of rock on the eastern boundary of the Lineament is potassium rich with $K > U > Th$, whilst the rest have $Th > U > K$;
- (g) the Permian sequences tend to have $Th > K > U$;
- (h) a number of well defined radiometric highs and lows occur in the west. These may be attributable to sequences of sandstones and shales.

One of the more interesting regional features in the area is the effect of the Rapid River Fault on the Lineament. The gross character of the Lineament changes from uranium rich and magnetically intense in the south to thorium rich and magnetically subdued in the north. There is not immediate explanation for this observation, but it does show the fault is a fundamental structure of some importance.

Also, in the south radiometrics suggests that the margin of the Lineament extends further west than the magnetics indicate. It should be pointed out, however, that the presence of surficial basalts may distort the picture.

6.2.3 Magnetic Modelling

Aeromagnetic anomalies selected for ground follow-up (Plan TASH 2503) were modelled using inversion techniques prior to field work commencing.

All modelling was carried out by MAGMOD, a CRAE magnetic inversion programme. Anomalies were inverted to three basic models; the tabular body (2D dyke with infinite depth extent), the ribbon body (2D dyke with limited depth extent and width less than depth of burial), and the horizontal ribbon (to simulate Tertiary basalts). Table 1 lists the "most probable" parameters for the causative bodies derived from these inversions whilst Appendix 1 contains the abridged programme outputs.

The inverted model parameters were used to provide a rough priority guide to anomaly follow-up and to disqualify anomalies with undesirable characteristics.

6.2.4 Tertiary Basalt Magnetic Properties

Two orientated samples of Tertiary basalts collected from the pipeline road were sent to the CSIRO for remanence measurements. These were needed to assist in the interpretation of the modelling results. The following were obtained:-

AMG	CO-ORDS	k(cgs)	J(nT)	Q
352825mE	5418750mN	0.00072	178.0	4.0
353325mE	5420225mN	0.00114	405.0	5.7

The direction of the remanent magnetisation was found to be almost parallel to the earth's present magnetic field. This would therefore mean that the apparent (effective) induced magnetisation would be the product of the magnetic susceptibility (k) and the Koenigsberger ratio (Q).

6.3 Target Selection

The results of the qualitative interpretations and of the magnetic modelling were integrated with the INPUT-EM results which had been re-evaluated from Esso's 1973 analogue charts. Targets were then selected for follow-up, being ranked in order of priority as:-

- coincidental or adjacent magnetic and INPUT-EM anomalies
- magnetic anomalies with no obvious basalt source
- INPUT-EM anomalies with no obvious basalt source

The INPUT-EM anomalies in isolation were given a fairly low priority because Esso's work suggested that most were caused by carbonaceous shales, Tertiary basalt or surficial water logged clays. However, in view of the possibility of shale hosted Pb-Zn mineralisation it was considered worthwhile to examine as many of the more accessible anomalies as possible.

7. FOLLOW-UP RESULTS

Initial follow-up procedures involved interpretation of aerial photography and Landsat imagery, plus compilation of the previously known geology of the area. This resulted in a guide to the probable distribution of Tertiary basalts and orientation and position of interesting lineaments. Tertiary basalt cover was interpreted to be greater than previously suspected from the aeromagnetic interpretation and accounts for most of the magnetic responses in the EL.

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Follow-up consisted of:-

- (a) Satisfaction that the anomaly was not basalt-caused (by modelling and plotting onto photo-interpretation map),
- (b) Lithology identification,
- (c) Soil and rock chip sampling,
- (d) Ground magnetometry,
- (e) Magnetic susceptibility measurements, and
- (f) General geologic mapping.

Ground magnetometry was not done over basalt covered areas.

Access to the anomalies was principally by blazed trail off the pipeline road or, where possible, by helicopter. Helicopter follow-up was confined to the anomalies occurring on, or adjacent to, button grass plains and low ti-tree stands. Approximately 18 kilometres of tracks were cut.

7.1 Arthur CQ66431Q approx.

Photo-interpretation and modelling indicate that this anomaly is caused by Tertiary basalts.

7.2 Clearwater CQ576254 approx

Field checking located Tertiary basalts (0.0002 - 0.0008 c.g.s.) at the site of this anomaly.

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7.3 Dolsow/INPUT-EM 4009/10760 *NCO482206*

Field checking located a medium grained basic igneous rock (0.0002 - 0.0004 c.g.s.) at the anomaly's site. Thin section studies confirmed the rock to be fresh dolerite. This is regarded as being the source of the anomaly. Sample numbers 988558 to 561 were collected. No anomalous metal values were recorded.

Thin section description (988558, this report) reads like Tertiary basalt.

7.4 Dolwest

The Dolwest anomaly was picked as a "type" anomaly for the Cambrian dolerite dykes which occur in the west of the EL. There is no economic significance attached to them at this stage.

7.5 Latlong

?Ray Creek area (NCO576354?)

No obvious source for the anomaly was found during field checking.

The dominant lithology in the target area is a siltstone (0.0001 c.g.s.). Stream sediments and soil samples were taken; analyses revealed up to 1400 ppm Ba in soils and 40 ppm Sn in rock samples. No anomalous base metal values were detected (Sample numbers 988497 to 551). The cause of the magnetic anomaly remains unknown. No further work was carried out as the anomaly lies just outside the EL boundary.

7.6 Savage River North *(NCO605243)*

Field checking revealed Tertiary basalts (0.0002 - 0.0006 c.g.s.) to be the cause of this anomaly (sample numbers 988502 and 503).

7.7 Savtren (NCO512197)

Field checking found laterite (0.0001 - 0.0002 c.g.s.) phyllite (0.0002 - 0.0006 c.g.s.), and very weathered massive amphibolite or dolerite (0.0003 - 0.0016 c.g.s.). No anomalous metal concentrations were detected in samples of any of these lithologies (sample numbers 988462 to 467).

In view of these observations and the modelling it is considered that the anomaly is caused by a magnetic dolerite dyke or amphibolite body hosted within phyllites of the Precambrian Whyte Schists.

7.8 Trapid (NCO547319)

The response is a large feature (4 Km strike length) and is probably caused by an amphibolite or dolerite dyke. This interpretation precluded further follow-up.

7.9 Trapid North (NCO544331)

Photo-interpretation indicates the anomaly resides at the southern end of a lithologically controlled sinuous ridge. A series of fractures, orthogonal to strike and parallel to a major NE-SW feature to the south, are coincident with it. Whilst modelling suggests a possible basalt source the anomaly is not well fitted.

7.10 Wridge/INPUT-EM 3737/10640 (CO492254)

Initial follow-up has revealed the magnetic anomaly to reside over a moderately thin (<50 metres) black shale horizon forming a low topographic ridge. A line of soil samples returned maximum metal values of 105 ppm Cu and 45 ppm Zn. Mn values were anomalously low (<20 ppm). Sample numbers 988481 to 488.

7.11 Sedge/INPUT-EM 813/10760

(SCQ634216)

Photo-interpretation suggested a basalt cover over the area of the magnetic anomaly, however the coincidence with the EM anomaly warranted field checking. A vegetation anomaly is also evident over the magnetic anomaly.

Ground checking confirmed that Tertiary basalts are the cause of the anomaly; it appears that the intensity of the magnetic response probably reflects a plug-like basalt feeder.

7.12 Rapid East/INPUT EM 2966/1040 (Plan TASH 1653)*Trautten quadrangle*

Reconnaissance visits by helicopter established no obvious cause for the magnetic anomaly. The presence of the EM anomaly to the east of the magnetic feature was cut over the anomaly.

Soil, rock and stream sediment sampling plus ground magnetics was carried out over the grid.

7.12.1 Geology

The area is underlain by a suite of quartz-chlorite/sericite schists and phyllites. Outcrop is poor due to extensive quartz-lag and/or sheetwash gravel cover. The general strike of the metamorphic fabric is NNE-SSW and dips are steep. Bedding and facing directions are uncertain.

Initial examination suggested that these metamorphics were metasediments. However, petrological examination of a typical quartz-chlorite schist (Appendix II, sample 988648)

showed that it was probably a basic lava/intrusive or pyroclastic which was thoroughly altered to quartz, chlorite and leucoxene prior to metamorphism to its present state. The significance of the pre-metamorphic alteration is unclear. As the sample was chosen as representative of the schists in general, it seems probable that many or all of these schists are of volcanic or volcanoclastic origin.

The phyllites have not been examined petrologically but appear to be meta-argillites.

7.12.2 Geophysics (Plan TASH 1647)

Ground magnetics indicate that the anomaly is more confined than suggested by the aeromagnetics; the overall pattern of high frequency linear highs and lows suggests a N-S shear zone and that the depth to the magnetic source is probably less than 50 metres.

The EM anomaly has no magnetic response and is probably caused by the dark grey phyllites/shales which occur in the area of the anomaly.

7.12.3 Geochemistry (Plans TASH 1645-1646)

For that part of the grid sampled to date, power augering was required to recover C-horizon soil samples from beneath the quartz gravel cover. Samples were analysed for Cu, Pb, Zn, Co, Ag, Ni, Cr and As by AAS, plus Ba, Mo, Sn and W by XRF.

Results were disappointing (Appendix III) the only anomalous value being 180 ppm As (4350E 5000N). No elevated metal values were recorded

in any of the rock or stream sediment samples collected over the grid. This lack of geochemical anomalism terminated exploration of the prospect.

7.13 INPUT-EM Anomaly 2450/10360 (Plan TASH 1653 and 1654)

Trounquin quadrangle

One reconnaissance line of soil sampling was completed over this anomaly. Augering revealed that the area is underlain by phyllitic slates and quartz-sericite schists. Tertiary basalts occur slightly to the east of the anomaly and may be the cause of the EM response.

Soil sample analyses reported cobalt up to 70 ppm Co but no other high metal values (Appendix III). A stream sediment and pan concentrate sample collected from a creek draining the area returned slightly elevated tungsten values (20 ppm W and 40 ppm W respectively).

The lack of geochemical response and the strong possibility that the adjacent basalt may be the source of the anomaly did not justify further work.

7.14 INPUT-EM Anomalies 2953/10440, 2933/10440 and

555/10480 (Plan TASH 1653) *Trounquin Quadrangle; except last which is near edge close to Pipeline Rd.*

Field checking located Tertiary basalts at the sites of these anomalies. This confirmed photo-interpretation which also indicates that anomaly 542/10480 is another Tertiary basalt anomaly.

7.15 INPUT-EM Anomalies 2166/10561, 2599/10660 and
973/10700

These anomalies all lie on or close to the Pipeline Road. Tertiary basalts at these sites (or the pipeline itself) are the cause of these anomalies.

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7.16 INPUT-EM Anomaly 2477/10360 (Plans TASH 1653, 1657 and 2480)

Traverser quadrangle

This anomaly is located over a button-grass ridge with quartz gravel cover and surface float of quartzites. A small grid was established over the anomaly.

All outcrops and augered bedrock proved to be weathered buff-grey-green phyllites and light grey-green quartz-chlorite-muscovite schists. Bedding (?) strikes N-S and dips at 40°-50° to the west. No obviously graphitic or pyritic facies which would explain the anomaly, were located.

No encouraging base or precious metal values were recorded from any rock or soil samples collected over the grid. No further work is warranted.

7.17 INPUT-EM Anomaly 2465/10360 (Plans TASH 1653, 1655, 1656 and 2481)

Traverser quadrangle

This anomaly was attributed by Esso to black graphitic shales during their follow-up programme, but no sampling was reported. To test these shales a reconnaissance grid was therefore established over the anomaly and soil samples collected.

The anomaly is located over a button-grass ridge with extensive quartz gravel cover. Power augering was required to obtain suitable C-horizon samples and to provide bedrock information.

Exposures are restricted to thin quartzite units on the steeper eastern slopes of the ridge. Augering revealed that the ridge is underlain by light grey-green phyllites or slate/shales, usually sericitic and/or talcose. No evidence of a black graphitic facies was obtained.

West of the ridge surficial cover thickens but it appears that quartzites dominate the sequence with subordinate phyllites. Regional strike is NNW-SSW, dip appears to be steep, westerly.

Soil samples were all analysed for Cu, Pb, Zn, Co, Ag, Mn and As, in addition Sn, W, Fe and Ba were determined in some of the samples (Appendix III). These results show elevated tungsten value of up to 130 ppm W but all other metal levels are uniformly low. No further work was considered necessary in view of this lack of geochemical anomalism.

7.18 INPUT-EM Anomaly 2880/10400 (Plan TASH 1653)

Transverse quartzite

Phyllites and quartz-mica schists occur at the site of this anomaly. Stream sediment samples from the creek draining the area revealed low metal values (Appendix III). No further work was carried out.

7.19 INPUT-EM Anomalies 3372/10560, 3369/10560, 2215/10561, 3459/10600 and 3457/10600

CQ528292 537291?
523291 513274
516275

The anomalies all lie along what is interpreted as a belt of shales/phyllites interbedded with the ortho-quartzites which form the prominent ridges of and adjacent to, Mt Bertha.

Access to this area is only possible by helicopter, therefore a reconnaissance stream sediment sampling programme to rapidly test these anomalies was carried out.

On the ground, dark grey shales and slates were found, some being slightly pyritic. No samples contained any high base or precious metal values. The drainage samples likewise reflected a low metal background (Appendix III).

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It was concluded that the EM anomalies accurately delineated a black shale belt but that this belt was not mineralised. For this reason none of the less accessible anomalies in the belt were sampled.

7.20 INPUT-EM Anomaly 2410/10320

Trowutta quadrangle

Field checking located a small inlier of black phyllitic shale surrounded by Tertiary basalt and gravels. No anomalous metal values were recorded from the phyllites and no further work was carried out.

8. REFERENCES

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9. LOCATION

Burnie 1:250 000 Sheet SK55-3

10. KEYWORDS

Geophysics - aeromagnetics, ground magnetics, radiometrics, electromagnetics, INPUT.

Geology - Arthur Lineament, Whyte Schists, Keith Beds, iron formation, magnesite; Rocky Cape Group, Neasey Formation; Burnie Formation; Oonah Formation; Geochemistry - soil, rock, stream sediment.

11. LIST OF PLANS

<u>Plan No</u>		<u>Scale</u>
TASh 842	Locality Plan Rapid River EL 1/79	1:2 000 000
TASh 2496	Rapid River EL 1/79 Areas to be Relinquished April 1985	1:50 000
TASh 2500	Rapid River EL 1/79 Geological Interpretation	1:50 000
TASh 2502	Rapid River EL 1/79 Photo Lineament Interpretation	1:50 000
TASh 2503	Rapid River EL 1/79 (Relinquished Areas) INPUT-EM and Aeromagnetic anomaly locations	1:50 000
TASh 2504	Rapid River EL 1/79 (Relinquished Areas) Total Magnetic Intensity Map	1:5 000

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<u>Plan No</u>		<u>Scale</u>
TASh 2505	Rapid River EL 1/79 (Relinquished Areas) Total Count Radiometrics	1:50 000
TASh 2506	Rapid River EL 1/79 (Relinquished Areas) Qualitative Interpretation Map	1:50 000
TASh 1653	Rapid River EL 1/79 Location Plan, Stream Sediment Sample Sites and Follow- Up Lines, INPUT-EM Anomalies 2450/10300, 2477/10360, 2465/10360	1:25 000
TASh 1645	Rapid River EL 1/79 Rapid East Aero- magnetic Anomaly, Sample Location and Grid Plan	1:5 000
TASh 1646	Rapid River EL 1/79 Cu, Pb, Zn Geochemistry	1:5 000
TASh 1647	Rapid River EL 1/79 Ground Magnetism	1:5 000
TASh 1654	Rapid River EL 1/79 INPUT-EM Anomaly 2450/10360 Geochemistry and Geology Line 5000N	1:2 500
TASh 1655	Rapid River EL 1/79 INPUT-EM Anomaly 2465/10360 Geochemistry and Geology Line 5000N	1:2 500
TASh 1656	Rapid River EL 1/79 INPUT-EM Anomaly 2465/10360 Geochemistry and Geology Lines 4850 and 5150N	1:2 500
TASh 2481	Rapid River EL 1/79 INPUT-EM Anomaly 2465/10360 Geochemistry and Geology Line 4850N	1:2 500

026

225027

<u>Plan No</u>		<u>Scale</u>
TASh 1657	Rapid River EL 1/79 INPUT-EM Anomaly 2477/10360 Geochemistry and Geology Line 5000N	1:2 500
TASh 2480	Rapid River EL 1/79 INPUT-EM Anomaly 2477/10360 Geochemistry Line 5150N	1:2 500

12. LIST OF TABLES

Table 1 Magnetic Anomaly Parameters

13. LIST OF APPENDICES

- Appendix I Inversion Modelling of Aeromagnetic Anomalies
- Appendix II Petrological Reports
- Appendix III Sample Ledgers

027

TABLE 1 - MAGNETIC ANOMALY MODEL PARAMETERS

Name	Fit	Mag	Depth	Dip	Width	Dep Ext	Comments
Arthur	.0875	1.013*	345	0	-	45	Prob. Bas.
Clearwater	.1601	0.751*	152	31W	-	944	
Dolsow	.0932	.0017	28	60W	192	565	Poss. Dol.
Dolwest	.0504	.0003	40	70W	150	534	Prob. Dol.
Latlong	.0507	.0002	0	38E	118	-	
Savage R Nth	.1136	.0013	0	12W	78	1993	Prob. Bas.
Savtren	.1286	.0766	98	84W	20	2000	
Sedge	.1187	.8685*	95	0	-	351	Poss. Bas.
Trapid	.0582	.5955*	297	69W	-	2000	
Trapid Nth	.1064	.0027	0	3W	268	-	Poss. Bas.
Wridge	.0364	.0346*	17	5E	-	165	Prob. Bas.

NOTES

* Mag - Magnetic Susceptibility x Width

Where the TABULAR and RIBBON models gave near identical results and fits both the "WIDTH" and "DEPTH EXTENT" parameters are quoted, the other parameters are averaged from the two fits.

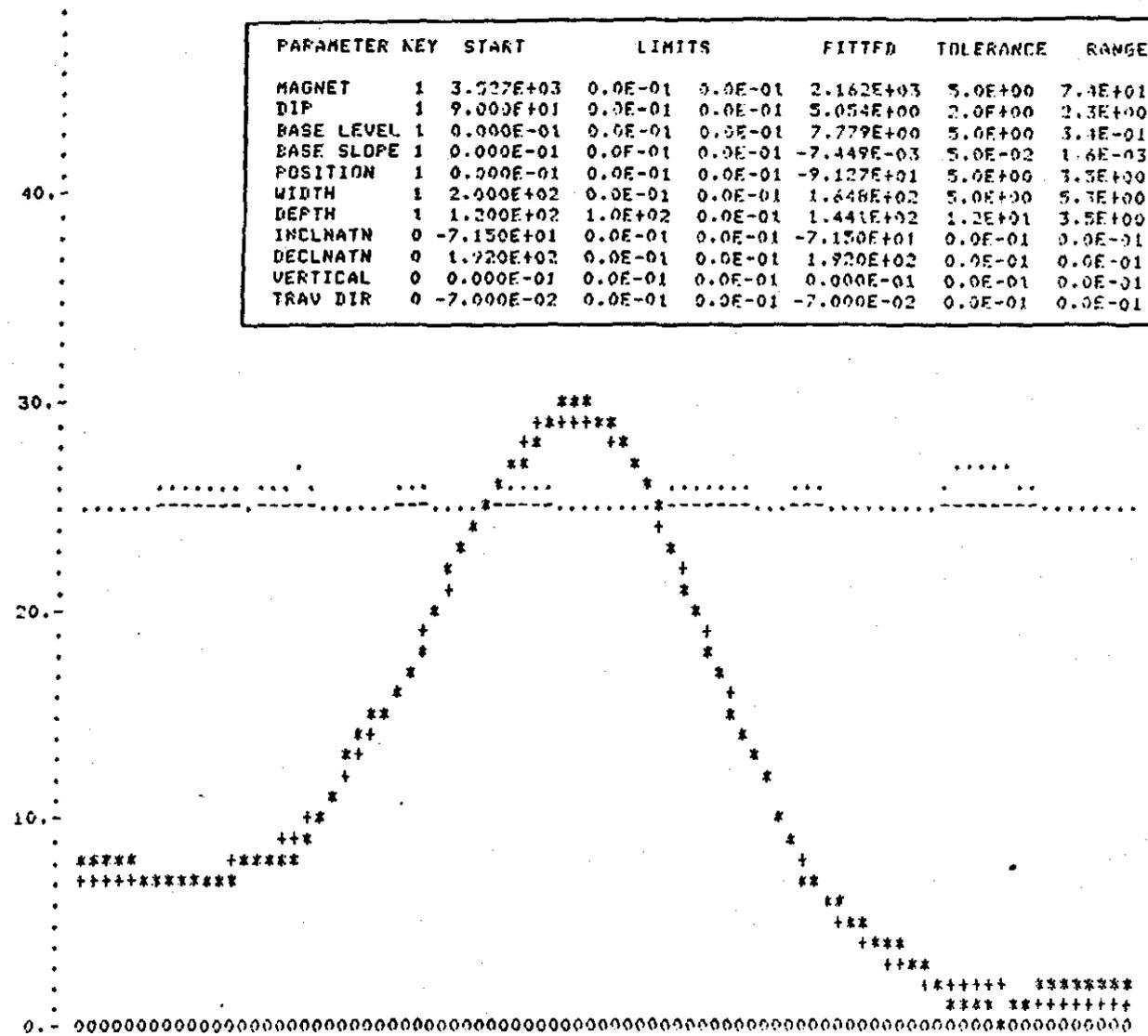
225028

APPENDIX I

INVERSION MODELLING OF
AEROMAGNETIC ANOMALIES

MAGMOD PLOT OF FIT 1

PARAMETER KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.527E+03	0.0E-01	0.0E-01	2.162E+03	5.0E+00 7.4E+01
DIP	1	9.000E+01	0.0E-01	0.0E-01	5.054E+00	2.0E+00 2.3E+00
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	7.779E+00	5.0E+00 3.4E-01
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	-7.449E-03	5.0E-02 1.6E-03
POSITION	1	0.000E-01	0.0E-01	0.0E-01	-9.127E+01	5.0E+00 3.5E+00
WIDTH	1	2.000E+02	0.0E-01	0.0E-01	1.646E+02	5.0E+00 5.7E+00
DEPTH	1	1.200E+02	1.0E+02	0.0E-01	1.441E+02	1.2E+01 3.5E+00
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01 0.0E-01
DECLNATN	0	1.920E+02	0.0E-01	0.0E-01	1.920E+02	0.0E-01 0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01 0.0E-01
TRAV DIR	0	-7.000E-02	0.0E-01	0.0E-01	-7.000E-02	0.0E-01 0.0E-01



