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LEIGH RIVER EL 12/80

PROGRESS REPORT PERIOD JUNE 1983 - JULY 1984

**OPEN FILE**

Date: 6th August, 1984

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**MICROFILMED**

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## 1. SUMMARY

Regional drainage geochemical sampling was completed over the western portion of the Licence area. Weakly anomalous levels of iron and barium in stream sediments and iron barium ± lead and molybdenum and gold in panned concentrates were returned at five localities: Leigh River, Lindsay East, Lindsay West, Spur II and Midway.

Nine aeromagnetic anomalies defined by the Mines Department West Coast Survey were followed up by ground magnetics and 'C' horizon soil geochemistry. The majority of these anomalies are attributed to either amphibolite dykes, an increase in the pyrrhotite content of the siltstones or a change in the attitude of the siltstones. Minor soil geochemical anomalies are attributed to the amphibolite dykes. One tungsten anomaly (maximum 130 ppm) on the western margin of the STRIKE anomaly remains unexplained. Resampling has confirmed the presence of anomalous tungsten values. On the strength of this anomaly, the Boulder Rivulet licence area, EL 61/83 was applied for and granted.

## 2. INTRODUCTION

This report outlines exploration completed within the Licence area during the period June 1983-1984.

Regional drainage sampling continued in the western part of the Licence area as part of a wider reconnaissance helicopter borne program. Approximately 25 sites were sampled by stream sediments, panned concentrates and clay fractions. An evaluation of the Mines Department West Coast Aeromagnetic data indicated a number of magnetic anomalies considered worthy of follow-up.

3. CONCLUSIONS

Eight of the nine aeromagnetic anomalies are attributed to either amphibolite dykes, increase in the pyrrhotite content of the siltstones or a change in the attitude of the siltstones owing to folding or faulting. Soil geochemistry over these anomalies is very weak. Increases in the copper, lead, zinc, nickel, cobalt, iron and manganese are diagnostic of the amphibolites.

Five drainage geochemical anomalies were outlined and are considered worthy of follow up.

4. RECOMMENDATIONS

The STRIKE tungsten anomaly with a coincident ground magnetic high warrants further gridding and soil geochemistry.

Follow up of five drainage geochemical anomalies is required. Resampling of the relevant creeks at close spaced intervals would be sufficient.

5. DRAINAGE GEOCHEMISTRY

Drainage geochemical sampling at a density of approximately 1 per 2km<sup>2</sup> was completed over the western part of the Licence area as part of a wider helicopter borne reconnaissance survey. Approximately 25 sites were sampled and full assay details are located in Appendix I.

5.1 Stream Sediments Plan TASH 1921

Approximately 2kg of -20 mesh material was collected from suitable trap sites within the active stream. The samples were dried, sieved to minus 80 mesh and analysed for Cu, Pb, Zn, Ni, Co, Ag, As, Fe, Mn, by ICP and Sn, W, Ba by XRF at ALS Laboratories in Brisbane.

The data was statistically treated using "Microgas", element thresholds determined and worm diagrams produced.

#### 5.1.1. Thresholds

Thresholds were determined by use of the mean + two standard deviations and by "eyeballing" the histogram distributions.

	Anomalous ppm	Possibly Anomalous ppm	High Background ppm
Copper	>14	6-14	4-6
Lead	> 25	15-25	
Zinc	>1000	251-1000	63-251
Nickel	> 38	19-38	
Silver	>1.6	0.9-1.6	
Iron	>1.99%	1.54-1.99%	1.0-1.54
Manganese	> 218	147-218	100-147
Arsenic	> 14	6-14	4-6
Tin	>125	50-125	10-50
Tungsten	> 66	35-66	

#### 5.1.2. Anomalies Plan TASH 1934

##### Leigh River

Anomalous levels of iron, arsenic with lesser barium and manganese are present in the Leigh River and drains an area of approximately 50km<sup>2</sup>.

##### Lindsay East

Anomalous iron together with lesser lead drain a catchment of approximately 5km<sup>2</sup>.

##### Spur II

Anomalous iron, barium with lesser arsenic drain an area of approximately 5km<sup>2</sup>.

## Midway

Anomalous barium with lesser lead and manganese drain an area of approximately 5km<sup>2</sup>.

5.2 Panned Concentrates Plan TASH 1922

Approximately 5kg of -20 mesh sediment was collected in the field, subsequently sieved to -40 mesh and panned down to approximately 50-100gms. Samples were weighed and analysed for Cu, Pb, Zn, Ni, Co, Ag, As, Fe, Mn, Cr, Mo by ICP, Sn, W, Ba by XRF and Au by Fire Assay. Data was treated statistically using Microgas and element thresholds determined.

5.2.1. Thresholds

Thresholds are tabulated as follows:

	Anomalous ppm	Possibly Anomalous ppm	High Background ppm
Copper	> 56	16-56	
Lead	>125	63-125	25-63
Zinc	> 100	31-100	
Nickel		> 25	19-25
Cobalt		> 17	
Molybdenum	>100	31-100	24-31
Iron	>1.58%	1.0-1.58	0.63-1.0
Manganese	>281	112-281	
Chromium	>912	630-912	
Tin	>1000	100-1000	20-100
Tungsten	> 251	144-251	74-144
Barium	>223	125-223	89-125
Gold	>1.99%	0.99-1.99	0.39-0.99
Silver	> 2	1-2	

5.2.2. Anomalies Plan TASH 1935

## Lindsay West

Two creeks draining from the west into the Lindsay River carry anomalous gold, maximum 10 ppm.

## Lindsay East

Anomalous values of lead, molybdenum, iron and barium with lesser zinc are coincident with a stream sediment anomaly outlined in 4.2.1.

## Midway

Anomalous iron, barium, silver with minor zinc, manganese and tungsten are coincident with a stream sediment anomaly outlined in 4.2.1.

5.3 Clay Fractions Plan TASH 1923

Clay fraction samples were collected by agitating sediment in a pan and pouring the "muddy liquid" into a bag and allowing it to settle. Excess water was poured off. Samples were assayed for a similar suite of elements as the stream sediments.

5.3.1. Thresholds

Threshold values were determined by use of the mean and two standard deviations and by eyeballing the histogram distributions.

	Anomalous ppm	Possibly Anomalous ppm	High Background ppm
Copper	>39	14-39	
Lead	>29	14-29	
Zinc	>249	124-249	49-124
Nickel	> 99	39-299	
Iron	>2.49%	1.79-2.49%	0.99-1.79%

5.3.2. Anomalies Plan TASH 1936

Leigh River

Anomalous barium, arsenic and iron from a single sample site coincident with a stream sediment anomaly.

Lindsay East

Anomalous iron and barium with minor tin; coincident with stream sediment and panned concentrate anomalies.

Midway

Anomalous iron and barium coincident with anomalous stream sediments and panned concentrates.

6. GEOPHYSICS

Ten aeromagnetic anomalies defined by the Mines Department West Coast Survey were modelled by inversion. Full details are located in Appendix 2.

7. AEROMAGNETIC ANOMALY FOLLOW UP

Nine magnetic anomalies were selected for follow up Plan TASH 1911 Reconnaissance grid lines were cut over each anomaly and ground magnetic readings taken at 12.5m intervals using a Geometrics G816 Magnetometer. C horizon soil samples were collected at 25m intervals in the vicinity of the magnetic anomalies using a hand auger. Samples were sieved to -80 mesh and analysed for Cu, Pb, Zn, Ni, Co, Ag, Fe, Mn by ICP and Sn, W by XRF. Full assay details are located in Appendix 3.

7.1 Leigh Anomaly

- (a) Could not be modelled.
- (b) Grid line bearing 080° magnetic
- (c) 5000E/5000N at 337140mE 5 420 420mN
- (d) Ground magnetic profile Plan TASH 1530
- (e) Soil geochemical profile Plan TASH 1916

Anomaly centre located by ground traversing. Ground magnetics indicates a relatively narrow peak centred around 4900E, overlying grey laminated siltstones in an area of poor outcrop. Soil geochemical profiles indicate two single peaks at 4650E and 5000E, both anomalous in copper, lead and zinc. The peak at 5000E is also anomalous in iron, manganese, nickel and cobalt and corresponds to a NE trending amphibolite dyke which has a low magnetic susceptibility.

The magnetic anomaly is considered to be caused by the amphibolite. The apparent non-coincidence of the magnetic and geochemical anomalies is due to the profile not normal to strike. This would give the impression of a source at depth.

## 7.2 River Anomaly

- (a) Dip 50-70°W, depth 0-60m, 0.2% magnetite, depth extent 290m.
- (b) Grid line bearing 140°/320° magnetic
- (c) 5125E/5000N at 337300mE 5419640mN
- (d) Ground magnetic profile, Plan TASH 1531
- (e) Soil geochemical profile, Plan TASH 1915

The ground magnetic profile is consistent with a narrow body dipping steeply to the west. Geochemical profiles indicate background levels for all elements. Mapping shows a sequence of interbedded grey-green laminated siltstones and quartzites. The siltstones exhibit an increase in magnetic susceptibility over the magnetic anomaly.

## 7.3 Leigh South Anomaly

- (a) Dip 0-90°, depth 0-50m, 0.1% magnetite
- (b) Grid line bearing 115/295° magnetic
- (c) 5000E/5000N at 336420mE 5418230mN
- (d) Ground magnetic profile, Plan TASH 1534
- (e) Soil geochemical profile, Plan TASH 1918

Anomaly centre located by ground traversing.

A complex ground magnetic profile is evident. Magnetic susceptibility readings taken on rock chip samples indicate values up to a maximum 1.0 c.g.s. units in steeply dipping siltstones containing up to 5% pyrite/pyrrhotite. Magnetic susceptibility of the amphibolite is 0.1 c.g.s. units. The geochemical anomaly is consistent with amphibolite.

The anomaly is interpreted as a number of steeply dipping siltstone units carrying up to 5% pyrite/pyrrhotite.

#### 7.4 River South Anomaly

- (a) Dip 20° West, Depth 20m, 0.2% Magnetite
- (b) Grid line bearing 115°/295° magnetic
- (c) 5000E/5000N at 336420mE 5418230mN
- (d) Ground magnetic profile, Plan TASH 1535
- (e) Soil geochemical profile Plan TASH 1918

The ground magnetic anomaly occurs in an area of poor outcrop with minor grey-green siltstone float evident. Soil geochemistry is very poor. The anomaly is considered as caused by pyrrhotite in the siltstones.

#### 7.5 Odd Anomaly

- (a) Dip 52°E-39°W, Depth 75m, 1.1% Magnetite, depth extent 600m
- (b) Grid line bearing 260° magnetic
- (c) 5000E/5000N at 338450mE 5416470mN
- (d) Ground magnetic profile, Plan TASH 1528
- (e) Soil geochemical profile, Plan TASH 1920

The ground magnetic anomaly is interpreted as near surface noise and has no geochemical signature.

#### 7.6 End Anomaly

- (a) Dip 85-90°W, Depth 50-80m, 0.3% Magnetite, Depth extent 500m.
- (b) Grid line bearing 080°/260° magnetic
- (c) 5000E/5000N at 338450mE 5416470mN
- (d) Ground magnetic profile, Plan TASH 1527
- (e) Soil geochemical profile, Plan TASH 1920

The ground magnetic profile indicates a narrow steeply dipping body and is coincident with a low order manganese (110ppm) iron (4%) and tungsten (80ppm) anomaly. A very weathered fine grained equigranular igneous? rock having a magnetic susceptibility of 0.3 c.g.s. units crops out at 4325E and is interpreted as the cause of the anomaly.

A spot copper high (85 ppm Cu) is evident at 3850E but does not warrant further exploration.

#### 7.7 Trib Anomaly

- (a) Could not be modelled
- (b) Grid line bearing 115° magnetic
- (c) 5000E/5000N at 319540mE 5418680mN
- (d) Ground magnetic profile, Plan TASH 1529
- (e) Soil geochemical profile, Plan TASH 1917

The ground magnetic anomaly is probably caused by two near vertical sources. Mapping indicates a sequence of interbedded siltstones and quartzites and the anomaly is caused by an increase in pyrrhotite content of the siltstones. Soil geochemistry is indicative of an amphibolite horizon.

#### 7.8 Source Anomaly

- (a) Could not be modelled
- (b) Grid line bearing 080° magnetic
- (c) 5000E/5000N at 339450mE 5419350mN
- (d) Ground magnetic profile, Plan TASH 1533
- (e) Soil geochemical profile, Plan Tash 1919

A complex magnetic profile characterised by three peaks is underlain by interbedded laminated siltstones and quartzites. No anomalous soil geochemistry is evident.

#### 7.9 Strike Anomaly

- (a) Dip 55°E, Depth 35m, 0.4% Magnetite, depth extent great
- (b) Grid line bearing 080° magnetic
- (c) 5000E/5000N at approx. 339450mE 5419350mN
- (d) Ground magnetic profile, Plan TASH 1532
- (e) Soil geochemical profile, Plan TASH 1919

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The ground magnetic profile can be divided into two parts: (i) Peak at 7225E

(ii) Broad spikey peak between 7300E and 7875E.

The peak at 7225E is underlain by grey shale-siltstone and quartzite and has a coincident tungsten (max 130 ppm) and manganese (max. 90 ppm) soil geochemical anomaly. The cause of the geochemical anomaly is unexplained and warrants further work.

The broad peak is consistent with a lithological unit and overlies laminated siltstones which exhibit an enhanced magnetic susceptibility (0.3 c.g.s. units). Resampling of the tungsten anomaly indicated that the tungsten levels were reduced but remain anomalous.

#### 8. LOCATION

Burnie SK55-3 1:250 000 sheet

#### 9. KEYWORDS

Geophysics-airborne magnetics, ground magnetics, Assays - surface. Precambrian siltstones, quartzite, amphibolite.

10. LIST OF PLANS

<u>TASH No.</u>		<u>Scale</u>
1921	Stream Sediment Locations	1: 100 000
1934	Stream Sediment Worm Diagram	"
1922	Panned Concentrate Locations	"
1935	Panned Concentrate Worm Diagram	"
1923	Clay Fraction Locations	"
1936	Clay Fraction Worm Diagram	"
1924	Rock Chip Locations	"
1911	Aeromagnetic Contour Plan	1: 20 000
1944	Rock Chip & Grid Line Location Plan	1: 20 000
1530	Leigh Ground Magnetic Profile	As shown
1916	Leigh Geochemical Profiles	"
1531	River Ground Magnetic Profiles	"
1915	River Geochemical Profiles	"
1534	Leigh South Ground Magnetic Profile	"
1918	Leigh South and River South Geochemical Profiles	"
1535	River South Ground Magnetic Profile	"
1528	Odd Ground Magnetic Profile	"
1920	Odd and End Geochemical Profiles	"
1527	End Ground Magnetic Profile	"
1529	Trib Ground Magnetic Profile	"
1917	Trib Geochemical Profiles	"
1533	Source Ground Magnetic Profile	"
1919	Source and Strike Geochemical Profiles	"
1532	Strike Ground Magnetic Profile	"

11. LIST OF APPENDICES

- Appendix 1 Regional Drainage Geochemistry -  
Assay Ledgers
- Appendix 2 Aeromagnetic Anomaly Modelling
- Appendix 3 Grid line, Soil, Rock and Drainage  
Geochemistry Assay Ledgers
- Appendix 4 Key to Ledgers

APPENDIX 1

REGIONAL DRAINAGE GEOCHEMISTRY - ASSAY LEDGERS

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SAMPLE NUMBER	LOCATION			SAMPLE DESCRIPTION					SITE DESCRIPTION							GEOLOGY				MIN/ALT	ORDER	LOOK	VEGETATION	GEOLOGICAL OBSERVATIONS									
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	STAINING	CONTRAM.	SITE	OUTCROP	FLOCAT						MAJOR	MINOR							
																			MAJOR								MINOR						
153377	329600	5425800	55			10	80	10	2	15	M	p/c	D	FEB		SB	SILT	SILT	SSUD														Site 12 Clay 1142802
153378	329625	5425825				10	80	10	15		As per	S/S		1142803																		" 13 "	
153381	329899	5424200				10	80	10			As per	S/S		1142806																		" 16 "	
143382	329899	5424300				10	80	10			As per	S/S		1142807																		15	
153383	333499	5425300				10	80	10			As per	S/S		1142808																			
153384	334949	5423900				10	80	10			As per	S/S		1142809																			
153387	329399	5421900				10	80	10			As per	S/S		1142812																			
153394	335499	5421700				10	80	10			As per	S/S		1142819																			
153395	335600	5417500				10	80	10			As per	S/S		1142820																			
153396	335399	5417700				10	80	10			As per	S/S		1142821																			
153604	329974	5426075									As for	S/S		1153229																			Site 14 Clay
153609	330974	5422325									As for	S/S		1153234																			" 22 "
153610	330874	5422200									As for	S/S		1153235																			" 23 "
153611	331576	5421225									As for	S/S		1153236																			" 28 "
153612	329524	5421775									As for	S/S		1153237																			" 25 "
153619	333149	5417800									As for	S/S		1153244																			" 130 "
153693	335850	5420600	55			80	6	7	7	1.5	0.20	D	A	W	-1	N	P															Bulked	
153694	336800	5419600																															As for S/S 1153169
153752	330349	5424400	55		50	30	16	3	1	1	2	S	C	D	O	-	SB	SILT	QTVN	SILT												High organic content	
153753	330199	5424350	55		20	60	15	4	1	2	4	S	C	D	O	-	SB	SILT	SILT	SSUD												" " "	
153754	330099	5424300	55		50	35	10	2	3	8	100	S	A	W	O	-	SB	SILT	SILT	SSUD												" " "	
153755	330399	5422500	55		30	50	16	2	2	1.5	5	S	A	W	O	-	SB	SILT	SILT	QTVN												" " "	
153766	335950	5420800	55		5	20	60	10	5	0.5	2	D	A	N	-	-	T	-	SSUD	QTVN												Bulk sample taken	
153767	333899	5419900	55		5	50	30	10	5	1	3	S	A	W	O	-	SB	-	SILT	QTVN												High organic content	

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KEY TO STREAM SEDIMENT SAMPLE FIELD SHEET

- Sample No** - CRAE 6 or 7 digit No.
- East** - AMG Coord in m.
- North** - AMG Coord in m.
- Zone** - AMG Zone.
- Sample type** - Mesh size.
- Gravel, Sand, Silt Clay, Org** - as %.
- Width** - Stream width in m.
- Catchment** - Contributing catchment area in km<sup>2</sup>.
- Flow** - Dry (D), Pools (P), Slow (S), Fast (F)
- Banks** - Alluv (A), Colluv (C), Colluv/Alluv (B)  
No defined channel (N)
- Channel** - Incised deeply (D), weakly (W),  
not (M); Braided (B)
- Staining** - Major Fe (FEH), Minor Fe (FEL)  
Major Mn (MNH), Minor Mn (MNL)  
Major Carbonate (CBH), Minor Carbonate (CBL)  
None (N)
- Contamination** - None (N), Possible (PO), Probable (PR)  
Definite (D), Metal mine in catchment (M)
- Site** - (2 alternatives) Good (G), Moderate (M),  
Poor (P) or Hole in b'rock (HB), B'rock bar  
(BB), Boulders (BD), Sed. bar (SB), Veg (V),  
Trap undiff (T), Random (R)
- Outcrop, Float** - Rock type codes.
- Major Strat Unit** - Symbol on 1:250 000 sheet.
- Min/Alt** - Attached code list (both may be recorded and  
refer to outcrop or float. If more detail,  
record in Geol. Obs and flag the LOOK column).
- Scint** - Scintillimeter reading in cps
- Look** - Other item of interest recorded in Geological  
Observation column, Y/N.
- Vegetation** - Open heath (O), Eucalypt forest (F),  
Rain forest (R), Ti Tree (T)  
Cultivation (C), Arid grassland (A),  
Desert (D).

ROCK TYPE CODE

Sediments - Clastic

- Sedimentary**
- Rock ..... SORC
- Conglomerate .... CONG
- Breccia ..... BREC
- Grit ..... GRIT
- Sandstone -
- Undiff ..... SSUD
- Greywacke ..... GREY
- Arkose ..... ARKS
- Calcareneite ..... CLAR
- Siltstone ..... SILT
- Shale ..... SHAL
- Calcareous
- Shale ..... CLAN
- Black Shale+/
- Carb/Graphite .. BLSH
- Oil Shale ..... OLSH
- Lignite ..... LIGN
- Coal-Black ..... CLBL
- Coal-Brown ..... CLBR
- Mudstone ..... MUDS
- Marl ..... MARL
- Clay ..... CLAY
- Tillite ..... TILL

Sediments - Chemical

- Carbonate -**
- Undiff ..... CRUD
- Limestone ..... LIMS
- Dolomite ..... DOLM
- Travertine ..... TRAV
- Argillaceous**
- Limestn ..... ARLM
- Chert ..... CHER
- Jasperoid ..... JASP
- Evaporite ..... EVAP
- Phosphate Rock .. PHRC
- Magnesite ..... MGST
- Iron Formation . IRFM

Miscellaneous

- Silcrete ..... SLRT
- Calcrete ..... CLRT
- Bauxite ..... BAUX
- Ironstone ..... IRST
- Laterite ..... LATR
- Gossan ..... GOSS
- Sulphides ..... SULP
- Quart Vein ..... QTVN
- Gresien ..... GRES
- Fubarite ..... FUBR

Volcanics

- Agglomerate ..... AGLM
- Lapilli Tuff .... LPTF
- Ash Flow Tuff ... APTF
- Ignimbrite ..... IGMN
- Crystal Tuff .... CRTF
- Vitric Tuff ..... VTTF
- Obsidian ..... OBSD
- Mudflows ..... MUDF
- Tuffaceous
- Sandstone .... TFSS
- Tuffaceous
- Shale ..... TFSH
- Basic Volc.
- Undiff ..... BVUD
- Basalt ..... BASL
- Basic Lava ..... BSLV
- Basic Pyroclast . BSPY
- Intermed Volc.
- Undiff ..... IVUD
- Andesite ..... ANDS
- Intermed. Lava .. INLV
- Intermed.
- Pyroclastic .. INPY
- Acid Volc.
- Undiff ..... AVUD
- Rhyolite ..... RHYL
- Rhyodacite ..... RHDC
- Dacite ..... DACT
- Trachyte ..... TRAC
- Acid Lava ..... ACLV
- Acid Pyroclast .. ACPY

Metamorphics

- Metamorphic Rock**
- Undiff ..... MRUD
- Breccia ..... BREC
- Mylonite ..... MLOW
- Gouge ..... GOUG
- Marble ..... MARB
- Calc Silicate ... CLSL
- Skarn ..... SKAR
- Hornfels ..... HORN
- Slate/Phyllite .. SLAT
- Quartzite ..... QTZT
- Meta Sediment -
- Fine ..... MSFN
- Meta Sediment -
- Course ..... MCCR
- Metavolcanic ... MTVL
- Greenschist .... CRSC
- Schist Undiff ... SCUD
- Schist Mafic .... SCMF
- Schist Leuco .... SCLC
- Schist Amphibole. SCAM
- Schist
- Andalusite .... SCAN
- Schist Biotite .. SCBT

- Schist Chlorite . SCCH
- Schist Garnet ... SCGR
- Schist Muscovite. SCMS
- Schist Mica ..... SCMC
- Schist Palitic .. SCPL
- Schist Psammitic. SCPS
- Schist Sericite . SCSE
- Schist Quartz
- Mica ..... SCQM
- Schist
- Staurolite ... SCST
- Schist Talc ..... SCTL
- Amphibolite .... AMPH
- Gneiss Undiff ... GNUD
- Gneiss Mafic .... GNMF
- Gneiss Leuco .... GNLC
- Gneiss Amphibole. GNAM
- Gneiss Augen ... GNAG
- Gneiss Biotite .. GNBT
- Gneiss Garnet ... GNGT
- Gneiss Granite .. GNGR
- Gneiss
- Sillimanite .. GNSL
- Gneiss
- Staurolite ... GNST
- Granulite ..... GRGT
- Migmatite ..... MIGN

Igneous - Intrusives

- Greenstone ..... GREEN
- Ultrabasic Intr.
- Undiff ..... UIUD
- Eclogite ..... ECLG
- Peridotite ..... PERD
- Serpentinite .... SERP
- Anorthosite .... ANOR
- Gabbro ..... GABB
- Alkali Gabbro ... ALGB
- Norite ..... NORT
- Picrite ..... PICR
- Pyroxenite ..... PYRX
- Dunite ..... DUNT
- Carbonatite .... CARB
- Kimberlite ..... KIMB
- Coarse Basic
- Intr. .... CBIN
- Med Basic Intr. . MBIN
- Fine Basic Intr. . FBIN
- Lamprophyre .... LAMP
- Coarse Intermed
- Intr. .... CIIN
- Med Intermed
- Intr. .... MIIN
- Fine Intermed
- Intr. .... FIIN
- Syenite ..... SYEN
- Dolerite ..... DOLR
- Diorite ..... DIOR
- Coarse Acid Intr. CAIN

- Medium Acid Intr. MAIN
- Fine Acid Intr. . FAIN
- Granite ..... GRAN
- Aplite ..... APLT
- Adamellite ..... ADAM
- Granodiorite .... GRDR
- Quartz Porphyry . QUPE
- Quartz Felsdepar
- Porphyry .... OFFP
- Granophyre ..... GRPH
- Pegmatite ..... PEGM
- Glass ..... GLAS

MINERALISATION/ALTERATION CODE

- Veins ..... VEIN
- Gossan ..... GOSN
- Boxworks After Sulphides.. BOXW
- Massive Sulphides ..... MSSL
- Dissem. Sulphides ..... DSSL
- Heavy Minerals ..... HVNM
- Cu Staining ..... CUST
- Magnetic Minerals ..... MGNM
- Evaporites ..... EVAP
- Argillisation ..... ARGL
- Albitisation ..... ALBT
- Calc Silicate ..... CLSL
- Carbonatation ..... CARB
- Chloritisation ..... CHLR
- Dolomitisation ..... DOLM
- Ferruginisation ..... FERG
- Kaolinisation ..... KAOL
- Potassic ..... POTS
- Propylitisation ..... PROP
- Pyritisation ..... PYRT
- Saussurisation ..... SAUS
- Sericitisation ..... SERC
- Silicification ..... SILC
- Talcosic ..... TALC
- Tourmalinisation ..... TOUR
- Zeolitisation ..... ZEOL
- Other ..... OTHER

31-JUL-84

018

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A PROGRAM IN THE GASP SYSTEM TO  
PRINT A LISTING OF A DATA SET

VERSION 4.0 AUG 1983.