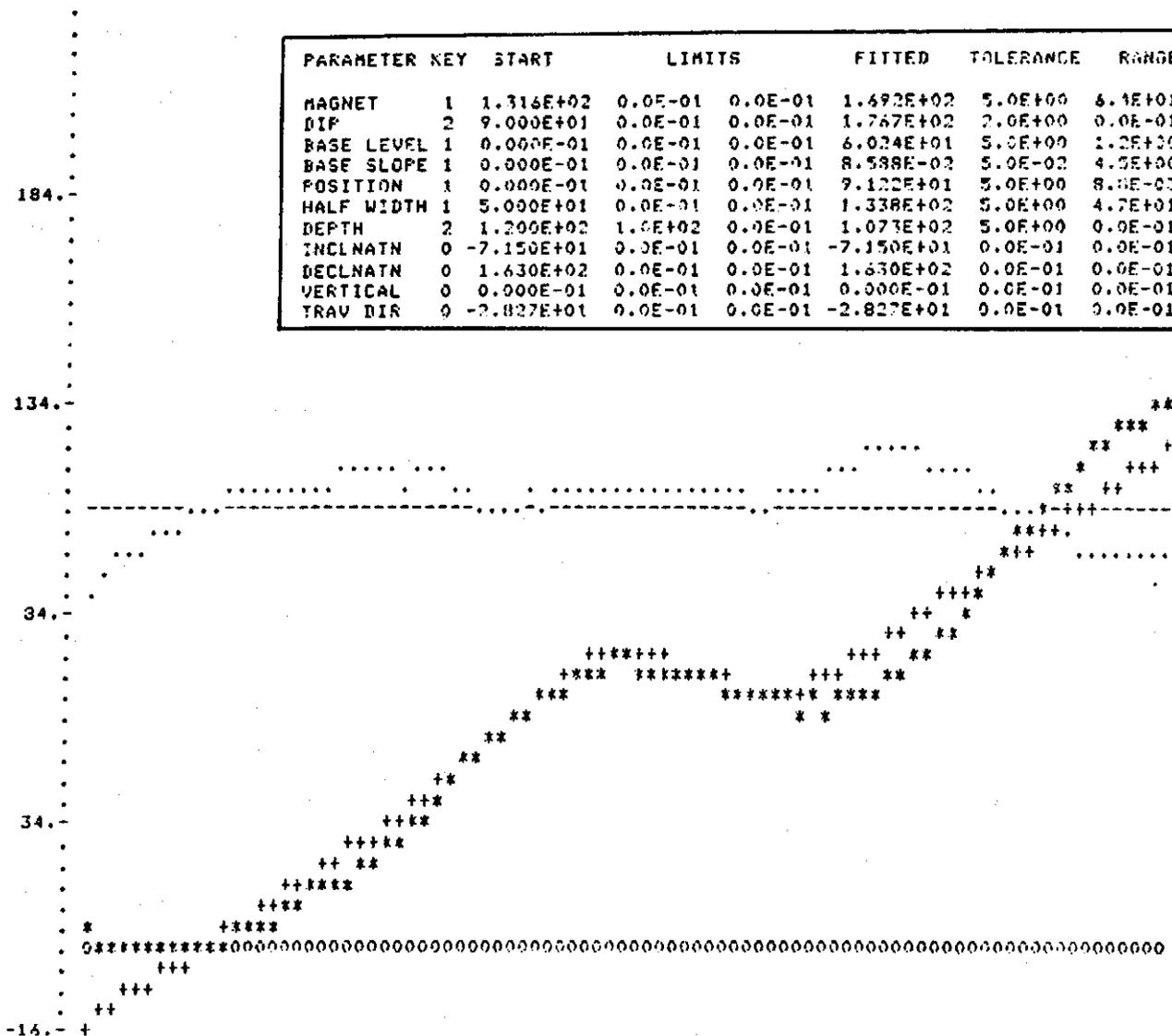
MODEL RIBBON

TITLE WRITER2

NUMBER OF STATIONS 85 MAX AMPLITUDE 29. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 1.0 GRAMMS PER LINE.
 FIELD DATA CURVE...%*% FITTED CURVE...%*% ERROR CURVE...%*%
 NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0364 PARFIT FLAG 2 ERROR CURVE DATUM 25.150

MAGMOD PLOT OF FIT 1

PARAMETER KEY	START	LIMITS		FITTED	TOLERANCE	RANGE	
MAGNET	1	1.316E+02	0.0E-01	0.0E-01	1.692E+02	5.0E+00	6.4E+01
DIP	2	9.000E+01	0.0E-01	0.0E-01	1.767E+02	2.0E+00	0.0E-01
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	6.024E+01	5.0E+00	1.2E+00
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	8.588E-02	5.0E-02	4.0E+00
POSITION	1	0.000E-01	0.0E-01	0.0E-01	9.122E+01	5.0E+00	8.0E-03
HALF WIDTH	1	5.000E+01	0.0E-01	0.0E-01	1.338E+02	5.0E+00	4.7E+01
DEPTH	2	1.200E+02	1.0E+02	0.0E-01	1.073E+02	5.0E+00	0.0E-01
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01	0.0E-01
DECLNATN	0	1.630E+02	0.0E-01	0.0E-01	1.630E+02	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	-2.827E+01	0.0E-01	0.0E-01	-2.827E+01	0.0E-01	0.0E-01



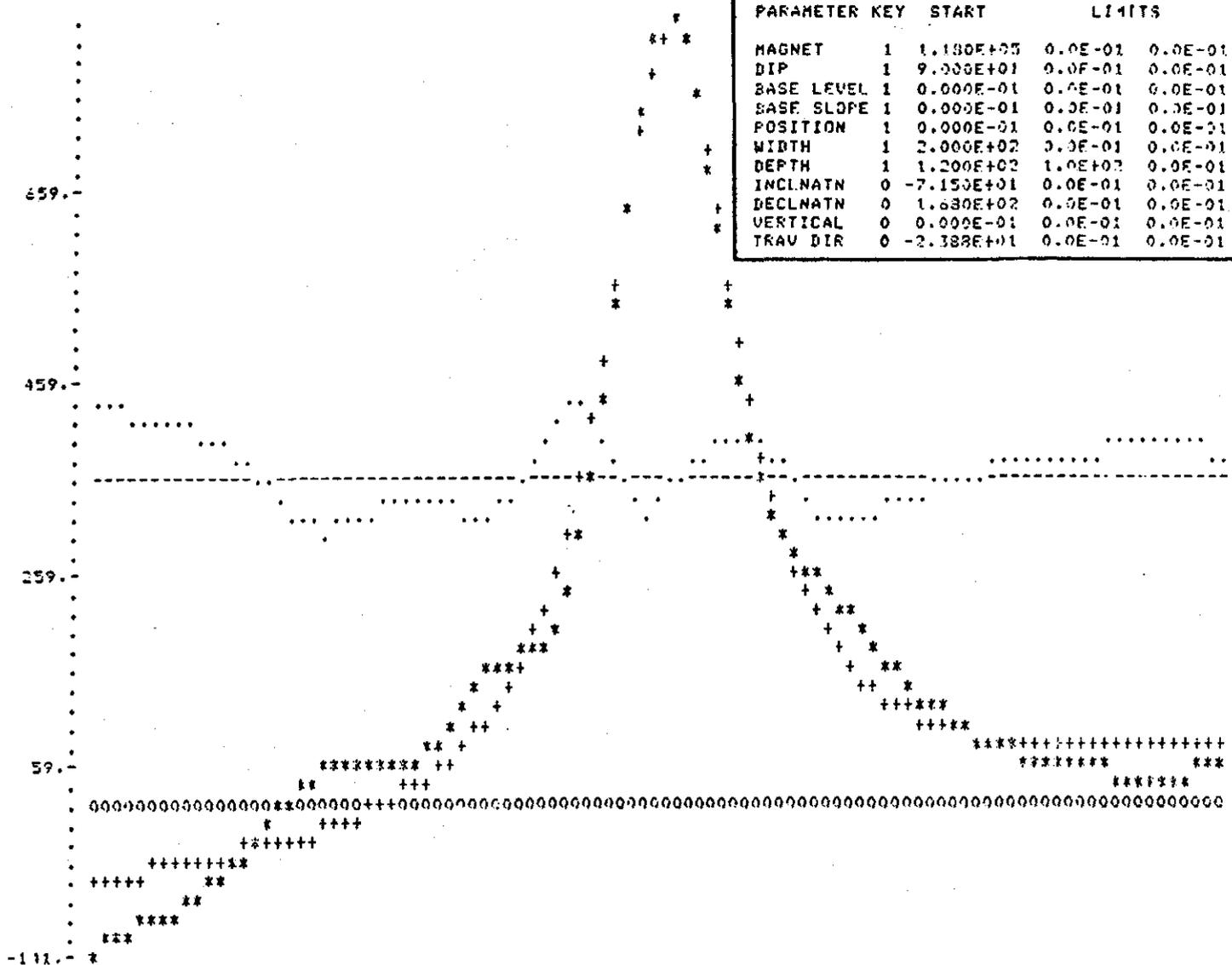
MODEL TABULAR

TITLE TRAPIANO

NUMBER OF STATIONS 87 MAX AMPLITUDE 100. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 5. GAMMAS PER LINE.
 FIELD DATA CURVE...%Z FITTED CURVE...%Z ERROR CURVE...%Z
 NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .1064 PARFIT FLAG 2 ERROR CURVE DATUM 109.066

MAGMOD PLOT OF FIT 1

PARAMETER	KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	1.130E+03	0.0E-01	0.0E-01	9.203E+04	5.0E+00	0.0E-01
DIP	1	9.000E+01	0.0E-01	0.0E-01	9.606E+01	3.0E+00	0.0E-01
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	-1.950E+01	5.0E+00	0.0E-01
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	4.297E-02	5.0E-02	0.0E-01
POSITION	1	0.000E-01	0.0E-01	0.0E-01	2.282E+01	5.0E+00	0.0E-01
WIDTH	1	2.000E+02	0.0E-01	0.0E-01	3.121E+03	5.0E+00	0.0E-01
DEPTH	1	1.200E+02	1.0E+02	0.0E-01	1.978E+02	1.0E+01	0.0E-01
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01	0.0E-01
DECLNATN	0	1.630E+02	0.0E-01	0.0E-01	1.630E+02	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	-2.388E+01	0.0E-01	0.0E-01	-2.388E+01	0.0E-01	0.0E-01



MODEL RIBBON TITLE SAVTREH2

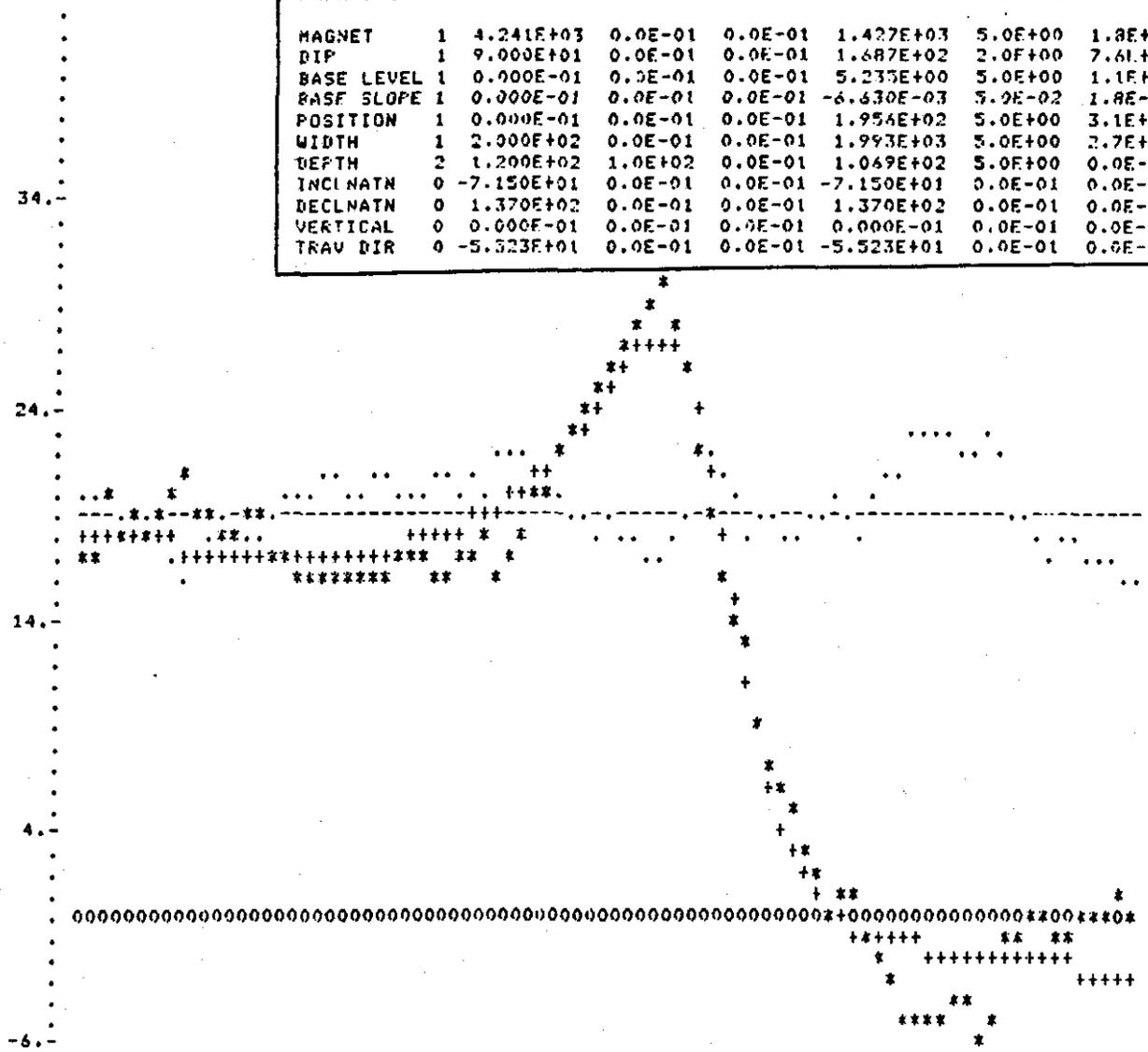
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FIELD DATA CURVE...%Z FITTED CURVE...%F1 ERROR CURVE...%W

NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .1084 PARFIT FLAG -1 ERROR CURVE DATUM 352.870

MAGMOD PLOT OF FIT 1

PARAMETER KEY	START	LIMITS		FITTED	TOLEERANCE	RANGE
MAGNET	1	4.241E+03	0.0E-01	0.0E-01	1.427E+03	5.0E+00 1.8E+02
DIP	1	9.000E+01	0.0E-01	0.0E-01	1.687E+02	2.0E+00 7.61+00
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	5.235E+00	5.0E+00 1.1E+00
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	-6.630E-03	5.0E-02 1.8E-03
POSITION	1	0.000E-01	0.0E-01	0.0E-01	1.954E+02	5.0E+00 3.1E+01
WIDTH	1	2.000E+02	0.0E-01	0.0E-01	1.993E+03	5.0E+00 2.7E+03
DEPTH	2	1.200E+02	1.0E+02	0.0E-01	1.049E+02	5.0E+00 0.0E-01
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01 0.0E-01
DECLNATN	0	1.370E+02	0.0E-01	0.0E-01	1.370E+02	0.0E-01 0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01 0.0E-01
TRAV DIR	0	-5.523E+01	0.0E-01	0.0E-01	-5.523E+01	0.0E-01 0.0E-01



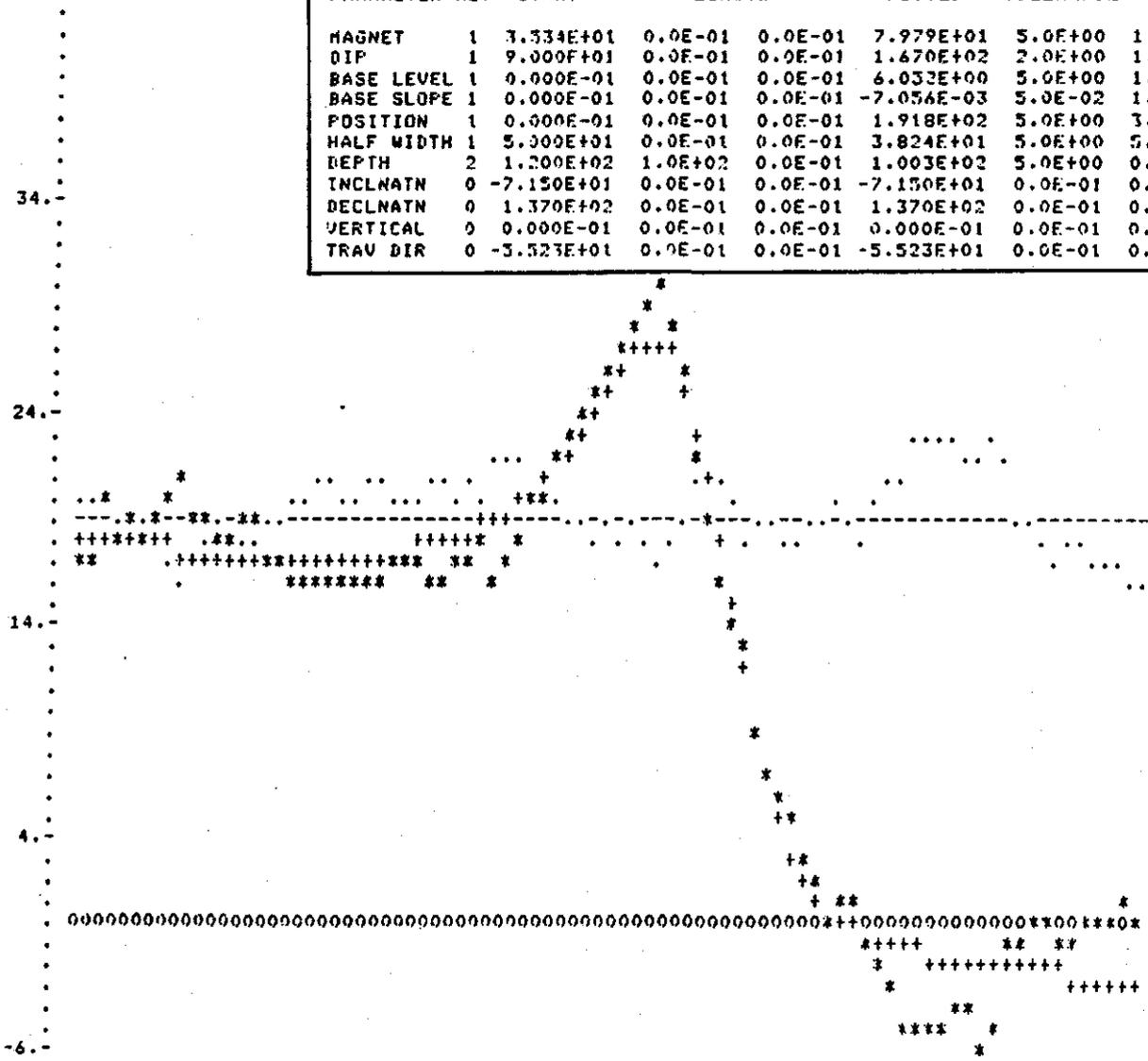
MODEL RIBBON

TITLE SAVAGERN2

NUMBER OF STATIONS 85 MAX AMPLITUDE 35. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 1. GAMMAS PER LINE.
FIELD DATA CURVE...%Z FITTED CURVE...%Z ERROR CURVE...%Z
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .1152 PARFIT FLAG 2 ERROR CURVE DATUM 19.200

MAGMOD PLOT OF FIT 1

PARAMETER	KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.534E+01	0.0E-01	0.0E-01	7.979E+01	5.0E+00	1.0E+01
DIP	1	9.000E+01	0.0E-01	0.0E-01	1.670E+02	2.0E+00	1.6E+00
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	6.032E+00	5.0E+00	1.1E+00
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	-7.056E-03	5.0E-02	1.7E-03
POSITION	1	0.000E-01	0.0E-01	0.0E-01	1.918E+02	5.0E+00	3.1E+01
HALF WIDTH	1	5.300E+01	0.0E-01	0.0E-01	3.824E+01	5.0E+00	5.1E+00
DEPTH	2	1.200E+02	1.0E+02	0.0E-01	1.003E+02	5.0E+00	0.0E-01
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01	0.0E-01
DECLNATN	0	1.370E+02	0.0E-01	0.0E-01	1.370E+02	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	-3.523E+01	0.0E-01	0.0E-01	-5.523E+01	0.0E-01	0.0E-01