DATA TITLE: LEIGH RIVER EL 12/80, CLAY FRACTION, HELI RECCE

THE FOLLOWING VARIABLES ARE IN THE DATA SET:

EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	AG	HO
FEX	HN	AS	SN	W	BA				

365019

SAMPLE NO.	EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	AG	MO	FEZ
1153377	329600	5425800	55	15	20	45	25	5	X	40	1.88
1153378	329625	5425825	55	5	15	30	15	5	X	15	2.22
1153381	329899	5424200	55	5	10	45	15	5	X	20	1.09
1153382	329899	5424300	55	10	15	40	15	5	X	15	4.35
1153383	333499	5425300	55	5	10	5	10	5	X	10	0.56
1153384	334949	5423900	55	5	5	25	15	5	X	10	1.91
1153387	329399	5421900	55	5	10	35	15	5	X	20	1.08
1153394	335499	5421700	55	5	5	110	15	10	X	10	4.05
1153395	335600	5417500	55	10	20	195	15	5	X	10	2.49
1153396	335399	5417700	55	5	2	90	15	10	X	10	2.91
1153407	333400	5415800	55	5	10	55	10	10	X	15	1.74
1153604	329974	5426075	55	5	10	10	30	5	X	15	1.25
1153609	330974	5422325	55	15	10	50	60	5	X	25	2.35
1153610	330874	5422200	55	15	15	120	80	5	X	35	2.9
1153611	331576	5421225	55	5	2	25	35	5	X	10	2.45
1153612	329524	5421775	55	5	5	15	30	5	X	10	1.36
1153619	333149	5417800	55	45	20	25	55	5	X	25	1.52
1153693	335850	5420600	55	2	10	5	5	2	X	5	0.33
1153694	336800	5419600	55	5	2	10	10	5	X	15	0.57
1153752	330349	5424400	55	10	10	60	10	5	X	20	1.07
1153753	330199	5424350	55	10	10	95	15	5	X	30	1.28
1153754	330099	5424300	55	5	10	45	15	5	X	20	1.2
1153755	330399	5422500	55	10	15	50	15	5	X	25	1.53
1153766	335950	5420800	55	2	5	10	15	5	X	20	0.78
1153767	333899	5419900	55	5	10	10	10	5	X	15	0.88

019

365020

020

SAMPLE NO.	MN	AS	SN	W	BA
1153377	120	8	0	0	0
1153378	85	5	5	60	300
1153381	60	5	2.5	50	190
1153382	75	55	2.5	20	320
1153383	35	2	2.5	40	80
1153384	80	4	2.5	30	400
1153387	65	4	2.5	70	110
1153394	200	90	2.5	30	460
1153395	130	9	5	50	350
1153396	190	5	2.5	20	600
1153407	350	6	2.5	30	210
1153604	50	6	5	40	210
1153609	110	20	2.5	50	220
1153610	190	12	2.5	60	160
1153611	85	6	2.5	20	400
1153612	55	10	2.5	50	240
1153619	75	3	2.5	50	90
1153693	35	1	2.5	30	120
1153694	35	1	2.5	40	270
1153752	55	3	2.5	60	290
1153753	85	2	0	0	0
1153754	85	3	2.5	90	90
1153755	105	5	2.5	90	90
1153766	55	1	2.5	70	190
1153767	55	1	2.5	80	200

NUMBERS THAT ARE CODED X REPRESENT 'SPECIAL VALUES'.  
THESE VALUES WILL BE EXCLUDED FROM ALL CALCUALTIONS IN THE  
GASP SYSTEM.

365021

CRA EXPLORATION PTY.LIMITED.

ROCK SAMPLE FIELD SHEET

SAMPLE NUMBER	SAMPLE LOCATION		SAMPLE DESCRIPTION					ROCK TYPE			MINERALISATION						GEOLOGICAL OBSERVATIONS							
	EAST	NORTH	ZONE/LG	SAMPLE TYPE	FROM	TO	WIDTH	EXPOSURE	MAJOR	MINOR	ALTERATION	VISIBLE	STYLE	MAJOR	MINOR	MINOR	GANGUE	AGE	MAJOR STR. UNIT	GRAINSIZE	TEXTURE	COLOUR	LOOK	
1142952	330199	5424350	55					O	SILT			F	FL							SL	BD		Y	Alt to ferruginous boxworks
1142953	330099	5424300	55					F	SSUD			F	DS							CS	MS		Y	Ferruginous pseudomorphs
1142954	330399	5422500	55					F	LATR											CS	MS		N	
1142967	333899	5419900	55					F	SILT											SL	BD		N	
1142904	329974	5426075						O	SILT			N								FG	BD	GY		Site 14
1142909	330974	5422200						O	SILT			N								MG	BD	GY		Coarse, laminated
1142911	331576	5421775						O	SILT			N								FG	BD	GY		St:300° D:60°E
1142912	329524	5421775						F	SILT			N								FG	BD	GY		280°/75°S (prob)
1142919	333149	5417800						O	SILT			N								FG	BD	DG	Y	190°/30°E V.Finely Laminated
1153827	329600	5425800						O	QTZT															Grey qtzt. Fine grained
1153828	329625	5425825						O	QTZT															Silty laminae
1153830	329899	5424300						O	SILT															Typical laminated black-white pyjama siltstone
1153831	334949	5423900						O	SILT															Green-grey laminated sts. Strike 120° Dip 15° to NE
1153834	329399	5421900						O	SILT											F				D.80°S St. 090° Green
1153841	335499	5421700						O	SILT															1 Horizontal gry-green sandy silts
1153842	335399	5417700						O	SILT															1 D.70°E St.025°
1153848	333400	5415800						O	SILT															1 St.210° D.10° NW Pyjama Silt

# KEY TO ROCK SAMPLE FIELD SHEET

- Sample Number** - CRAE 6 or 7 digit No.
- East** - ANG or Local Grid Co-ordinate in E.
- North** - ANG or Local Grid Co-ordinate in N.
- Zone/LG** - ANG Zone or L for Local Grid.
- Sample Type** - DSR5 Code.
- From - To** - In m where applicable.
- Width** - Width of sample interval in m.
- Exposure** - Outcrop (O), Float (F), Uncertain (U), Core or Cuttings (C).
- Rock Types** - Rock Type Code.
- Alteration** - Alteration Code.
- Mineralisation**
  - Visible** - None visible (N), Trace (T), Disseminated (D), Abundant (A).
  - Style** - Mineralisation Style Code.
  - Major** - Mineral Code.
  - Min. 1 & 2** - Mineral Code.
  - Gangue** - Mineral Code.
- Age** - Geological Age Code.
- Major Strat. Unit** - Symbol on 1:250 000 sheet
- Grain Size** - Grain Size Code.
- Texture** - Texture Code.
- Colour** -
- Look** - Other item of interest recorded in the Geological observations column (Y/M).

## - ROCK TYPE CODE

Sediments - Clastic	
Sedimentary	SDRC
Rock	SDRC
Conglomerate	COMG
Breccia	BREC
Grit	GRIT
Sandstone	
Undiff	SSUD
Graywacke	GREY
Arkose	ARKS
Calcarene	CLAR
Siltstone	SILT
Shale	SMAL
Calcareous	
Shale	CLSH
Black Shale+	
Carb/Graphite	BLSH
Oil Shale	OLSH
Lignite	LIGN
Coal-Black	CLBL
Coal-Brown	CLBB
Mudstone	MUDS
Marl	MARL
Clay	CLAY
Tillite	TILL

## Sediments - Chemical

Carbonate - Undiff	CAUD
Limestone	LIMS
Dolomite	DOLM
Travertine	TRAV
Argillaceous	
Limestone	ARLM
Chert	CHER
Jaasperoid	JASP
Evaporite	EVAP
Phosphate Rock	PNRC
Magnetite	MGST
Iron Formation	IRFM

## Volcanics

Agglomerate	AGLM
Lapilli Tuff	LPTP
Ash Flow Tuff	AFTP
Igneimbrite	IGMB
Crystal Tuff	CRTP
Vitric Tuff	VITP
Obsidian	OSBD
Mudflow	MUDF
Tuffaceous	
Sandstone	TFSS
Tuffaceous	
Shale	TFSH
Basic Volc. Undiff	BVUD
Basalt	BASL
Basic Lava	BSLV
Basic Pyroclast	BSPY
Intersed Volc. Undiff	IVUD
Calcrite	CLRT
Bauxite	BAUX
Ironstone	IRST
Laterite	LATR
Gossan	GOSS
Sulphides	SULP
Quartz Vein	QTVN
Greenite	GRSN
Ferberite	FUBR

## Miscellaneous

Silcrete	SLRT
Calcrite	CLRT
Bauxite	BAUX
Ironstone	IRST
Laterite	LATR
Gossan	GOSS
Sulphides	SULP
Quartz Vein	QTVN
Greenite	GRSN
Ferberite	FUBR

## Metamorphics

Metamorphic Rock Undiff	MNUD
Breccia	BREC
Mylonite	MLOW
Gouge	GOUG
Nebble	NARB
Calc Silicate	CLSL
Skarn	SKAR
Hornfels	HORN
Slate/Phyllite	SLAT
Quartzite	QTZT
Meta Sediment - Fine	MSFM
Meta Sediment - Coarse	MCCR
Metavolcanic	MTVL
Greenschist	CNSC
Schist Undiff	SCUD
Echist Mafic	SCMF
Schist Leuco	SCLC
Schist Amphibole	SCAN
Schist	
Andalusite	SCAN
Schist Biotite	SCBT
Schist Chlorite	SCCH
Schist Garnet	SCGR
Schist Muscovite	SCMS
Schist Mica	SCMC
Schist Pelitic	SCPL
Schist Psammitic	SCPS
Schist Sericite	SCSR
Schist Quartz	SCQM
Schist	
Staurolite	SCST
Schist Talc	SCTL
Amphibolite	AMPH
Gneiss Undiff	GNUD
Gneiss Mafic	GNMF
Gneiss Leuco	GNLC
Gneiss Amphibole	GNAM
Gneiss Augen	GNAG
Gneiss Biotite	GNBT
Gneiss Garnet	GNGT
Gneiss Granite	GNGR
Gneiss	
Sillimanite	GMSL
Gneiss	
Staurolite	GNST
Granulite	GRLT
Nigmatite	NIHG

## Alteration Code

Argillisation	ARGL
Albitisation	ALBT
Calc Silicate	CLSL
Carbonatisation	CARB
Chloritisation	CHLR
Dolomitisation	DOLM
Ferruginisation	FERR
Kaolinisation	KAOL
Potassic	POTS
Propylitisation	PROP
Pyritisation	PYRT
Saussurisation	SAUS
Sericitisation	SERC
Silicification	SILC
Talcosa	TALC
Tourmalinisation	TOUR
Zeolitisation	ZEOL
Other	OTHR

## MINERALISATION STYLE CODE

Stratabound	SB
Discordant	DC
Veins/Net Veining	VN
Stockwork	SW
Fault/Joints	FL
Shear	SH
Pods	PO
Disseminated	DS
Semi Massive	SM
Massive	MS
Skarn	SK
Pipe	PP
Box-work (or pass assoc. of min)	BW
Placer	PL
Eluvial	EL

## MINERAL CODE

Greenstone	GRSN
Ultrabasic Intr. Undiff	UIUD
Ecolite	EZLC
Peridotite	PERD
Serpentine	SERP
Anorthosite	ANOR
Gabbro	GABB
Alkali Gabbro	ALGB
Norite	NORT
Picrite	PICR
Pyroxenite	PYRX
Dunite	DUNT
Carbonatite	CARB
Kimberlite	KIMS
Coarse Basic Intr.	CBIN
Mad Basic Intr.	MBIN
Fine Basic Intr.	FBIN
Lamprophyre	LAMP
Coarse Interned Intr.	CIIN
Med Interned Intr.	MIIN
Actinolite	ACTN
Adularia	ADUL
Agate	AGAT
Alkali Feldspar	ALFP
Albite	ALBT
Allanite	ALAN
Alunite	ALUN
Amblygonite	AMBL
Aethyat	AMET
Amphibole	AMPH
Andalusite	ANDL
Andesite	ANDS
Anhydrite	ANHY
Ankerite	ANKR
Anthophyllite	ANTH
Antimonite	ANTM
Antimony Native	SBNT
Apatite	APAT
Aragonite	ARAG
Argentite	ARGN
Arsenic	ASNT
Arsenopyrite	ARPY

Augite	AUGI
Azurite	AZUR
Berite	BAKT
Bestnaesite	BAST
Bauxite	BAUX
Bastnaesite	BAST
Bauxite	BAUX
Bentonite	BEHT
Beryl	BERY
Biotite	BIOT
Bismuth	BISM
Bismuthinite	BISM
Bitumen	BITH
Boracite	BORC
Borax	BORX
Boulangerite	BOUL
Bronzite	BRON
Bronzite	BRUC
Calcite	CALC
Carbonate	CARB
Carnotite	CARN
Cassiterite	CASS
Celestite	CELS
Cerussite	CERS
Chalcocite	CHCC
Chalcocite	CHCT
Chalcopyrite	CHPY
Chamosite	CHAM
Chert	CHER
Chlorite	CHLR
Chromite	CHRM
Chromite	CHRP
Chromite Spinel	CHSP
Chromite	CHRM
Chrysothite	CHRY
Cinnabar	CINN
Clay	CLAY
Clinopyroxene	CLPX
Clinopyroxene	CLPY
Clinopyroxene	CLZS
Colobite	COLB
Colophane	COLP
Columbite	COLM
Copper	CPNT
Cordierite	CORD
Cordierite	CORN
Covellite	COVL
Crocoite	CROC
Cryolite	CRYL
Cyanite	CYAN
Cyanite	CUMN
Cuprite	CUPR
Diamond	DIAM
Digenite	DIGN
Dioptase	DIOP
Dolomite	DOLM
Electrum	ELEC
Emerald	EMER
Emerald	EMAR
Enargite	ENAR
Enstatite	ENST
Epidote	EPID
Evaporite	EVAP
Fayalite	FAYL
Feldspar	FELD
Ferberite	FERS
Ferrodolomite	FRDL
Fluorite	FLUR
Frankelite	FRAN
Fuchsinite	FUCH
Gahnite	GAMN
Galenite	GALN
Garnet	GARN
Garnet	GRNT
Gibbsite	GIBS
Glass	GLAS
Glaucophane	GLAC
Glaucophane	GLPH
Goethite	GOET
Gold	AUNT
Graphite	GRAP
Groenlandite	GROG
Guano	GUAN
Gypsum	GYPG
Malite	MALT
Heazlewoodite	HEAZ
Hedenbergite	HEDN
Heazlewoodite	HEAZ

Hubnerite	HUBN
Ilmenite	ILMN
Iron Oxides	FEOX
Jadeite	JADT
Jarosite	JARS
Jaasper	JASP
Kaolin	KAOL
Kyanite	KYAN
Labradorite	LABR
Lepidolite	LEPD
Leucite	LEUC
Leucocane	LCXN
Limonite	LIMN
Loellingite	LOEL
Magnetite	MGST
Magnetite	MGST
Magnetite	MGTT
Malachite	MALC
Manganite	MANM
Marcasite	MARC
Martite	MART
Meliinite	MELT
Mercury	MGNT
Mica	MICA
Microcline	MICR
Molybdenite	MOLY
Monazite	MONZ
Montmorillonite	MONT
Muscovite	MUSC
Nepheline	NEPH
Nephrite	NEPT
Ochre	OCNR
Oligoclase	OLIG
Olivine	OLIV
Opal	OPAL
Orthoclase	ORCL
Orthopyroxene	ORPX
Pentlandite	PENT
Perthite	PERT
Phlogopite	PHLG
Phosphate	PHOS
Picro-ilmenite	PCIL
Pitchblende	PITC
Plagioclase	PLAG
Platinum	PTMT
Potash Feldspar	PYFL
Prehnite	PREH
Proustite	PROS
Pumpellyite	PUMP
Pyrrhotite	PYRH
Pyrite	PYRT
Pyrochlore	PYCH
Pyrochlore	PYLS
Pyrochlore	PYNR
Pyrochlore	PYPR
Pyrochlore	PYPH
Pyrochlore	PYRX
Pyroxene	PYRN
Pyrrhotite	PYRH
Quartz	QUAR
Rhodochrosite	RHOC
Rhodonite	RHOD
Riesbeckite	RIES
Ruby	RUBY
Rutile	RUTL
Salts	SALT
Sandine	SAND
Sapphirine	SAPH
Scapolite	SCAP
Scheelite	SCHE
Sericite	SERC
Serpentine	SERP
Siderite	SIDR
Silice	SILC
Silicate	SICL
Sillimanite	SILL
Silver	AGMT
Smithsonite	SMIT
Smoky Quartz	SMOQ
Specularite	SPEC
Spessartine	SPES
Sphalerite	SPHL
Sphene	SPHN
Spinel	SPIN

Staurolite	STAR
Stibnite	STIB
Stilpnomelane	STIL
Sulphate	SLPT
Sulphides	SLPD
Sylvite	SYLV
Talc	TALC
Tantalite	TANT
Telluride	TELR
Tennantite	TENT
Tetrahedrite	TETR
Thoria	THOR
Topaz	TOPE
Tourmaline	TOUR
Tourmaline	TOUR
Tremolite	TREM
Uraninite	URNT
Uranophane	URPH
Vanadinite	VAND
Vermiculite	VERM
Vesuvianite	VESV
Willemitite	WILM
Willyamite	WILY
Witherite	WITH
Wolframite	WOLF
Wollastonite	WOLS
Zelite	ZEOL
Zincite	ZINC
Zircon	ZIRC

## GEOLOGICAL AGE CODE

Quaternary	QU
Tertiary	TR
Cainozoic	CW
Cretaceous	CR
Jurassic	JR
Triassic	TR
Mesozoic	MS
Permian	PK
Carboniferous	CR
Devonian	DV
Silurian	SL
Ordovician	OR
Cambrian	CM
Paleozoic	PL
Adelaidian	AD
Carpetarian	CP
Lower Proterozoic	LP
Proterozoic	PZ
Archaean	AR
Pre Cambrian	PC

## GRAIN SIZE CODE

Clay	CL
Silt	SL
Fine Sand	FS
Coarse Sand	CS
Very Coarse Sand	VC
Granules	GR
Pebbles	PB
Cobbles	CB
Glassy	GL
Aphanitic	AP
Very Fine Grained	VF
Fine Grained	FG
Medium Grained	MG
Medium To Coarse	MC
Coarse Grained	CG
Very Coarse Grained	VG

## TEXTURE CODE

Boxworks	BW
Massive	MS
Bedded	BD
Coarse Bedded	CB
Graded Bedding	GB
Nodular	ND

365023 022

31-JUL-84

023

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A PROGRAM IN THE GASP SYSTEM TO  
 PRINT A LISTING OF A DATA SET

VERSION 4.0 AUG 1983.

DATA TITLE: LEIGH RIVER EL 12/80,ROCKS, HELI RECCE

THE FOLLOWING VARIABLES ARE IN THE DATA SET:

EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	AG	MO
FEZ	MN	AS	SN	W	BA				

365024

SAMPLE NO.	EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	AG	MO	FEZ
1142904	329974	5426075	55	5	5	60	15	5	1	X	X
1142909	330974	5422325	55	40	2	25	15	5	1	X	X
1142910	330874	5422200	55	5	2	50	15	5	1	X	X
1142911	331576	5421225	55	20	2	45	25	10	1	X	X
1142912	329524	5421775	55	2	2	70	30	10	1	X	X
1142919	333149	5417800	55	5	5	30	5	5	1	X	X
1142952	330199	5424350	55	5	15	45	15	5	0.5	X	X
1142953	330099	5424300	55	10	10	15	10	5	0.5	X	X
1142954	330399	5422500	55	10	35	30	20	15	3	X	X
1142967	333899	5419900	55	2	2	85	25	15	1	X	X
1153827	329600	5425800	55	5	10	30	10	5	0.5	X	X
1153828	329625	5425825	55	15	20	130	10	10	1	X	X
1153830	329899	5424300	55	10	15	50	15	5	1	X	X
1153831	334949	5423900	55	5	5	50	20	15	1	X	X
1153834	329399	5421900	55	2	5	35	10	5	1	X	X
1153841	335499	5421700	55	5	5	40	20	10	1	X	X
1153842	335399	5417700	55	5	2	75	20	15	1	X	X
1153848	333400	5415800	55	10	5	25	5	5	0.5	X	X

SAMPLE NO.	MN	AS	SN	W	BA
1142904	X	22	2.5	5	620
1142909	X	24	2.5	5	870
1142910	X	20	2.5	5	806
1142911	X	18	2.5	5	750
1142912	X	14	2.5	5	610
1142919	X	16	2.5	10	810
1142952	X	44	2.5	5	480
1142953	X	60	2.5	5	490
1142954	X	100	2.5	5	170
1142967	X	20	2.5	5	670
1153827	X	5	2.5	5	350
1153828	X	10	2.5	5	420
1153830	X	5	2.5	10	610
1153831	X	6	2.5	5	900
1153834	X	26	2.5	5	700
1153841	X	5	2.5	5	580
1153842	X	6	2.5	10	850
1153848	X	12	2.5	5	530

NUMBERS THAT ARE CODED X REPRESENT 'SPECIAL VALUES'.  
 THESE VALUES WILL BE EXCLUDED FROM ALL CALCUALTIONS IN THE  
 GASP SYSTEM.

025

365026

026

SAMPLE NUMBER	LOCATION		SAMPLE DESCRIPTION							SITE DESCRIPTION							GEOLOGY			GEOLOGICAL OBSERVATIONS							
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	STAINING	CONVEM.	SITE	OUTCROP	FLOAT		MIN/ALT	ORDER	LOCK	VEGETATION			
																			MAJOR	MINOR							
53168	335850	5420600	55	-3mm	0	80	6	7	7	1.5	0.25	D	A	W		N	P										
53169	336800	5419600	55	-3mm	0	5	45	47	2	20	2.0	D	C	N		N	P										
53077	330349	5424400	55	-3mm	50	30	16	3	1	1	2	S	C	D		-	SB	SILT	QTVN	SILT						Minor Fe stain	
53078	330199	5424350	55	-3mm	20	60	15	4	1	2	4	S	C	D		-	SB	SILT	SILT	SSUD							
53079	330099	5424300	55	-3mm	50	35	10	2	3	8	100	S	A	W		-	SB	SILT	SILT	SSUD						Pyritic Qtz.float	
53080	330399	5422500	55	-3mm	30	50	16	2	2	1.5	5	S	A	W		-	SB	SILT	SILT	QTVN						Ferricrete Float	
53091	335950	5420800	55	-3mm	5	20	60	10	5	0.5	2	D	A	N		-	T		SSUD	QTVN						Silt site gravel base	
53092	333899	5419900	55	-3mm	5	50	30	10	5	1	3	S	A	W		-	SB		SILT	QTVN							
42802	329600	5425800	55	-3	50	20	20	10		2	1.5	M	O/c	D	FEH		SB	SILT	SILT	SSUD			3	1	T	O/C is black-white Pyjama s/Stones+qtzite	
42803	329625	5425825	55	-3	50	30	10	10		15	30	S	O/C	D	FEH		SB	SILT	SILT	SSUD			3		T	" " "	
42806	329899	5424200	55	-3	30	30	30	10		1	1	L		W	N		SB	O	QZTZ	SILT			1	1	O	Float 80% qz. to 20% silts (pyj)	
42807	329900	5424300	55	-3	60	20	20	5	5	2	1.5	L	O/C	W	FEH		SB	SILT	QTZT	SILT			1		O		
42808	333499	5425300	55	-3			50	50		1	3.5	L	A	W	N		R		QTV	QTZT			2	1	T	V.V.Fine sediment.	
42809	334949	5423900	55	-3	40	40	10	10		3	5	M	O/C	D	FEH		BD	SILT	QTV	QTZT			2	1	T	Float Qz.Qzite+ silts	
42812	329399	5421900	55	-3	60	20	15	5		1.5	2	M	C	W	N		SB	SILT	QTZT	SILT			1		O		
42819	335499	5421700	55	-3	70	20	5	5		9		M	O/C	M	FEH		BB	SILT	SILT				3		O		
42820	335600	5417500	55	-3	50	30	10	10		1	4	L	O/C	W	FEL		R	SILT	SILT	QTZT			1		O		
42821	335400	5417700	55	-3	60	20	10	10		2	3	L	O/C	W	FEL		RB	SILT	SILT	QTZT			1		O		
42832	333400	5415800	55	-3	70	10	10	10		3	15	F	"	D	FEH		BB	SILT	QTZT	SILT							
53229	329974	5426075	55	-3	10	75	5	5	5	2	5	S	C	D	FEH	N	BD	SILT	SILT	QTVN							Coarse vegetation
53234	330974	5422325	55	-3	40	40	10	5	5	2	3	S	C	D	FEH	N	HB	SILT	QTZT	QTVN							Coarse silt fine s/stone
53235	330874	5422200	55	-3	60	35	5			15	50	F	C	W	FEH	PO	BB	SILT	SSUD	QTVN							Coarse siltstone
53236	331576	5421225	55	-3	60	30	7	3		1.5	3	S	C	D	FEL	PO	HB	SILT	QTZT	QTVN							
53237	329524	5421775	55	-3	40	30	20	5	5	10	2	D	C	N	N		T	SILT	QTZT	QTVN							Bulk sample only
53244	333149	5417800	55	-3	60	30	5	5		1.5	1	S	C	D	FEH	N	HB	SILT	QTZT	SSUD							

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KEY TO STREAM SEDIMENT SAMPLE FIELD SHEET

- Sample No** - CRAE 6 or 7 digit No.
- East** - AMG Coord in m.
- North** - ANG Coord in m.
- Zone** - ANG Zone.
- Sample type** - Mesh size.
- Gravel, Sand, Silt Clay, Org** - as %.
- Width** - Stream width in m.
- Catchment** - Contributing catchment area in km<sup>2</sup>.
- Flow** - Dry (D), Pools (P), Slow (S), Fast (F)
- Banks** - Alluv (A), Colluv (C), Colluv/Alluv (B)  
No defined channel (N)
- Channel** - Incised deeply (D), weakly (W),  
not (N); Braided (B)
- Staining** - Major Fe (FEH), Minor Fe (FEL)  
Major Mn (MNH), Minor Mn (MNL)  
Major Carbonate (CBH), Minor Carbonate (CBL)  
None (N)
- Contamination** - None (N), Possible (PO), Probable (PR)  
Definite (D), Metal mine in catchment (M)
- Site** - (2 alternatives) Good (G), Moderate (M),  
Poor (P) or Hole in b'rock (HB), B'rock bar  
(BB), Boulders (BD), Sed. bar (SB), Veg (V),  
Trap undiff (T), Random (R)
- Outcrop, Float** - Rock type codes.
- Major Strat Unit** - Symbol on 1:250 000 sheet.
- Min/Alt** - Attached code list (both may be recorded and  
refer to outcrop or float. If more detail,  
record in Geol. Obs and flag the LOOK column).
- Scint** - Scintillimeter reading in cps
- Look** - Other item of interest recorded in Geological  
Observation column, Y/N.
- Vegetation** - Open heath (O), Eucalypt forest (F),  
Rain forest (R), Ti Tree (T)  
Cultivation (C), Arid grassland (A),  
Desert (D).