MODEL TABULAR

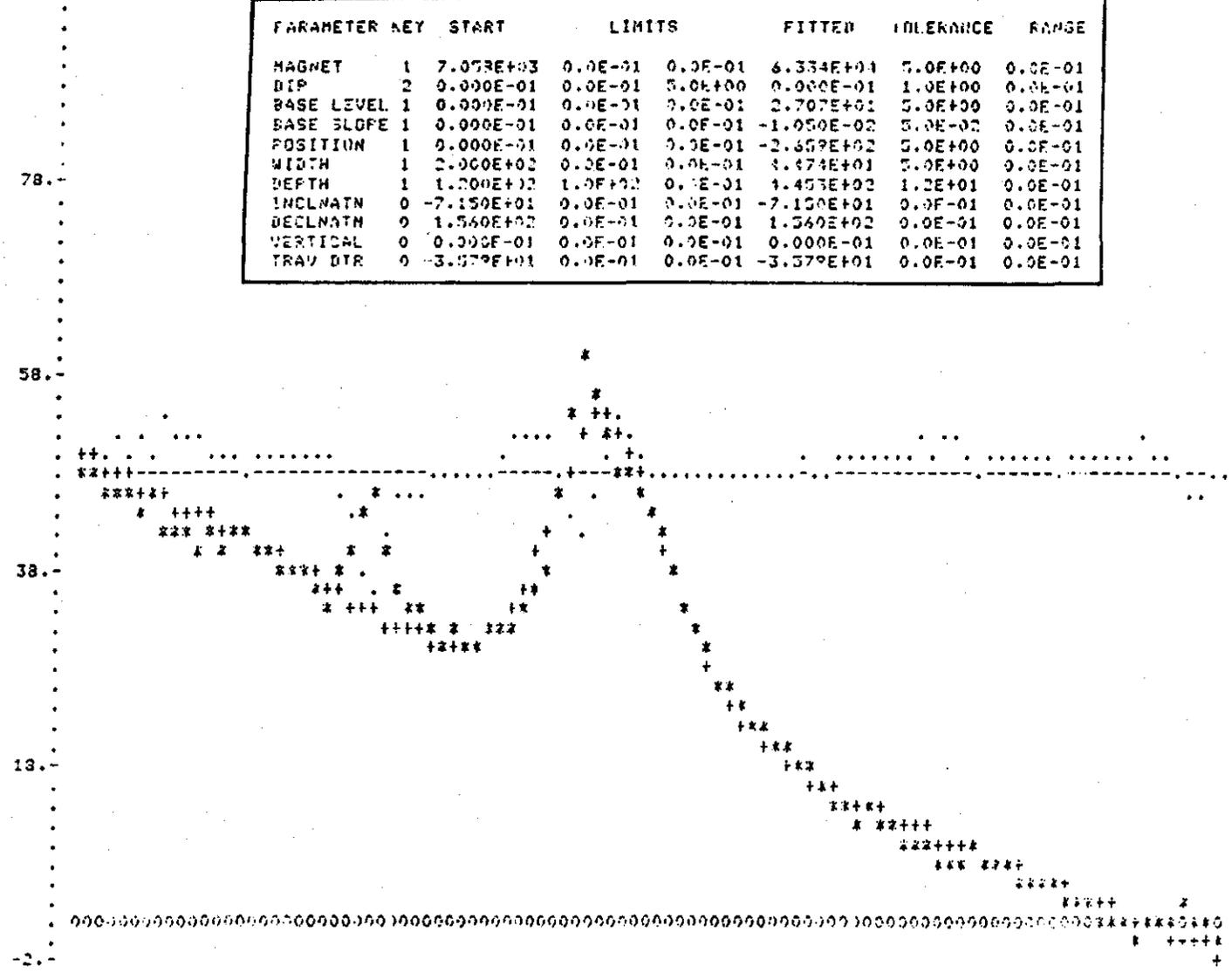
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NUMBER OF STATIONS 85 MAX AMPLITUDE 35. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 1. GAMMAS PER LINE.
 FIELD DATA CURVE...%Z FITTED CURVE...%Z ERROR CURVE...%Z
 NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .1136 PARFIT FLAG 2 ERROR CURVE DATUM 19.200

MAGNET PLOT OF FIT 1

AGH

PARAMETER	KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	7.079E+03	0.0E-01	0.0E-01	6.334E+01	5.0E+00	0.0E-01
DIP	2	0.000E-01	0.0E-01	5.0E+00	0.000E-01	1.0E+00	0.0E-01
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	2.707E+01	5.0E+00	0.0E-01
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	-1.050E-02	3.0E-02	0.0E-01
POSITION	1	0.000E-01	0.0E-01	0.0E-01	-2.659E+02	5.0E+00	0.0E-01
WIDTH	1	2.000E+02	0.0E-01	0.0E-01	1.474E+01	5.0E+00	0.0E-01
DEPTH	1	1.200E+02	1.0E+02	0.0E-01	1.453E+02	1.2E+01	0.0E-01
INCLNATH	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01	0.0E-01
DECLNATH	0	1.560E+02	0.0E-01	0.0E-01	1.560E+02	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DTR	0	-3.579E+01	0.0E-01	0.0E-01	-3.579E+01	0.0E-01	0.0E-01



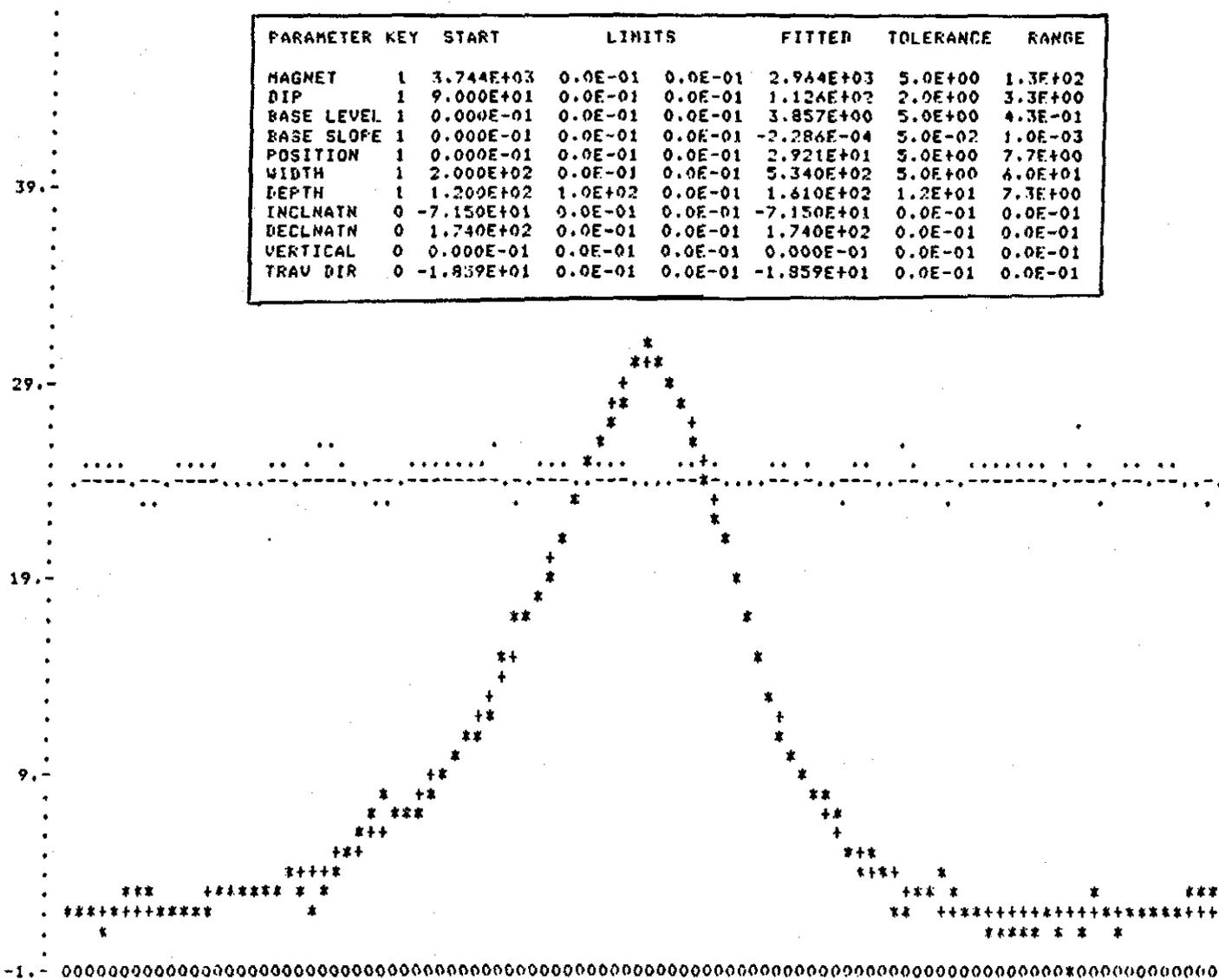
MODEL RIBBON

TITLE ARTHURS

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 NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0870 PARFIT FLAG -0 ERROR CURVE DATA 12.719

MAGMOD PLOT OF FIT 1

PARAMETER	KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.744E+03	0.0E-01	0.0E-01	2.944E+03	5.0E+00	1.3E+02
DIP	1	9.000E+01	0.0E-01	0.0E-01	1.124E+02	2.0E+00	3.3E+00
BASE LEVEL	1	0.000E-01	0.0E-01	0.0E-01	3.857E+00	5.0E+00	4.3E-01
BASE SLOPE	1	0.000E-01	0.0E-01	0.0E-01	-2.284E-04	5.0E-02	1.0E-03
POSITION	1	0.000E-01	0.0E-01	0.0E-01	2.921E+01	5.0E+00	7.7E+00
WIDTH	1	2.000E+02	0.0E-01	0.0E-01	5.340E+02	5.0E+00	6.0E+01
DEPTH	1	1.200E+02	1.0E+02	0.0E-01	1.610E+02	1.2E+01	7.3E+00
INCLNATN	0	-7.150E+01	0.0E-01	0.0E-01	-7.150E+01	0.0E-01	0.0E-01
DECLNATN	0	1.740E+02	0.0E-01	0.0E-01	1.740E+02	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	-1.859E+01	0.0E-01	0.0E-01	-1.859E+01	0.0E-01	0.0E-01



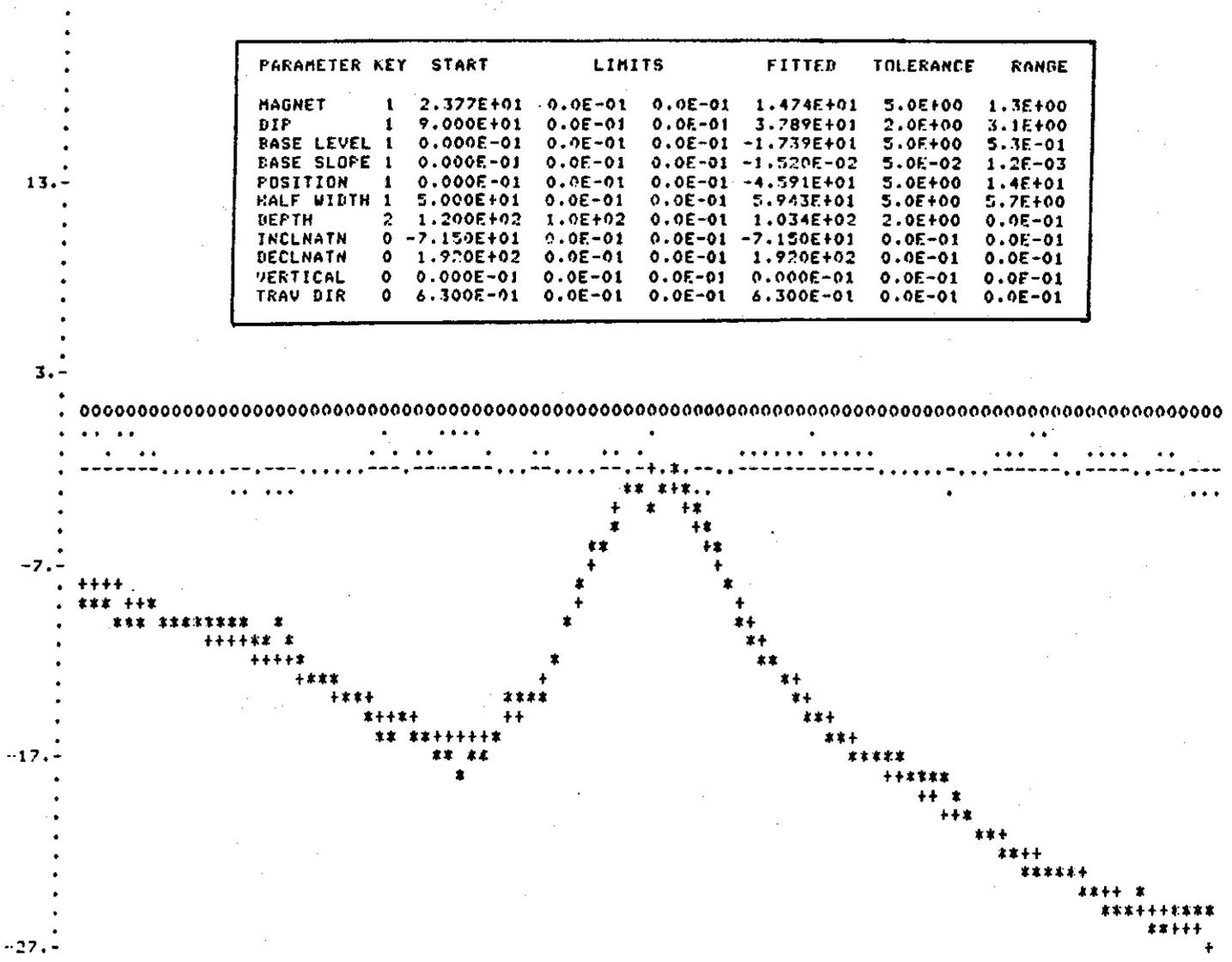
MODEL RIBBON

TITLE POLWEST2

NUMBER OF STATIONS 99 MAX AMPLITUDE 31. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 1. GARNAS PER LINE.
 FIELD DATA CURVE...Z% FITTED CURVE...Z% ERROR CURVE...Z%
 NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0570 PARFIT FLAG 2 ERROR CURVE DATUM 24.140

MAGMOD PLOT OF FIT 1

PARAMETER KEY	START	LIMITS	FITTED	TOLERANCE	RANGE
MAGNET	1	2.377E+01	0.0E-01 0.0E-01	1.474E+01	5.0E+00 1.3E+00
DIP	1	9.000E+01	0.0E-01 0.0E-01	3.789E+01	2.0E+00 3.1E+00
BASE LEVEL	1	0.000E-01	0.0E-01 0.0E-01	-1.739E+01	5.0E+00 5.3E-01
BASE SLOPE	1	0.000E-01	0.0E-01 0.0E-01	-1.520E-02	5.0E-02 1.2E-03
POSITION	1	0.000E-01	0.0E-01 0.0E-01	-4.591E+01	5.0E+00 1.4E+01
HALF WIDTH	1	5.000E+01	0.0E-01 0.0E-01	5.943E+01	5.0E+00 5.7E+00
DEPTH	2	1.200E+02	1.0E+02 0.0E-01	1.034E+02	2.0E+00 0.0E-01
INCLNATN	0	-7.150E+01	0.0E-01 0.0E-01	-7.150E+01	0.0E-01 0.0E-01
DECLNATN	0	1.920E+02	0.0E-01 0.0E-01	1.920E+02	0.0E-01 0.0E-01
VERTICAL	0	0.000E-01	0.0E-01 0.0E-01	0.000E-01	0.0E-01 0.0E-01
TRAV DIR	0	6.300E-01	0.0E-01 0.0E-01	6.300E-01	0.0E-01 0.0E-01



MODEL TABULAR

TITLE LATI.ONGO

NUMBER OF STATIONS 99 MAX AMPLITUDE 24. X INCREMENT 1 COLUMNS PER STATION. Y INCREMENT OF 1. GAMMAS PER LINE.
FIELD DATA CURVE...%Z FITTED CURVE...%Z ERROR CURVE...%Z
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0507 PARFIT FLAG 2 ERROR CURVE DATUM -2.318

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225038

APPENDIX II

PETROLOGICAL REPORTS

038

225039

Central Mineralogical Services



39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. I.M. Clementson
Geologist
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
ROSNY PARK / TAS. 7018

7th February, 1984

REPORT CMS 84/1/24

YOUR REFERENCE:	D.P.O. No. 30339
DATE RECEIVED:	20th January, 1984
SAMPLE NOS.:	988648
SUBMITTED BY:	I.M. Clementson
WORK REQUESTED:	Petrology

Copy to:
The Chief Geologist
C.R.A. Exploration Pty. Ltd.
P.O. Box 656
FYSHWICK / A.C.T. 2609

Copy & Invoice to:
Administration Officer
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
ROSNY PARK / TAS. 7018

H.W. Fander
H.W. Fander, M. Sc.

225040

Date 7th February, 1984

CENTRAL MINERALOGICAL SERVICES PTY. LTD.

SAMPLE REPORT (Mineralogy, Petrology, Ore Microscopy)

Job No. CMS 84/1/24 Date Received: 20.1.1984

Reference D.P.O. No. 30339

Sample No. 988648

Nature of Sample: Hand Specimen

DESCRIPTION SECTION No. 48773

a. Hand Specimen:

Green, fine-grained schist with boxworks and stringers of small cavities.

b. Microscopic:

In simple terms, this is a quartz-chlorite schist; however, its origin is more complex and it is believed to be meta-igneous, though more likely to have been a lava or a minor intrusive than a pyroclastic rock.

The rock consists of irregular small lenses, streaks and grains of quartz and quartz mosaics, randomly distributed through a matrix of matted-parallel flakes of chlorite (penninite) with minor interleaved sericite. Leucoxene is unusually abundant, as small knots and streaks of semi-opaque white fibrous crystals (?rutile), and is believed to represent leucoxenised primary opaques. Thus, the present mineral assemblage is all secondary or metamorphic, and relict textures are absent.

The abundance of leucoxene is characteristic of rocks derived from basic igneous types, and is difficult to explain in a sedimentary context. Thus, the rock is interpreted as having been a dolerite/basalt, thoroughly altered to quartz, chlorite and leucoxene, and then metamorphosed.

A few crystals of oxidised or leached pyrite are scattered through the rock and are post-metamorphic.

H.W. Fander, M. Sc.

RAPID EAST AEROMAG ANOMALY

356S00E 5434100N

IDENTIFICATION
988648
Quartz-Chlorite Schist (Meta-Igneous)

Central Mineralogical Services



39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. I.M. Clementson
Geologist
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
ROSNY PARK / TAS. 7018

9th May, 1983

REPORT CMS 83/4/26

YOUR REFERENCE:	D.P.O. No. 30331
DATE RECEIVED:	27th April, 1983
SAMPLE NOS.:	988558, 988563, 989900
SUBMITTED BY:	I.M. Clementson
WORK REQUESTED:	Petrology

Copy to:
The Chief Geologist
C.R.A. Exploration Pty. Ltd.
G.P.O. Box 384D
MELBOURNE / VIC. 3001

Copy & Invoice to:
Administration Officer
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
ROSNY PARK / TAS. 7018

H.W. Fander
H.W. Fander, M. Sc.

REPORT CMS 83/4/26

Three rock samples were received for petrological descriptions; thin-sections were prepared and examined, and are briefly described below.

988 558

(T.S. 45806)

This is a fresh porphyritic basalt verging on a dolerite in terms of grain size; the rock is distinctly magnetic and responds to a hand magnet.

There are subhedral phenocrysts of olivine showing incipient alteration to iddingsite, and subparallel prismatic crystals of labradorite, set in a fine- to medium-grained mass of labradorite laths, granular to euhedral clinopyroxene (augite-pigeonite), granular to platy magnetite (2-3 %), and interstitial dark brown glass.

The fabric shows general preferred orientation, and the subparallel platy magnetite probably enhances the magnetic susceptibility (i.e. compared with random or granular magnetite).

988 563

(T.S. 45807)

This is a fresh microporphyritic basalt, appreciably finer-grained than 988558; it is distinctly magnetic.

Small phenocrysts of fresh olivine are common throughout, uniformly distributed and randomly orientated, with small random laths of fresh labradorite and prismatic clinopyroxene (?pigeonite) crystals; dark brown glass is ubiquitous, more abundant than in 988558, and contains conspicuous fine skeletal magnetite (3-5 % of rock). Although the magnetite lacks the platy habit and preferred orientation seen in 988558, it is more abundant.

There are very occasional patches and amygdales of chlorite. The fabric does not indicate whether the rock is in- or extrusive.

989 900

(T.S. 45808)

This rock can be classified as a magnetite-chlorite-plagioclase schist; it is believed to be a metamorphosed intermediate to basic igneous rock, perhaps from a shear zone.

Conspicuous euhedral magnetite crystals, up to 1 mm across, are scattered through a matrix of pale, partly oxidised chlorite, irregular grains of untwinned plagioclase, fine quartz and sericite; there are relict microgranular epidote patches, and fine leucoxene occurs throughout.

The present composition suggests that the rock was originally composed of plagioclase and ferromagnesian minerals; the magnetite appears to be a metamorphic product. There is no evidence to indicate a sedimentary origin. Metamorphism was mainly dynamic and the rock was very probably deuterically altered prior to that event.

H.W. Fander, M. Sc.DOLSON MAE. ANOMALY

348200mE

5420600mN

042

225043

APPENDIX III

SAMPLE LEDGERS

043

225044

SAMPLE LEDGERS

MT BERTHA INPUT-EM ANOMALIES

045

PROJECT ARTHUR LINEAMENT
 TENEMENT RAPID RIVER EL 1/79
 AREA / PROSPECT MT BERTHA

GEOCHEMICAL SAMPLING LEDGER

DATES : APRIL 1984

GEOLOGIST V WILLIAMS

SAMPLE TYPE ROCK CHIP TAKEN WITH -80# STREAM SEDIMENTS

PAGE NO.