**ROCK TYPE CODE**

Sediments - Clastic

Sedimentary  
Rock ..... SDRC  
Conglomerate ..... CONG  
Breccia ..... BREC  
Grit ..... GRIT  
Sandstone -  
Undiff ..... SSUD  
Graywacke ..... GREY  
Arkose ..... ARKS  
Calcareous ..... CLAR  
Siltstone ..... SILT  
Shale ..... SHAL  
Calcareous  
Shale ..... CLSH  
Black Shale+/  
Carb/Graphite .. BLSH  
Oil Shale ..... OLSH  
Lignite ..... LIGN  
Coal-Black ..... CLBL  
Coal-Brown ..... CLBR  
Mudstone ..... MUDE  
Marl ..... MARL  
Clay ..... CLAY  
Tillite ..... TILL

Sediments - Chemical

Carbonate -  
Undiff ..... CRUD  
Limestone ..... LIMS  
Dolomite ..... DOLM  
Travertine ..... TRAV  
Argillaceous  
Limestn ..... ARLM  
Chert ..... CHER  
Jasperoid ..... JASP  
Evaporite ..... EVAP  
Phosphate Rock .. PHRC  
Magnesite ..... MGST  
Iron Formation . IRFM

Miscellaneous

Silcrete ..... SLRT  
Calcrete ..... CLRT  
Bauxite ..... BAUX  
Ironstone ..... IRST  
Laterite ..... LATR  
Gossan ..... GOSS  
Sulphides ..... SULP  
Quart Vein ..... QTVM  
Gresien ..... GRES  
Fubarite ..... FUBR

Volcanics

Agglomerate ..... AGLM  
Lapilli Tuff ..... LPTF  
Ash Flow Tuff ... AFTF  
Ignimbrite ..... IGMN  
Crystal Tuff .... CRTF  
Vitric Tuff ..... VTFP  
Obsidian ..... OBSD  
Mudflows ..... MUDF  
Tuffaceous  
Sandstone ..... TFSS  
Tuffaceous  
Shale ..... TFSH  
Basic Volc.  
Undiff ..... BVUD  
Basalt ..... BASL  
Basic Lava ..... BSLV  
Basic Pyroclast . BSPY  
Intermed Volc.  
Undiff ..... IVUD  
Andesite ..... ANDS  
Intermed. Lava .. INLV  
Intermed.  
Pyroclastic .. INPY  
Acid Volc.  
Undiff ..... AVUD  
Rhyolite ..... RHYL  
Rhyodacite ..... RHDC  
Dacite ..... DACT  
Trachyte ..... TRAC  
Acid Lava ..... ACLV  
Acid Pyroclast .. ACPY

Metamorphics

Metamorphic Rock  
Undiff ..... MRUD  
Breccia ..... BREC  
Mylonite ..... MLON  
Gouge ..... GOUG  
Marble ..... MARB  
Calc Silicate ... CLSL  
Skarn ..... SKAR  
Hornfels ..... HORN  
Slate/Phyllite .. SLAT  
Quartzite ..... QTZT  
Meta Sediment -  
Fine ..... MSFN  
Meta Sediment -  
Course ..... MCCR  
Metavolcanic .... MTVL  
Greenschist ..... CRSC  
Schist Undiff ... SCUD  
Schist Mafic .... SCMF  
Schist Lauco .... SCLC  
Schist Amphibole. SCAM  
Schist  
Andalusite ... SCAN  
Schist Biotite .. SCBT

Schist Chlorite . SCCH  
Schist Garnet ... SCGR  
Schist Muscovite. SCMS  
Schist Mica ..... SCMC  
Schist Pelitic .. SCPL  
Schist Psammitic. SCPS  
Schist Sericite . SCSE  
Schist Quartz  
Mica ..... SCOM  
Schist  
Staurolite ... SCST  
Schist Talc ..... SCTL  
Amphibolite ..... AMPH  
Gneiss Undiff ... GNUD  
Gneiss Mafic .... GNMF  
Gneiss Leuco .... GNLC  
Gneiss Amphibole. GNAM  
Gneiss Augen ... GNAG  
Gneiss Biotite .. GNBT  
Gneiss Garnet ... GNGT  
Gneiss Granite .. GNGR  
Gneiss  
Sillimanite .. GNSL  
Gneiss  
Staurolite ... GNST  
Granulite ..... GRLT  
Migmatite ..... MIGN

Igneous - Intrusives

Greenstone ..... GREEN  
Ultrabasic Intr.  
Undiff ..... UIUD  
Eclogite ..... ECLG  
Peridotite ..... FERD  
Serpentinite .... SERP  
Anorthosite ..... ANOR  
Gabbro ..... GABR  
Alkali Gabbro ... ALGB  
Norite ..... NORT  
Picrite ..... PICR  
Pyroxenite ..... PYRX  
Dunite ..... DUNT  
Carbonatite ..... CARB  
Kimberlite ..... KIMB  
Coarse Basic  
Intr. .... CBIN  
Med Basic Intr. . MBIN  
Fine Basic Intr . FBIN  
Lampophyre ..... LAMP  
Coarse Intermed  
Intr. .... CIIN  
Med Intermed  
Intr. .... MIIN  
Fine Intermed  
Intr. .... FIIN  
Syenite ..... SYEN  
Dolerite ..... DOLA  
Diorite ..... DIOR  
Coarse Acid Intr. CAIN

MINERALISATION/ALTERATION CODE

Medium Acid Intr. MAIN  
Fine Acid Intr. . FAIN  
Granite ..... GRAN  
Aplite ..... APLT  
Adamellite ..... ADAM  
Granodiorite .... GRDR  
Quartz Porphyry . QUPR  
Quartz Feldspar  
Porphyry .... QFPR  
Granophyre ..... GRPH  
Pegmatite ..... PEGM  
Glass ..... GLAS

Veins ..... VEIN  
Gossan ..... GOSN  
Boxworks After Sulphides.. BOXW  
Massive Sulphides ..... MSSL  
Dissem. Sulphides ..... DSSL  
Heavy Minerals ..... HVMN  
Cu Staining ..... CUST  
Magnetic Minerals ..... MGMN  
Evaporites ..... EVAP

Argillisation ..... ARGL  
Albitisation ..... ALBT  
Calc Silicate ..... CLSL  
Carbonatation ..... CARB  
Chloritisation ..... CHLR  
Dolomitisation ..... DOLM  
Ferruginisation ..... FERG  
Kaolinisation ..... KAOL  
Potassic ..... POTS  
Propylitisation ..... PROP  
Pyritisation ..... PYRT  
Sausuritisation ..... SAUS  
Sericitisation ..... SERC  
Silicification ..... SILC  
Talcose ..... TALC  
Tourmalinisation ..... TOUR  
Zeolitisation ..... ZEOL  
Other ..... OTHR

028

31-JUL-84

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A PROGRAM IN THE GASP SYSTEM TO  
 PRINT A LISTING OF A DATA SET  
 VERSION 4.0 AUG 1983.

DATA TITLE: LEIGH RIVER EL 12/80, -80+ STREAM SEDIMENT DATA, HELI RECCE

THE FOLLOWING VARIABLES ARE IN THE DATA SET:

EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	AG	MO
FEZ	MN	AS	SN	W	BA				

365029

SAMPLE NO.	EAST	NORTH	ZONE	CU	FB	ZN	NI	CO	AG	MO	FEZ
1142802 ✓	329600	5425800	55	10	5	20	20	5	1	10	0.68
1142803 ✓	329625	5425825	55	10	20	1150	20	5	1	10	1.63
1142806 ✓	329899	5421200	55	5	10	50	15	2	0.5	5	0.44
1142807 ✓	329899	5424300	55	5	10	30	15	5	1	5	1.8
1142808 ✓	333499	5425300	55	2	5	30	10	2	0.5	5	0.3
1142809 ✓	334949	5423900	55	5	10	100	25	10	1	5	2.82
1142812 ✓	329399	5421900	55	5	10	430	25	5	0.5	5	0.76
1142819 ✓	335499	5421700	55	5	10	60	25	10	1	10	4.38
1142820 ✓	335600	5417500	55	5	20	40	20	5	1	5	2.87
1142821 ✓	335399	5417700	55	2	2	40	25	10	1	5	2.44
1142832 ✓	333400	5415800	55	2	10	15	5	5	0.5	5	1.34
1153077 ✓	330349	5424400	55	2	5	5	10	5	0.5	5	0.39
1153078 ✓	330199	5424350	55	2	5	1	10	2	0.5	5	0.32
1153079 ✓	330099	5424300	55	2	10	20	15	5	0.5	5	0.64
1153080 ✓	330399	5422500	55	2	5	2	5	2	0.5	5	0.37
1153091 ✓	335950	5420800	55	2	10	10	10	2	0.5	5	0.38
1153092 ✓	333899	5419900	55	5	10	25	15	5	0.5	5	1.38
1153168 ✓	335850	5420600	55	2	10	15	5	2	0.5	5	0.21
1153169 ✓	336800	5419600	55	2	5	35	10	2	0.5	2.5	0.43
1153229 ✓	329974	5426075	55	5	10	170	10	5	0.5	5	0.57
1153234 ✓	330974	5422325	55	10	5	105	30	5	1	10	1.35
1153235 ✓	330874	5422200	55	5	10	35	10	5	1	15	1
1153236 ✓	331576	5421225	55	5	2	15	20	5	1	5	1.8
1153237 ✓	329524	5421775	55	2	10	10	5	2	0.5	5	0.58
1153244 ✓	333149	5417800	55	5	10	2	20	2	0.5	5	0.38

029

365030

030

SAMPLE NO.	MN	AS	SN	W	BA
1142802 ✓	50	2	2.5	10	160
1142803 ✓	80	4	2.5	5	260
1142804 ✓	25	2	2.5	10	100
1142807 ✓	55	12	2.5	5	260
1142808 ✓	15	1	2.5	10	60
1142809 ✓	135	12	10	30	570
1142812 ✓	40	2	2.5	10	90
1142819 ✓	200	85	2.5	10	390
1142820 ✓	160	5	10	30	420
1142821 ✓	170	3	5	20	500
1142832 ✓	250	3	2.5	20	240
1153077 ✓	15	1	2.5	10	180
1153078 ✓	20	1	2.5	10	80
1153079 ✓	65	10	2.5	10	100
1153080 ✓	25	2	2.5	10	90
1153091 ✓	25	1	2.5	10	120
1153092 ✓	75	2	2.5	20	240
1153168 ✓	20	1	2.5	30	110
1153169 ✓	35	0.5	2.5	70	180
1153229 ✓	60	6	2.5	20	150
1153234 ✓	65	4	2.5	20	300
1153235 ✓	70	2	2.5	40	140
1153236 ✓	75	2	2.5	10	500
1153237 ✓	30	3	2.5	30	200
1153244 ✓	25	1	2.5	10	60

365031

CRA EXPLORATION PTY.LIMITED.

PANNED CONCENTRATE SAMPLE FIELD SHEET

SAMPLE NUMBER	SAMPLE LOCATION				HEAVY MINERALS			WEIGHT		LOOK	GEOLOGICAL OBSERVATIONS		
	EAST	NORTH	ZONE	CORRES SS SAMPLE	SAMPLE TYPE	VISIBLE	MAJOR	MINOR	MINOR			START	CONC.
1153002	329600	5425800	55	1142802	020							Y	High Fe <sub>3</sub> O <sub>4</sub>
1153003	329625	5425825	"	1142803	"								??l colour of Au - very fine. V.qz.rich p.c.
1153006	329899	5424200	"	1142806	"								Not from any form of trap.Uniform well sorted qz.sand
1153007	329899	5424300	"	1142807	020							Y	Low H.M. content panned v.slowly
1153008	333499	5425300	"	1142808	"								
1153009	334949	5423900	"	1142809	"								
1153012	329399	5421900	"	1142812	"								
1153019	335499	5421700	"	1142819	"								Not panned at site
1153020	335600	5417500	"	1142820	"								
1153021	335399	5417700	"	1142021	"								
1153032	333400	5415800	"	1142832	"							Y	1 Grain Au
1153302	330349	5424400	"	1153077	"	A	Spin					N	
1153303	330199	5424350	"	1153078	"	M						N	
1153304	330099	5424300	"	1153079	"	M	Spin					N	
1153305	330399	5422500	"	1153080	"	M	Spin					Y	Bulk Sample Taken
1153316	335950	5420800	"	1153091	"	A						Y	Limonite, rod shaped after metamorphic min.
1153317	333899	5419900	"	1153092	-1	A						Y	
1153468	335850	5420600	"	1153168	"							N	
1153469	336800	5419600	"	1153169	"								Site 14 very minor fine heavies
1153529	329974	5426075	"	1153229	020								" 22 "
1153534	330974	5422325	"	1153234	"								" 23 "
1153535	330874	5422200	"	1153235	"								" 28 "
1153536	331576	5421225	"	1153236	"								" 25 "
1153537	329524	5421775	"	1153237	"								" 130 "
1153544	333149	5417800	"	1153244	"								

KEY TO PANNED CONCENTRATE SAMPLE FIELD SHEET

MINERAL CODE

- Sample Number - CRAE 6 or 7 digit number.
- East - AMG Co-ordinate in m.
- North - AMG Co-ordinate in m.
- Zone - AMG Zone.
- Corres SS Sample - Sample number of stream sediment sample collected at the same site
- Sample Type - DSRS Code.
- Heavy Minerals
  - Visible - None (N), Trace (T), Moderate (M), Abundant (A).
  - Major - Mineral Code.
  - Minor - Mineral Code.
  - Minor - Mineral Code.
- Weight
  - Start - Weight or relative volume of unconcentrated sample.
  - Conc - Weight of final concentrate sample (gm).
- Look - Other item of interest recorded in the geological observations column (Y/N).

Artinolite .....	ACTN	Cumingtonite ...	CUMN	Ochre .....	OCHR	Uranophane .....	URPH*
Adularia .....	ADUL	Cuprite .....	CUPR	Oligoclase .....	OLIG	Uranothorite .....	URTH*
Agate .....	AGAT	Diamond .....	DIAM	Olivine .....	OLIV	Vanadinite .....	VAND
Alkali Feldspar .....	ALFL	Digenite .....	DIGN	Opal .....	OPAL	Versiculite .....	VERM
Albite .....	ALBT	Diopside .....	DIOP	Orthoclase .....	ORCL*	Vesuvianite .....	VESV
Allanite .....	ALAN	Dolomite .....	DOLM	Orthopyroxene .....	ORPX*	Willemitte .....	WILM
Alunite .....	ALUN	Electrum .....	ELEC	Pentlandite .....	PERT	Willyamite .....	WILY
Ambygonite .....	AMBL	Emerald .....	EMER	Perthite .....	PERT	Witherite .....	WITH
Amethyst .....	AMET	Enargite .....	ENAR	Phlogopite .....	PHLG	Wollrasite .....	WOLF
Asphibole .....	AMPH	Enstatite .....	ENST	Phosphate .....	PHOS	Wollastonite .....	WOLS
Andalusite .....	ANDL	Epidote .....	EPID	Picro-ilmenite .....	PCIL*	Zeolite .....	ZEOL
Andesine .....	ANDS	Evaporites .....	EVAP	Pitchblende .....	PITC	Zincite .....	ZINC
Anhydrite .....	ANHY	Fayalite .....	FAYL	Plagioclase .....	PLAG	Zircon .....	ZIRC
Ankerite .....	ANKR	Feldspar .....	FELD	Platinum .....	PTMT*		
Anthophyllite .....	ANTH	Ferberite .....	FERB	Potash Feldspar .....	PTFL*		
Antimonite .....	ANTM	Ferrodolomite .....	FADL	Prehnite .....	PREH		
Antimony Native .....	SBMT*	Fluorite .....	FLUR	Proustite .....	PNOS		
Apatite .....	APAT	Franchite .....	FRAN	Pumpellyite .....	PUMP		
Aragonite .....	ARAG	Fuchsite .....	FUCH	Pyrrargyrite .....	PYAR		
Argentite .....	ARGN	Gahnite .....	GAMN	Pyrite .....	PYRT		
Arsenic .....	ASNT*	Galena .....	GALM	Pyrochlore .....	PYCH*		
Arsenopyrite .....	ARPY	Garnet .....	GARN	Pyroalusite .....	PYLS		
Asbestos .....	ASBS	Garnierite .....	GRRT*	Pyromorphite .....	PYMR*		
Augite .....	AUGT	Gibbsite .....	GIBS	Pyrope .....	PYRP		
Azurite .....	AZUR	Glass .....	GLAS	Pyrophyllite .....	PYPH*		
Berite .....	BART	Glauconite .....	GLAC	Pyroxene .....	PYRX		
Bastnaesite .....	BAST	Glaucofanite .....	GLPK*	Pyrrhotite .....	PYRH		
Bauxite .....	BAUX	Goethite .....	GOET	Quartz .....	QUAR		
Bentonite .....	BENT	Gold .....	AUMT*	Rhodochrome .....	RHCH*		
Beryl .....	BERY	Graphite .....	GRAP	Rhodonite .....	RHOD		
Biocite .....	BIOT	Grossularite .....	GROS	Riesbeckite .....	RIEB		
Bismuth .....	BINT*	Guano .....	GUAN	Ruby .....	RUBY		
Bismuthinite .....	BISM	Gypsum .....	CYPS	Rutile .....	RUTL		
Situaen .....	BITH	Halite .....	HALT	Salts .....	SALT		
Boracite .....	BORC	Heazlewoodite .....	HEAZ	Sanidine .....	SAND		
Borax .....	BORX	Hedenbergite .....	HEDM	Sapphire .....	SAPH		
Boulangierite .....	BOUL	Hematite .....	HEMT	Scapolite .....	SCAP		
Bronzite .....	BRON	Hornblende .....	HORN	Scheelite .....	SCHL		
Brucite .....	BRUC	Hübnerite .....	HUBN	Sericite .....	SERC		
Calcite .....	CALC	Ilmenite .....	ILMN	Serpentine .....	SERP		
Carbonate .....	CARB	Iron Oxides .....	FEOX*	Siderite .....	SIDR		
Carnotite .....	CARN	Jadwite .....	JADT	Silica .....	SILC		
Cassiterite .....	CASS	Jarosite .....	JARS	Silicate .....	SICT*		
Celestite .....	CELS	Jasper .....	JASP	Sillimanite .....	SILL		
Cerussite .....	CERS	Kaolin .....	KAOL	Silver .....	AGNT		
Chalcedony .....	CHDN*	Kyanite .....	KYAN	Smithsonite .....	SMIT		
Chalcocite .....	CHCT	Labradorite .....	LABR	Smoky Quartz .....	SMQT*		
Chalcopyrite .....	CHPY	Lepidolite .....	LEPD	Specularite .....	SPEC		
Chamosite .....	CHAM	Leucite .....	LEUC	Spessartine .....	SPES		
Chert .....	CHER	Leucosene .....	LXSM	Sphalerite .....	SPHL		
Chlorite .....	CHLR	Limonite .....	LIMN	Sphene .....	SPHN		
Chrome Diopside .....	CHDP	Loellingite .....	LOEL	Spinel .....	SPIN		
Chrome Spinel .....	CHSP	Magnesite .....	MAGH	Stannite .....	STAN		
Chromite .....	CHRM	Magnetite .....	MGST*	Staurolite .....	STAR		
Chrysotile .....	CHRY	Magnetite .....	MGTT*	Stibnite .....	STIB		
Cinnabar .....	CINN	Malachite .....	MALC	Stilpnomelane .....	STIL		
Clay .....	CLAY	Manganite .....	MANG	Sulphate .....	SLPT*		
Clinopyroxene .....	CLPX*	Marcasite .....	MARC	Sulphides .....	SLPD*		
Clinzoisite .....	CLZS	Martite .....	MART	Sylvite .....	SYLV		
Cobaltite .....	COBL	Melilite .....	MELT	Talc .....	TALC		
Collophane .....	COLP	Mercury .....	HCNT*	Tantalite .....	TANT		
Columbite .....	COLM	Mica .....	MICA	Telluride .....	TELA		
Copper .....	CPNT*	Microcline .....	MICR	Tennantite .....	TENT		
Cordierite .....	CORD	Molybdenite .....	MOLY	Tetrahedrite .....	TETR		
Corundum .....	CORN	Monazite .....	MONZ	Thorite .....	THOR		
Covellite .....	COVL	Montmorillonite .....	MONT	Topaz .....	TOPI		
Crocidolite .....	CROC	Muscovite .....	MUSC	Torbernite .....	TORR		
Cryolite .....	CRYL	Nepheline .....	NEPH	Tourmaline .....	TOUR		
Cubanite .....	CUBN	Nephrite .....	NFRT*	Tremolite .....	TREM		
				Uraninite .....	URNT*		

\*THIS SHEET MUST BE USED IN CONJUNCTION WITH THE STREAM SEDIMENT SAMPLE FIELD SHEET\*

033

31-JUL-84

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*      * / *
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*      *   *   *
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A PROGRAM IN THE GASP SYSTEM TO  
 PRINT A LISTING OF A DATA SET

VERSION 4.0 AUG 1983.

DATA TITLE: LEIGH RIVER EL 12/80, PANNED CONCENTRATES, HELI RECCE

THE FOLLOWING VARIABLES ARE IN THE DATA SET:

EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	CR	AG
MO	FEZ	MN	AS	SN	W	BA	AUP	WT	

365034

SAMPLE NO.	EAST	NORTH	ZONE	CU	PB	ZN	NI	CO	CR	AG	MO
1153002/	329600	5425800	55	10	20	10	5	5	300	1	15
1153003/	329625	5425825	55	10	55	20	5	5	390	1	25
1153006/	329899	5424200	55	10	35	15	10	5	330	1	20
1153007/	329899	5424300	55	5	25	30	5	5	360	1	15
1153008/	333499	5425300	55	5	10	10	5	2	390	1	10
1153009/	334949	5423900	55	15	65	60	20	5	300	1	20
1153012/	329399	5421900	55	5	10	10	2	2	300	1	10
1153019/	335499	5421700	55	25	25	15	5	5	340	1	15
1153020/	335600	5417500	55	5	35	35	2	5	100	2	5
1153021/	335399	5417700	55	5	15	10	5	5	460	3	15
1153032/	333400	5415800	55	5	10	15	2	5	250	1	10
1153302/	330349	5424400	55	5	5	10	2	2	330	1	10
1153303/	330199	5424350	55	5	5	10	5	2	340	1	10
1153304/	330099	5424300	55	5	15	10	2	2	340	1	15
1153305/	330399	5422500	55	5	10	10	5	2	390	2	15
1153316/	335950	5420800	55	5	25	15	5	5	530	1	15
1153317/	333899	5419900	55	5	20	10	2	2	250	3	10
1153468/	335850	5420600	55	5	15	10	5	2	570	1	10
1153469/	336800	5419600	55	5	5	15	5	2	430	0.5	10
1153529/	329974	5426075	55	20	100	15	2	5	350	1	55
1153534/	330974	5422325	55	10	15	20	15	5	380	1	20
1153535/	330874	5422200	55	5	15	10	15	5	290	1	15
1153536/	331576	5421225	55	15	45	5	25	5	570	1	45
1153537/	329524	5421775	55	10	20	10	20	5	520	3	20
1153544/	333149	5417800	55	10	5	10	15	5	340	1	10

SAMPLE NO.	FEZ	MN	AS	SN	W	BA	AUP	WT
1153002 ✓	0.38	40	X	5	30	40	0.5	38.3
1153003 ✓	0.8	85	X	5	100	160	0.2	22.78
1153006 ✓	0.37	30	X	10	160	30	7.1	25.89
1153007 ✓	0.64	30	X	2.5	70	40	0.1	31.48
1153008 ✓	0.38	30	X	5	70	5	0.1	17.51
1153009 ✓	1.23	40	X	10	300	70	0.05	31.38
1153012 ✓	0.36	25	X	2.5	50	40	0.05	43.01
1153019 ✓	0.8	40	X	2.5	130	60	0.05	28.24
1153020 ✓	2.68	115	X	25	80	280	0.05	132.28
1153021 ✓	0.7	30	X	2.5	160	30	0.05	44.37
1153032 ✓	0.74	85	X	2.5	5	140	0.05	111.19
1153302 ✓	0.32	15	X	10	10	100	0.7	121.51
1153303 ✓	0.32	20	X	2.5	5	40	0.1	65.51
1153304 ✓	0.38	30	X	2.5	10	70	0.1	112.08
1153305 ✓	0.41	20	X	2.5	10	60	0.2	60.31
1153316 ✓	0.55	50	X	2.5	50	120	0.1	53.09
1153317 ✓	0.5	25	X	2.5	110	110	0.05	127.72
1153468 ✓	0.54	50	X	2.5	30	120	0.05	75.59
1153469 ✓	0.36	20	X	2.5	10	80	0.1	68.9
1153529 ✓	0.41	25	X	2.5	30	200	0.1	68.75
1153534 ✓	0.45	25	X	2.5	20	70	0.1	80.27
1153535 ✓	0.38	25	X	2.5	10	70	0.2	46.46
1153536 ✓	0.64	35	X	25	490	10	9.8	22.14
1153537 ✓	0.55	30	X	0	0	0	1.3	6.13
1153544	0.37	20	X	2.5	10	40	0.05	73.57

NUMBERS THAT ARE CODED X REPRESENT "SPECIAL VALUES".  
 THESE VALUES WILL BE EXCLUDED FROM ALL CALCUALTIONS IN THE  
 GASP SYSTEM.

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APPENDIX 2

AEROMAGNETIC ANOMALY MODELLING



## CRA EXPLORATION PTY. LIMITED

LEVEL 4 BELLERIVE QUAY  
CAMBRIDGE ROAD, BELLERIVE, TASMANIA, AUSTRALIA

2nd August, 1983.

Memorandum To: D.J.WEIR  
Copy: T.W.DICKSON  
From: M.F.FLIS  
Subject: LEIGH RIVER E.L. 12/80  
AEROMAGNETIC ANOMALY MODELLING

INTRODUCTION

Ten magnetic anomalies defined by the Dept. of Mine's West Coast aeromagnetic survey were modelled by inversion. Modelling was done to assist in selection of anomalies prior to gridding and geochemical surveying.

DISCUSSION

Anomalies were modelled using the TABULAR (2D dyke model with infinite depth extent) and RIBBON (2D dyke model with finite depth extent and width very much smaller than depth of burial) models. Of the anomalies modelled three would not be fitted to any satisfactory degree. "TUB" could not be fitted because of it's position on the edge of a magnetic zone. "LEIGH" could not be modelled because it is possibly a composite anomaly of an anomalous body juxtaposed onto a fault. "SOURCE" is probably too close to "STRIKE" to allow a unique fit.

The "ODD" anomaly gave very different dips for the two models indicating an instability in dip determination which may reflect remanence. The remaining anomalies were modelled with the following parameters:-

038

RIVER - dip : 50° - 70° West  
depth : 0 - 60m (probably at surface)  
% magnetite : 0.2%  
depth extent : 290m

RIVER STH - dip : 20° West  
depth : 20m  
% magnetite : 0.2%  
depth extent : -

END - dip : 85°-90° West  
depth : 50-80m  
% magnetite : 0.3%  
depth extent : 500m

CORNER - dip : 75° east  
depth : 150m  
% magnetite : 1%  
depth extent : 1000m

STRIKE - dip : 55° east  
depth : 35m  
% magnetite : 0.4%  
depth extent : (great)

LEIGH STH - dip : 0° - 90°  
depth : 0 - 50m  
% magnetite : 0.1%  
depth extent : -

ODD - dip : 52° east - 39° W  
depth : 75m  
% magnetite : 1.1%  
depth extent : 600m

The Leigh Sth. anomaly was modelled equally well by a flat lying thin sheet and a broad vertical dyke with width of dyke equal to width of sheet. This would suggest that it is probably due to a moderately thick ?basalt sheet.

The Strike anomaly is most probably due to a specific lithology and as such is not anomalous.

RECOMMENDATIONS

The LEIGH STH AND STRIKE anomalies should be considered low priority targets. All other anomalies should be tested by geochem.

MARCUS FLIS

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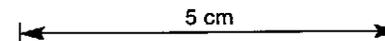
APPENDIX 3

GRID LINE, SOIL, ROCK AND DRAINAGE GEOCHEMISTRY

ASSAY LEDGERS

001  
S

# CRA EXPLORATION PTY. LTD.



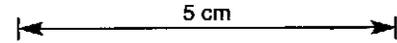
Sample No.	Coordinates		SOIL DESCRIPTION								BEDROCK				LOOK	METAL CONTENT ppm / %											Geological Observations
	East	North	Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type		Cu	Pb	Zn	Ni	Co	Ag	% Fe	Mn	Sr	W		
42231	4600	5000	0.6	036	4	10	40		50	2					20	10	15	10	15	1	1.07	60	<5	30			
232	4575		0.8	140	4	20	10		70						10	15	15	10	20	1	2.67	45	<5	10			
233	4550		0.7	075	4	30	20		50						10	10	15	10	15	1	2.38	25	<5	10			
234	4525		0.6	036	4	30	20		50						10	10	10	10	15	1	0.92	30	<5	20			
235	4500		0.8	030	4	30	10		60						10	5	10	10	10	<1	0.38	20	<5	30			
236	4475		0.9	053	4	40	10		58						10	5	10	10	15	1	0.48	25	<5	40			
237	4450		1.0	050	4	40	10		50						20	10	15	10	10	1	0.65	35	<5	60			
238	4425		0.7	050	4	40	20		40						5	10	15	10	10	<1	0.39	35	<5	20			
239	4400		1.0	050	5	50	10		40						10	10	20	10	5	<1	0.56	95	<5	50			
240	4375		0.6	050	5	50	20		30						5	5	5	10	5	<1	0.61	80	<5	80			
241	4350		0.8	050	4	40	30		30						10	15	15	15	15	1	2.74	80	<5	30			
242	4325		0.6	150	4	50	25		25						20	30	20	25	20	1	4.18	110	<5	30			
243	4300		0.8	030	4	50	10		40						2	15	15	10	15	1	0.61	35	<5	40			
244	4275		0.7	130	4	40	30		30						2	10	10	10	10	1	0.52	20	<5	40			
245	4250		0.6	030	5	60	30		10						5	10	10	10	10	1	0.65	45	<5	60			
246	4225		0.8	150	4	40	20		40						2	15	10	10	5	<1	0.47	30	<5	20			
247	4200		1.0	030	5	60	20		20						2	15	5	10	10	<1	0.36	20	<5	20			
248	4175		0.9	150	4	40	20		40						2	15	5	10	10	1	0.66	25	<5	30			
249	4150		1.0	330	3	20	40		40						2	15	5	10	10	<1	0.36	20	<5	10			
250	4125		0.7	330	3	30	45		25						5	10	5	10	10	4	0.45	25	5	30			

<b>EOCHEMICAL SOIL SAMPLING LEDGER</b>	DETECTION LIMIT																									
	ANALYTICAL METHOD																									
Mount Name: LETIGH RIVER EL 12/80.	Project:	AMG Zone: 55	Sheet No: 142																							
Prospect: ODD + END AEROMAG FOLLOW UP	DPO's: 30471	Laboratory: ALS Brisbane																								
Photo Ref: ARTHUR RIVER 1:100 000	Sample No's: 1142231 - 250	Collected By: JTM, BS,	Date: 16/7/83																							

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SHAMA

CRA EXPLORATION PTY. LTD.



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Sample No.	SOIL DESCRIPTION											BEDROCK					LOOK	METAL CONTENT ppm / %										Geological Observations
	Coordinates / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Mn.	Min. Type	Cu		Pb	Zn	Ni	Co	Ag	% Fe	Mn	Sn	W		
	East	North																										
142251	4100	5000	0.9	330	4	40	10		50		2					2	10	5	10	10	<1	0.48	25	<5	30			
252	4075		0.9	363	5	50	20		30							5	10	20	10	15	1	0.51	25	<5	10			
253	4050		1.0	050	4	40	20		40							5	10	5	5	10	<1	0.39	20	<5	20			
254	4025		0.7	039	5	50	30		20							5	10	10	10	10	1	0.76	35	<5	20			
255	4000		0.9	028	4	30	20		50							2	10	5	5	10	1	0.89	45	<5	20			
256	3975		1.0	350	4	50	20		30							5	10	5	10	10	<1	0.83	55	<5	30			
257	3950		0.7	030	3	20	20		60							5	10	5	10	10	<1	0.54	25	5	20			
258	3925		0.8	028	4	40	30		30							5	10	20	10	15	1	2.35	50	<5	20			
259	3900		0.7	028	4	40	20		40							5	10	85	10	15	1	3.82	35	<5	10			
260	3875		0.6	130	5	60	20		20							5	10	10	10	10	1	0.62	20	<5	10			
261	3850		0.8	023	4	40	30		30							5	10	25	15	20	1	2.32	100	<5	10			
262	3825		0.7	050	4	50	25		25							5	5	10	10	10	1	0.41	20	<5	10			
263	3800		0.5	053	4	40	30		30							5	10	10	10	10	1	0.40	20	<5	10			
264	3775		0.7	350	4	40	40		20							5	10	5	10	10	1	0.55	25	5	30			
265	3750		0.9	130	4	40	30		30							5	10	10	10	10	1	0.45	20	<5	30			
266	3725		0.8	150	4	30	30		40							<2	5	2	10	10	<1	0.36	25	<5	20			
267	3700		0.6	350	3	25	50		25							2	5	2	10	5	<1	0.43	30	<5	40			
268	3675		0.6	350	3	10	60		30							2	5	5	10	10	<1	0.58	45	<5	60			
269	3650		0.8	350	3	20	60		20							2	5	2	10	10	<1	0.31	25	<5	30			
270	3625		0.7	350	3	20	60		20							2	5	5	10	10	<1	0.39	25	5	30			

GEOCHEMICAL SOIL SAMPLING LEDGER

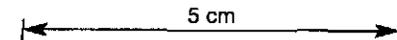
DETECTION LIMIT		ANALYTICAL METHOD	
Project:	AMG Zone: 5S	Sheet No.:	243
DPO's:	30471	Laboratory:	ALS Brisbane
Sample No's:	1142251 - 270	Collected By:	DJW BS.
Location Name:	LEIGH RIVER EL12/80	Date:	16/9/83
Prospect:	"ODD + END" AEROMAG FOLLOW UP		
Photo Ref.:	ARTHUR R 1:100 000		

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043

ASHAMA

CRA EXPLORATION PTY. LTD.



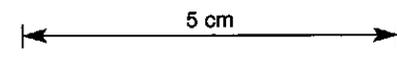
S

Sample Number	SOIL DESCRIPTION										BEDROCK				METAL CONTENT ppm / %										Geological Observations	
	E-coordinates Easting / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type	LODK	Cu	Pb	Zn	Ni	Co	Ag	% Fe	Mn	Sn		W
	East	North																								
142 271	3600	5000	0.7	350	4	30	50	20	20	2					2	10	2	10	10	<1	0.53	35	<5	40		
272	3575		0.7	350	4	30	50		20						5	10	10	10	15	1	0.56	30	<5	40		
273	3550		0.8	050	3	20	50		30						5	20	10	10	15	1	0.45	25	35	20		
274	3525		0.6	050	4	40	30		30						5	15	15	10	15	1	0.66	35	30	50		
275	3500		0.9	050	4	50	30		20						5	10	10	10	15	<1	0.51	35	15	40		
276	3475		0.5	150	5	50	25		25						5	10	25	10	15	1	1.32	60	10	20		
277	3450		0.6	050	4	40	40		20						5	10	15	10	10	<1	0.48	25	5	30		
278	3425		1.0	350	4	30	60		10						5	5	10	10	10	<1	0.38	25	5	30		
279	3400		0.8	050	3	20	60		20						5	5	5	10	15	<1	0.43	30	5	20		
280	3375		0.6	330	4	30	60		10						5	10	15	10	15	1	0.81	45	10	50		
281	3350		0.9	050	3	20	80								5	15	15	10	15	1	0.94	25	5	20		
282	3325		0.6	350	3	20	80								5	10	15	10	10	<1	1.08	30	<5	40		
283	3300		0.7	050	4	30	70								5	10	15	10	10	<1	0.81	85	5	80		
284	3275		0.7	050	3	20	70		10						5	5	10	10	10	<1	0.59	55	<5	50		
285	3250		0.6	050	3	20	70		10						5	5	10	10	10	<1	0.37	35	<5	20		
286	3225		0.8	050	3	20	80								5	5	10	10	10	<1	0.30	25	<5	20		
287	3200		0.7	050	3	20	80								5	5	15	10	15	1	0.68	45	5	60		

<b>GEOCHEMICAL SOIL SAMPLING LEDGER</b>		<b>DETECTION LIMIT</b>	
		<b>ANALYTICAL METHOD</b>	
Project Name: LEIGH RIVER E112/80.		Project: AMG Zone: 55.	
Sheet No: 343		Laboratory: ACS Brisbane	
Photo Ref: ARTHUR R. 1:100 000.		Sample No's: 1142271 - 287	
DPO's: 30471		Collected By: DJW BS.	
		Date: 16/9/83	

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ASMANIA

# 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	Ni	Co	Ag	% Fe	Mn	Sn		W
	East	North																								
055801	5150	5000	0.7	130	5	30	20	-1	50	-1	2					15	20	60	35	15	1	2.89	200	<5	10	
802	5125	.	1.10	193	4	10	30	-1	60	-1	2					15	25	35	25	10	1	1.16	80	5	50	
803	5100	.	0.3	158	4	10	20	-1	70	-1	2					2	25	55	20	5	1	0.71	45	<5	20	
804	5075	.	0.7	065	4	10	10	-1	80	-1	2					5	20	25	15	10	<1	2.52	65	10	10	
805	5050	.	0.6	065	4	20	10	-1	70	-1	2					5	20	25	20	10	1	2.10	100	5	20	
806	5025	.	0.7	065	4	10	10	-1	80	-1	2					35	20	20	25	15	1	5.92	90	5	10	
807	5000	.	1.10	295	4	20	10	-1	70	-1	2					160	55	50	55	85	3	9.99	400	<5	<10	
808	4975	.	0.8	065	3	-1	20	-1	80	-1	2					15	15	25	20	10	1	3.35	65	5	10	
809	4950	.	1.10	115	4	10	10	-1	80	-1	2					10	15	40	20	10	1	3.86	140	5	40	
810	4925	.	1.10	073	4	10	20	-1	70	-1	2					5	10	45	20	10	1	4.20	175	<5	<10	
811	4900	.	0.6	157	4	-1	-1	-1	-1	-1	2					22	15	20	15	10	1	1.57	130	5	10	
812	4875	.	0.6	178	4	-1	-1	-1	-1	-1	2					5	15	35	15	10	1	2.90	155	<5	10	
813	4850	.	0.5	035	3	10	20	-1	70	-1	2					22	10	20	15	10	1	1.86	70	10	10	
814	4825	.	0.5	035	4	10	40	-1	50	-1	2					2	10	15	15	5	<1	0.83	90	<5	30	
815	4800	.	0.6	394	5	20	40	-1	40	-1	2					2	15	15	10	5	<1	0.56	85	10	20	
816	4775	.	0.5	330	5	20	30	-1	40	-1	2					22	10	10	15	5	<1	0.53	50	<5	40	
817	4750	.	0.7	035	5	20	60	-1	20	-1	2					22	10	10	10	5	<1	0.43	30	20	30	
818	4725	.	0.7	130	5	20	20	-1	60	-1	2					22	10	20	10	10	<1	1.60	60	<5	10	
819	4700	.	0.5	150	4	10	20	-1	70	-1	2					2	10	10	10	5	<1	0.45	40	15	30	
820	4675	.	0.6	039	4	10	30	-1	60	-1	2					2	40	20	15	10	1	0.82	45	<5	10	

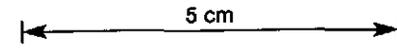
<b>GEOCHEMICAL SOIL SAMPLING LEDGER</b>		DETECTION LIMIT																								
		ANALYTICAL METHOD																								
Tenement Name: LEIGH RIVER EL 12/80.		Project: ASMANIA ANOMALY FOLLOWUP AMG Zone: 55.										Sheet No.: 192														
Area / Prospect: LEIGH ASMANIA ANOMALY		DPO's: 30469										Laboratory: ALS Brisbane.														
1:10000 T3A		1055801 - 820										D.J.W M.W.S.W Date 30/8/83														

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ASMANIA

CRA EXPLORATION PTY. LTD.



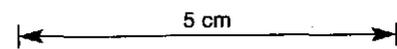
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Sample Number	SOIL DESCRIPTION											BEDROCK				METAL CONTENT ppm / %										Geological Observations	
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Min	Min. Type	LOOK	Cu	Pb	Zn	Ni	Co	Ag	Fe	Mn	Sn		W
	East	North																									
265821	4650	5000	0.7	093	5	20	40	-1	40	-1	2					25	75	60	20	10	3	1.04	65	5	20		
822	4625	"	0.6	130	5	30	50	-1	20	-1	2					2	15	15	10	5	<1	0.49	40	20	30		
823	4600	"	1.0	093	4	15	20	-1	65	-1	2					5	30	20	10	5	1	0.37	40	<5	20		

<b>GEOCHEMICAL SOIL SAMPLING LEDGER</b>		<b>DETECTION LIMIT</b>																								
		<b>ANALYTICAL METHOD</b>																								
Tenement Name: LEIGH RIVER EL 12/80				Project: Anomaly follow up.				AMG Zone: 55				Sheet No: 2692.														
Area / Prospect: LEIGH AERONAB. ANOMALY				DPO's: 30469				Laboratory: ALS Brisbane.																		



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ASMANIA

# 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	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																									
1055845	4800	5000	0.9	085	4	10	10	-1	80	-1	2					5	30	40	25	10	1	3.61	90	5	10		
846	4825	"	0.7	058	5	20	20	-1	60	-1	2					10	35	40	25	10	1	2.78	90	<5	20		
847	4850	"	1.0	085	5	20	10	-1	70	-1	2					10	30	50	20	10	1	3.95	120	<5	10		
848	4875	"	0.9	063	5	20	-1	-1	80	-1	2					5	25	35	20	10	1	3.26	105	5	30		
849	4900	"	0.8	158	5	30	20	-1	50	-1	2					10	20	45	20	10	1	3.18	145	10	30		
851	4925	"	0.9	080	5	30	20	-1	50	-1	2					10	20	60	25	20	1	4.81	380	<5	<10		
852	4950	"	0.7	058	5	20	20	-1	60	-1	2					130	30	85	70	40	2	9.27	300	<5	<10		
853	4975	"	0.9	150	5	20	10	-1	70	-1	2					30	30	55	75	35	2	6.59	400	<5	<10		
854	5000	"	0.7	094	5	30	-1	-1	70	-1	2					2	15	10	10	5	<1	0.67	25	<5	10		
855	5025	"	0.6	085	4	20	20	-1	60	-1	2					2	20	35	20	15	1	2.75	185	<5	<10		
856	5050	"	0.8	087	4	10	10	-1	80	-1	2					2	15	25	15	10	1	1.28	125	<5	10		
857	5075	"	0.8	175	5	20	20	-1	60	-1	2					5	15	40	20	15	1	2.11	260	<5	10		
858	5100	"	0.6	070	5	40	10	-1	50	-1	2					5	15	30	15	10	1	1.24	230	<5	10		
859	5125	"	0.6	150	5	20	20	-1	60	-1	2					2	20	30	15	10	1	1.55	170	<5	<10		
860	5150	"	0.7	054	4	10	-1	-1	90	-1	2					2	20	35	15	10	1	2.54	185	<5	10		
861	5175	"	0.8	075	5	30	10	-1	60	-1	2					2	15	35	20	15	1	1.71	250	<5	10		
862	5200	"	0.6	158	5	20	30	-1	50	-1	2					2	15	30	15	10	1	2.22	165	5	10		
863	5225	"	0.4	130	5	40	20	-1	40	-1	2					5	15	25	10	10	<1	1.15	120	<5	20		
864	5250	"	0.7	180	5	30	40	-1	30	-1	2					5	20	30	15	10	<1	2.10	120	<5	<10		
865	5275	"	1.0	150	5	30	20	-1	50	-1	2					5	15	20	10	10	<1	1.19	45	<5	20		

## GEOCHEMICAL SOIL SAMPLING LEDGER

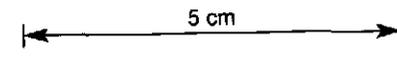
DETECTION LIMIT	ANALYTICAL METHOD

Tenement Name: LEIGH RIVER EL 12/80. Project: Aeromag follow up. AMG Zone: 55. Sheet No.: 193

Area / Prospect: LEIGH SOUTH & RIVER SOUTH AEROMAG ANOMALIES. DPO's: 30469. Laboratory: ALS Brisbane.

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ASMANIA

# 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	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																									
55866	5300	5000	0.5	150	5	10	20	-1	70	-1	2					5	15	35	15	10	1	1.80	160	45	110		
867	5325	"	0.7	250	5	25	5	-1	70	-1	2					5	15	25	15	10	1	1.35	100	45	10		
868	5350	"	0.4	250	6	40	5	-1	55	-1	2					5	20	25	15	10	<1	1.17	90	45	20		
869	5375	"	0.7	150	5	20	20	-1	60	-1	2					5	20	30	15	10	1	2.47	90	45	10		
870	5400	"	0.6	050	5	30	-1	-1	70	-1	2					5	20	30	15	10	1	1.48	70	45	10		
871	5425	"	0.5	085	4	20	30	-1	50	-1	2					5	20	30	15	10	<1	1.91	120	45	110		
872	5450	"	0.4	180	5	30	10	-1	60	-1	2					10	20	30	20	10	<1	2.04	85	45	110		
873	5475	"	0.7	050	5	40	10	-1	50	-1	2					5	20	50	20	15	<1	2.80	230	5	10		
874	5500	"	0.9	150	4	20	10	-1	70	-1	2					5	20	35	15	10	<1	1.90	160	45	110		
875	5525	"	0.8	150	5	30	20	-1	50	-1	2					5	20	20	10	5	<1	0.91	65	45	110		
876	5550	"	0.8	250	5	30	30	-1	40	-1	2					5	20	35	20	10	1	4.36	100	45	110		
877	5575	"	0.5	170	5	40	20	-1	40	-1	2					5	20	85	30	20	<1	2.86	540	45	10		
878	5600	"	0.6	150	4	30	10	-1	60	-1	2					2	20	40	20	15	<1	2.03	190	45	110		
879	5625	"	0.8	185	5	40	-1	-1	60	-1	2					2	20	40	15	15	<1	2.03	180	45	10		
880	5650	"	0.9	250	3	10	20	-1	70	-1	2					2	20	45	20	15	<1	1.57	220	45	110		
881	5675	"	0.5	050	5	30	10	-1	60	-1	2					2	15	35	15	10	<1	2.12	185	45	110		
882	5700	"	0.6	030	4	20	10	-1	70	-1	2					2	15	20	10	10	<1	1.23	45	45	110		
883	5725	"	0.7	073	4	10	10	-1	80	-1	2					2	15	25	10	10	<1	1.41	85	45	10		
884	5750	"	0.7	030	5	30	10	-1	60	-1	2					2	15	35	15	15	<1	2.41	165	45	20		
885	5775	"	0.6	150	4	10	20	-1	70	-1	2					2	15	30	20	15	1	3.11	265	45	110		

## GEOCHEMICAL SOIL SAMPLING LEDGER

DETECTION LIMIT	
ANALYTICAL METHOD	

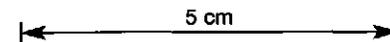
Element Name: LEIGH RIVER EL12180.	Project: Asmanag follow up.	AMG Zone: 55.	Sheet No.: 283
Area / Prospect: LEIGH SOUTH & RIVER SOUTH ASMANIA ANOMALIES.	DPO's: 30469	Laboratory: ALS Brisbane.	

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ASMANIA

CRA EXPLORATION PTY. LTD.



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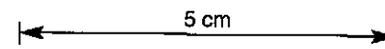
Sample Number	SOIL DESCRIPTION											BEDROCK					METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type	LOOK	Cu	Pb	Zn	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																									
055886	5800	5000	0.7	150	4	10	10	-1	80	-1	2						2	15	40	15	15	1	2,47	160	45	410	
887	5825	"	0.6	050	4	20	10	-1	70	-1	2						2	15	50	20	15	1	2,49	270	45	410	
888	5850	"	0.7	050	4	10	10	-1	80	-1	2						2	20	45	20	15	1	2,56	200	45	410	
889	5875	"	0.2	054	2	40	10	-1	50	-1	2						5	20	30	15	15	1	1,67	115	45	20	
890	5900	"	0.4	081	5	10	10	-1	80	-1	2						42	15	40	20	15	1	2,35	200	45	410	
891	5925	"	0.6	038	4	10	20	-1	70	-1	2						2	10	20	10	5	41	0,71	25	45	20	
892	5950	"	0.7	034	4	20	10	-1	70	-1	2						5	10	40	15	10	1	1,26	45	45	410	

GEOCHEMICAL SOIL SAMPLING LEDGER	DETECTION LIMIT																								
	ANALYTICAL METHOD																								
Tenement Name: LEIGH RIVER E2 12/80			Project: Aeromag follow up.			AMG Zone: 55			Sheet No.: 3 073																
Area / Prospect: LEIGH SOUTH & RIVER SOUTH AEROMAG ANOMALIES.			DPO's: 30469						Laboratory: ALS Brisbane.																
Scale: 1:100,000 Twp									Collected by: PIVY SW 65			Date 6/9/83													

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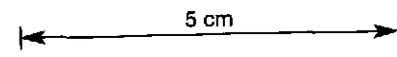
ASMANIA CRA EXPLORATION PTY. LTD.

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	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																									
1055913	5900	5000	1.0	053	5	40	20	-1	40	-1	2					5	10	20	10	5	<1	0.34	15	<5	10		
914	5925	"	0.8	097	5	40	10	-1	50	-1	2					5	10	20	10	5	<1	0.56	35	<5	30		
915	5950	"	0.6	030	5	40	10	-1	50	-1	2					5	15	30	15	10	<1	2.40	65	<5	30		
916	5975	"	0.6	035	5	40	10	-1	50	-1	2					5	10	15	10	5	<1	0.50	30	<5	30		
917	6000	"	-1	039	6	30	30	-1	40	-1	2					5	10	25	20	10	1	0.90	20	<5	10		
918	6025	"	0.8	030	5	60	20	-1	20	-1	2					5	10	20	15	10	<1	0.54	30	<5	30		
919	6050	"	0.7	036	5	40	20	-1	40	-1	2					5	10	25	10	5	<1	0.50	25	<5	30		
920	6075	"	0.7	053	5	30	20	-1	30	-1	2					5	10	20	15	10	<1	0.53	30	<5	30		
921	6100	"	0.8	053	5	60	10	-1	30	-1	2					5	10	30	15	5	<1	0.56	30	5	40		

GEOCHEMICAL SOIL SAMPLING LEDGER	DETECTION LIMIT																								
	ANALYTICAL METHOD																								
Tenement Name: LEIGH RIVER EL 12180			Project: Asmanag follow up.			AMG Zone: 55			Sheet No: 292.																
Area / Prospect: TRIB AEROMAG ANOMALY.			DPO's: 30469						Laboratory: ALS Broken.																
Scale: 1:100 000 Topo			1055913 - 921						Collected By: DW BW & BS.			Date 7/9/83.													

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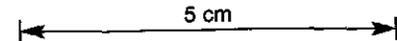
ASMANIA CRA EXPLORATION PTY. LTD.

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	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																									
142 201	6200	5000	0.6	050	4	20	20	-1	60	-1	2					10	10	25	10	15	1	0.49	40	5	50		
202	6225	"	0.8	053	4	30	10		60		2				5	5	20	10	10	1	0.49	40	<5	60			
203	6250	"	0.7	050	5	60	30		10		2				10	5	25	20	15	1	1.04	85	<5	140			
205	6275	"	0.6	050	4	30	30		40		2				10	10	10	20	10	1	0.92	70	<5	110			
206	6300	"	0.7	050	5	50	40		10		2				2	5	5	10	10	4	0.38	25	<5	40			
207	6325	"	0.6	060	5	60	20		20		2				5	10	20	15	15	1	0.72	50	<5	80			
208	6350	"	0.4	060	4	40	40		20		2				5	10	35	15	15	1	0.53	35	<5	30			
209	6375	"	0.5	030	4	40	20		40		2				2	10	15	10	10	1	0.51	30	<5	30			
210	6400	"	0.7	060	4	20	20		60		2				2	10	10	10	15	1	0.51	35	<5	40			
211	6425	"	0.5	090	4	20	20		60		2				2	10	20	10	10	1	0.57	35	5	40			
212	6450	"	0.6	030	4	20	50		40		2				5	15	25	10	15	1	0.86	30	<5	30			
213	6475	"	0.5	085	4	10	10		80		2				20	25	30	10	15	2	2.27	60	<5	10			
214	6500	"	0.7	080	4	10	10		80		2				25	40	35	15	20	2	3.67	100	<5	20			
215	6525	"	1.0	080	4	10	10		80		2				5	15	20	10	10	1	1.25	45	<5	20			
216	6550	"	0.5	053	4	20	20		60		2				2	15	15	10	10	1	0.71	70	<5	40			
217	6575	"	0.7	080	4	20	10		70		2				40	25	30	20	20	2	4.32	75	5	20			
218	6600	"	0.9	080	4	20	20		60		2				20	20	20	10	15	1	3.19	45	<5	10			
219	6625	"	0.5	080	4	20	20		60		2				25	25	25	20	15	2	3.56	60	<5	30			
220	6650	"	0.4	380	4	30	20		50		2				10	55	20	15	15	2	3.05	30	5	10			
221	6675	"	0.7	150	5	40	20	↓	40	↓	2				5	15	30	15	15	1	0.74	50	<5	20			

GEOCHEMICAL SOIL SAMPLING LEDGER	DETECTION LIMIT																												
	ANALYTICAL METHOD																												
Tenement Name: LEIGH RIVER EL 12180.										Project: AEROMAG ANOMALY FOLLOW UP. AMG Zone: 58										Sheet No.: 1 of 4									
Area / Prospect: SOURCE AND STRIKE AEROMAG ANOMALIES.										DPO's: 30471										Laboratory: ALS BRISBANE.									

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# CRA EXPLORATION PTY. LTD.

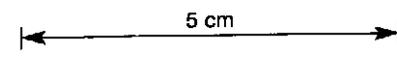
Sample Number	SOIL DESCRIPTION										BEDROCK				LOOK	METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic Soil Type	Rock Type	Alteration	Vis. Min.	Min. Type		Cu	Pb	Zn	Ni	Co	Ag	Fe	Mn	Sn	W	
	East	North																								
1142222	6700	5000	0.5	086	5	30	40	-1	30	-1	2				5	10	15	10	15	1	0.67	10	<5	10		
223	6725	"	0.6	030	4	10	20	"	70	"	2				5	15	15	15	15	1	0.63	40	<5	50		
224	6750	"	0.7	062	4	20	10	"	70	"	2				5	15	15	15	10	1	0.68	40	<5	60		
225	6775	"	0.8	060	4	40	10	"	50	"	2				15.5	10	15	10	15	1	0.57	35	<5	40		
226	6800	"	0.4	080	4	10	10	"	80	"	2				4.5	15	20	10	10	1	1.66	30	<5	30		
227	6825	"	0.4	081	3	10	30	"	60	"	2				2.5	20	20	10	15	1	1.12	25	<5	20		
228	6850	"	0.5	082	4	30	10	"	60	"	2				2.5	20	20	10	15	1	2.18	50	<5	30		
229	6875	"	0.9	080	4	10	10	"	80	"	2				20	25	20	10	15	1	2.63	45	<5	20		
30/1142001	6900	"	1.0	087	4	20	20	"	60	"	2				15	5	10	20	10	15	1	2.11	45	5	30	
1142002	6925	"	0.6	098	4	30	60		10						5	10	15	10	10	<1	0.84	30	<5	30		
003	6950	"	0.7	036	4	30	60		10						5	10	20	10	5	<1	0.59	55	<5	30		
004	6975	"	0.6	090	4	40	50		10						5	10	20	15	5	<1	0.64	45	<5	50		
005	7000	"	0.6	080	4	30	60		10						5	15	30	15	10	1	2.01	55	<5	10		
006	7025	"	0.6	096	4	40	40		20						5	10	25	15	10	<1	0.63	40	<5	30		
007	7050	"	0.8	030	4	40	40		20						5	10	30	10	10	<1	0.90	60	5	20		
008	7075	"	0.6	030	4	40	20		40						5	15	25	15	10	<1	0.70	40	<5	10		
009	7100	"	0.8	030	4	40	60								5	10	25	15	5	<1	0.63	50	<5	30		
010	7125	"	0.8	130	4	60	20		20						5	10	15	10	5	<1	0.67	40	<5	50		
011	7150	"	0.5	060	1	70	10		20			11			5	10	15	15	5	1	0.76	35	<5	20		
012	7175	"	0.6	034	4	40	40		20						10	10	20	25	5	<1	1.32	86	10	130		

<b>GEOCHEMICAL SOIL SAMPLING LEDGER</b>		<b>DETECTION LIMIT</b>	
		<b>ANALYTICAL METHOD</b>	
Tenement Name: LEIGH RIVER EL12/80		Project: AEROMAG ANOMALY FOLLOW UP AMG Zone: 55.	
Area / Prospect: SOURCE AND STRIKE AEROMAG ANOMS.		DPO's: 30471, 30469	
		Sheet No.: 2 of 4	
		Laboratory: ALS Brisbane.	