SAMPLE NUMBER	GRID REF.	ANALYSES														Au ppm	DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE
		Cu	Pb	Zn	Ag	As													
1198401	352800mE	5	< 5	5	1	2										<0.1	30377	Float in creek draining INPUT	1198004
	5429200mN																	ANOM 3373/10560 Quartzite	
1198402	325800mE	2	5	10	2	6										<0.1	30377	Float in creek draining INPUT	1198004
	5429200mN																	ANOM 3373/10560 Black Slate	
1198403	325800mE	< 2	< 5	35	2	2										<0.1	30377	Float in creek draining INPUT	1198004
	5429200mN																	ANOM 3373/10650 Laminated Black Slate with Minor Black Veins	
1198404	352200mE	5	< 5	20	1	4										<0.1	30377	Float in creek draining INPUT EM	1198005
	5429200mN																	ANOM 3369/10560 Black Slate	
1198405	352200mE	2	< 5	45	1	1										<0.1	30377	Float in creek draining INPUT EM	1198005
	5429200mN																	ANOM 3369/10560 Laminated Black Shale	
1198406	352200mE	< 2	5	10	1	3										<0.1	30377	Float in creek draining INPUT EM	1198005
	5429200mN																	ANOM 3369/10560 Black Slate with quartz veins	

225046

SAMPLE LEDGERS

SAMPLING BLACK SHALE HORIZONS

RADIO TOWER AREA

PROJECT ARTHUR LINEAMENT
 TENEMENT RAPID RIVER EL 1/79
 AREA / PROSPECT RADIO TOWER AREA

GEOCHEMICAL SAMPLING LEDGER
 GEOLOGIST V WILLIAMS SAMPLE TYPE ROCK CHIPS

DATES : MAY 1984
 LAB. _____
 PAGE NO. _____

SAMPLE NUMBER	GRID REF.	ANALYSES														Au ppm	DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE	
		Cu	Pb	Zn	Ag															
1198407	359300mE 5436300mN	10	35	2	< 1											0.01	30380	Black-dark brown Fe-Mn rich friable beds within Precambrian black shales		
1198408	359300mE 5436300mN	10	40	5	1											0.06	30380			
1198409	359300mE 5436300mN	10	15	2	1											<0.01	30380			
1198410	359300mE 5436300mN	10	15	< 2	1											0.02	30380			
1198411	359300mE 5436300mN	5	15	< 2	< 1											0.02	30380			
1198412	359300mE 5436300mN	30	35	< 2	1											0.03	30380			
1198413	359300mE 5436300mN	80	10	10	< 1											0.01	30380			
1198414	359300mE 5436300mN	170	30	10	1											0.10	30380			
1198415	358500mE	30	10	< 2	< 1											<0.01	30380	Float. Quartzite with Black Streaks	1198102	
METHOD	DETLIMIT																			

225048

048

PROJECT ARTHUR LINEAMENT
 TENEMENT RAPID RIVER EL 1/79
 AREA / PROSPECT RADIO TOWER AREA

GEOCHEMICAL SAMPLING LEDGER

GEOLOGIST V WILLIAMS SAMPLE TYPE PANNED CONCENTRATES

DATES : MAY 1984
 LAB. _____
 PAGE NO. _____

SAMPLE NUMBER	GRID REF.	ANALYSES														DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE			
		Cu	Pb	Zn	Ag	Ni	Co	Fe	Mn	As	Sn	W	Ba	Sample wt. g	Au						
1198027	359500mE 5436700mN	5	<5	10	<1	<5	<5	2600	20	8	<5	10	50			69.90	0.01	30381		1198007	
1198028	358700mE 5437700mN	2	<5	5	<1	5	<5	2100	15	2	15	10	20			90.33	0.01	30381		1198008	
1198029	358600mE 5437800mN	<2	<5	5	<1	<5	<5	1450	10	<1	10	10	20			137.75	0.01	30381		1198009	
1198301	358400mE 5437900mN	<2	<5	15	<1	<5	<5	1650	15	<1	10	10	10			97.74	0.01	30381		1198101	
1198302	358500mE 5437900mN	<2	<5	<2	<1	<5	<5	1700	15	<1	20	10	<10			90.63	0.01	30381		1198102	
1198303	358500mE 5437400mN	<2	<5	2	<1	<5	<5	1350	10	<1	10	<10	30			143.55	0.01	30381		1198103	
1198304	359100mE 5437200mN	2	10	10	<1	5	<5	5000	30	4	<5	30	20			45.56	0.12	30381		1198104	
1198305	359500mE 5435800mN	2	5	5	<1	5	<5	2850	25	1	<5	30	<10			45.76	0.01	30381		1198105	
METHOD	DETLIMIT																				

225049

PROJECT ARTHUR LINEAMENT
 TENEMENT RAPID RIVER EL 1/79
 AREA / PROSPECT RADIO TOWER AREA

GEOCHEMICAL SAMPLING LEDGER

GEOLOGIST V WILLIAMS SAMPLE TYPE -80# STREAM SEDIMENTS

DATES : MAY 1984
 LAB. _____
 PAGE NO. _____

SAMPLE NUMBER	GRID REF.	ANALYSES																DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE			
		Cu	Pb	Zn	Ag	Ni	Co	Fe	Mn	As	Sn	W	Ba										Au
1198007	359500mE 5436700mN	2	<5	10	<1	5	<5	0.27%	15	1	10	<10	40								30381	Stream sediment samples draining fold closure in black shale horizon in Radio Tower Area	
1198008	358700mE 5437700mN	10	<5	5	1	20	<5	1.05%	50	<1	5	<10	20								30381	As for 1198007	
1198009	358600mE 5437800mN	2	<5	5	<1	15	<5	0.39%	20	<1	10	<10	20								30381	As for 1198007	
1198101	358400mE 5437900mN	<2	<5	5	<1	<5	<5	0.22%	10	<1	10	<10	<10								30381	As for 1198007	
1198102	358500mE 5437900mN	5	15	5	<1	15	<5	0.46%	20	<1	5	<10	<10								30381	As for 1198007	
1198103	358500mE 5437400mN	2	<5	5	<1	<5	<5	0.45%	20	<1	10	<10	30								30381	As for 1198007	
1198104	359100mE 5437200mN	<2	<5	5	<1	<5	<5	0.25%	10	2	10	<10	110								30381	As for 1198007	
1198105	359500mE 5435800mN	<2	<5	10	<1	<5	<5	0.17	10	<1	15	<10	10								30381	As for 1198007	
METHOD	DET.LIMIT																						

043
225050

SAMPLE LEDGERS

INPUT-EM ANOMALY 2880/10400

SAMPLE LEDGERS

INPUT-EM ANOMALY 2465/10360

056

TASMANIA

CRA EXPLORATION PTY. LTD.

Sample Number	SOIL DESCRIPTION											BEDROCK					METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type	LOOK	Cu	Pb	Zn	Co	Ag	Mn	As	Se	W	Fe	
	East	North																									
988687	5000E	5000N	0.60	153	4	-	80	20	0	2	9					5	20	10	5	<1	25	<20	<5	20	380	Fine silty clay, light buff Feels calcareous. Surface flatt all qz.	
988688	4975E	5000N	0.85	153	4		80	20	0	2	9					<2	25	5	5	<1	80	<20	<5	10	510	Flatt all qz.	
988689	4950E	5000N	1.1	153	4		80	20	0	2	9					<2	15	5	5	<1	20	<20	<5	10	440		
693	4925E	5000N	0.6	13	5		80	20	0	2	100					5	10	5	5	<1	45	<20	<5	50	40	Worth grey qz:te	
694	4900E		0.6	13	5		80	10	10	0	2	100				10	10	15	5	1	65	<20	<5	90	30	" " "	
695	4875E		0.6	135	5		80	10	10	0	2	100				<2	15	10	5	<1	65	<20	<5	80	20	" " "	
696	4850E		0.6	153	5		80	10	10	0	2	100				<2	15	10	<5	1	50	<20	<5	60	40	"	
697	4825E		0.9	133	7		90	10		3	4	100				10	15	10	5	1	100	<20	<5	130	30	Prob alluv. gravels.	
698	4800E		0.6	133	7		90	10		3	4	100				<2	10	15	<5	1	45	<20	<5	60	60	" " "	
699	4775		1.3	133	4		30	30	40	2	2					5	15	10	5	1	30	<20	<5	10	180	Gley type horizon.	

GEOCHEMICAL SOIL SAMPLING LEDGER

DETECTION LIMIT

ANALYTICAL METHOD

3	5	2	5	1	5	20	5	10	10
AAS						> XRF			

Tenement Name **RAPID RIVER EL 1/79**
 Area / Prospect **INPUT ANOMALY # 2465/10360**
 Map / Photo Ref

Project: **AMG Zone: 55**
 DPO's: **30336**
 Sample No's: **988687 : 988689**

Sheet No. **1**
 Laboratory: **ALS**
 Collected By **I.M. Clementson** Date **Dec 83** ✓

225057

057

TASMANIA

CRA EXPLORATION PTY. LTD.

Sample Number	SOIL DESCRIPTION										BEDROCK				METAL CONTENT ppm / %										Geological Observations	
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type	LOOK	Cu	Pb	Zn	Co	Ag	Mn	As	Sn	Kl		Ba
	East	North																								
988710	5125E	5000N	0.6	135	4		30	40	30	02	9				<2	20	10	10	1	15	20	<5	10	340	Weakly schist / phalco. lat	
988711	5150E	5000N	0.6	135	4		30	40	30	02	9				<2	15	10	10	1	20	<20	<5	20	240	"	

GEOCHEMICAL SOIL SAMPLING LEDGER										DETECTION LIMIT				2	5	2	5	1	5	20	5	10	10						
										ANALYTICAL METHOD				NAE															
Tenement Name: RAPID RIVER EL1/79										Project:					AMG Zone: SS					Sheet No: 3									
Area / Prospect: INPUT ANOMALY #2465/10360										DPO's: 20336										Laboratory: ALS									
Map / Photo Ref:										Sample No's:										Collected By: IMC					Date: Dec 23 /				

2215038

053
S

TASMANIA

CRA EXPLORATION PTY. LTD.

Sample Number	SOIL DESCRIPTION											BEDROCK					LOOK	METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type	Cu		Pb	Zn	Co	Ag	Mn	As	S	W	Ba		
	East	North																										
988700	4750	5000	1.4	353	4		30	30	40	2	2					60	25	15	10	2	30	20	<5	20	140	Clay type soil.		
701	4725		0.8	334	2						3	2				10	10	20	5	1	35	<20	<5	50	170	Clay rich part soil.		
702	4700		0.5	133	7		80	10	10	1	5					5	5	10	5	1	70	<20	<5	80	40	Prob. alluvial gravels.		
703	4675		0.5	133	5		60	20	20	0	2	100				5	5	5	5	<1	50	<20	<5	60	30	Wenth. grey qz. ts.		
704	4650		0.8	153	5		50	30	20	0	2	100				<2	10	5	5	<1	30	<20	<5	30	260	Wenth. br. wh. sand grey qz. ts.		
705	4625		0.9	134	7		80	10	10	3	3	100				10	10	25	10	<1	80	<20	<5	100	100	Homic gravels.		
706	5025E	5000N	0.5	153	5		30	40	30	0	2	9				<2	20	5	10	<1	30	<20	<5	40	260	Wenth. grey sch. l/shale		
707	5050E		0.5	153	5		30	40	30	0	2	9				<2	20	5	<5	<1	25	<20	<5	30	260	" , talcon		
708	5075E		0.4	153	5		30	40	30	0	2	9				<2	20	10	5	1	30	<20	<5	30	190	" "		
709	5100E		0.4	153	5		30	40	30	0	2	9				<2	20	15	5	1	15	<20	<5	10	330	" "		

GEOCHEMICAL SOIL SAMPLING LEDGER		DETECTION LIMIT										5	5	2	5	1	5	20	5	10	10
		ANALYTICAL METHOD										AMS								> XRF	
Tenement Name RAPID RIVER EL1/79		Project: AMG Zone 55										Sheet No. 2									
Area / Prospect INPUT ANOMALY #2465/10360		DPO's: 30336										Laboratory ALPS									
Map / Photo Ref:		Sample No's:										Collected By I.M. Clements on Date Dec 83									

22
0530

SAMPLE LEDGERS

INPUT-EM ANOMALY 2477/10360

062

225063

SAMPLE LEDGERS

INPUT-EM ANOMALY 2450/10360

064

225065

SAMPLE LEDGERS

RADIP EAST AEROMAGNETIC ANOMALY

INPUT-EM ANOMALY 2966/10440

08

PROJECT ARTHUR LINEAMENT
 TENEMENT RAPID RIVER EL 179
 AREA / PROSPECT RAPID EAST

GEOCHEMICAL SAMPLING LEDGER

GEOLOGIST I. M. CLEMENTSON SAMPLE TYPE SOILS (HAND AUGER)

DATES : Nov 1984
 LAB. ALS BRISBANE
 PAGE NO. 1/2

SAMPLE NUMBER	GRID REF.	ANALYSES											DPO NUMBER	GEOLOGICAL OBSERVATIONS	CORRESP. -80 MESH STREAM SAMPLE		
		Cu	Pb	Zn	As	Hg	Fe %	Mn	Ba	Sn	W						
<u>4800N</u>																	
989401	4675E	5	20	65	<1	<1	0.80	40	360	<5	20				31959	1.1a B. Mid grey clay plus silt.	
402	4650E	5	<5	10	<1	<1	0.38	15	530	<5	<10					1.1a B. Yellow-buff clay.	
403	4625E	2	<5	10	<1	<1	0.25	15	570	<5	<10					1.1a B. Light grey buff clay + qz frags	
<u>4900N</u>																	
404	4800E	5	10	40	<1	<1	2.14	45	250	<5	10					0.7m B. Lt brown clay. Qz frags.	
405	4775E	2	10	10	<1	<1	0.57	15	300	<5	<10					0.9 B. Small brown clay. qz frags.	
406	4750E	5	10	15	<1	<1	0.28	15	150	<5	10					0.8 B. Brown sandy clay.	
407	4725E	5	<5	10	3	<1	0.38	5	170	<5	<10					0.9 B. Yellow-brown sandy clay.	
408	4700E	5	10	10	<1	<1	0.57	30	260	<5	30					1.0m B. Grey sandy clay. v. qz.	
409	4675E	2	5	20	<1	<1	0.85	105	360	<5	40					0.8m C. Wash grey shale/silt.	
410	4650E	2	<5	10	<1	<1	0.50	35	180	<5	30					0.8m B. Lt br. clay + qz frags.	
411	4625E	115	20	10	<1	<1	0.55	15	420	<5	<10					0.7m C. Wash black shale.	
412	4600E	5	10	10	<1	<1	0.53	35	220	<5	20					0.6m B. Grey sandy clay.	
<u>5100N</u>																	
413	4200E	5	15	45	<1	1	2.37	210	250	<5	10					0.8m B. Lt br. clay + qz gravel	
414	4225E	10	20	25	1	1	1.35	80	260	<5	40					0.4m A/B. Humic brown clay	
415	4250E	5	<5	15	<1	<1	0.33	20	400	<5	<10					0.6m B. Lt brown clay + v. qz	
416	4275E	15	<5	15	<1	<1	0.29	15	330	<5	10					1.0m B. Mid brown clay + v. qz	
417	4300E	5	<5	10	<1	<1	0.42	20	490	<5	<10					1.0m B. Sandy brown clay + v. qz	
418	4325E	10	10	15	<1	<1	0.96	60	<10	<5	60					0.5m B. Sandy grey clay	
419	4350E	5	5	15	<1	<1	0.79	40	290	<5	20					0.6m Log gravel + brown clay	
420	4375E	5	<5	10	<1	<1	0.25	10	<10	<5	10					0.7m B. Brown clay, sandy	
421	4400E	10	30	10	18	<1	2.30	10	290	<5	10					0.8m B. Yellow brown clay	
422	4425E	2	10	20	<1	1	1.93	105	240	<5	<10					0.8m B. Light brown clay.	
423	4450E	5	5	40	<1	<1	1.01	65	40	<5	30					0.6 B. Dark brown, slightly humic	
424	4475E	5	5	20	<1	<1	1.13	80	90	<5	50					0.7 B. Dark brown gravel clay	
METHOD		ICP							YRF								
DET LIMIT		2	5	2	1	1	0.01	5	10	5	10						

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C.R.A. (PLORATION, GEOCHEMICAL SAMPLE, JGER

Tenement name RAPID RIVER FL 1179

No. Sample numbers 988489 - 988496

Collected by I.M. Clementson

Sheet no. 1

Area / Prospect RAPID EAST AEROMAG ANOMALY

Date 20-4-83

Map / Photo reference RECT LINE (Mag. E-W)

Analysed by Analybo

DPO no. 30330

A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Fe % / Ni	Pb % / Co	Sn % / Ba		
		o/c sample type ***																		
		s sample type ****																		
988489	S	A	0.9	C				15	X	15	X		15	0.145 / 5	X/10	X/410	S100E	DK grey black clay, an shale or mudstone.		
490	S	Replicate						15	S	10	X		10	0.13 / 5	X/5	X/382	"	"		
988491	S	A	0.7	C				25	15	30	X		20	0.44 / 10	X/10	X/777	S125E	Mid grey weathered shale / mudstone.		
492	S	Replicate						S	10	30	X		30	0.60 / 10	X/10	X/778	"	"		
988493	S	A	0.7	C				10	S	10	X		40	0.35 / 5	X/15	X/328	S150E	Mottled grey-green-ochre weathered shale		
494	S	Replicate						20	X	20	X		60	0.49 / 10	X/10	X/340	"	"		
988495	S	A	1.0	C				X	X	10	X		50	0.64 / 10	X/10	X/166	4975E	LT ochre-brown weathered shale / mudstone		
496	S	Replicate						X	X	10	X		55	0.57 / 5	X/5	X/136	"	"		

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

225071
UIC

C.R.A. (PLORATION . GEOCHEMICAL SAMPLE LOGGER

Tenement name RAPID RIVER EL 1/79 No. Sample numbers 988549-550 580-581 Collected by M. Clementson Sheet no. 1
 Area / Prospect..... Date 19 May 83
 Map / Photo reference B of map r. rd. geo. route to "Rapid Foot" Analysed by..... DPO no. 30383
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Fe%	Mn	Ni	Co	Ag/As	Ba	W/Sn		
		o/c sample type ***																		
		s sample type ****																		
988549	s/s	gs							14	4	22	0.73	105	15	7	x/x		x/3	357600E 54354500N	Crk 6m wide, along flow float all qz / qzite. Drainage pit - 2m x 1m.
988550	f	gs							40	x	5	1.15	165	545	10	x/x	x	x/x	357600E 5436000N	White fine-med grained slightly schistose Pk qzite 0.0-0.1210 g/s
988580	o/c	gs							5	x	70	2.55	65	40	80	x/x	500	x/x	357600E 5437000N	Vertical, N-S striking qzite schist
988581	o/c	gs							10	x	40	0.81	45	70	10	x/x	60	x/x	357600E 54364500N	"

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 ** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2
 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

9885072 071

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CRA EXPLORATION PTY. LTD.

Sample Number	LOCATION		SAMP DESC.		SITE DESC.							HEAVY MINS.			OUTCROP		METAL CONTENT ppm / %										Geological Observations				
	AMG Co-ordinates		S. Type	Start Wt. (Kg)	End Wt. (Kg)	Width (M)	Flow	Bank	Catchment	Vegetation	Staining	Contam.	Sif. Rating	Visible	Major	Minor	Minor	Outcrop	Float	LOOK	Cu	Pb	Zn	Co / Ag	Ni / Cs	Fe.		Ba / Mo	Sn / W	Au ppm	Ag ppm
	East	North																													
988691	356250	5474500	1	6	0.020	4	4	2	6	4	2	1	2	3	90	93		103	106		5	15	35	20 / 1	25 / 100	3.30	60 / 12	2 / 80	20.1	24.26	V. qz rich.

GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER

DETECTION LIMIT	2	5	2	2 / 1	2 / 5	0.01	1 / 4	15	0.1
ANALYTICAL METHOD	AAO					AAO			

Tenement Name: RAPID RIVER EL1/7A	Project: AMG Zone 55	Sheet No.:
Area / Prospect: RAPID EAST	DPO's: 30336	Laboratory: ALS
Map / Photo Ref:	Sample No's:	Collected By: I.M. Clementson Date: DEC 83

225073

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CRA EXPLORATION PTY. LTD.

S

Sample Number	SOIL DESCRIPTION										BEDROCK				LOOK	METAL CONTENT ppm / %										Geological Observations	
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Min.		Min. Type	Cu	Pb	Zn	Co	Ag	Mn	As	Sn	W		Ba
	East	North																									
988732	4475	5000	0.9	155	5		50	30	20	0	2	9				<2	20	10	10	1	50	<20	<5	<10	790	Lt br. weath talcose shale	
988733	4450		1.4	162	4		5	10	85	0	2					<6	20	10	10	1	25	<20	<5	<10	250	Lt buff. sand clay	
734	4425		1.3	162	4		5	10	85	0	2					10	20	25	10	1	50	<20	<5	<10	640	"	
735	4400		0.5	133	5		50	30	20	0	2	9				<2	15	15	5	1	60	<20	<5	<10	740	Lt grey shale	
736	4375		1.0	162	4		30	30	40	0	2	9				10	20	10	15	1	45	<20	<5	<10	1000	Ochra-yellow weath. shale	
737	4350		1.0	138	5		30	30	40	0	2	9				25	30	10	15	2	45	120	<5	10	580	Gray/green/br. weath. shale	
738	4325		1.0	138	5		30	30	40	0	2	9				<2	20	10	10	1	20	<20	<5	<10	150	Lt grey-brown phyllite	
739	4300		1.0	133	7		90	5	5	1	5	100				5	10	15	5	1	30	<20	<5	10	160	Qz gravel	
740	4150		0.6	137	5		50	30	20	0	2	9				10	15	30	10	1	75	<20	<5	10	250	Talcose shales	
741	4125		0.6	137	5		50	30	20	0	2	9				<2	15	10	10	1	45	<20	<5	<10	280	"	
742	4200		1.4	233	4		30	30	40	0	2	9				10	20	5	10	1	35	<20	<5	10	1000	Qz shale in clay matrix	
743	4225		1.4	233	4		30	30	40	0	2	9				10	15	10	10	1	15	<20	<5	<10	550	"	
744	4250		1.4	233	4		30	30	40	0	2	9				<2	10	10	10	1	30	<20	<5	<10	640	"	
745	4275		1.0	282	4		30	30	40	0	2	9				20	20	15	15	1	25	<20	<5	<10	700	Ochra-yellow weath. shales	

GEOCHEMICAL SOIL SAMPLING LEDGER		DETECTION LIMIT		2	5	2	5	1	5	20	5	10	10
		ANALYTICAL METHOD		FW						> XRF		>	
Tenement Name		RAPID RIVER EL1/79			Project:		AMG Zone			SS		Sheet No. 2	
Area / Prospect		RAPID EAST			DPO's:		30336			Laboratory:		MLS	
Map / Photo Ref.		LINE 5000N			Sample No's:					Collected By		ImClemenson Date DEC 83	

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SAMPLE LEDGERS

WRIDGE AEROMAGNETIC ANOMALY

INPUT-EM ANOMALY 3737/10640

C.R.A. EXPLORATION GEOCHEMICAL SAMPLE LOGGER

Tenement name RAPID RIVER ELI 79 No. Sample numbers 988481-988488 Collected by M. Stamboulis / M. F. Ho Sheet no. 1
 Area / Prospect W. RIDGE AEROMAG ANOMALY Date 19-APRIL-1983
 Map / Photo reference RECT. LINE (MAGE-W OVER APPROX CENTRE OF ANOMALY) Analysed by A. Nakubo DPO no. 30330
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Fe% /N:	As /Co	Sb /Ba		
		o/c sample type ***																		
		s sample type ****																		
988481	S	A	0.5	B-C				S	15	15	x			10		0.43 /S	X/S	X/562	075mE	DK grey-black weathered ? shale or other argillite. Slight green staining - ? weathered pyrite.
988482	S	A	0.6	B-C				S	15	10	x			10		0.38 /S	X/S	X/622	050mE	Light grey clay, obviously shale / argillite derived.
988483	S	A	0.6	B				S	25	10	x			10		0.20 /10	X/S	X/403	025mE	LT grey greasy (calcareous?) clay much as above.
988484	S	A	0.5	-				S	10	15	x			15		0.555 /S	X/S	X/275	000mE	In small drainage feature off the ridge. Very wet sticky mid brown clay
988485	S	A	0.4	B-C				10	15	15	x			10		1.55 /S	X/S	X/557	100mE	Black clay / fragments black shale + ? weathered pyrite.
988486	S	A	0.7	B-C				10	10	25	x			10		1.45 /10	X/10	X/486	125mE	Mottled ochre-light buff brown clay
988487	S	A	0.8	B				10	x	20	x			20		0.45 /10	X/S	X/446	150mE	Buff-cream line, calcareous, clay
988488	S	A	0.5	B				10	x	45	x			20		0.45 /10	X/S	X/638	175mE	Similar to above.

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 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

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SAMPLE LEDGERS

SAVTREN AEROMAGNETIC ANOMALY

C.R.A. (PLORATION GEOCHEMICAL SAMPLE LOGGER

Tenement name RAPID RIVER EL 1/79 No. Sample numbers 988441-988450 Collected by J.M. Clementson Sheet no. 1 of 2
 Area / Prospect SANTREN AEROMAG ANOMALY 988461-988467 Date 14-4-83
 Map / Photo reference TOWNERS W. WEST FROM P. PHILLIP TO SANTREN. Analysed by Analabs DPO no. 30327
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations						
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo W	Mn	Au	Fe % /100	Co % /100	Ni % /100								
																					o/c sample type ***					
																					s sample type ****					
988441	SS	0	1.0					+80"	15	X	135	X	X	610	6.55 /X	55 /155	5 /290	CE 100m W/D.R.	Fluvial w/inter	Elle Donnan R. sec. Fluvial 50% basalt						
								-80"	15	5	160	X	X	405	3.20 /X	25 /115	9 /230		50% quartz							
988442	SS	0	1.0						120	X	90	X	X	375	0.45 /X	55 /100	5 /40	CE 100m W/D.R.		Fluvial of greenish weathered silt, ? slightly tuffaceous						
988443	SS	0.5	2.0					+80"	75	10	105	X	X	3800	7.85 /100	65 /95	4 /95	CE 200m W/D.R.		Fluvial of greenish weathered silt						
								-80"	45	5	65	X	X	1350	5.39 /X	39 /55	7 /150									
988444	F								30	X	100	X		915	6.90 /X	55 /110	4 /95	"		Silt, weathered. Traces Fe and lead ? ZnS						
988445	F								65	X	140	X		525	8.85 /X	80 /140	4 /170	"		Weathered, foliated ?? tuff						
988446	S								60	10	95	X		635	6.35 /X	-	1 /115	crest of hill at SANTREN		Soil from tree root						
988447	F								85	5	160	X		665	7.65 /X	65 /215	5 /240	"		Weathered lithic tuff, chert in. bb						
988448	F								80	5	145	X		990	7.30 /X	65 /175	5 /240	"		" " " "						
988449	SS							+80"	75	5	105	X	X	2600	7.40 /X	60 /100	4 /85			Repeat of 988443						
								-80"	45	X	70	X	X	1400	4.90 /X	35 /65	8 /170									
988450	o/c	cc	1.0m						65	20	130	X		760	7.15 /X	50 /115	6 /210	200m N of crest of hill at SANTREN		Shaded, cleared lithic tuff						

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 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

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C.R.A. EXPLORATION GEOCHEMICAL SAMPLE JGER

Tenement name RAPID RIVER EL 1/79 No. Sample numbers 988461-988467 Collected by I.M. Clementson Sheet no. 2 of 2
 Area / Prospect SAUTREN AEROMAG ANOMALY Date 14-4-83
 Map / Photo reference Analysed by A. Maloba DPO no. 30327
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %											Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo W	Mn	Au	Fe% /A ₀	Co /Ni	S /Ba			
		o/c sample type ***																			
		s sample type ****																			
988461	SS	0.5	2.0					10	10	25	X	X	80		0.75% /A	1/45		250ml of wash of hill at SAUTREN	E → W flowing muddy creek. Much silt & organic matter		
988462	F	gs						110	10	235	X	X	3.2%	X	15.5% /X	480 /240	X/730	200ml of wash of hill at SAUTREN	Laterite or gossan. Mn rich, no well developed box works 0.1-0.2 × 10 ³ cgs		
988463	F	gs						40	10	205	X	X	1900		8.85 /100	110 /135	X/250	..	Highly weathered buff clay V. soft. Slightly ferruginous 0.3-0.7 × 10 ³ cgs		
988464	F	gs						170	10	105	X	X	2600		6.75 /X	98 /15	X/55	..	Less weathered version of 463. Looks sedimentary		
988465	F	gs						345	X	160	X	X	1500	X	6.65 /100	125 /255	X/210	..	Phyllite: grey, argillic, schistose rock with qz segregations 0.2-0.6 × 10 ³ cgs		
988466	F	gs						125	S	305	X		3.35%		16.5 /X	430 /235	X/980	..	Repeat of 988462		
988467	F	gs						160	X	100	X	X	685		12.0 /X	70 /115	X/170	..	Highly weathered red clay. Soft, massive. 1.6 × 10 ³ cgs.		

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** Stream sed. sample description fl = flow m³/sec wi = width m al = alluvial co = colluvial ca = catchment km²

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. (PLORATION . GEOCHEMICAL SAMPLE . JGER

Tenement name RAPID RIVER ELI 179 No. Sample numbers Collected by I.M. Clementson Sheet no. 1
 Area / Prospect SAVTEEN MAG ANOMALY Date 6-3-83
 Map / Photo reference LITTLE DONALDSON R. - TRIGONALIES Analysed by DPO no. 30327
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Fe% / 10	Co / ni.	Sn / Ga		
		o/c sample type ***							s sample type ****											
988426	o/c	gs							40	45	135	x	x	130		0.15 / x	30 / 65	10 / 110	300m N of 10 mile post on Pipeline Road.	Por ? E mudstone. Mid grey, very soft, cleaved.
988427	o/c	gs							35	25	125	x	x	805		4.90 / x	45 / 200	9 / 600	600m W off Pipeline at Erib L. Don.	Lt grey shale - mudstone with sub rounded cherts (dropstones?) to 2cm Dip 70° NE. Strike 320° N. Prob. Perm
988428	o/c	gs							10	x	10	x		360	x	1.25 / x	10 / 410	1 / 80	200m W of Pipeline, Erib of L. Don.	Banded chert from with chert-shale horizon Assay for gold.
988429	F	g/s							5	x	10	x		260		2.35 / x	15 / 200	1 / 180	LITTLE DONALDSON RIVER. (Distances on bar confluence) 893m N	Coarse gritty tuff. Platy black mineral present, metallic. Not mag. or spic.
988430	F	g/s							5	x	15	x	x	195		2.60 / x	20 / 135	1 / 250	893m N	Slightly silicified siltstone well banded. Minor Fe oxides on joints
988431	S/S	g/s						+80°	10	x	40	x	x	280		2.20 / x	20 / 45	10 / 140	1450m N	Creek 3m wide - 6m wide. Grab samples only. Dilution prob. v. great. Float dominantly basalt, quartz and argillite
							-80°	25	5	125	x	x	605		0.35 / x	35 / 15	15 / 100			
988432	S/S	g/s						+80°	10	10	70	x	x	320		2.55 / x	20 / 40	15 / 160	900m N	
								-80°	30	5	75	x	x	715		3.45 / x	35 / 10	15 / 95		

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** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

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SAMPLE LEDGERS

SAVAGE RIVER NORTH AEROMAGNETIC ANOMALY

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LOG

Tenement name RAPID RIVER EL 1179 No. Sample numbers..... Collected by J. Moore Sheet no. 1
 Area / Prospect "DAMAGE RIVER NORTH" Aero mag. Anomaly Date 20-4-83
 Map / Photo reference Traverse from button grass SW of Anomaly. Analysed by ANALYSIS DPO no. 30330
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo W	Mn	Au	Fe% Ni	As/ Co	Sn/ Ba		
		o/c sample type ***																		
		s sample type ****																		
988502	S	A	1.10	B				35	X	100	X		240		6.40 90	X/30	X/291	Approx 750m NE of drop site and approx position of anomaly. Yellow-brown claye below ex-brown L. Basalt float at site.		
988503	S	A	1.10	B				40	S	105	X		290		6.5 80	X/35	X/470			
988571	SS							25	10	80	0.5	X	815		3.30 75	X/40	7/198	Approx 450m NE of drop site. Ck 2-3m wide with fine qz gravel & ? basalt igneous float.		
988572	SS							10	10	25	0.5	X	160		0.90 15	X/5	7/77	Ck (flowing N→S) some 950m NE of drop site and probably draining the anomaly (named Boiled Eggs And Little Big Fruit Creek) qz gravel & ? serpentinite? float		
988573	SS							5	X	20	X	X	100		0.41 20	X/10	X/43	75m S of above		
988574 ⁴	SS							10	30	75	0.5	X	260		1.5 20	X/10	10/148	75m S of above.		

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 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type spher hole or pit depth m A B or C horizon

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SAMPLE LEDGERS

LATLONG AEROMAGNETIC ANOMALY

C.R.A. (PLORATION . GEOCHEMICAL SAMPLE . JGER

Tenement name RAPID RIVER EL 1/39 No. 988498-499, 988551-554 Sample numbers 988498-499, 988551-554 Collected by L.M. Clementson Sheet no. 1
 Area / Prospect LATLONG AEROMAG ANOMALY Date 20-4-83
 Map / Photo reference TRAVERSE E-W ACROSS ANOMALY (NELI-REGEN) Analysed by Analabo DPO no. 30330
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %											Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Fe% / Ni	As / Co	Sn / Ba			
		o/c sample type ***																			
		s sample type ****																			
988498	F	g/s						25	x	35	x			290			2.20% / 140	x/15	0/1803		Foot edge of anomaly (200m W of bottom grass) - lt green-grey non-lentic mudstone. Micro-faulting visible
988499	o/c	gs						25	x	120	x			50			0.25% / 30	x/25	140/690		In S-N flowing creek at anomaly. lt green-grey mudstone-siltstone. Vertical, strike 355 mag. 0.1x10 ³ cgs
988498	ss	g/s						5	10	35	x	x		115			0.4% / 10	x/10	3/310		Ck as above. In wide. Trickle.
988551	S	A	0.3	C				x	x	15	x			30			0.65% / 10	x/15	x/1640		50m west of ck. Weath grey-green silty mudstone.
988552	F	g/s						x	x	15	x			115			0.5% / 10	x/15	x/1765		75m west of ck. Cream weath. silt.
988553	S	A	0.4	C				20	10	40	x			20			1.00% / 10	x/10	8/1400		75m west of ck. Weath. lt buff-ochre shale/silt/mudstone.
988554	S	A	0.3	C				5	x	15	x			30			0.7% / 10	x/15	x/1609		25m west of ck. As above.

* Sample type ss = stream sediment oc = outcrop f = float s = soil
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 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

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SAMPLE LEDGERS

DOLSOW AEROMAGNETIC ANOMALY

INPUT-EM ANOMALY 4004/10760

C.R.A. EXPLORATION GEOCHEMICAL SAMPLE JGER

Tenement name RAPID RIVER EL 1179

No. 988558-560-561 Sample numbers. Collected by I.M. Clementson

Sheet no. 1

Area / Prospect DOLBOW AEROMAG ANOMALY

Date 21-4-83

Map / Photo reference A 02143

Analysed by ANALABS / FANDER DPO no. 30330

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %											Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Fe ₂ O ₃ %	As %	Sn %			
		o/c sample type ***																			
		s sample type ****																			
988558	F	g/s						PETROLOGY: fresh porphyritic basaltic andesite												Degray-black, massive, mid-grained crystalline rock. Prob a diorite, coarse basalt, or possibly unfoliated amphibolite. 0.2-0.4 x 10 ⁻³ g/s.	
988559	F	g/s						65	10	100	x		800		5.55 / 100	x / 50	44 / 100		As above		
988560	F	g/s						55	5	100	0.5		930		6.00 / 100	x / 55	x / 154		(All collected off plateau at anomaly site)		
988561	S/S	g/s						S	S	15	x	x	40		0.55 / 100	x / 15	x / 132		Small creek (1m) draining off the anomaly at east of it. Qz-gravel.		

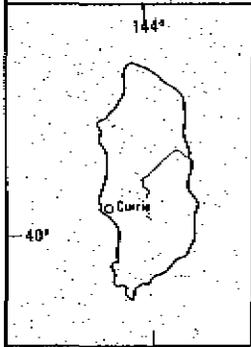
* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m³/sec wi = width m al = alluvial co = colluvial ca = catchment km²

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

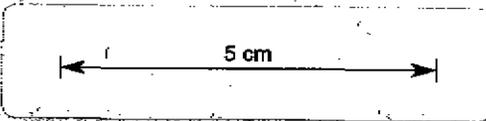
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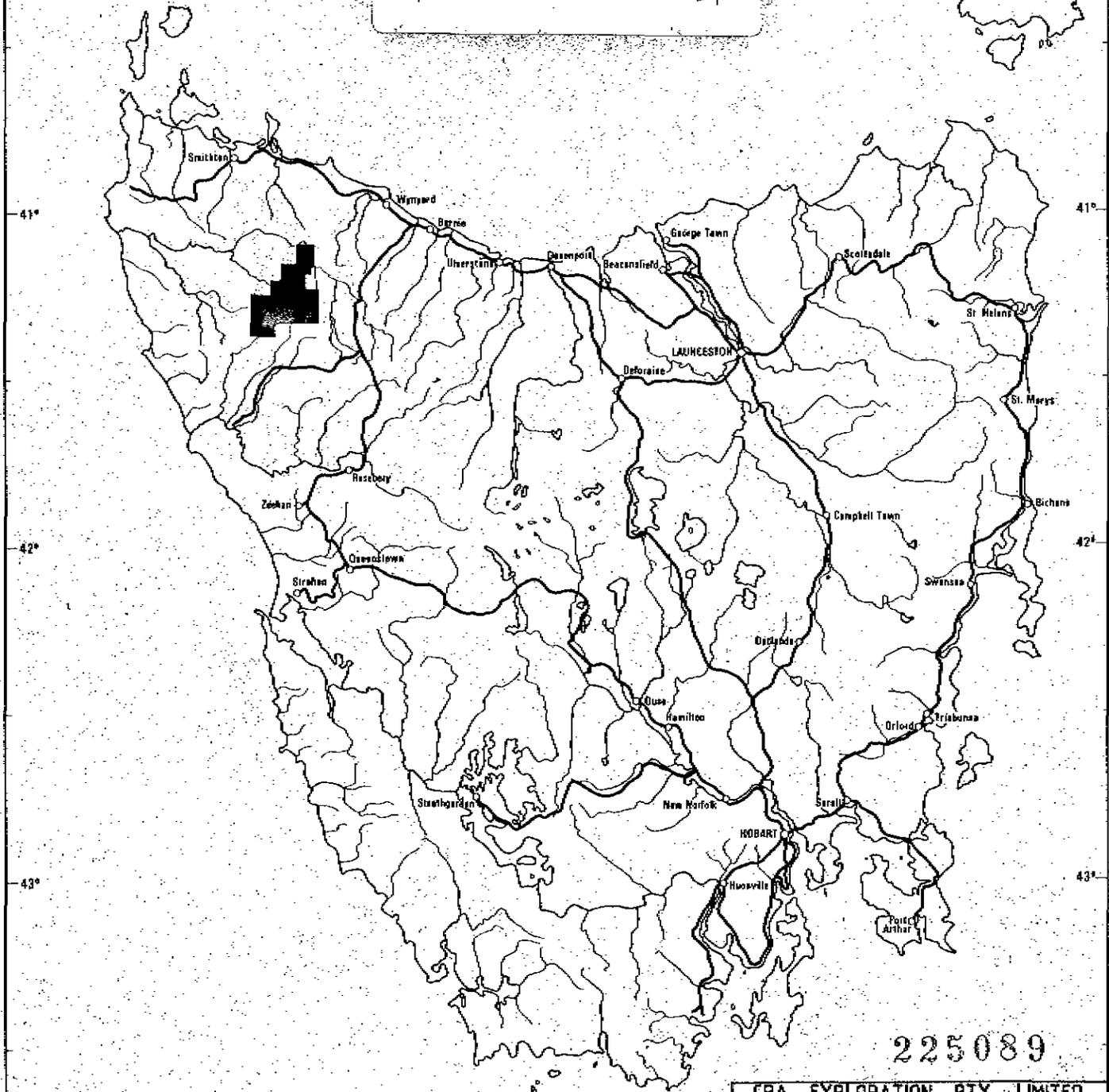
TASMANIA

Scale 1:2 000 000

0 50 100 Kilometres

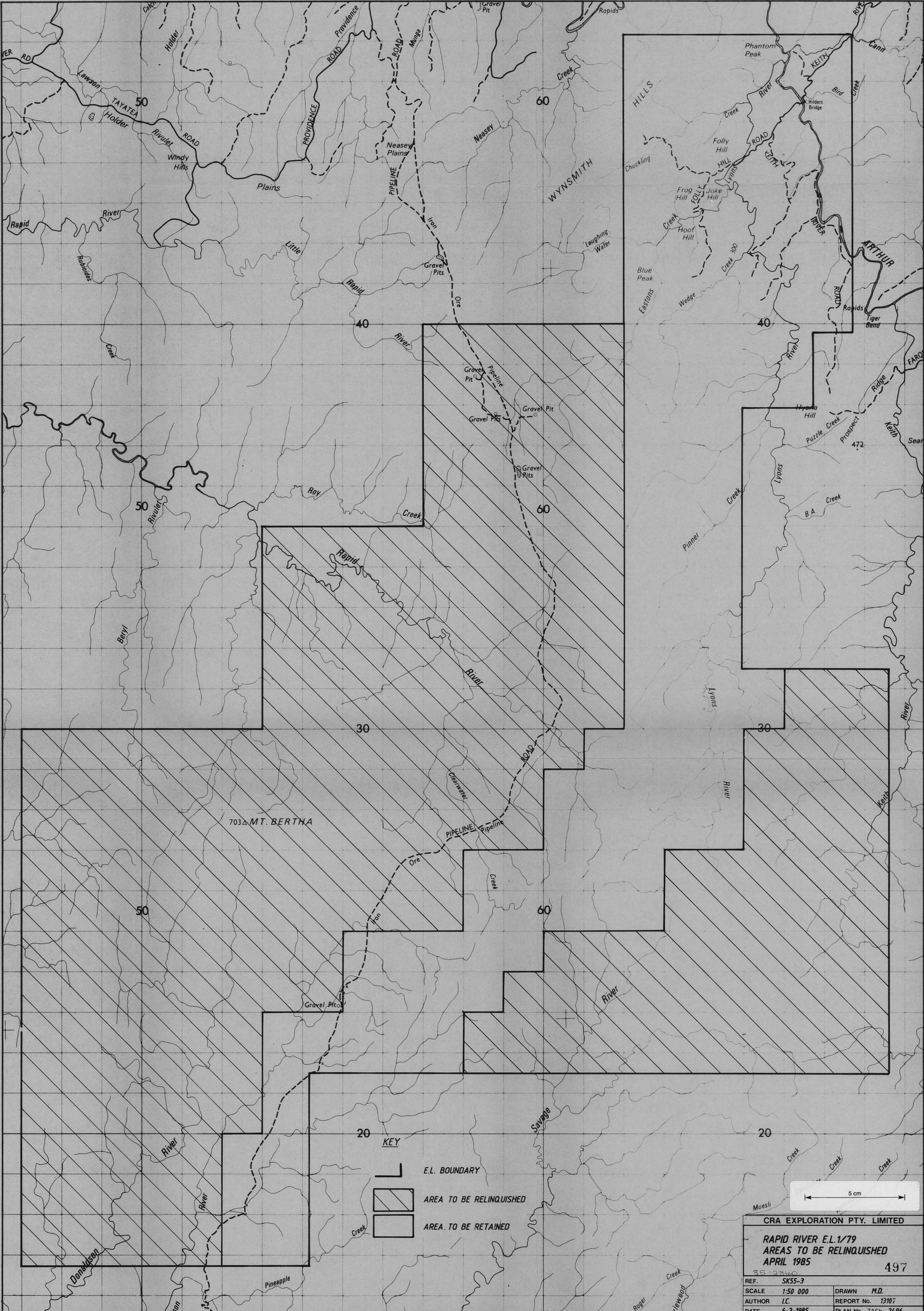


VICTORIA
TASMANIA



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CRA EXPLORATION PTY. LIMITED	
LOCALITY PLAN	
RAPID RIVER EL. 1/79	
85-2340	
REF. SK55 - 3	
SCALE: 1 : 2 000 000	DRAWN: R. T.
AUTHOR: M. F.	REPORT N ^o . 13107
Date: 30 - 8 - 1982	Plan NO. TASH 842