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ASMANIA

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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	Ni	Co	Ag	Fe	Mn	Sn		W
	East	North																									
1142033	7700		0.7	095	3	30	30		40							5	15	25	15	10	<1	0.80	30	<5	30		
034	7725		0.6	095	4	50	30		20							5	15	25	20	10	<1	0.87	50	5	50		
035	7750		0.3	093	3	40	30		30							5	15	20	15	5	<1	0.75	45	<5	40		
036	7775		0.5	054	3	40	30		30							5	15	20	15	5	<1	0.72	40	<5	50		
037	7800		0.7	094	4	30	40		30							5	15	20	15	5	<1	0.75	60	<5	60		
038	7825		0.3	093	4	60	30		10							5	15	15	15	5	<1	0.75	40	<5	50		
039	7850		0.9	040	3	30	30		40							5	15	15	15	5	<1	0.74	60	<5	70		
040	7875		0.5	093	3	30	30		40							5	15	20	20	5	<1	0.84	55	15	90		

GEOCHEMICAL SOIL SAMPLING LEDGER	DETECTION LIMIT																							
	ANALYTICAL METHOD																							
Tenement Name: LEIGH RIVER EL12180			Project: AEROMAG FOLLOW UP			AMG Zone: 55			Sheet No: 4 of 4															
Area / Prospect: SOURCE AND STRIKE AEROMAG ANOMS.			DPO's: 30469			Laboratory: ALS Brisbane.																		
M.P.D. 1:100 000 To 1/2			1142033-040			Collected By: JAW BS SW			Date: 15/9/83															

363026

CRA EXPLORATION PTY LIMITED

SOIL & SAMPLE FIELD SHEET

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056

SAMPLE NUMBER	LOCATION			SAMPLE DESCRIPTION										GEOLOGY					GEOLOGICAL OBSERVATIONS						
	East	North	Zone	Sample Site	Gravel %	Sand %	Silt %	Clay %	Org %	Depth	Colour	Moisture	Soil Type	Fragile Type	Depth to Bedrock	Dip	Rock Type	Fossils		Mineral	Min/Alt	Scent	Look	Veget.	
																		Major							Minor
114240	7165	5000 N	55	80 A						40	4 grey	B R N	-				QTZT								
114241	7125									40	11 grey	C R N	40				SML	QUAR.							
114242	7125									30	11 grey	B R N	-				QUAR.								
114243	7137.5									50	11 grey	B R N	-				QUAR.								
114244	7150									80	11 grey	B R N	100				SML								
114245	7162.5									30	11 grey	B R N	-				QUAR.								
114246	7175									60	11 grey	B R N	-				QUAR.								
114247	7187.5									40	11 grey	B R N	-				QUAR.								
114248	7200									40	11 grey	B R N	-				QUAR.								
114249	7212.5									-	11 grey	B R N	-				QUAR.								
1142420	7225									40	11 grey	B R N	-				QUAR.								
1142421	7237.5									30	11 grey-br	C R N	-				QUAR.								
1142422	7250									25	11 grey	C R N	-				QUAR.								
1142423	7262.5									25	11 grey	C R N	-				QUAR.								
1142424	7275									25	11 grey	B R N	-				QUAR.								
1142425	7287.5									60	11 grey	C R N	-				SML								
1142426	7300									100	11 grey	C R N	-				SML								
1142427	7312.5									90	11 grey	C R N	-				SML								
1142428	7325									80	11 grey	C R N	-				SML								
1142429	7337.5									100	11 grey	C R N	-				SML								
1142430	7350									110	11 grey	C R N	-				SML								
1142431	7362.5									60	11 grey	C R N	-				SML								
1142432	7375									30	11 grey	B R N	-				QUAR.								
1142433	7387.5									-	11 grey	B R N	-				QUAR	BLSH.							
1142434	7400									80	11 grey	C R N	-				SML								

PROJECT LEIGH RIVER

1:250 000 SHEET BURNIE SK 55-3

COLLECTED BY G. Mearns, P. Moore.

TENEMENT EL 12/80

SAMPLE NO'S 1142410 - 434

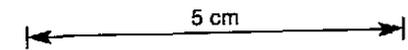
DATE JAN. 1984.

INVESTIGATION SOURCE & STRIKE AERONAV  
ADDMACT = REPEAT-SAMPLING DPO: 30482



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TASMANIA

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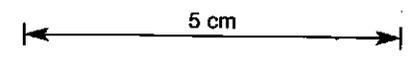
Sample Number	LOCATION						ROCK TYPE										MINERALISATION										METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Exposure	S. Type	Width (m)	Interval		Major Rock	Minor Rock	Alteration	Visible	Style	Major	Minor	Minor	Gangue	LOOK	Cu	Pb	Zn	Ni	Co	Ag	Cr	As	Sn/W	Mag Succ.										
	East	North				From	To																														
55951	5085'	5000	1	4	-1	-1	-1	8	-1	-1	3	-1	80	-1	-1	-1	140	75	70	25	15	2	10	10	35/210	0.1	LEIGH AEROMAG ANOMALY. grey siltst. - siltstone.										
55952	5025	5000	2	4	-1	-1	-1	93	-1	-1	-1	-1	-1	-1	-1	250	45	70	65	25	2	20	41	5/210	-	Amphibolite.											
55953	4910	5000	2	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	15	30	40	20	10	1	10	41	45/210	0.1	Grey banded siltst.											
55954	4200	5000	2	4	-1	-1	-1	100	-1	-1	-1	-1	-1	-1	-1	20	5	15	15	5	<1	340	3	45/210	-	Quartzite - leached											
55955	4050	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	50	25	45	20	10	<1	70	6	45/210	-	Coarsely banded siltstone. → Dirty Sandstone. Cross bedding.											
SOURCE AND STRIKE AEROMAG ANOMALIES																																					
55966	5700	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	10	10	15	15	5	<1	120	3	45/210	-	Pyl. Siltst. v. psammitic.											
55972	6835	5000	2	4	-1	-1	-1	8	-1	4	-1	-1	-1	-1	-1	25	20	30	15	5	<1	30	2	45/210	-	chloritic siltstone.											
55974	6880	5000	2	3	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	15	40	55	15	5	<1	45	3	45/210	-	psammitic siltstone. → Dirty Sandstone.											
55977	7360	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	20	15	35	10	5	<1	20	4	45/210	0.2	Pyl. siltst.											
ODD AND END ANOMALIES																																					
55982	4725	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	10	10	65	25	15	1	10	1	45/210	-	green siltstone, well cleaved? appears faulted.											
55985	4640	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	15	15	60	25	10	1	20	2	45/210	0.2	green s. lam. siltst.											
55988	4325	5000	2	4	-1	-1	-1	8	-1	18	-1	-1	-1	-1	-1	55	60	70	110	35	3	30	41	45/210	0.3	v. weath. green siltst? basalt? equigranular											
55992	3870	5000	1	4	-1	-1	-1	8	-1	4	-1	-1	-1	-1	-1	15	15	60	30	20	1	10	41	45/210	0.1	green lam. siltstone chloritic?											
993	3525	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	10	10	10	10	5	<1	110	1	45/210	-	v. sandy siltstone → Dirty Sandstone.											
995	3480	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	10	20	20	10	5	<1	20	2	45/210	0.2	Pyl. siltstone.											

**GEOCHEMICAL ROCK SAMPLING LEDGER**

Element Name: LEIGH RIVER EL 12/80. Project: Aeromag follow up. AMG Zone: Sheet No.: 1072

Area / Prospect: REBE GRID LINES DPO's: 30470 Laboratory: ALS Brisbane.

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CRA EXPLORATION PTY. LTD.

TASMANIA

Sample Number	LOCATION						ROCK TYPE			MINERALISATION							METAL CONTENT ppm / %										Geological Observations	
	Co-ordinates AMG / Grid		Exposure	S Type	Width (m)	Interval		Major Rock	Minor Rock	Alteration	Visible	Style	Major	Minor	Minor	Gangue	LOOK	Cu	Pb	Zn	Ni	Co	Ag	Cr	As	Sn		Mag Smc.
	East	North				From	To																					
55997	5075	5000	2	4	-1	-1	-1	100	-1	-1	-1	-1	-1	-1	-1	-1	5	10	10	5	5	<1	155	2	25/210	0.1	RIVER ANOMALY well bedded saccharoidal quartzite float.	
56000	4970	5000	1	4	-1	-1	-1	106	-1	-1	-1	-1	-1	-1	-1	-1	180	25	100	85	40	2	15	<1	25/210	0.1	LEIGH SOUTH + RIVER SOUTH. Amphibolite gneiss.	
142101	4950	5000	2	4	-1	-1	-1	106	-1	-1	-1	-1	-1	-1	-1	-1	210	25	130	105	45	2	25	<1	25/210	-	" "	
142102	4925	5000	1	4	-1	-1	-1	8	-1	17	-1	-1	-1	-1	-1	-1	10	15	60	25	15	1	10	<1	25/210	0.1	green-grey, sl. siliceous siltstone, greasy-fakel?	
142104	4895	5000	2	3	-1	-1	-1	8	-1	10	3	-1	10	-1	-1	-1	30	30	90	35	15	1	20	1	25/210	1.0	grey siliceous siltstone E 5% py.	
142106	4650	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	10	15	55	25	15	1	10	1	25/210	0.1	green lam. siltstone.	
42107	5035	5000	2	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	5	15	80	35	20	1	10	<1	25/210	0.1	green lam. siltstone.	
42109	5205	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	5	10	65	30	20	1	10	<1	25/210	0.4	green lam siltstone.	
42110	5255	5000	2	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	20	15	100	40	25	1	15	<1	25/210	0.1	green siltst. sl. more massive.	
142111	5325	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	15	15	70	30	20	1	10	<1	25/210	0.7	green lam. siltst.	
142114	5945	5000	2	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	130	20	50	30	10	1	15	5	10/40	0.1	grey lam. siltstone.	
142115	6010	5000	1	4	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	15	10	50	30	10	1	10	4	25/210	0.1	grey f. lam. siltstone.	

GEOCHEMICAL ROCK SAMPLING LEDGER

DETECTION LIMIT

ANALYTICAL METHOD

Element Name: LEIGH RIVER EL 12/80

Project: Aeromag follow up.

AMG Zone: 55

Sheet No: 2072.

Area / Prospect RECLE GRID LINES

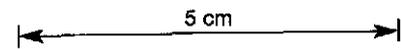
DPO's: 30470

Laboratory: ALS Brisbane.

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SS



# CRA EXPLORATION PTY. LTD.

ASMANIA

Sample Number	LOCATION		SAMPLE DESC.					SITE DESCRIPTION							ROCK TYPE				METAL CONTENT ppm / %										Geological Observations		
	AMG Co-ordinates		S. Type	Mesh	% Gravel	% Sand	% Silt	Organic	Width	Flow	Bank	Catchment	Vegetation	Staining	Contam.	Silt. Rating	Outcrop	Maj. Float	Min. Float	LOOK	Cu	Pb	Zn	Ni	Co	Cr	As	Sn		W	Ba
	East	North																													
55975	7050	5000	1	4	30	40	30	-1	0.5	4	3	-1	3	-1	-1	1	-1	100	8		10	15	20	15	5	190	2	<5	<10	210	
55976	7285	5000	1	4	40	30	30	-1	0.5	5	2	-1	3	-1	-1	3	100	100	-1		10	15	20	25	10	500	2	<5	10	210	
55978	7530	5000	1	4	-1	50	50	2	0.5	4	3	-1	1	-1	-1	3	-1	-1	-1		10	15	15	20	5	540	2	<5	10	90	
55979	7560	5000	1	4	20	40	40	-1	1.5	5	3	-1	1	-1	-1	1	-1	8	100		5	20	15	15	5	260	2	<5	10	140	
55980	7950	5000	1	4	20	40	40	-1	2.0	5	3	-1	1	-1	-1	2	8	8	100		15	25	20	25	10	700	4	<5	10	160	
ODD AND END ANOMALIES.																															
55981	4900	5000	1	4	20	40	40	-1	1.5	4	3	-1	3	-1	-1	2	-1	8	-1	1	15	25	55	40	20	140	<1	<5	10	270	No % Float Green f lam siltstone.
55983	4600	5000	1	4	40	20	40	-1	4.0	4	2	-1	3	-1	-1	1	-1	8	-1		10	20	30	25	15	230	3	<5	10	330	Float: Green lam siltst.
55984	4540	5000	1	4	20	20	60	1	0.5	3	2	-1	3	-1	-1	1	8	8	-1		10	10	10	20	10	390	2	<5	10	120	% Green-grey f. lam siltst.
55986	4390	5000	1	4	20	30	50	-1	0.5	3	3	-1	3	-1	-1	2	-1	100	8		5	20	10	20	10	460	2	<5	10	180	float: Quartzite + f. lam siltst => py. rock.
987	4370	5000	1	4	5	40	55	1	2.0	3	3	-1	3	-1	-1	1	-1	100	-1		5	15	10	10	5	260	2	<5	10	120	float: Quartzite.
55989	4265	5000	1	4	20	30	50	1	1.5	3	2	-1	3	-1	-1	1	8	-1	-1		5	20	10	15	5	360	5	<5	10	120	% Coarsely banded siltstone => dirty sandstone.
990	3975	5000	1	4	80	10	10	-1	10.0	5	2	-1	3	-1	-1	4	-1	8	100		10	20	20	25	10	390	3	<5	10	230	No % float siltstone + Quartzite. Sample 2 bank edge.
991	3965	5000	1	4	10	40	50	1	1.0	4	3	-1	3	-1	-1	1	-1	8	-1		5	15	10	20	5	500	3	<5	10	150	No % float porphyritic siltstone.
994	3490	5000	1	4	-1	60	40	-1	0.5	3	3	-1	1	-1	-1	1	-1	-1	-1		5	15	10	15	10	400	2	<5	10	140	No % float - seepage.
55996	3375	5000	1	4	5	45	50	1	5.0	3	4	-1	1	-1	-1	2	-1	100	-1		10	20	15	30	10	920	2	<5	20	110	

**GEOCHEMICAL STREAM SEDIMENT SAMPLING LEDGER**

DETECTION LIMIT  
ANALYTICAL METHOD

ement Name: LEIGH RIVER EL12/80	Project: <i>Asmanias follow up.</i> AMG Zone: <i>SS</i>	Sheet No.: 2 of 3
ea / Prospect: <i>KECE GRID LINES.</i>	DPO's: 30470	Laboratory: <i>ALS Brisbane.</i>
o / Photo Ref:	Sample No's:	Collected By: <i>DPAL.</i> Date: <i>AL/9/83</i>

365062



APPENDIX 4

KEY TO LEDGERS

KEY TO GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER

084

SAMPLE LEDGER

CRAE 7 digit no.

LOCATION

Co-ordinates Australian Metric  
Grid References in Metres

SAMPLE DESCRIPTION

Sample Type

- 1 Original Sample
- 2 Resample
- 3 Rearanalysis of Original Sample

Start Weight

Initial Dry Weight of  
Sample in Kilograms or  
Guesstimate

End Weight

Dry Weight of Concentrate  
in Kilograms

SITE DESCRIPTION

Width Width of Channel in metres

Flow

- 1 Dry
- 2 Dry with Puddles
- 3 Slow
- 4 Medium
- 5 Fast

Bank

- 1 Alluvial
- 2 Colluvial
- 3 Alluvial/Colluvial
- 4 No Defined Channel

SITE DESCRIPTION CONT'D

Catchment

- 1 Catchment Area > 100 km<sup>2</sup>
- 2 " " 50 - 100 km<sup>2</sup>
- 3 " " 20 - 50 km<sup>2</sup>
- 4 " " 10 - 50 km<sup>2</sup>
- 5 " " 5 - 10 km<sup>2</sup>
- 6 " " 2 - 5 km<sup>2</sup>
- 7 " " 1 - 2 km<sup>2</sup>
- 8 " " .5 - 1 km<sup>2</sup>
- 9 " " < 0.5 km<sup>2</sup>

Vegetation

- 1 Button Grass/Open Heathland
- 2 Eucalypt Forest
- 3 Rain Forest
- 4 Ti Tree
- 5 Cultivation

Staining

- 1 Minor Iron Staining
- 2 Major Iron Staining
- 3 Minor Manganese Staining
- 4 Major Manganese Staining
- 5 Minor Carbonate Staining
- 6 Major Carbonate Staining

Contamination

- 1 None Apparent
- 2 Urban - Houses, Rubbish etc.
- 3 Roads, Railways, Dams Etc.
- 4 Metalliferous Mine Workings
- 5 Agricultural
- 6 Natural Dilution by Banks
- 7 Logging

Site Rating

- 1 Good
- 2 Moderate
- 3 Poor
- 4 Unsatisfactory

HEAVY MINERALS

Visible

- 1 None Visible
- 2 Trace
- 3 Disseminated
- 4 Abundant

Major Heavy Minerals

- 5 CHROMITE
- 6 fluorite
- 10 PYRITE
- 15 MOLYBDENITE
- 16 bismuthinite
- 20 ARSENOPYRITE
- 25 BORNITE
- 30 CHALCOPYRITE
- 31 malachite
- 32 azurite
- 33 cobaltite
- 35 CHALCOCITE
- 36 tetrahedrite
- 37 tennantite
- 40 PYRRHOTITE
- 45 PENTLANDITE
- 50 GALENA
- 51 cerussite
- 52 jarosite
- 55 BARYTE
- 60 SPHALERITE
- 61 smithsonite
- 62 willemite
- 65 ILMENITE
- 66 rutile
- 67 magnesite
- 70 CASSITERITE
- 71 stannite
- 75 WOLFRAMITE
- 80 HEMATITE
- 81 maghemite
- 85 SCHEELITE
- 90 MAGNETITE
- 91 goethite
- 92 siderite
- 93 Limonite
- 95 GOLD
- 96 gold tellurides
- 97 native copper
- 98 native silver

Minor Heavy Minerals

Coded as per Major Heavy Minerals

ROCK TYPE

Outcrop

- 1 Fine Grained Clastic Sediment
- 2 Coarse Grained Clastic Sed.
- 3 Conglomerate
- 4 Breccia
- 5 Greywacke
- 6 Arkose
- 7 Sandstone
- 8 Siltstone
- 9 Shale
- 10 Black Shale+Carbon/Graphite
- 11 Gravel Grey Billy/Recent
- 12 Aeolian Sands
- 13 Mudstone
- 14 Fluvial/Marine Sands
- 15 Bituminous coal
- 16 Brown Coal
- 17 Lignite/Peat
- 18 Kerogen Oil Shale
- 19 Tasmanites Oil Shale
- 20 Undifferentiated Carbonate
- 21 Limestone
- 22 Dolomite
- 23 Magnesite
- 24 Calcareous Shale
- 25 Chert
- 26 Banded Iron Formation
- 30 Undifferentiated Acid Intrusive
- 31 Granite
- 32 Porphyritic Granite
- 33 Adamellite
- 34 Aplite
- 35 Pegmatite
- 36 Syenite

40 Undifferentiated Intermediate Intrusive

- 41 Granodiorite
- 42 Diorite

50 Undifferentiated Basic Intrusive

- 51 Dolerite
- 52 Gabbro

60 Undifferentiated Ultrabasic Intrusive

- 61 Peridotite
- 62 Serpentinite

- 70 Undifferentiated Acid Volcanic
- 71 Undifferentiated Acid Lava
- 72 Undifferentiated Acid Pyroclastic

ROCK TYPE CONT'D

- 73 Rhyolite
- 74 Trachyte
- 75 Andesite
- 80 Undifferentiated Intermediate Volcanic
- 81 Undifferentiated Intermediate Lava
- 82 Undifferentiated Intermediate Pyroclastic
- 83 Rhyodacite
- 84 Dacite
- 85 Tuff/Tuffaceous Shale
- 90 Undifferentiated Basic Volcanic
- 91 Undifferentiated Basic Lava
- 92 Undifferentiated Basic Pyroclastic
- 93 Basalt
- 100 Quartzite
- 101 Hornfels
- 102 Marble
- 103 Slate
- 104 Phyllite
- 105 Schist
- 106 Amphibolite
- 107 Gneiss
- 110 Skarn
- 120 Greisen
- 122 Gossan
- 123 Ironstone
- 124 Laterite
- 999 Fubarite

Float

Coded as per outcrop.

LOOK

Refer to Original Ledger for Information Outside the Scope of this File

1 Refer to Ledger

363065

KEY TO GEOCHEMICAL STREAM SEDIMENT SAMPLING LEDGER

065

SAMPLE NUMBER

CRAE 7 figure no.

LOCATION

Co-ordinates Australian Metric  
Grid References in Metres

SAMPLE DESCRIPTION

Sample Type

- 1 Original Sample
- 2 Resample
- 3 Reanalysis of Original Sample

Mesh 1 Total Sample Pulverised

- 2 -10# - + 40#
- 3 -40# - + 80#
- 4 -80#
- 5 Suspension
- 6 Other

Gravel Percentage

Sand Percentage

Silt Percentage

- Organic
- 1 Low
  - 2 Medium
  - 3 High

SITE DESCRIPTION

Width

Width of Channel in Metres

Flow

- 1. Dry
- 2. Dry with Puddles
- 3. Slow
- 4. Medium
- 5. Fast

Bank

- 1 Alluvial
- 2 Colluvial
- 3 Alluvial/Colluvial
- 4 No Defined Channel

SITE DESCRIPTION CONT'D

Catchment

- 1 Catchment area >100 km<sup>2</sup>
- 2 Catchment area 50 - 100 km<sup>2</sup>
- 3 Catchment area 20 - 50 km<sup>2</sup>
- 4 Catchment area 10 - 50 km<sup>2</sup>
- 5 Catchment area 5 - 10 km<sup>2</sup>
- 6 Catchment area 2 - 5 km<sup>2</sup>
- 7 Catchment area 1 - 2 km<sup>2</sup>
- 8 Catchment area .5 - 1 km<sup>2</sup>
- 9 Catchment area <0.5 km<sup>2</sup>

Vegetation

- 1 Button Grass/Open Heathland
- 2 Eucalypt Forest
- 3 Rain Forest
- 4 Ti Tree
- 5 Cultivation

Stain

- 1 Minor Iron Staining
- 2 Major Iron Staining
- 3 Minor Manganese Staining
- 4 Major Manganese Staining
- 5 Minor Carbonate Staining
- 6 Major Carbonate Staining

Contamination

- 1 None Apparent
- 2 Urban - Houses, Rubbish etc.
- 3 Roads, Railways, Dams etc.
- 4 Metalliferous Mine Workings
- 5 Agricultural
- 6 Natural Dilution by Banks
- 7 Logging

Site

- 1 Good
- 2 Moderate
- 3 Poor
- 4 Unsatisfactory

ROCK TYPE

Outcrop

- 1 Fine grained clastic sediment
- 2 Coarse grained clastic sediment
- 3 Conglomerate
- 4 Breccia
- 5 Greywacke
- 6 Arkose
- 7 Sandstone
- 8 Siltstone
- 9 Shale
- 10 Black shale+Carbon/Graphite
- 11 Gravel Grey Billy/Recent
- 15 Bituminous coal
- 16 Brown coal
- 17 Lignite/Peat
- 18 Kerogen Oil Shale
- 19 Tasmanites Oil Shale

- 20 Undifferentiated Carbonate
- 21 Limestone
- 22 Dolomite
- 23 Magnesite
- 24 Calcareous Shale
- 25 Chert
- 26 Banded Iron Formation

- 30 Undifferentiated Acid Intrusive
- 31 Granite
- 32 Porphyritic Granite
- 33 Adamellite
- 34 Aplite
- 35 Pegmatite
- 36 Syenite

- 40 Undifferentiated Intermediate Intrusive
- 41 Granodiorite
- 42 Diorite
- 50 Undifferentiated Ultrabasic Intrusive
- 51 Peridotite
- 52 Gabbro

- 60 Undifferentiated Ultrabasic Intrusive
- 61 Peridotite
- 62 Serpentinite

- 70 Undifferentiated Acid Volcanic
- 71 Undifferentiated Acid Lava
- 72 Undifferentiated Acid Pyroclastic
- 73 Rhyolite
- 74 Trachyte
- 75 Andesite

- 80 Undifferentiated Intermediate Volcanic
- 81 Undifferentiated Intermediate Lava
- 82 Undifferentiated Intermediate Pyroclastic
- 83 Rhyodacite
- 84 Dacite
- 85 Tuff/Tuffaceous Shale

ROCK TYPE CONT'D

- 90 Undifferentiated Basic Volcanic
- 91 Undifferentiated Basic Lava
- 92 Undifferentiated Basic Pyroclastic
- 93 Basalt

- 100 Quartzite
- 101 Hornfels
- 102 Marble
- 103 Slate
- 104 Phyllite
- 105 Schist
- 106 Amphibolite
- 107 Gneiss

- 110 Skarn
- 120 Quartz Veins
- 121 Greisen
- 122 Gossan
- 123 Ironstone
- 124 Laterite
- 999 Fubarite

Float

Coded as per outcrop

LOOK

Refer to Original Ledger for Information Outside the Scope of this File.

1 Refer to Ledger

363066

KEY TO GEOCHEMICAL ROCK SAMPLING LEDGER

066

SAMPLE NO.

CRAE 7 digit number.

LOCATION

Co-ordinates Local grid or  
Metric Grid reference

Exposure

- 1 Outcrop
- 2 Float
- 3 Uncertain

Sample Type

- 1 Channel Sample
- 2 Chip Sample
- 3 Grab Sample - Single
- 4 Grab Sample - Multiple
- 5 Diamond Drill Core Split
- 6 Diamond Drill Core Grind
- 7 Percussion Chips
- 8 Petrology

Width

Width of sample zone in metres

Interval

Sample interval in metres

ROCK TYPE

- 1 Fine Grained Clastic Sediment
- 2 Coarse Grained Clastic Sediment
- 3 Conglomerate
- 4 Breccia
- 5 Greywacke
- 6 Arkose
- 7 Sandstone
- 8 Siltstone
- 9 Shale
- 10 Black Shale +/-Carbon/Graphite
- 11 Gravel Grey Billy/Recent
- 15 Bituminous Coal
- 16 Brown Coal
- 17 Lignite/Peat
- 18 Kerogen Oil Shale
- 19 Tasmanites Oil Shale

ROCK TYPE CONT'D

- 20 Undifferentiated carbonate
- 21 Limestone
- 22 Dolomite
- 23 Magnesite
- 24 Calcareous Shale
- 25 Chert
- 26 Banded iron formation
- 30 Undifferentiated acid intrusive
- 31 Granite
- 32 Porphyritic granite
- 33 Adamellite
- 34 Aplite
- 35 Pegmatite
- 36 Syenite
- 40 Undiff. intermediate intrusive
- 41 Granodiorite
- 42 Diorite
- 50 Undifferentiated basic intrusive
- 51 Dolerite
- 52 Gabbro
- 60 Undiff. ultrabasic intrusive
- 61 Peridotite
- 62 Serpentinite
- 70 Undifferentiated acid volcanic
- 71 Undifferentiated acid lava
- 72 Undifferentiated acid pyroclastic
- 73 Rhyolite
- 74 Trachyte
- 75 Andesite
- 80 Undifferentiated intermediate volcanic
- 81 Undifferentiated intermediate lava
- 82 Undifferentiated intermediate pyroclastic
- 83 Rhyodacite
- 84 Dacite
- 85 Tuff/Tuffaceous shale
- 90 Undifferentiated basic volcanic
- 91 Undifferentiated basic lava
- 92 Undifferentiated basic pyroclastic
- 93 Basalt
- 100 Quartzite
- 101 Hornfels
- 102 Marble
- 103 Slate
- 104 Phyllite
- 105 Schist
- 106 Amphibolite
- 107 Gneiss
- 110 Skarn

ROCK TYPE CONT'D

- 120 Quartz veins
- 121 Gneisen
- 122 Gossan
- 123 Ironstone
- 124 Laterite
- 999 Fubarite

ALTERATION

- 1 Argillisation
- 2 Albitisation
- 3 Carbonatisation
- 4 Chloritisation
- 5 Dolomitisation
- 6 Propylitisation
- 7 Pyritisation
- 8 Saussuritisation
- 9 Sericitisation
- 10 Silicification
- 11 Zeolitisation
- 12 Ferruginisation
- 13 Tourmalinisation
- 14 Potassic
- 15 Calc-silicate
- 16 Kaolinisation
- 17 Talcose
- 18 Weathered
- 19 Other

MINERALISATION

Visible

- 1 None visible
- 2 Trace
- 3 Disseminated
- 4 Abundant

Style

- 1 Veins /Net veining
- 2 Shear zones
- 3 Stratabound
- 4 Pipe
- 5 Stockwork
- 6 Skarn
- 7 Irregular
- 8 Planar Controlled i.e. bedding, cleavage, joints, etc.
- 9 Boxworks or possible associates of Mineraliation
- 10 Place
- 11 Other

Major Ore

- 5 CHROMITE
- 6 Fluorite
- 10 PYRITE
- 15 MOLYBDENITE
- 16 bismuthinite
- 20 ARSENOPYRITE
- 25 BORNITE
- 30 CHALCOPYRITE
- 31 malachite
- 32 aurite
- 33 cobaltite
- 35 CHALCOOCITE
- 36 tetrahedrite
- 37 tennantite
- 40 PYRRHOTITE
- 45 PENTLENITE
- 50 GALENA
- 51 cerussite
- 52 jarosite
- 55 BARITE
- 60 SPHALERITE
- 61 smithsonite
- 62 willemite
- 65 ILMENITE
- 66 rutile
- 67 magnesite
- 70 CASSITERITE
- 71 stannite
- 75 WOLFRAMITE
- 80 hematite
- 81 maghemite
- 85 SCHEELITE
- 90 MAGNETITE
- 91 soethite
- 92 siderite
- 93 limonite
- 95 GOLD
- 96 gold tellurides
- 97 native copper
- 98 native silver

Minor Minerals

Coded as per major

Gangue

- |            |            |
|------------|------------|
| 1 Quartz   | 5 Fluorite |
| 2 Feldspar | 6 Chlorite |
| 3 Calcite  | 7 Garnet   |
| 4 Baryte   |            |

LOOK Refer to original ledger  
for information outside the  
scope of this file.