KEY

┌┐ E.L. BOUNDARY

▨ AREA TO BE RELINQUISHED

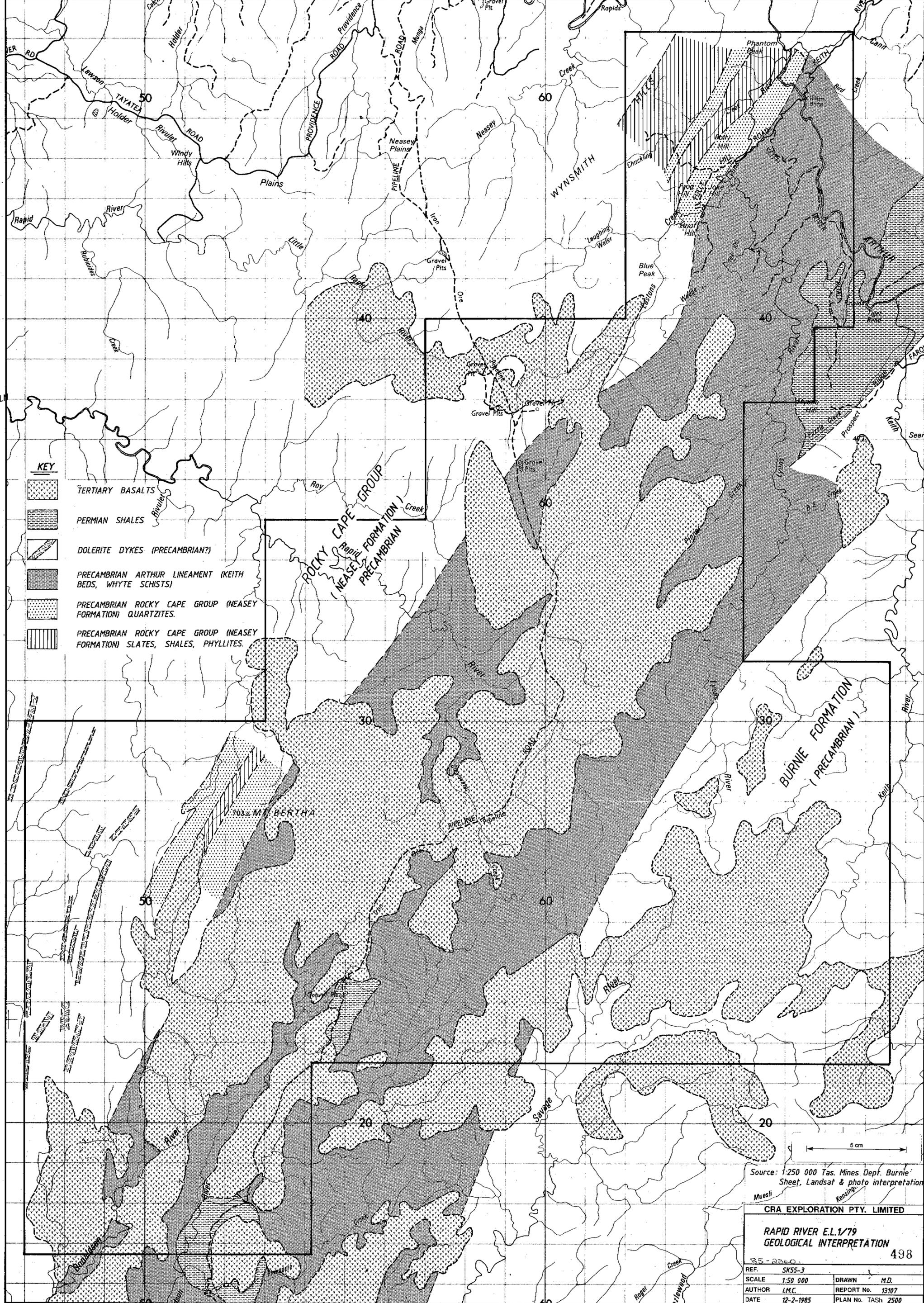
□ AREA TO BE RETAINED

5 cm

CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L. 1/79
AREAS TO BE RELINQUISHED
APRIL 1985 497

REF. SK55-3
 SCALE 1:50 000 DRAWN M.D.
 AUTHOR I.C. REPORT No. 13107
 DATE 6-2-1985 PLAN No. TASH 2496



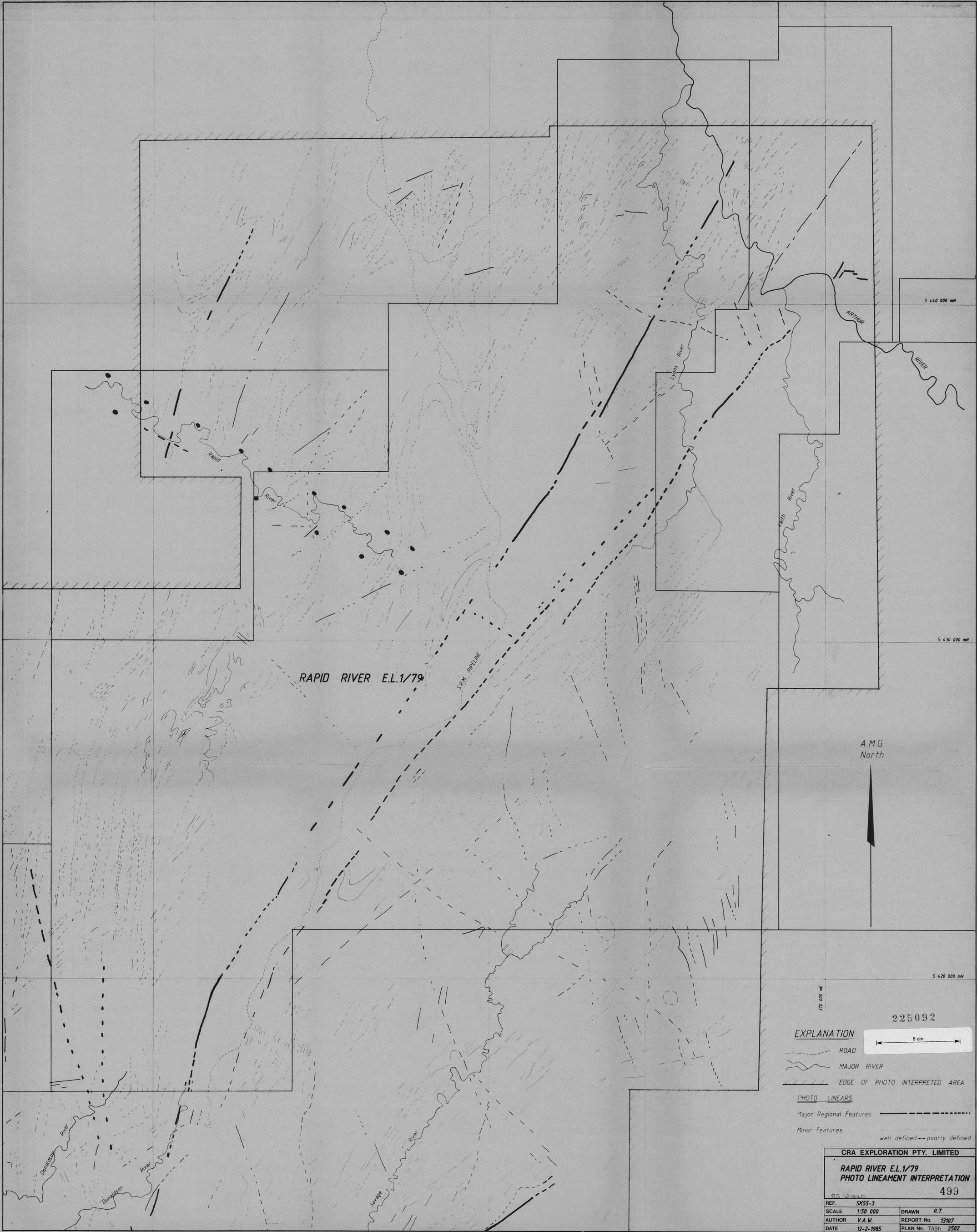
- KEY**
-  TERTIARY BASALTS
 -  PERMIAN SHALES
 -  DOLERITE DYKES (PRECAMBRIAN?)
 -  PRECAMBRIAN ARTHUR LINEAMENT (KEITH BEDS, WHYTE SCHISTS)
 -  PRECAMBRIAN ROCKY CAPE GROUP (NEASEY FORMATION) QUARTZITES.
 -  PRECAMBRIAN ROCKY CAPE GROUP (NEASEY FORMATION) SLATES, SHALES, PHYLLITES.

5 cm

Source: 1:250 000 Tas. Mines Dept. Burnie Sheet, Landsat & photo interpretation

CRA EXPLORATION PTY. LIMITED	
RAPID RIVER E.L.1/79	
GEOLOGICAL INTERPRETATION	
498	
REF. SK55-3	
SCALE 1:50 000	DRAWN M.D.
AUTHOR I.M.C.	REPORT No. 13107
DATE 12-2-1985	PLAN No. TASH 2500

225091



5 440 000 mN

5 430 000 mN

5 420 000 mN

RAPID RIVER E.L.1/79

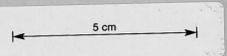
S.P.M. PIPELINE

AMG
North

225092

EXPLANATION

- ROAD
 - MAJOR RIVER
 - EDGE OF PHOTO INTERPRETED AREA
 - PHOTO LINEARS
 - Major Regional Features
 - Minor Features
- well defined -- poorly defined



CRA EXPLORATION PTY. LIMITED	
RAPID RIVER E.L.1/79	
PHOTO LINEAMENT INTERPRETATION	
499	
REF. SK55-3	
SCALE 1:50 000	DRAWN R.T.
AUTHOR V.A.W.	REPORT No. 13107
DATE 12-2-1985	PLAN No. TASH 2502

LEGEND

- ★ 6 Channel Anomaly with very slow decay
- ★ 5
- ★ 4
- 6 Channel Anomaly with slow decay
- 5
- 4
- 6 Channel Anomaly with fast decay
- 5
- 4
- ✕ 6 Channel Anomaly with very fast decay
- ✕ 5
- ✕ 4
- ✕ 3 Channel Anomaly
- ✕ 2

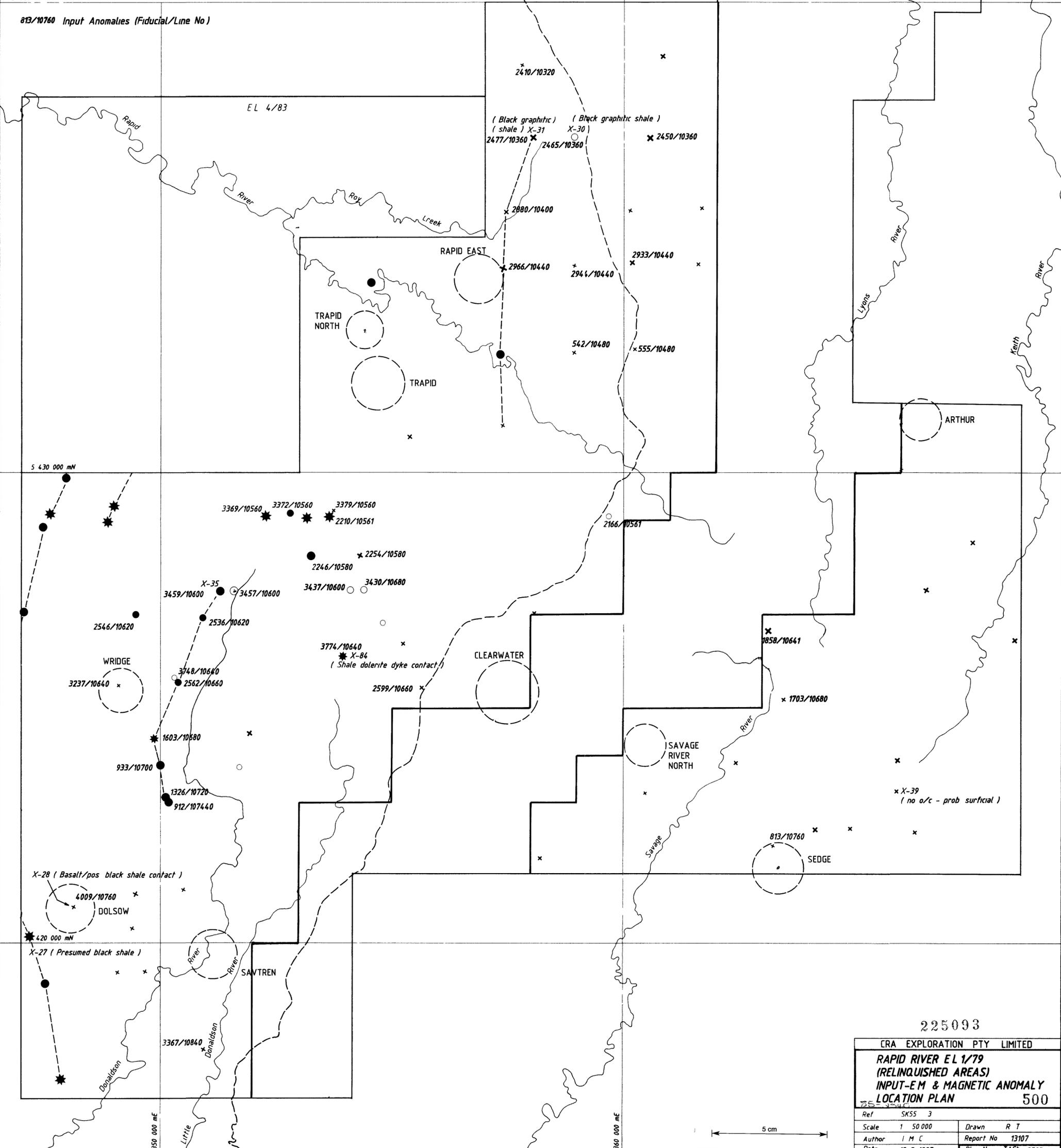
Decay rates are defined by the channel 1 to channel 4 ratio
 very slow decay - ratio is less than 4
 slow decay - ratio is between 4 and 8
 fast decay - ratio is between 8 and 12
 very fast decay - ratio is greater than 12

○ Magnetic Anomaly

Italicised annotation represents Esso anomaly identification and notes dashed lines represent interpreted black (graphitic) shale units recognised by Esso

5 440 000 mN

813/10760 Input Anomalies (Fiducial/Line No)



225093

CRA EXPLORATION PTY LIMITED			
RAPID RIVER EL 1/79			
(RELINQUISHED AREAS)			
INPUT-E M & MAGNETIC ANOMALY			
LOCATION PLAN			
500			
Ref	SK55 3	Drawn	R T
Scale	1 50 000	Report No	13107
Author	I M C	Plan No	TASH 2503
Date	12-2-1985		

5 440 000 N

360 000 E

370 000 E

350 000 E

5 430 000 N

5 420 000 N



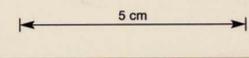
AIRBORNE SURVEY SPECIFICATIONS

AIRCRAFT : CESSNA 185E VH-KPF
 MAGNETOMETER : VARIAN V85 PROTON PRECESSION UNIT RECORDING TO 0.1nT
 SPECTROMETER : NUCLEAR ENTERPRISE 8424 16780 cc NaI(Tl) CRYSTAL DIFFERENTIAL RECORDING Th. U. K AND TOTAL COUNT.
 ACQUISITION : TO 9 TRACK MAGNETIC TAPE AND GARS 6 MULTI-CHANNEL CHART RECORDER.
 FLIGHT PATH : VINTEN MARK IV 16mm
 DETECTOR HEIGHT : 100 METRES
 FLIGHT LINE SPACING : 250 METRES

LEGEND

MAGNETIC CONTOUR INTERVAL - 5 NANOTESLA
 GRID MESH - 90m X 90m
 SEARCH RADIUS - 1000m

- 500 NANOTESLA CONTOUR
- 100 NANOTESLA CONTOUR
- 20 NANOTESLA CONTOUR
- 5 NANOTESLA CONTOUR



225094

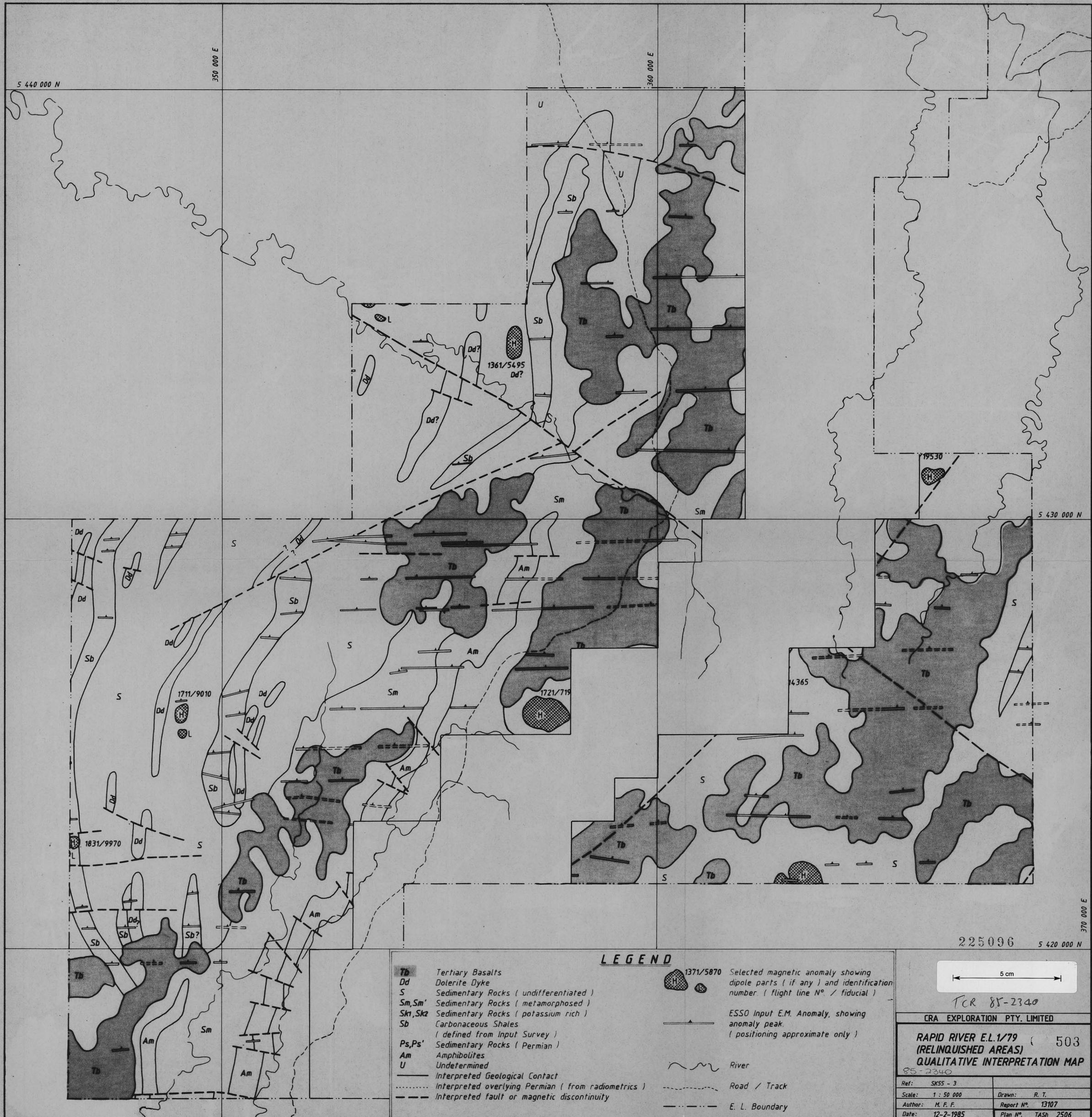
TCR 85-2340

CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L.1/79 501
 (RELINQUISHED AREAS)
 TOTAL MAGNETIC INTENSITY MAP

Ref:	SK55 - 3	Drawn:	AUSTIREX R. T.
Scale:	1 : 50 000	Report No:	13107
Date:	12-2-1985	Plan No:	TASH 2504

*** note ***
 Flown and presented by AUSTIREX INTERNATIONAL LTD.

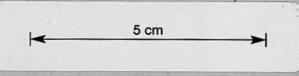


- Tb** Tertiary Basalts
Dd Dolerite Dyke
S Sedimentary Rocks (undifferentiated)
Sm, Sm' Sedimentary Rocks (metamorphosed)
Sk1, Sk2 Sedimentary Rocks (potassium rich)
Sb Carbonaceous Shales
(defined from Input Survey)
Ps, Ps' Sedimentary Rocks (Permian)
Am Amphibolites
U Undetermined
 ——— Interpreted Geological Contact
 - - - - - Interpreted overlying Permian (from radiometrics)
 - - - - - Interpreted fault or magnetic discontinuity

LEGEND

- 1371/5870** Selected magnetic anomaly showing dipole parts (if any) and identification number. (flight line N° / fiducial)
- ESSO Input E.M. Anomaly, showing anomaly peak. (positioning approximate only)
- ~~~~~ River
- - - - - Road / Track
- - - - - E. L. Boundary

225096 5 420 000 E



TCR 85-2340

CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L.1/79 (RELINQUISHED AREAS) 503
QUALITATIVE INTERPRETATION MAP
 85-2340

Ref: SK55 - 3	Drawn: R. T.
Scale: 1 : 50 000	Report N°: 13107
Author: M. F. F.	Plan N°: TASH 2506
Date: 12-2-1985	

5 440 000 mN

E.L. 1/79

AMG
NTH.

225097

5 cm

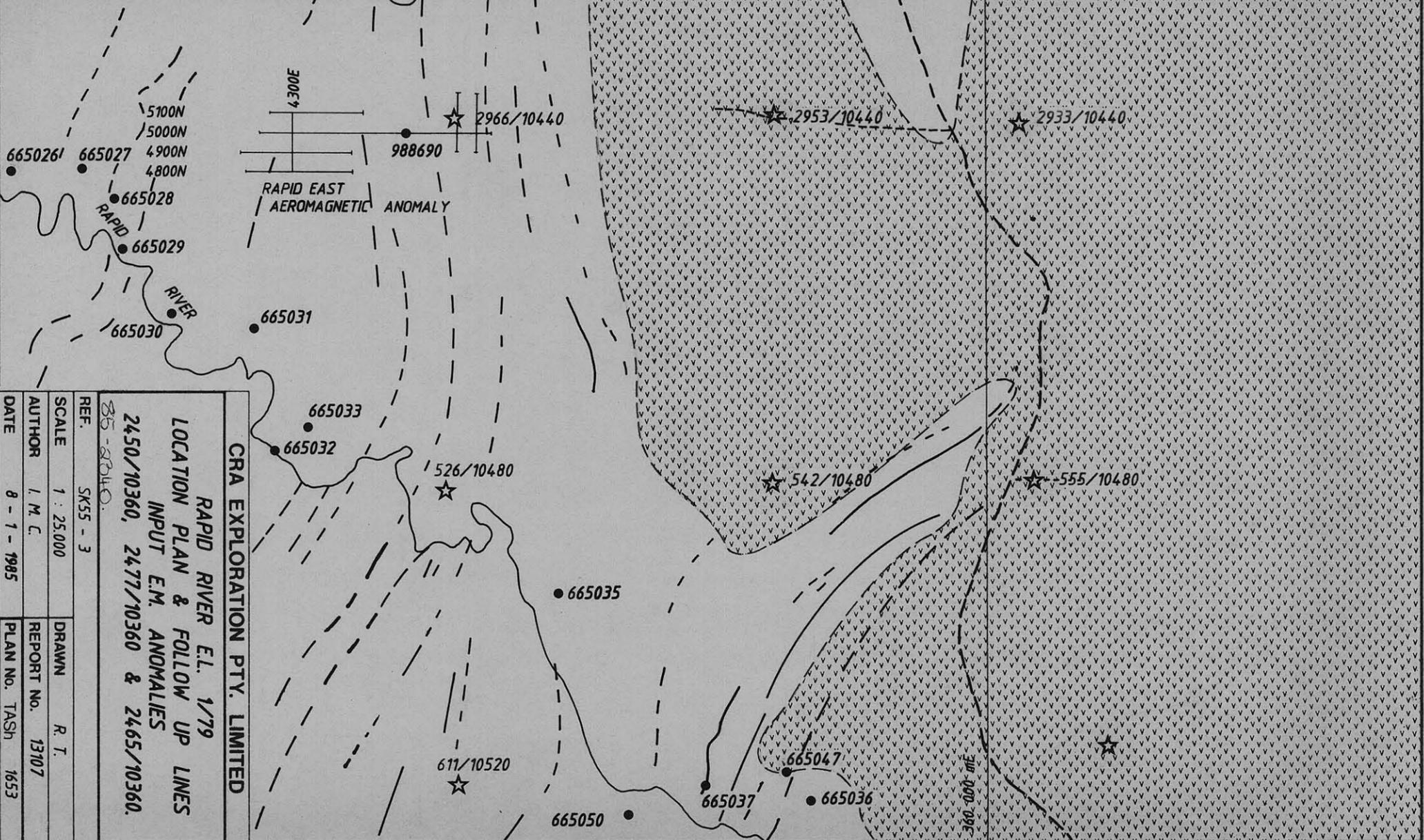
KEY

-  Tertiary Basalt
-  Photo Lineament
-  Cut Lines
-  Flagged Traverses

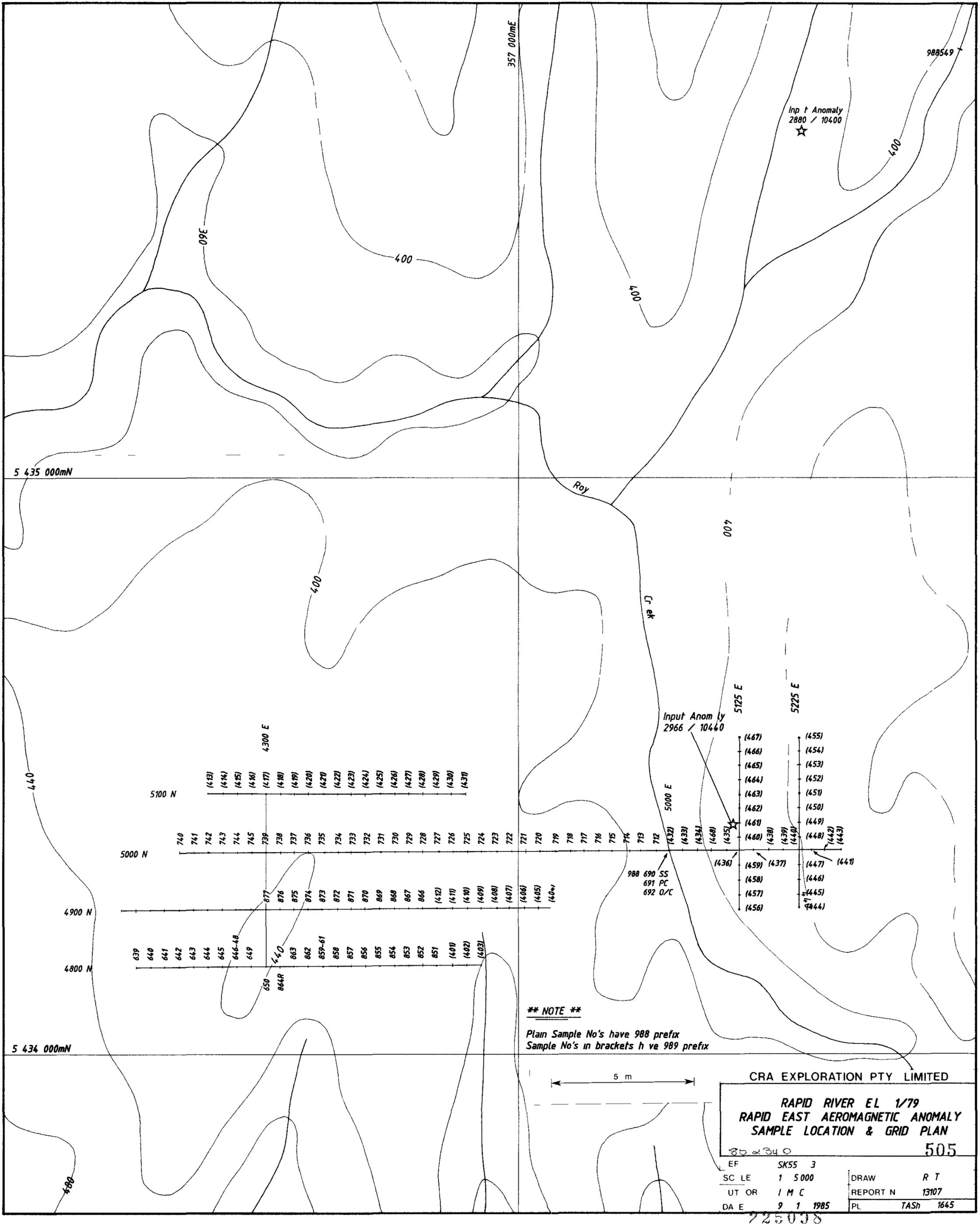
☆ Input E.M. Anomaly With Fiducial & Line No.

● Stream Sediment Sample Site & No. (Prefix 665 = Comstaff Samples)

5 435 000 mN



CRA EXPLORATION PTY. LIMITED	
RAPID RIVER E.L. 1/79	
LOCATION PLAN & FOLLOW UP LINES	
INPUT E.M. ANOMALIES	
2450/10360, 2477/10360 & 2465/10360.	
REF.	SK55 - 3
SCALE	1 : 25,000
AUTHOR	I. M. C.
DATE	8 - 1 - 1985
DRAWN	R. T.
REPORT NO.	13107
PLAN NO.	TASH 1653



5 435 000mN

357 000mE

988549

Input Anomaly
2880 / 10400

440

4900 N

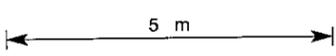
5 434 000mN

740	741	742	743	744	745	739	738	737	736	735	734	733	732	731	730	729	728	727	726	725	724	723	722	721	720	719	718	717	716	715	714	713	712	(432)	(433)	(434)	(468)	(435)	(460)	(438)	(439)	(440)	(441)	(442)	(443)													
(413)	(414)	(415)	(416)	(417)	(418)	(419)	(420)	(421)	(422)	(423)	(424)	(425)	(426)	(427)	(428)	(429)	(430)	(431)	(406)	(405)	(404)	(403)	(402)	(401)	(400)	(409)	(408)	(407)	(406)	(405)	(404)	(403)	(402)	(401)	(400)	(459)	(458)	(457)	(456)	(461)	(462)	(463)	(464)	(465)	(466)	(467)	(455)	(454)	(453)	(452)	(451)	(450)	(449)	(448)	(447)	(446)	(445)	(444)

Input Anomaly
2966 / 10440

988 690 SS
691 PC
692 O/C

**** NOTE ****
Plain Sample No's have 988 prefix
Sample No's in brackets have 989 prefix



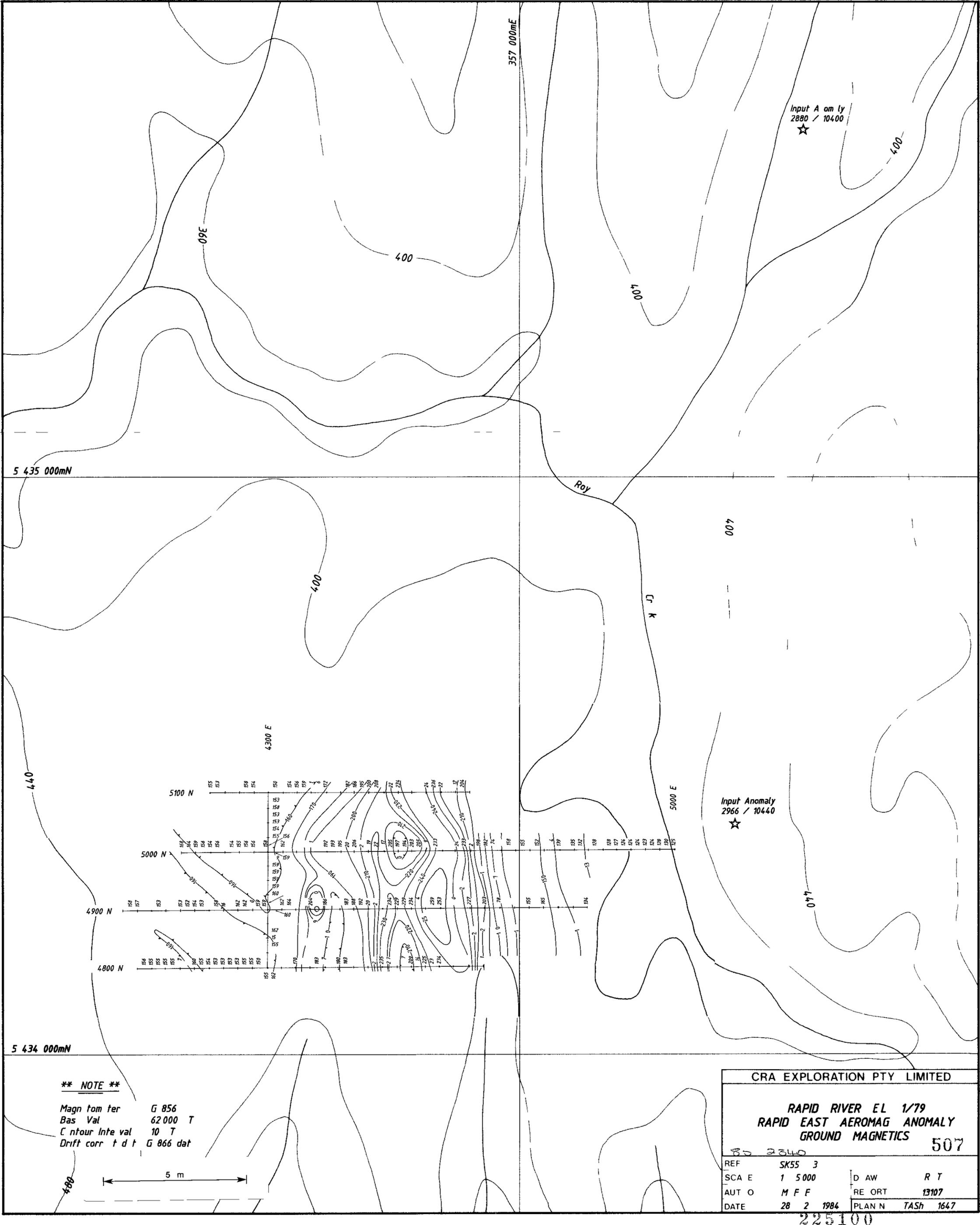
CRA EXPLORATION PTY LIMITED

**RAPID RIVER EL 1/79
RAPID EAST AEROMAGNETIC ANOMALY
SAMPLE LOCATION & GRID PLAN**

505

EF	SK55	3	DRAW	R T
SC LE	1	5 000	REPORT N	13107
UT OR	1	M C	PL	TASH 1645
DA E	9	1 1985		

225038



5 435 000mN

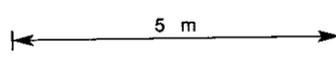
357 000mE

Input Anomaly
2880 / 10400
★

5 434 000mN

Input Anomaly
2966 / 10440
★

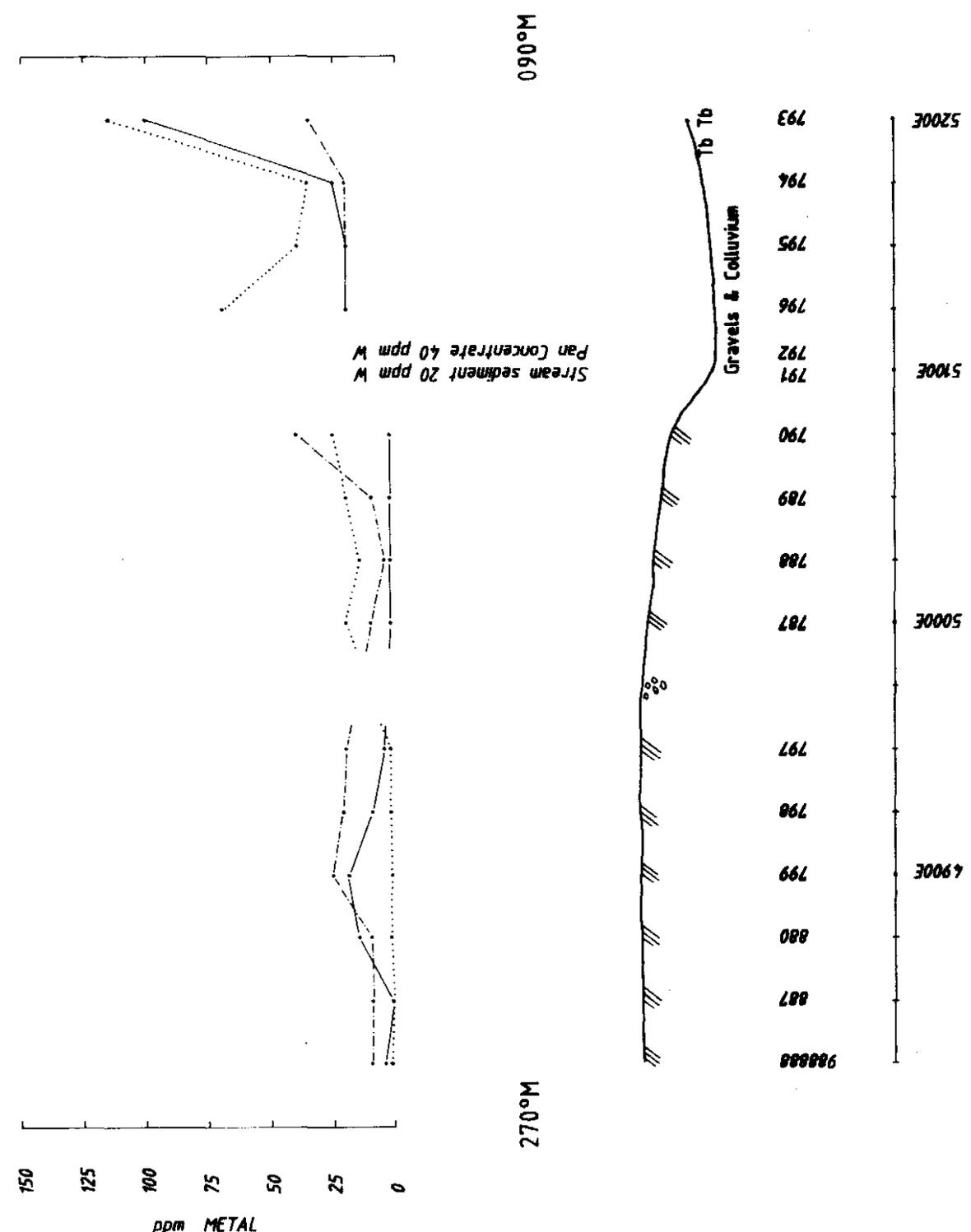
**** NOTE ****
 Magn tom ter G 856
 Bas Val 62000 T
 C ntour Inte val 10 T
 Drift corr t d t G 866 dat



CRA EXPLORATION PTY LIMITED			
RAPID RIVER EL 1/79			
RAPID EAST AEROMAG ANOMALY			
GROUND MAGNETICS 507			
REF	SK55 3	D AW	R T
SCA E	1 5000	RE ORT	13107
AUT O	M F F	PLAN N	TASH 1647
DATE	28 2 1984		

225100

U91



KEY TO GEOCHEMISTRY

- COPPER
- LEAD
- ZINC

KEY TO GEOLOGY

- Talcose grey brown shales, slates.
- Quartzites, pale fin-mod grained.
- Scree, alluvium, colluvium (quartzose)

Tb Tertiary Basalt

5 cm

225101

CRA EXPLORATION PTY. LIMITED			
RAPID RIVER E.L. 1/79 INPUT E.M. ANOMALY 2450/10360 GEOCHEMISTRY & GEOLOGY LINE 5000 N			
REF.	SK55 - 3		
SCALE	1 : 2500	DRAWN	R. T.
AUTHOR	I. M. C.	REPORT No.	13107