1 Refer to Ledger

365067

KEY TO CRA GEOCHEMICAL SOIL SAMPLING LEDGER

SAMPLE NO.

CRAE 7 digit no.

LOCATION

Line Ref. or Co-ordinate

Position on line or AMG  
Co-ordinates

SOIL DESCRIPTION

Depth

Depth of sample in metres

Colour

Three digit number e.g. 115

i.e. Light Red Brown

- |          |          |          |
|----------|----------|----------|
| 1 Light  | 1 Red    | 1 Red    |
| 2 Medium | 2 Yellow | 2 Yellow |
| 3 Dark   | 3 Grey   | 3 Grey   |
|          | 4 Black  | 4 Black  |
|          | 5 Brown  | 5 Brown  |
|          | 6 White  | 6 White  |
|          | 7 Green  | 7 Green  |
|          | 8 Orange | 8 Orange |
|          | 9 Blue   | 9 Blue   |

Horizon

- 1 A
- 2 A - B
- 3 B
- 4 B - C
- 5 C
- 6 Bedrock
- 7 Gravels (Alluvial or Eluvial masking residual soils.)

Rock Percentage

Sand Percentage

Silt Percentage

Clay Percentage

- Organic
- 0 None
  - 1 Low
  - 2 Moderate
  - 3 High

- Soil Type
- 1 Skeletal
  - 2 Residual
  - 3 Colluvial
  - 4 Alluvial
  - 5 Transported
  - 6 Laterite

BEDROCK

Rock Type

- 1 Fine grained clastic sediment
- 2 Coarse grained clastic sediment
- 3 Conglomerate
- 4 Breccia
- 5 Greywacke
- 6 Arkose
- 7 Sandstone
- 8 Siltstone
- 9 Shale
- 10 Black Shale +/Carbon/Graphite
- 11 Gravel Grey Billy/Recent
- 12 Aeolian Sands
- 13 Mudstone
- 14 Fluvial/Marine Sands
- 15 Bituminous Coal
- 16 Brown coal
- 17 Lignite/Peat
- 18 Kerogen Oil Shale
- 19 Tasmanites Oil Shale
- 20 Undifferentiated Carbonate
- 21 Limestone
- 22 Dolomite
- 23 Magnesite
- 24 Calcareous Shale
- 25 Chert
- 26 Banded Iron Formation
- 30 Undifferentiated Acid Intrusive
- 31 Granite
- 32 Porphyritic granite
- 33 Adamellite
- 34 Aplite
- 35 Pegmatite
- 36 Syenite
- 40 Undiff. Acid Intrusive
- 41 Granodiorite
- 42 Diorite
- 50 Undifferentiated Basic Intrusive
- 51 Dolerite
- 52 Gabbro
- 60 Undiff. Ultrabasic intrusive
- 61 Peridotite
- 62 Serpentinite
- 70 Undiff. Acid Volcanic
- 71 Undiff. Acid Lava
- 72 Undiff. Acid Pyroclastic
- 73 Rhyolite
- 74 Trachyte
- 75 Andesite
- 80 Undiff. Intermediate Volcanic

- 81 Undiff. Intermediate Lava
- 82 Undiff. Intermediate Pyroclastic
- 83 Rhyodacite
- 84 Dacite
- 85 Tuff/Tuffaceous shale
- 90 Undiff. basic volcanic
- 91 Undiff. basic lava
- 92 Undiff. basic pyroclastic
- 93 Basalt
- 100 Quartzite
- 101 Hornfels
- 102 Marble
- 103 Slate
- 104 Phyllite
- 105 Schist
- 106 Amphibolite
- 107 Gneiss
- 110 Skarn
- 120 Quartz veins
- 121 Gneiss
- 122 Gossan
- 123 Ironstone
- 124 Laterite
- 999 Fubarite

Alteration

- 1 Argillisation
- 2 Albitisation
- 3 Carbonatisation
- 4 Chloritisation
- 5 Dolomitisation
- 6 Propylitisation
- 7 Pyritisation
- 8 Saussuritisation
- 9 Sericitisation
- 10 Silicification
- 11 Zeolitisation
- 12 Ferruginisation
- 13 Tourmalinisation
- 14 Potassic
- 15 Calc-silicate
- 16 Kaolinisation
- 17 Talcose
- 18 Weathered

MINERALISATION

Visible

- 1 None Visible
- 2 Trace
- 3 Disseminated
- 4 Abundant

Mineral Type

- 10 Pyrite
- 20 Arsenopyrite
- 30 Chalcopyrite
- 40 Pyrrhotite
- 50 Galena
- 60 Sphalerite
- 70 Cassiterite
- 80 Hematite
- 90 Magnetite

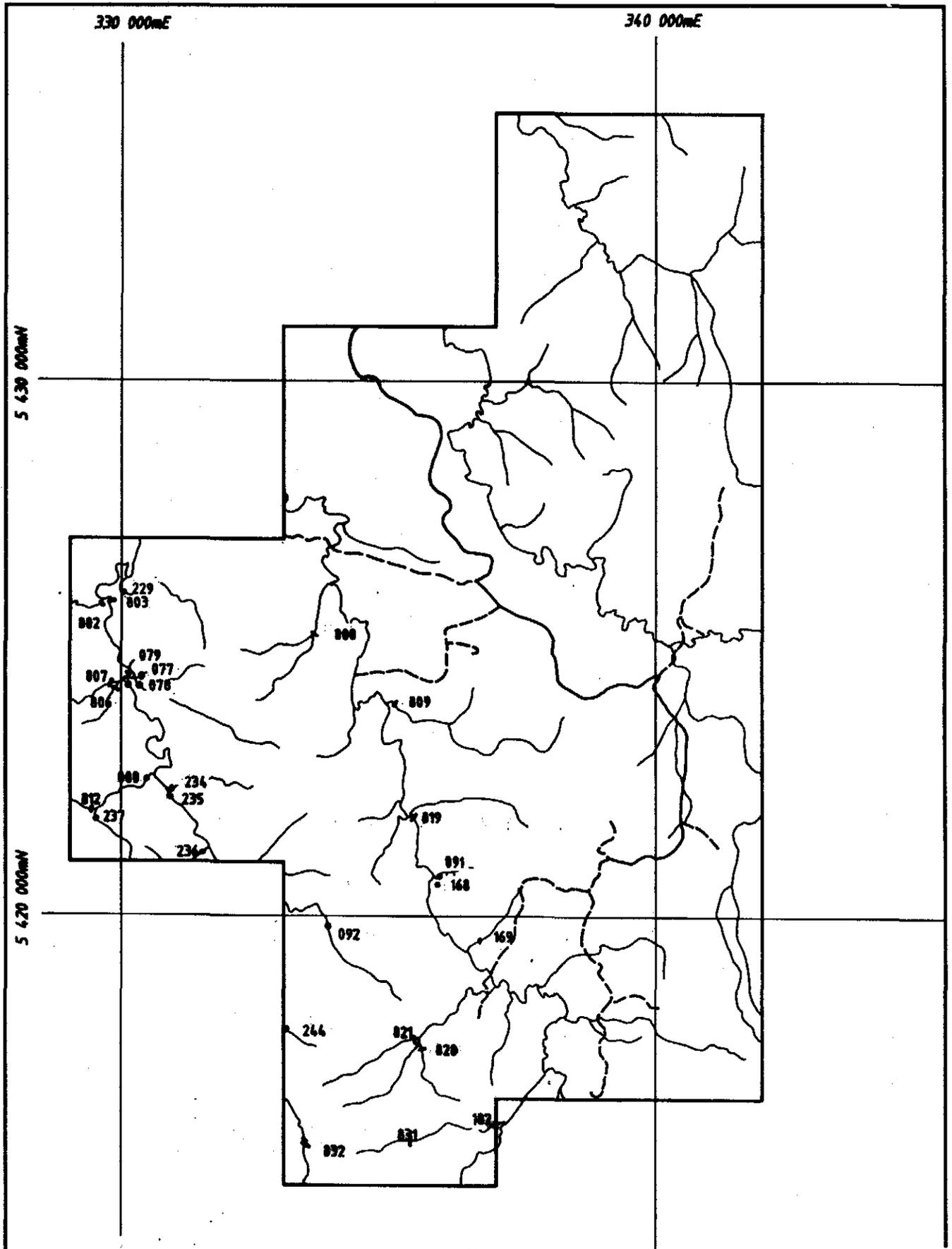
For full list of minerals,  
see Rock Ledger  
LOOK

Refer to original ledger  
for information outside  
the scope of this file

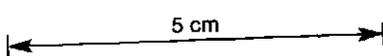
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068

365069



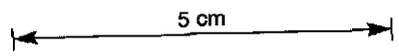
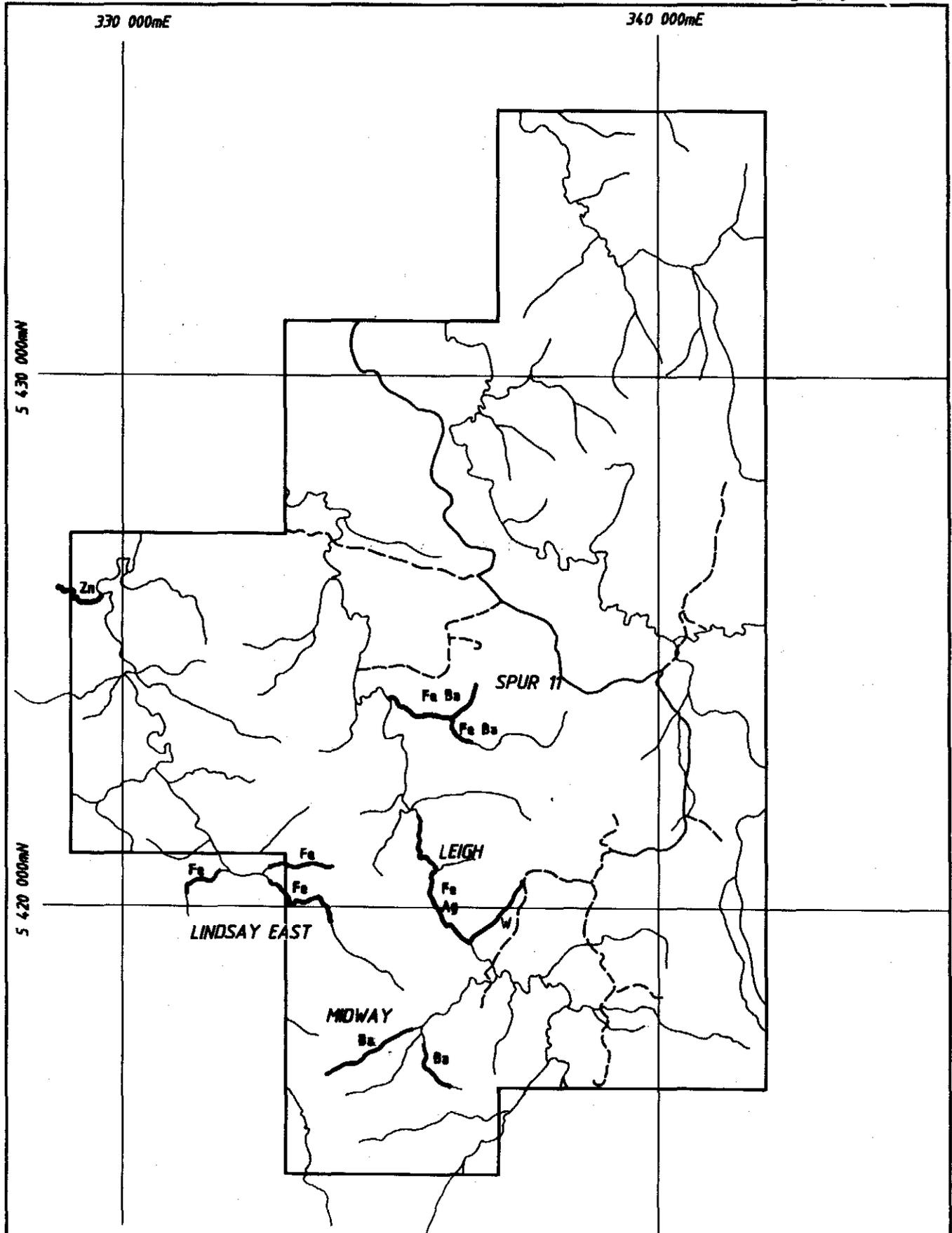
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<b>CRA EXPLORATION PTY. LIMITED</b>	
<b>LEIGH RIVER E.L. 12/80 -80 mesh STREAM SEDIMENT LOCATIONS</b>	
REF.	SK55 - 3
SCALE	1 : 100 000
AUTHOR	J. W.
DATE	27 - 7 - 1984
DRAWN	R.T. & L.F.W.
REPORT No.	12791
PLAN No.	TASH 1921

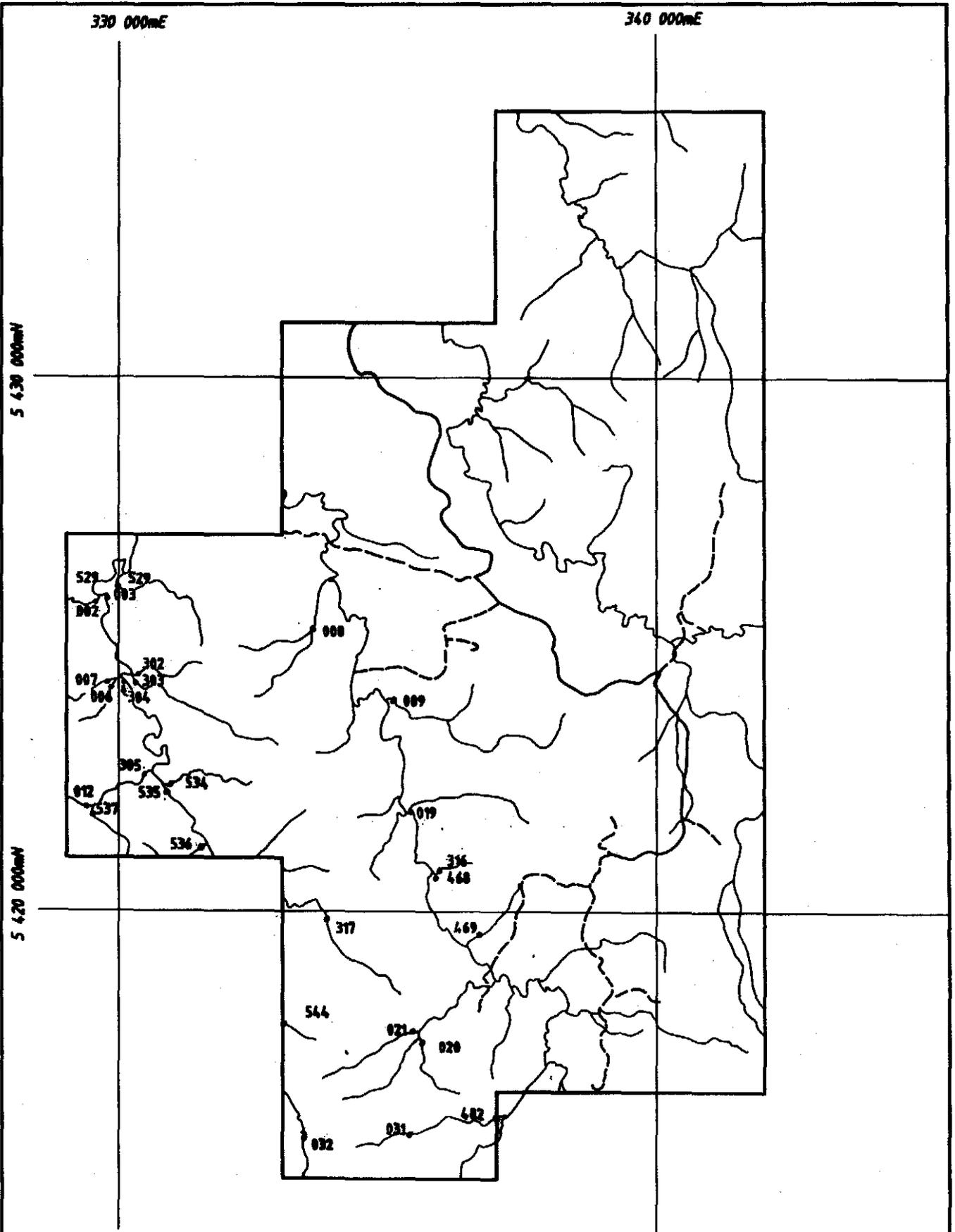
069

365070



CRA EXPLORATION PTY. LIMITED			
<b>LEIGH RIVER E.L. 12/80 STREAM SEDIMENT WORM DIAGRAM ( ANOMALOUS )</b>			
REF.	SK55 - 3		
SCALE	1 : 100 000	DRAWN	R.T.
AUTHOR	J. W.	REPORT No.	12791
DATE	27 - 7 - 1984	PLAN No	TASH 1934

070



**CRA EXPLORATION PTY. LIMITED**

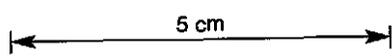
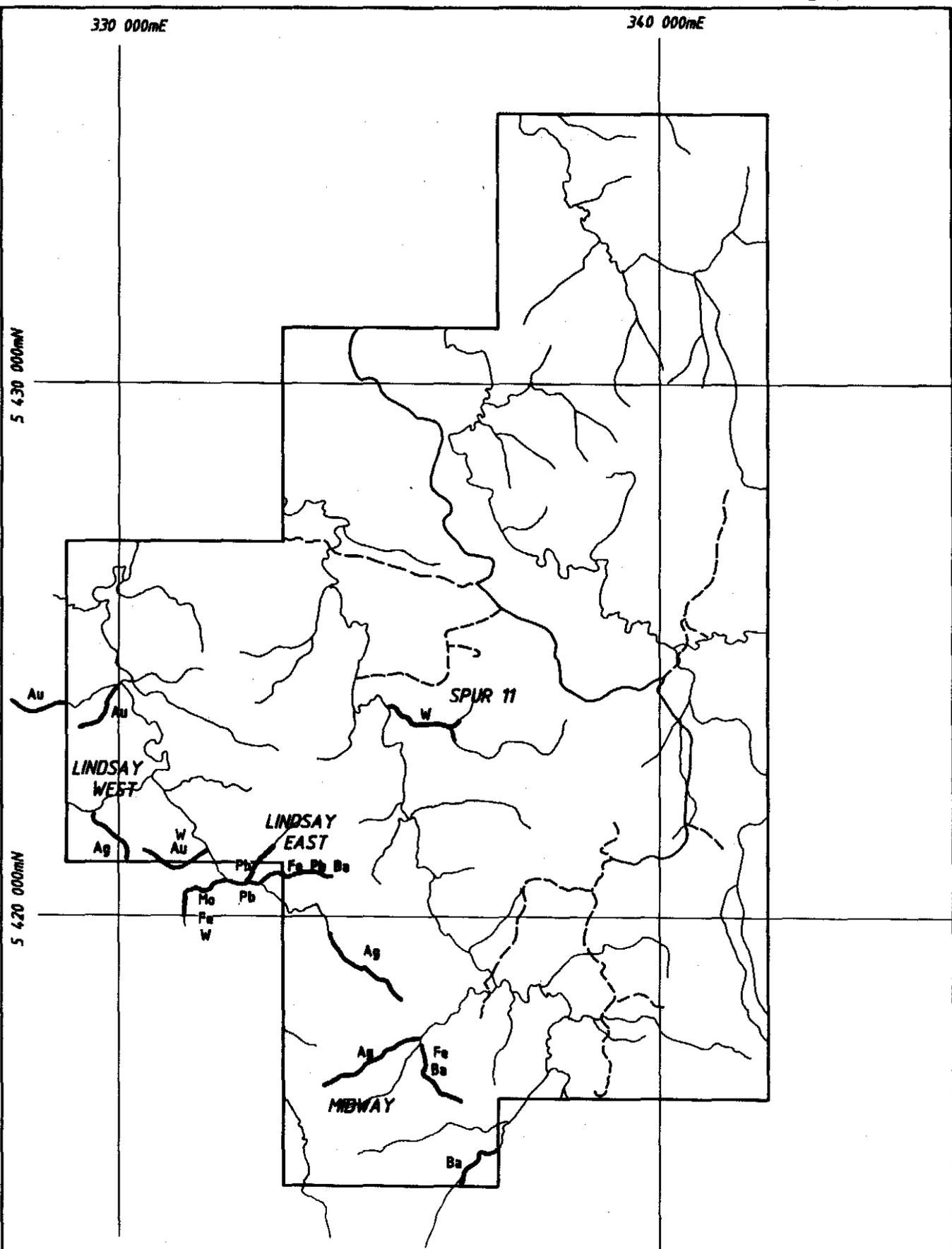
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PANMED CONCENTRATE  
LOCATIONS**

REF.	SK55 - 3	DRAWN	R.T. & L.F.W.
SCALE	1 : 100 000	REPORT No.	12791
AUTHOR	J. W.	PLAN No.	TASH 1922
DATE	27 - 7 - 1984		

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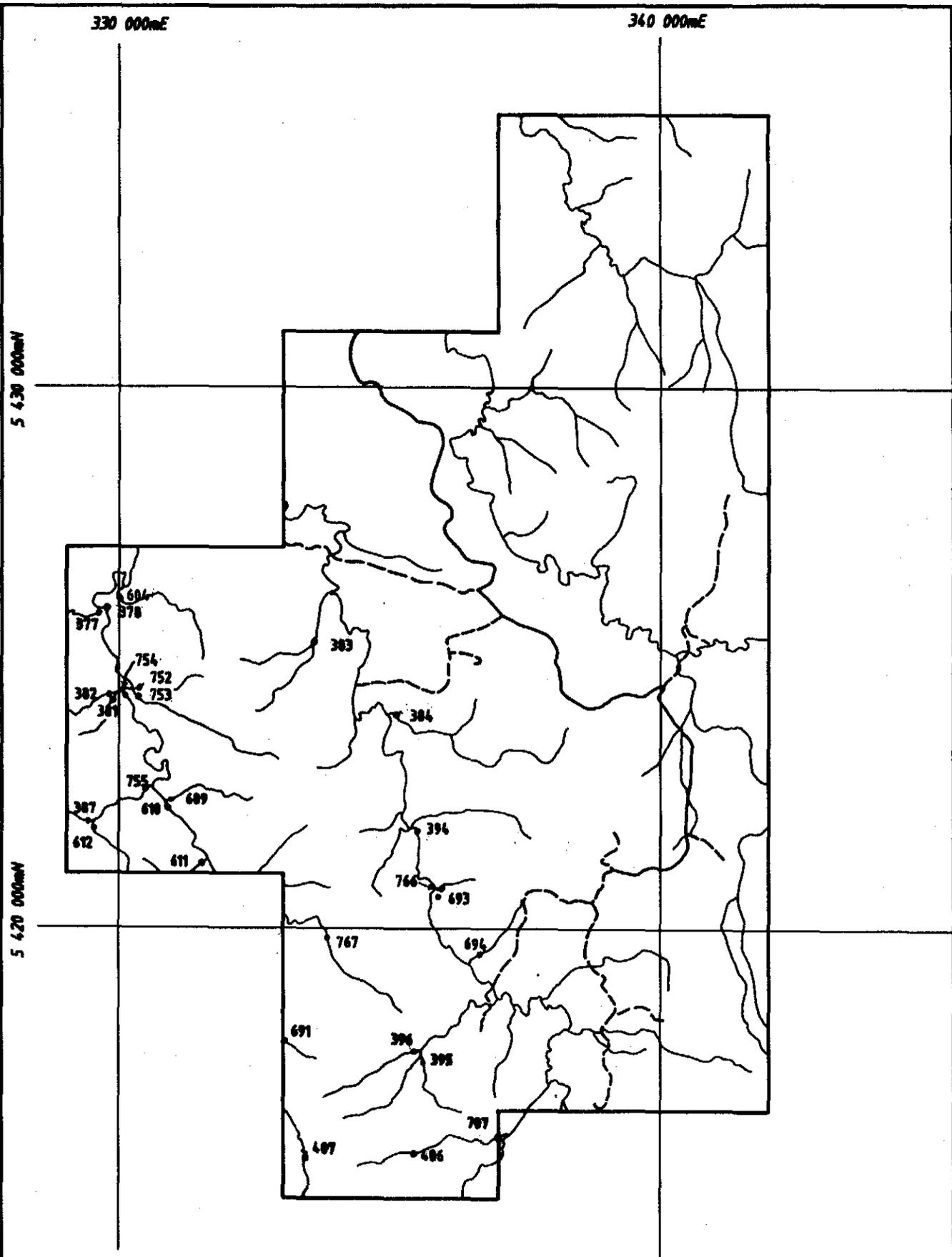
071

365072



<b>CRA EXPLORATION PTY. LIMITED</b>	
<b>LEIGH RIVER E.L. 12/80 PANDED CONCENTRATES WORM DIAGRAM ( ANOMALOUS ).</b>	
REF.	SK55 - 3
SCALE	1 : 100 000
AUTHOR	J. W.
DATE	27 - 7 - 1984
DRAWN	R.T.
REPORT No.	12791
PLAN No.	TASh 1935

072



475 000mN

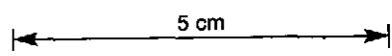
420 000mN

330 000mE

340 000mE

**GRA EXPLORATION PTY. LIMITED**

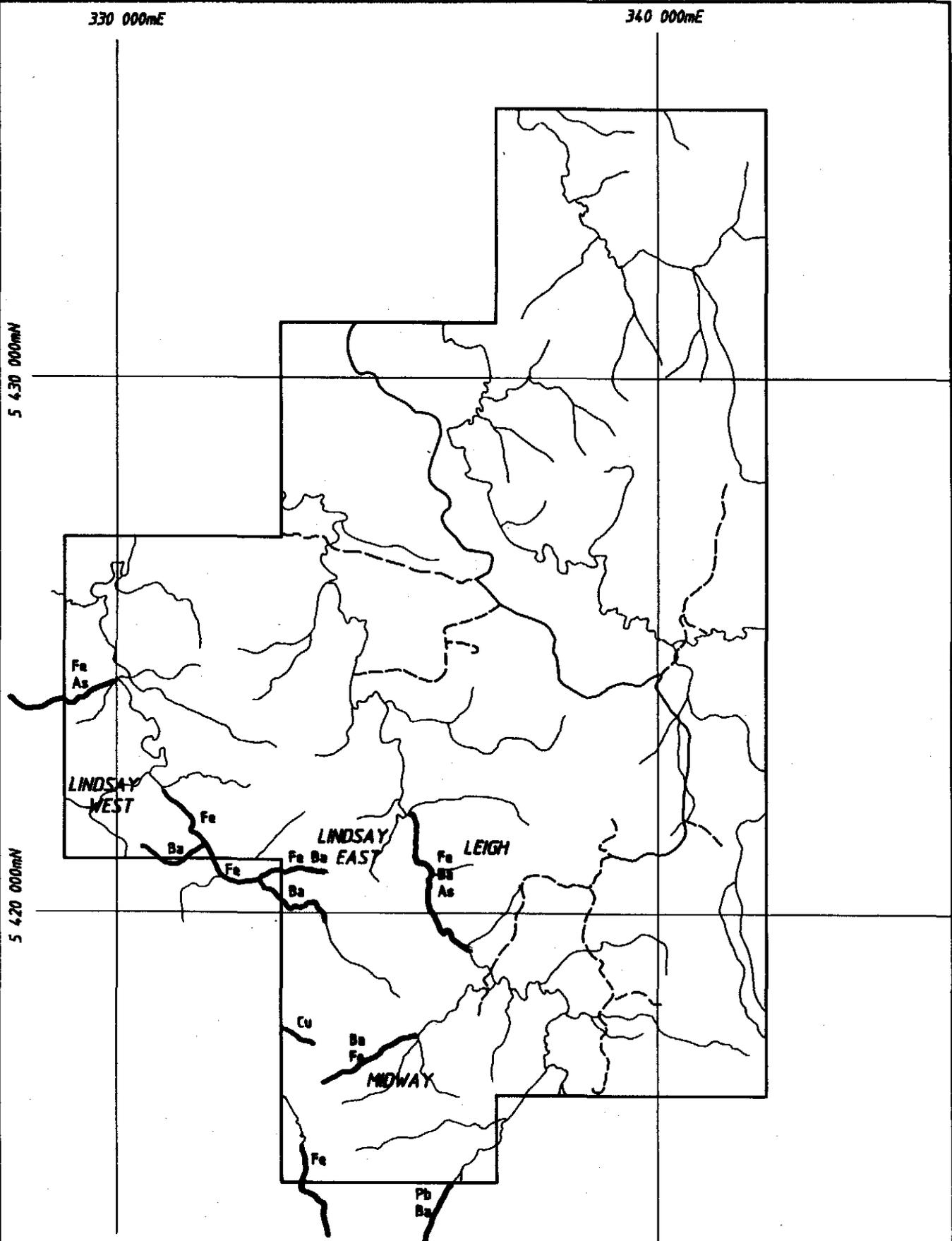
**LEIGH RIVER E.L. 12/80  
CLAY FRACTIONS  
LOCATIONS**



REF.	SK55 - 3	
SCALE	1 : 100 000	DRAWN R.T. & L.F.W.
AUTHOR	J. W.	REPORT No. 12791
DATE	27 - 7 - 1964	PLAN No. TASH 1923

073

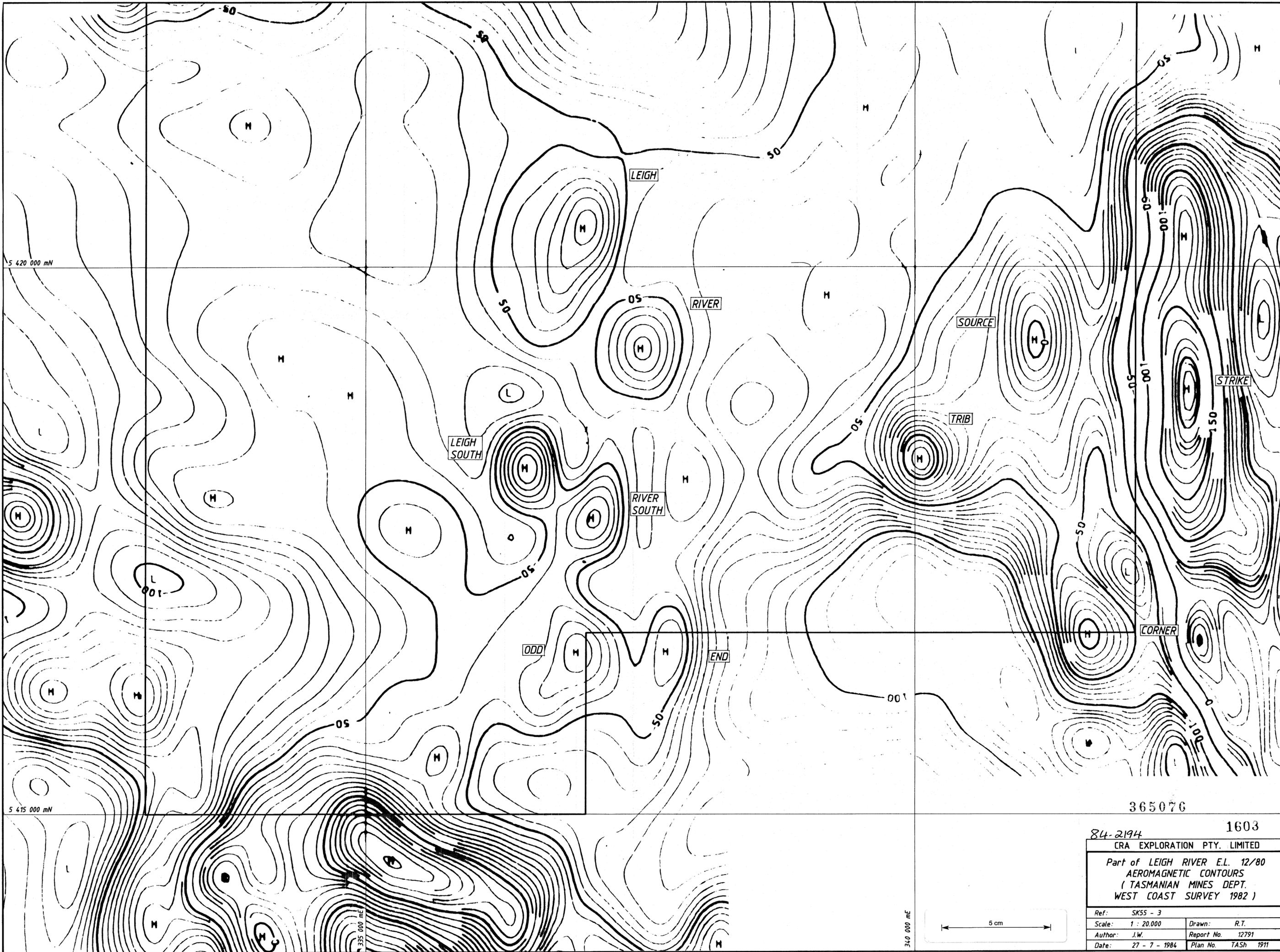
365074



5 cm

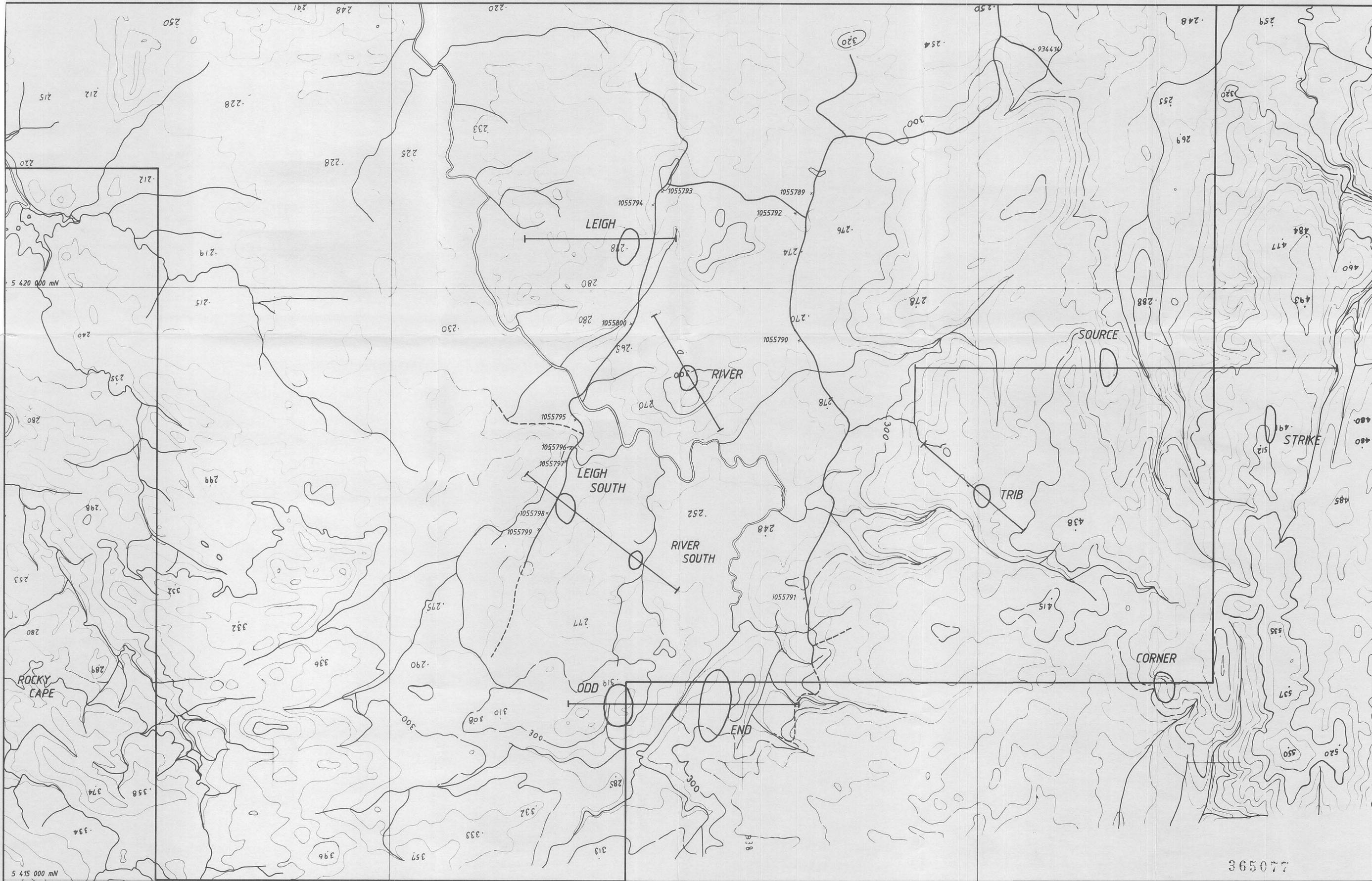
<b>CRA EXPLORATION PTY. LIMITED</b>	
<b>LEISH RIVER E.L. 12/00</b>	
<b>CLAY FRACTIONS</b>	
<b>WORM DIAGRAM</b>	
<b>( ANOMALOUS )</b>	
REF.	SK55 - 3
SCALE	1 : 100 000
AUTHOR	J. W.
DATE	27 - 7 - 1984
DRAWN	R.T.
REPORT No.	12791
PLAN No.	TASh 1936





84-2194 1603  
 CRA EXPLORATION PTY. LIMITED  
 Part of LEIGH RIVER E.L. 12/80  
 AEROMAGNETIC CONTOURS  
 (TASMANIAN MINES DEPT.  
 WEST COAST SURVEY 1982)

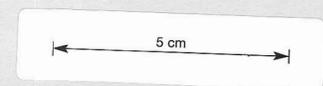
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Author:	J.W.
Date:	27 - 7 - 1984
Drawn:	R.T.
Report No.:	12791
Plan No.:	TASH 1911



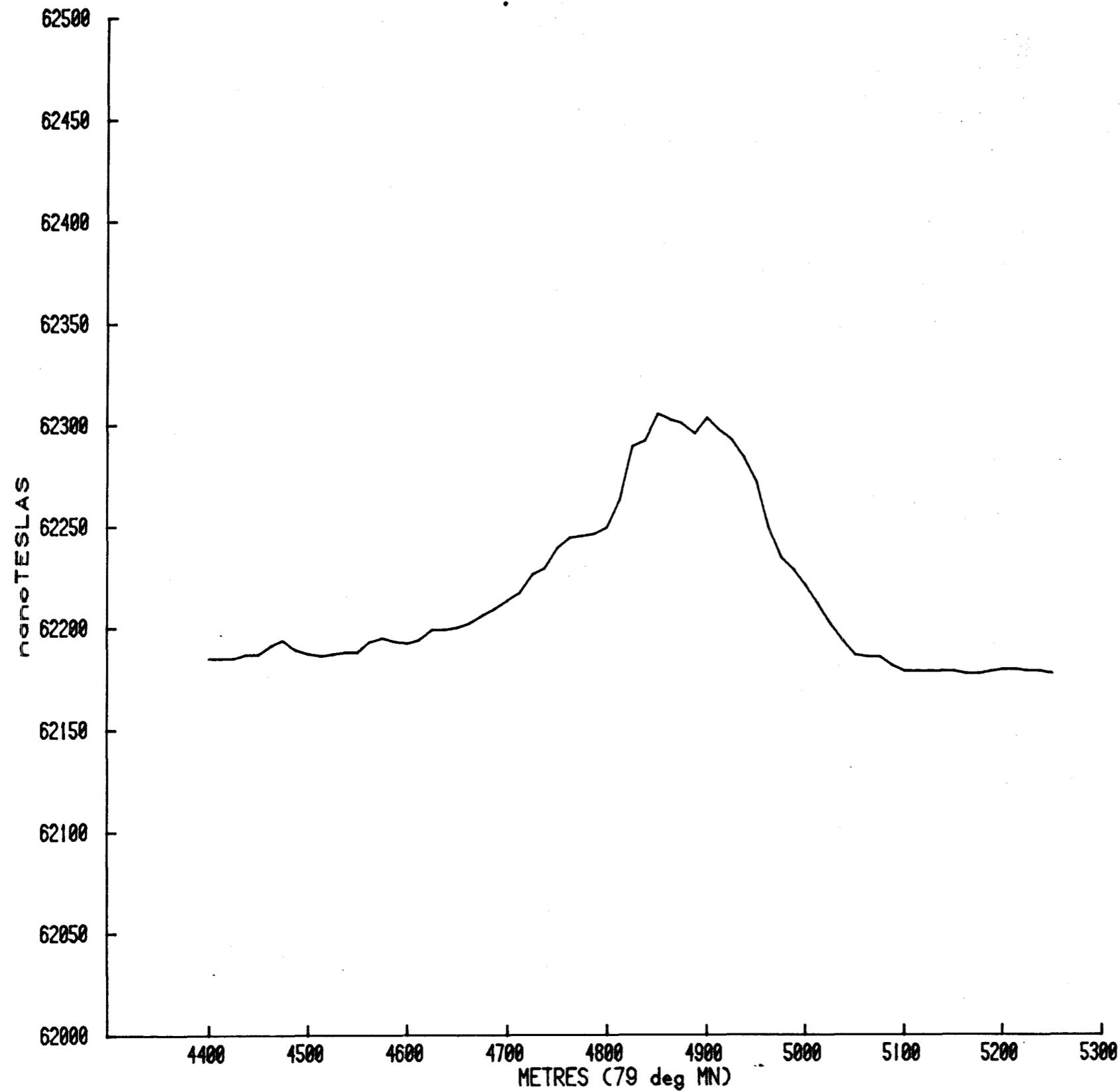
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84-2194  
 CRA EXPLORATION PTY. LIMITED  
 LEIGH RIVER E.L. 23/79  
 ROCK CHIP & GRID LINE  
 LOCALITY PLAN

REF.	S.K.55-3	
SCALE	1:20000	DRAWN
AUTHOR	J.W.	REPORT No.
DATE	13-8-1984	PLAN No.
		TASH 1944



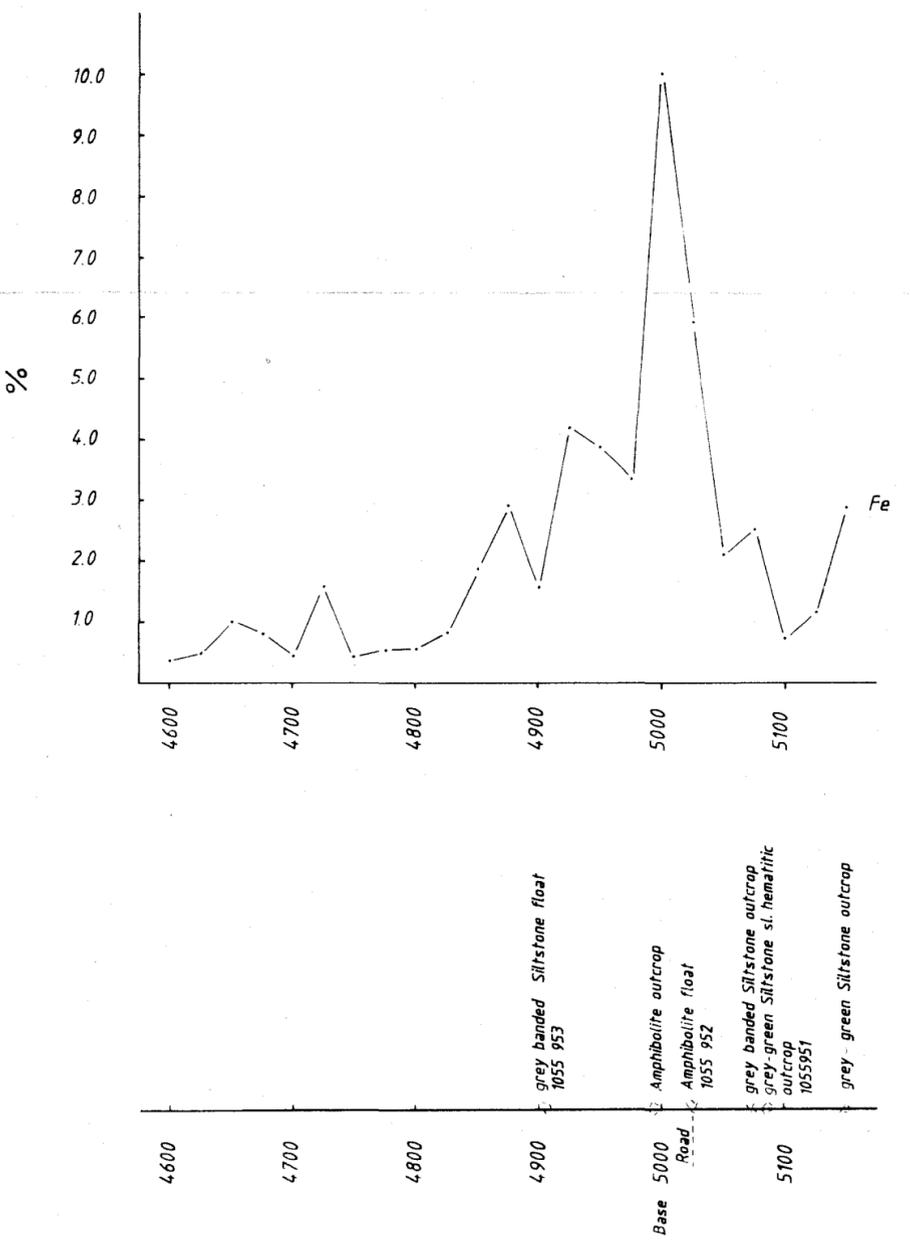
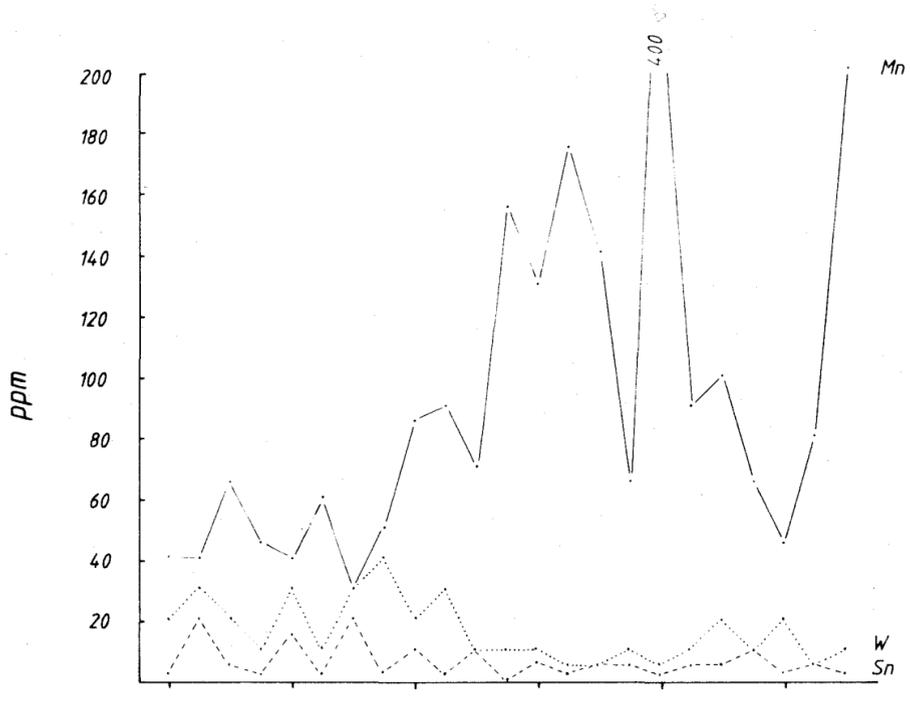
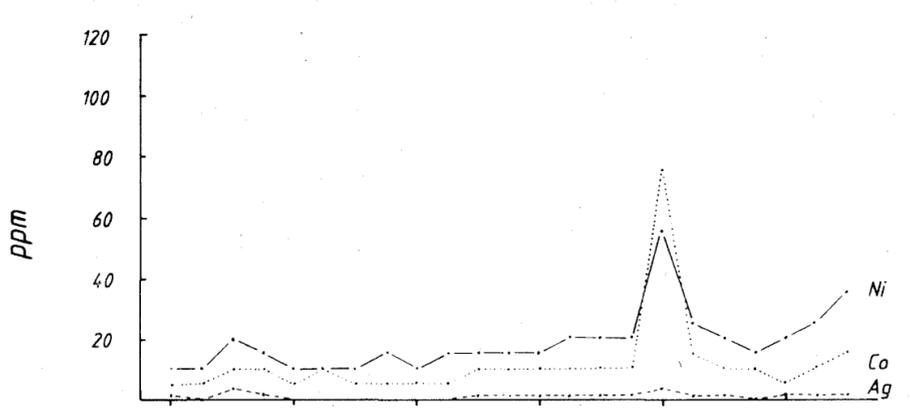
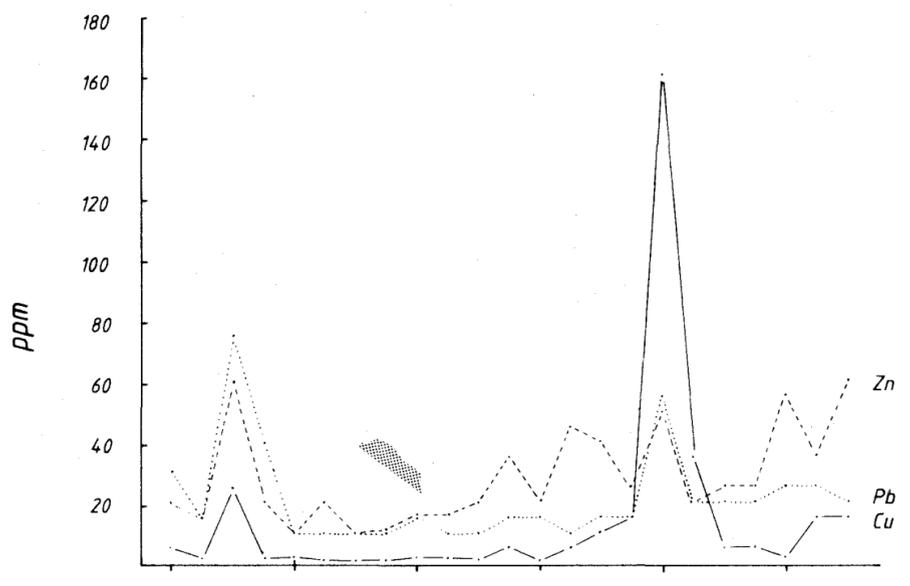
1604



5 cm

365078 1605

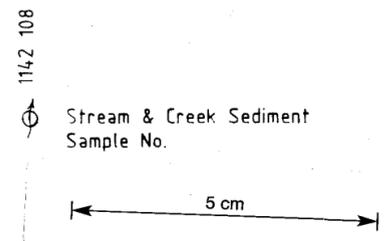
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84-2194	
LEIGH RIVER E.L. 12/80	
LEIGH	
GROUND MAGNETIC TRAVERSE	
Ref	SK55 - 3
Scale	AS SHOWN
Author	M. F. F.
Date	15 - 11 - 1983
Drawn	M. F. F.
Report No	12791
Plan No.	TASH 1530



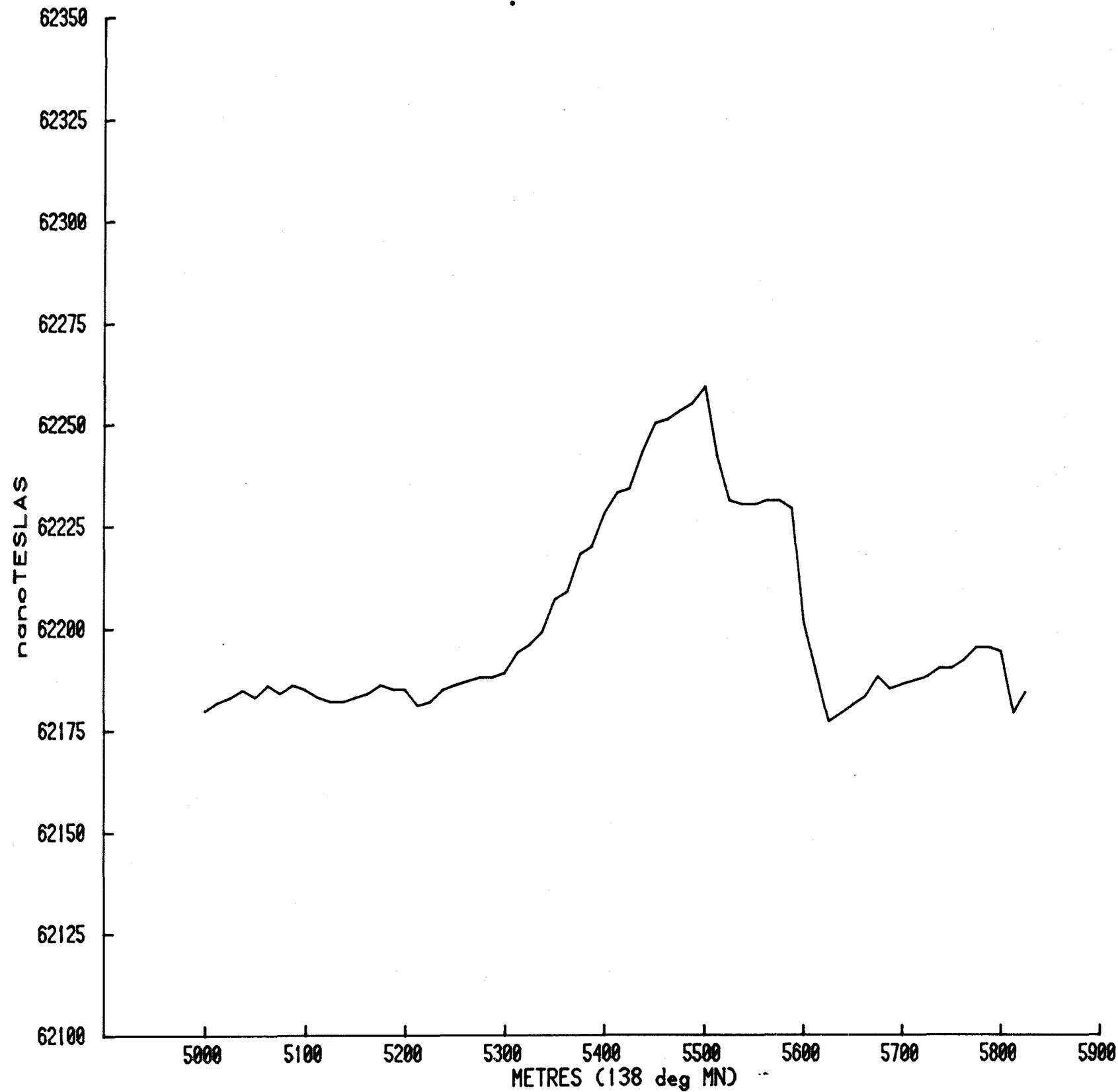
61099C

4600  
 4700  
 4800  
 4900  
 Base 5000  
 Road  
 5100

grey banded Siltstone float  
 1055 953  
 Amphibolite outcrop  
 Amphibolite float  
 1055 952  
 grey banded Siltstone outcrop  
 grey-green Siltstone sl. hematitic  
 outcrop  
 1055951  
 grey-green Siltstone outcrop