DATE	6 3 - 1984	PLAN No	TASH 1654

KEY TO GEOCHEMISTRY

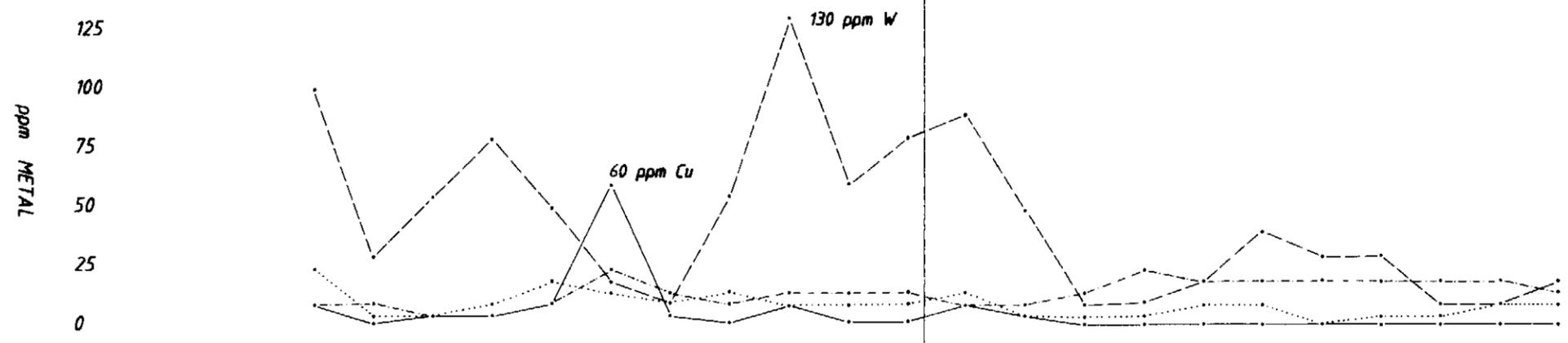
- COPPER
- - - LEAD
- ZINC
- · - · TUNGSTEN

All Sn < 5 ppm
 Co < 10 ppm
 Ag < 2 ppm
 As < 20 ppm
 Ba < 380 ppm

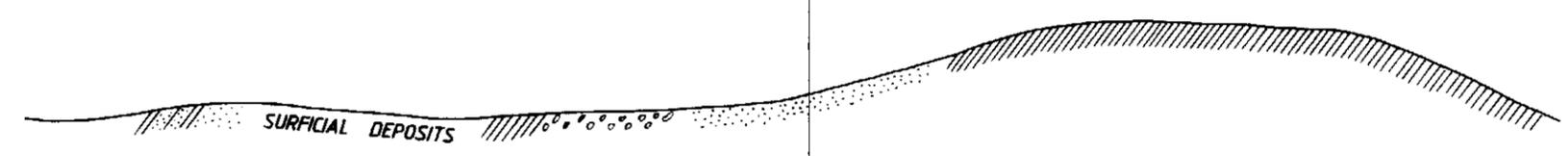
KEY TO GEOLOGY

-  Talcose grey brown shales, slates.
-  Quartzites, pale, fine-mod grained.
-  Scree, alluvium, colluvium (quartzose)

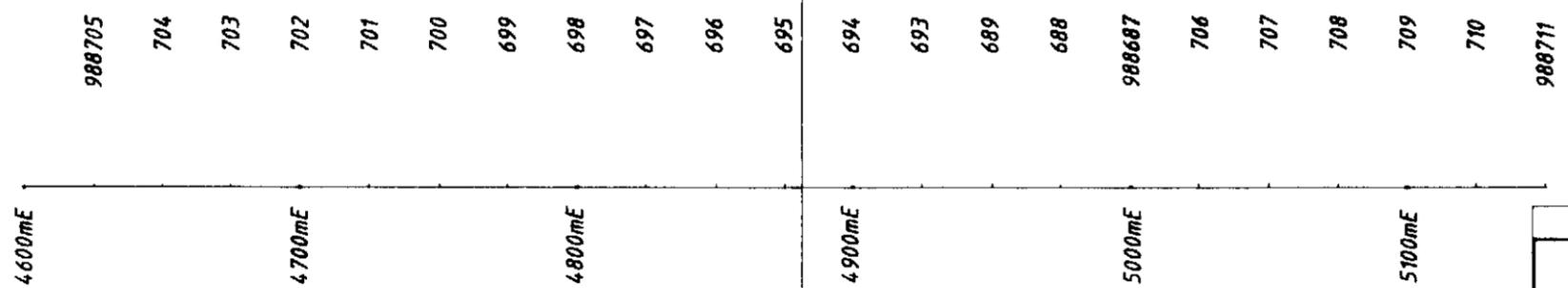
125
100
75
50
25
0
270°M



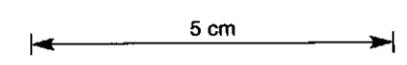
090°M



Sample No's



225102



CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L. 1/79
 INPUT E.M. ANOMALY 2465/10360
 GEOCHEMISTRY & GEOLOGY
 LINE 5000 N 508

REF.	SK55 - 3		
SCALE	1 : 2500	DRAWN	R. T.
AUTHOR	I. M. C.	REPORT No.	13107
DATE	6 - 3 - 1984	PLAN No.	TASh 1655

KEY TO GEOLOGY

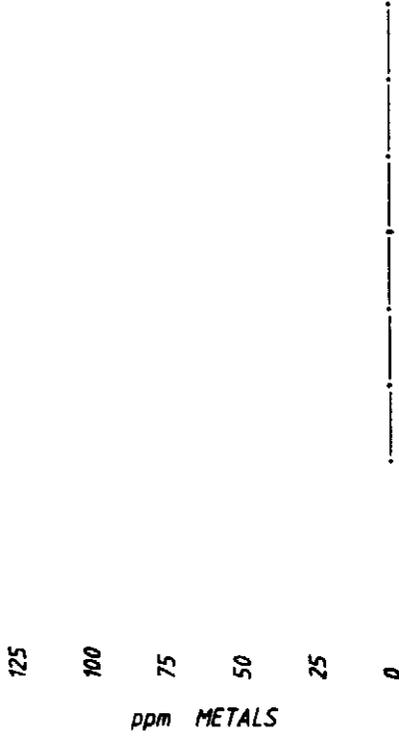
 Talcose grey brown shales slates.

 Quartzites, pale, fine-mod grained.

 Scree, alluvium, colluvium (quartzose)

All As <10 ppm
 All Sn results pending
 All Co <60 ppm
 All W results pending

5 cm



All Lead values are <15 ppm

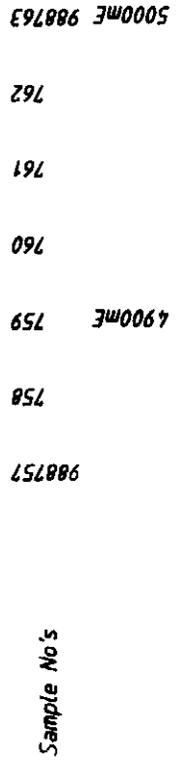
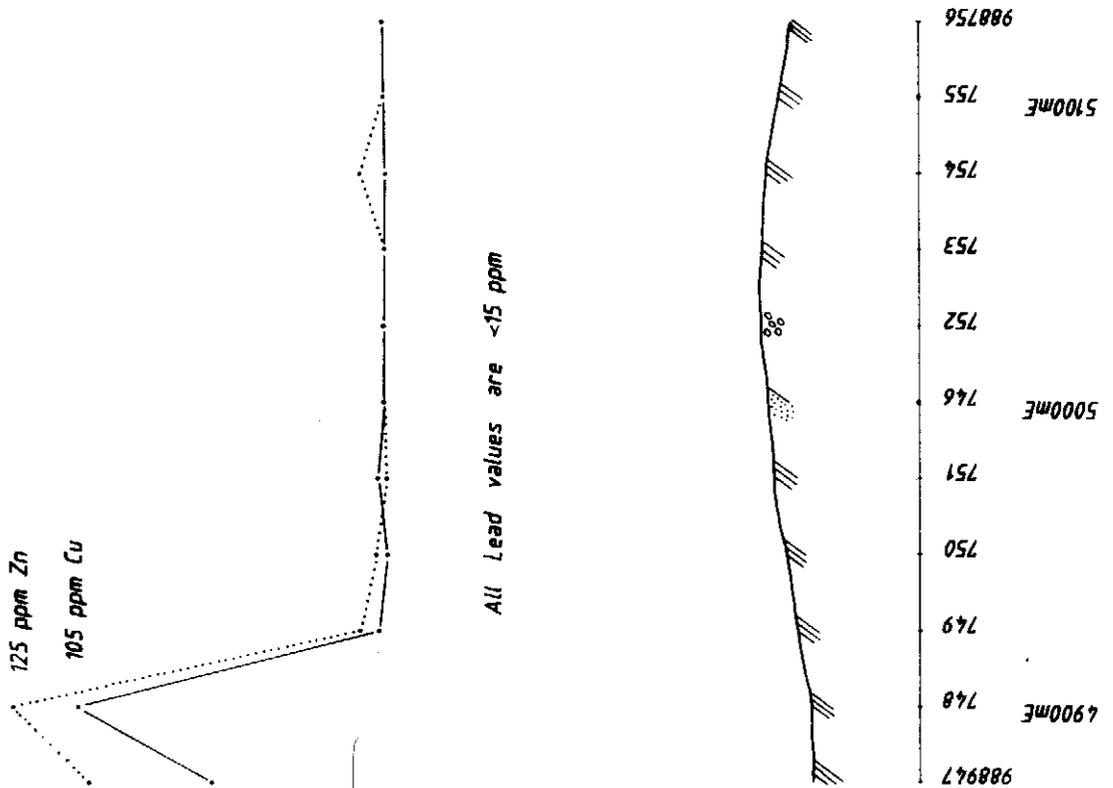
All Lead values are <10 ppm
 All Zinc values are <10 ppm

225103

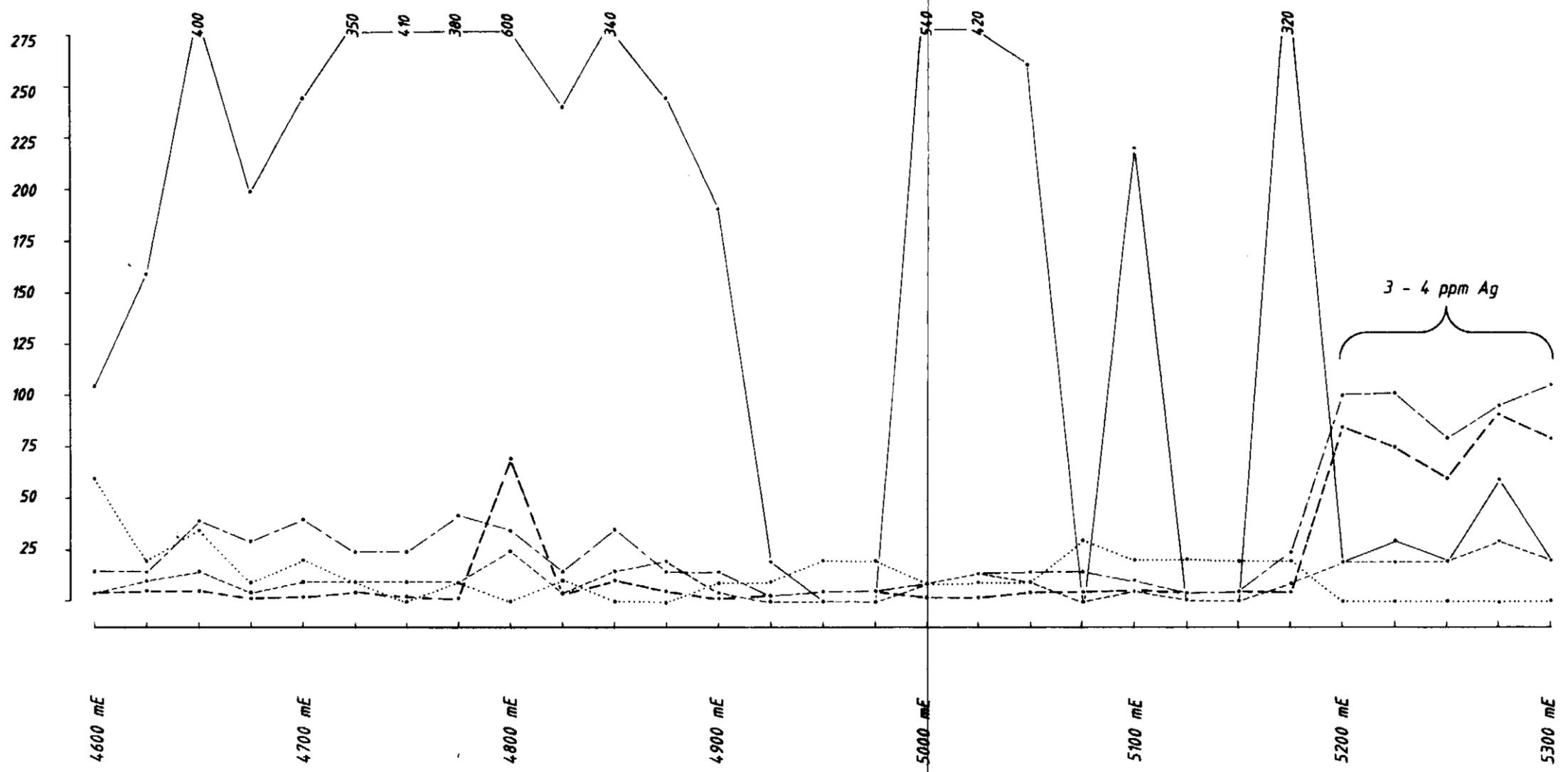
CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L. 1/79
 INPUT E.M. ANOMALY 2465/10360
 GEOCHEMISTRY & GEOLOGY
 LINES 4850 N & 5150 N

REF.	SK55 - 3	
SCALE	1 : 2500	DRAWN R. T.
AUTHOR	I. M. C.	REPORT No. 13107
DATE	7 - 3 - 1984	PLAN No. TASH 1656



p.p.m.

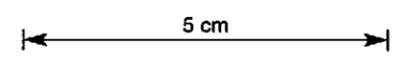


- - - - - Cu
 - - - - - Pb
 - - - - - Zn
 - - - - - Ba
 - - - - - W
 All Sn < 5 ppm
 As < 1 ppm

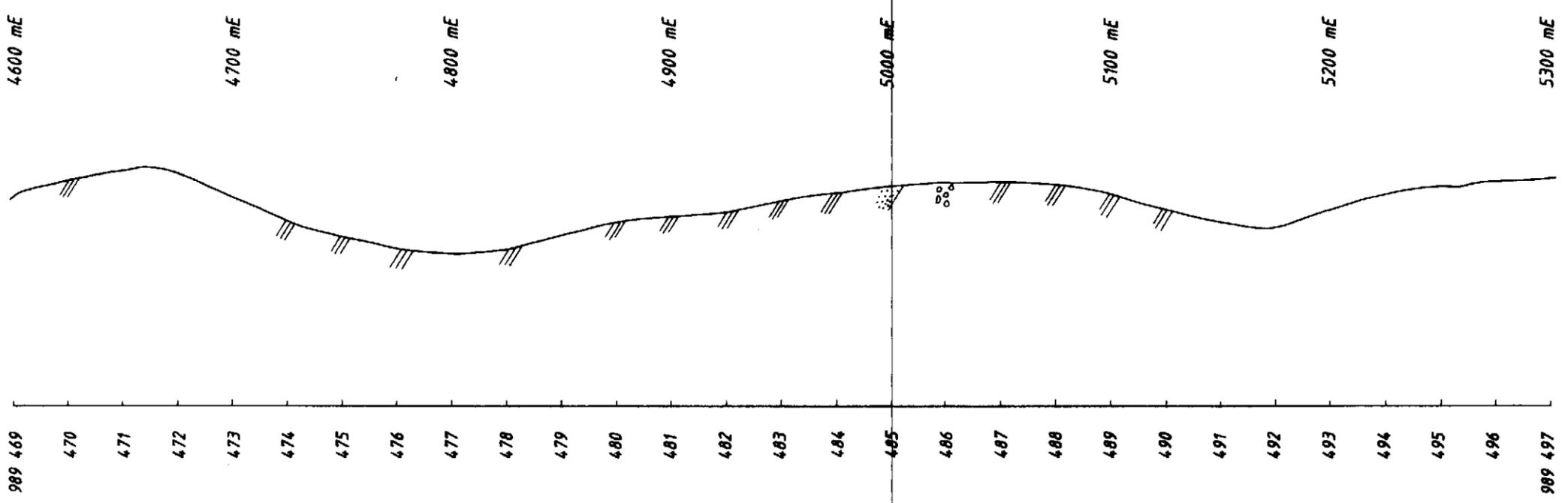
KEY TO GEOLOGY

-  Talcose grey brown shales slates.
-  Quartzites, pale, fine-mod grained.
-  Scree, alluvium, colluvium (quartzose).

225104



CRA EXPLORATION PTY. LIMITED	
RAPID RIVER E.L. 1/79 INPUT EM ANOMALY 2465 /10360 GEOCHEMISTRY & GEOLOGY LINE 4850 N 509	
REF.	SK55 - 3
SCALE	1 : 2500
AUTHOR	I.M.C.
DATE	25 - 1 - 1985
DRAWN	R.T.
REPORT No.	13107
PLAN No.	TASh 2481



089

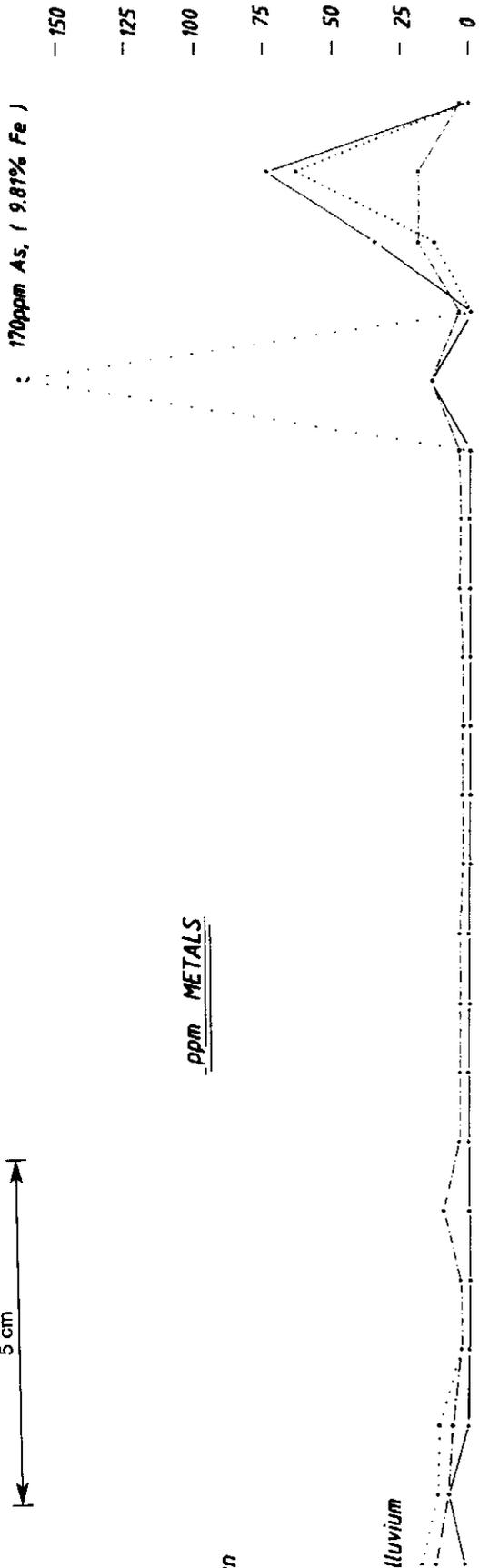
KEY TO GEOCHEMISTRY

- COPPER
- - - LEAD
- ZINC

KEY TO GEOLOGY

- Talcose grey brown shales, slates.
- Quartzites, pale fine-mod. grained.
- Scree, alluvium, colluvium (quartzose)

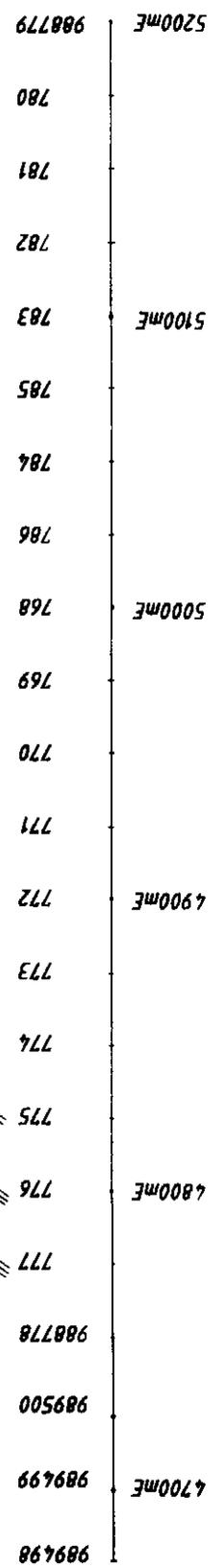
5 cm



090°M

270°M

Sample Numbers



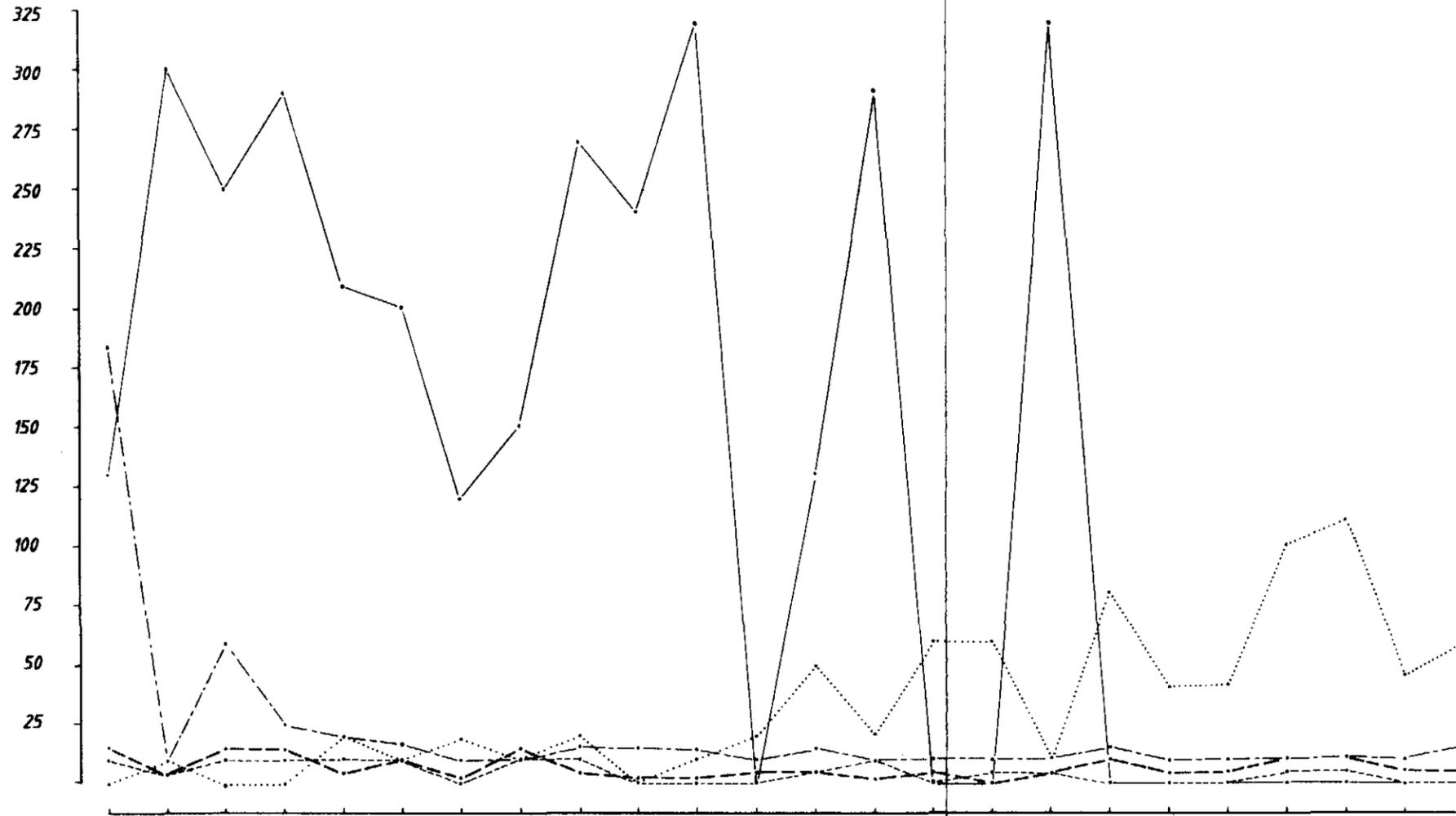
225105

CRA EXPLORATION PTY. LIMITED

RAPID RIVER E.L. 1/79
 INPUT E.M. ANOMALY 2477/10360
 GEOCHEMISTRY & GEOLOGY
 LINE 5000 N

REF.	SK55 - 3		
SCALE	1 : 2500	DRAWN	R. T.
AUTHOR	I. M. C.	REPORT No.	13107
DATE	8 - 1 - 1985	PLAN No.	TASh 1657

p.p.m.



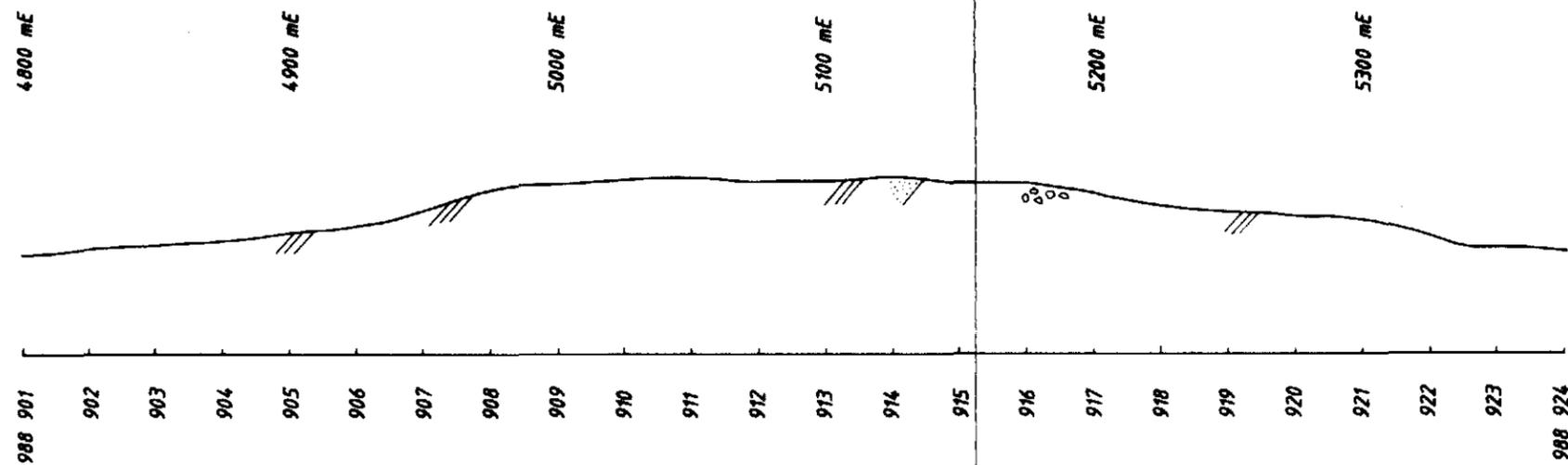
- Cu
- Pb
- Zn
- Ba
- W

All Sn < 5 ppm
 As < 1 ppm
 Ag < 1 ppm

KEY TO GEOLOGY

-  Talcose grey brown shales slates.
-  Quartzites, pale, fine-mod grained
-  Scree, alluvium, colluvium (quartzose)

5 cm



CRA EXPLORATION PTY. LIMITED	
RAPID RIVER E.L. 1/79	
INPUT EM ANOMALY 2477/10360	
GEOCHEMISTRY	
85-2340	LINE 5150 N 510
REF. SK55 - 3	
SCALE 1 : 2500	DRAWN R.T.
AUTHOR I.M.C.	REPORT No. 13107
DATE 25 - 1 - 1985	PLAN No. TASH 2480

225106