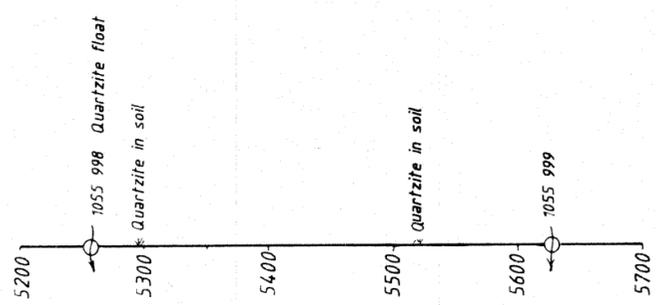
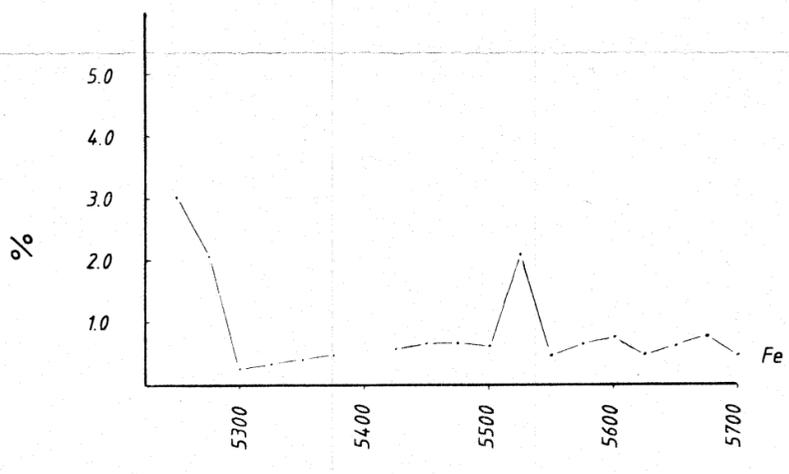
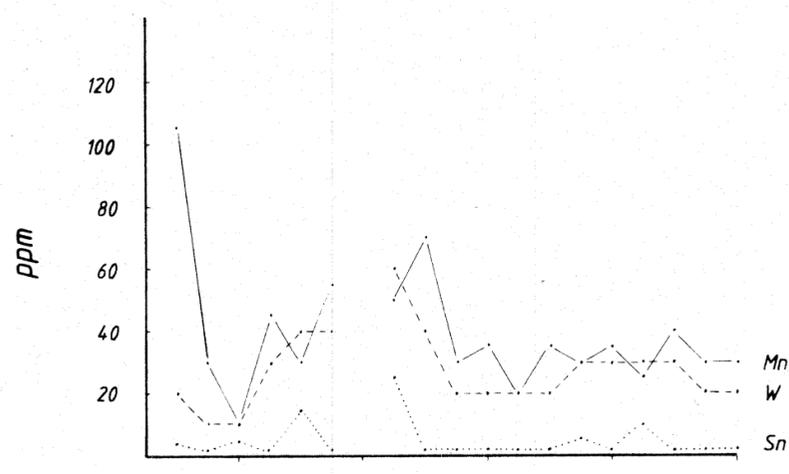
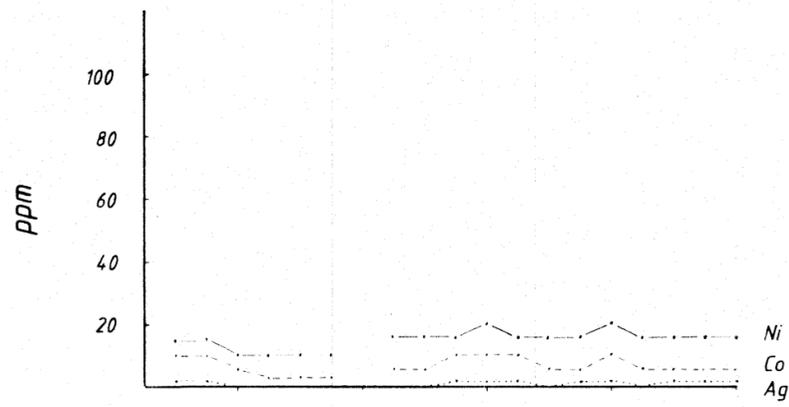
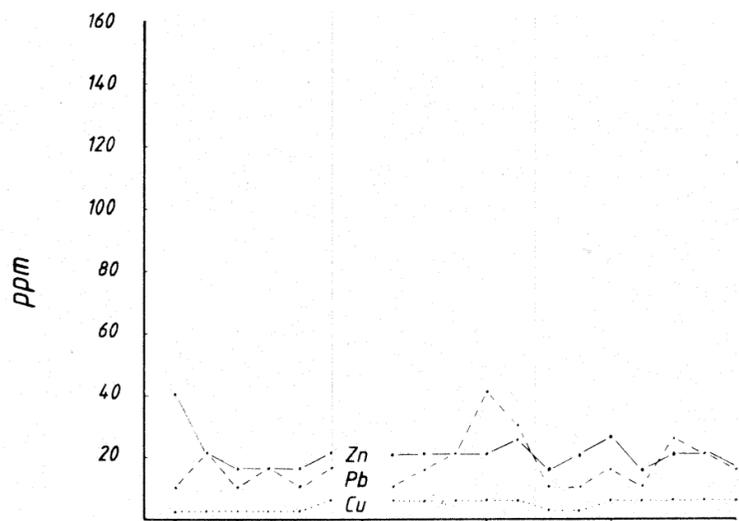
CRA EXPLORATION PTY. LIMITED	
LEIGH RIVER E.L. 12/80 1606	
SOIL GEOCHEM. PROFILES	
'LEIGH' AEROMAGNETIC ANOMALY	
84-2194 LINE 5000 N	
Ref: SK55 - 3	Drawn: I. F. W. & R.T.
Scale: 1 : 5000	Report No. 12791
Author: J.W.	Plan No. TASH 1916
Date: 1 - 8 - 1984	



365080

5 cm

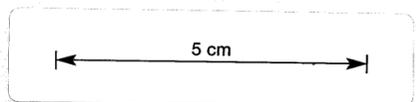
CRA EXPLORATION PTY. LIMITED			
LEIGH RIVER E.L. 12/80		1607	
RIVER			
GROUND MAGNETIC TRAVERSE			
84-2194			
Ref	SK55 - 3		
Scale	AS SHOWN	Drawn	M. F. F.
Author	M. F. F.	Report N°	12791
Date	15 - 11 - 1983	Plan N°	TASH 1531



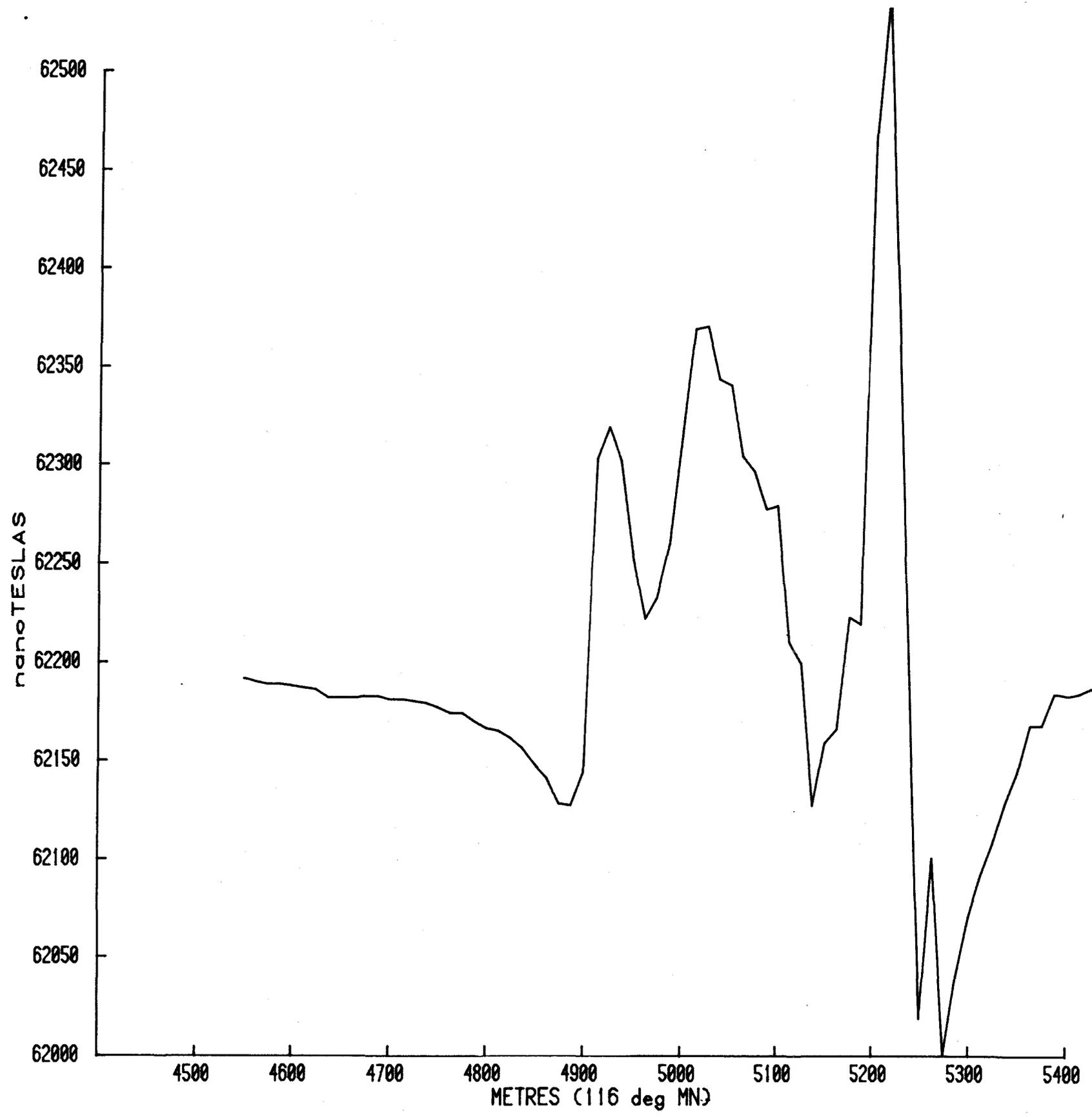
1142 108  
 Stream & Creek Sediment Sample No

365081

CRA EXPLORATION PTY. LIMITED	
LEIGH RIVER E.L. 12/80 SOIL GEOCHEM. PROFILES 'RIVER' AEROMAGNETIC ANOMALY LINE 5000 N 84-2194	
Ref: SK55 - 3	Drawn: I.F.W. & R.T.
Scale: 1 : 5000	Report No. 12791
Author: J.W.	Plan No. TASH 1915
Date: 1 - 8 - 1984	



1608



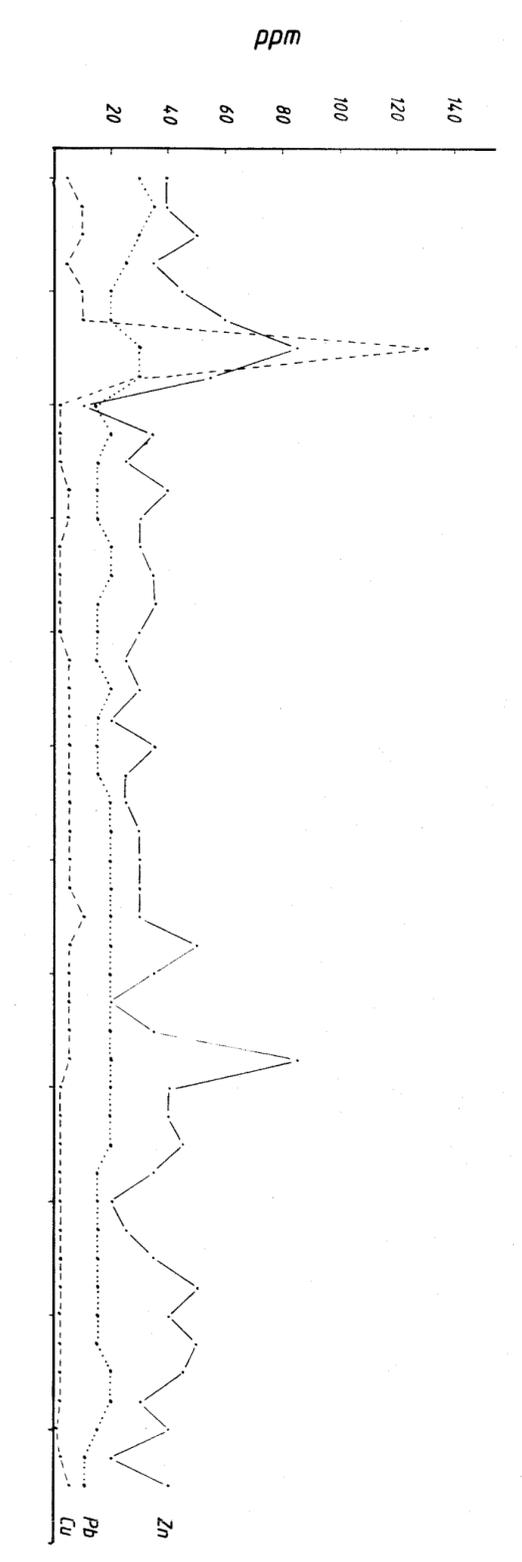
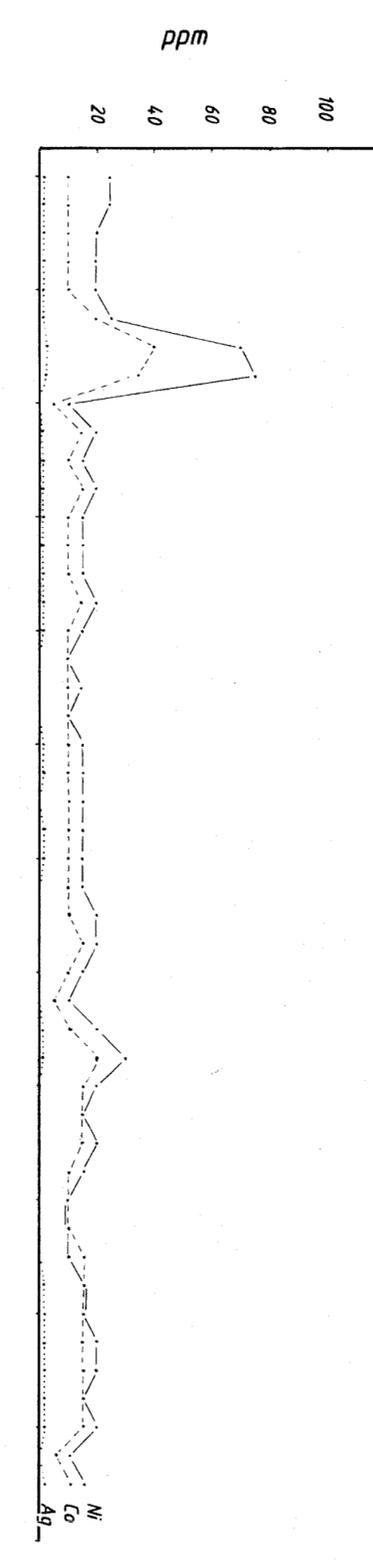
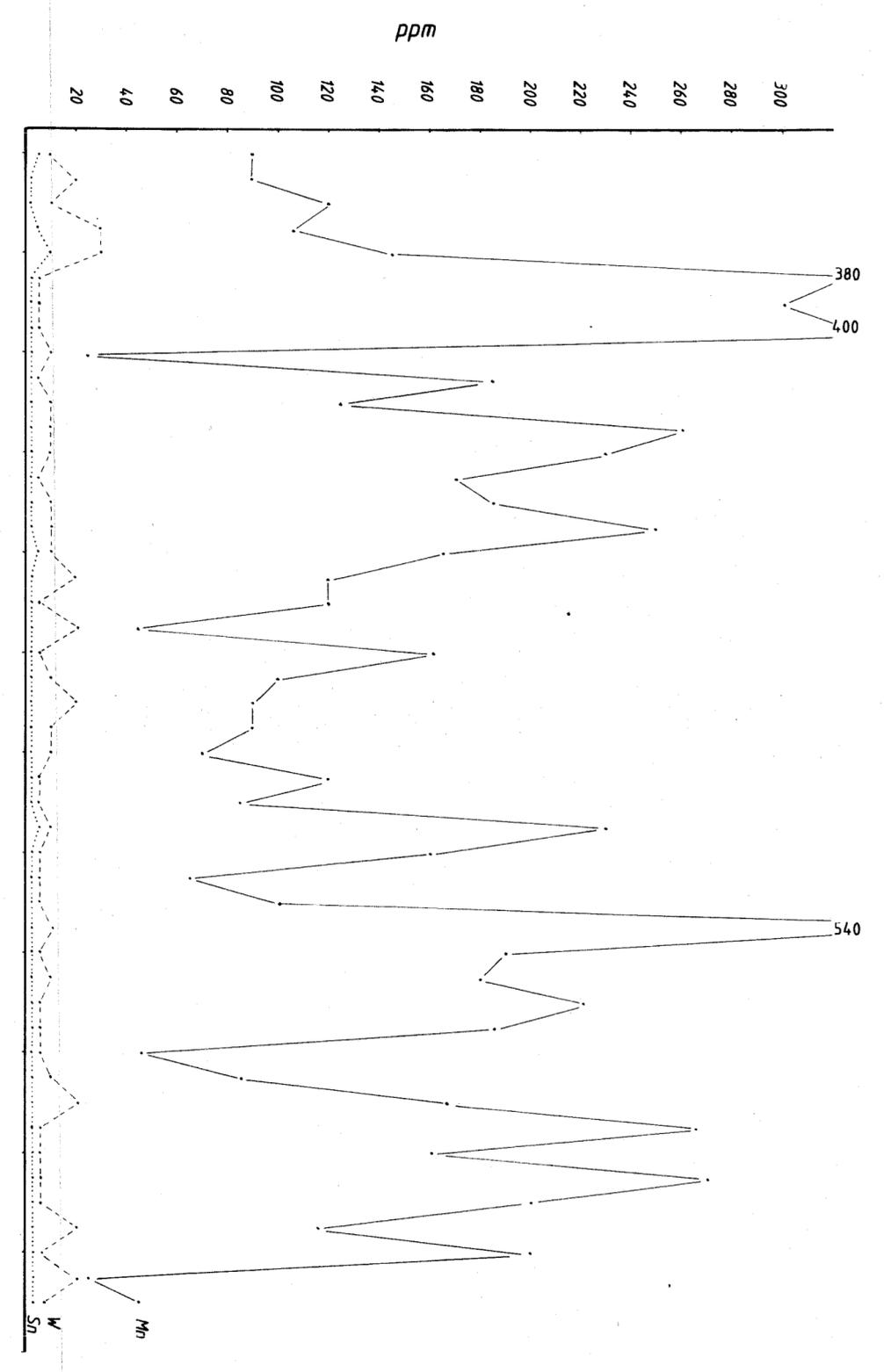
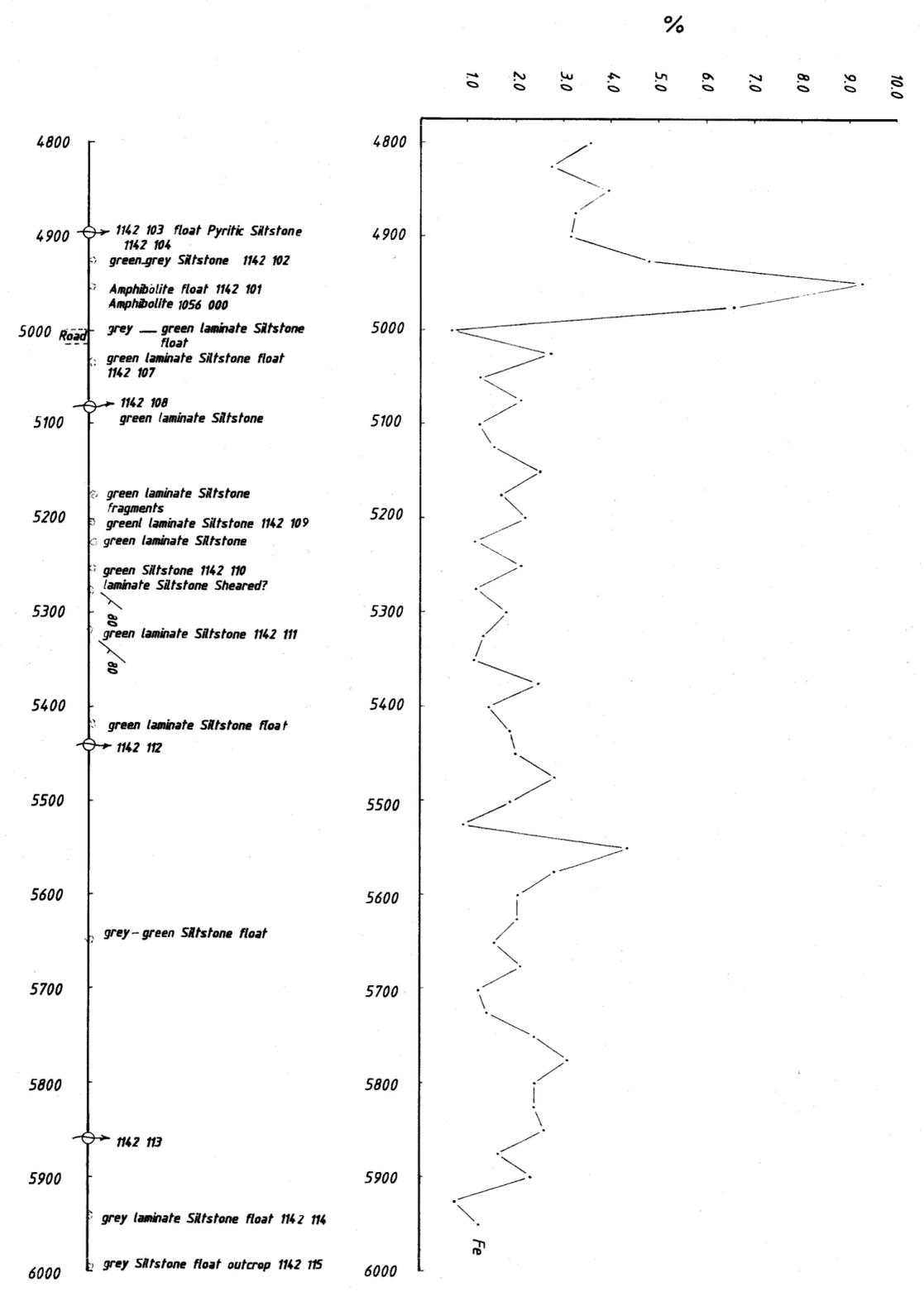
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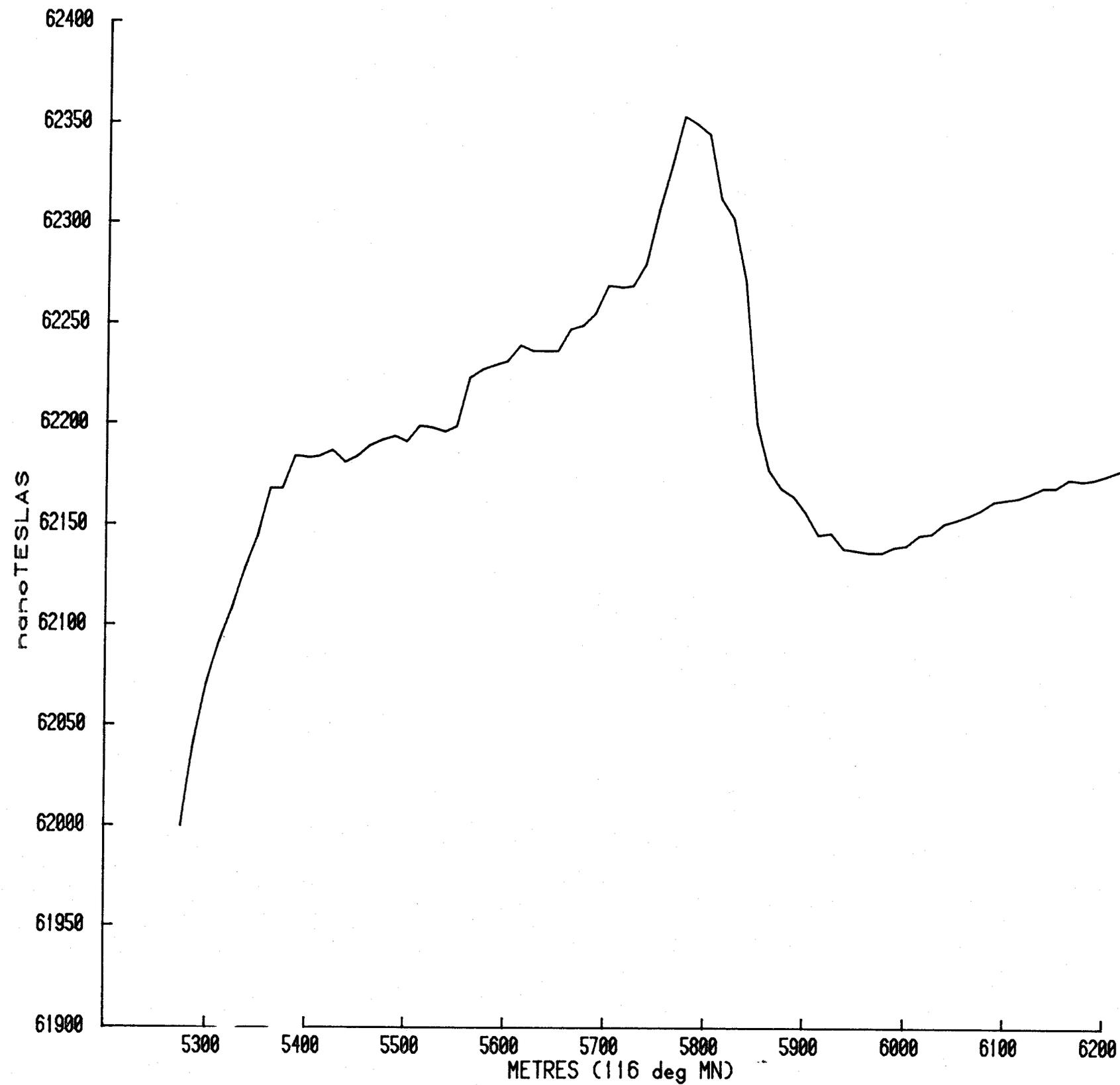
CRA EXPLORATION PTY. LIMITED  
84-2194  
LEIGH RIVER E.L. 12/80  
LEIGH SOUTH 1609  
GROUND MAGNETIC TRAVERSE

Ref	SK55 - 3	Drawn	M. F. F.
Scale	AS SHOWN	Report N°	12791
Author	M. F. F.	Date	15 - 11 - 1983
		Plan N°	TASH 1534

1142 108  
 Stream & Creek Sediment  
 Sample No.  
 5 cm

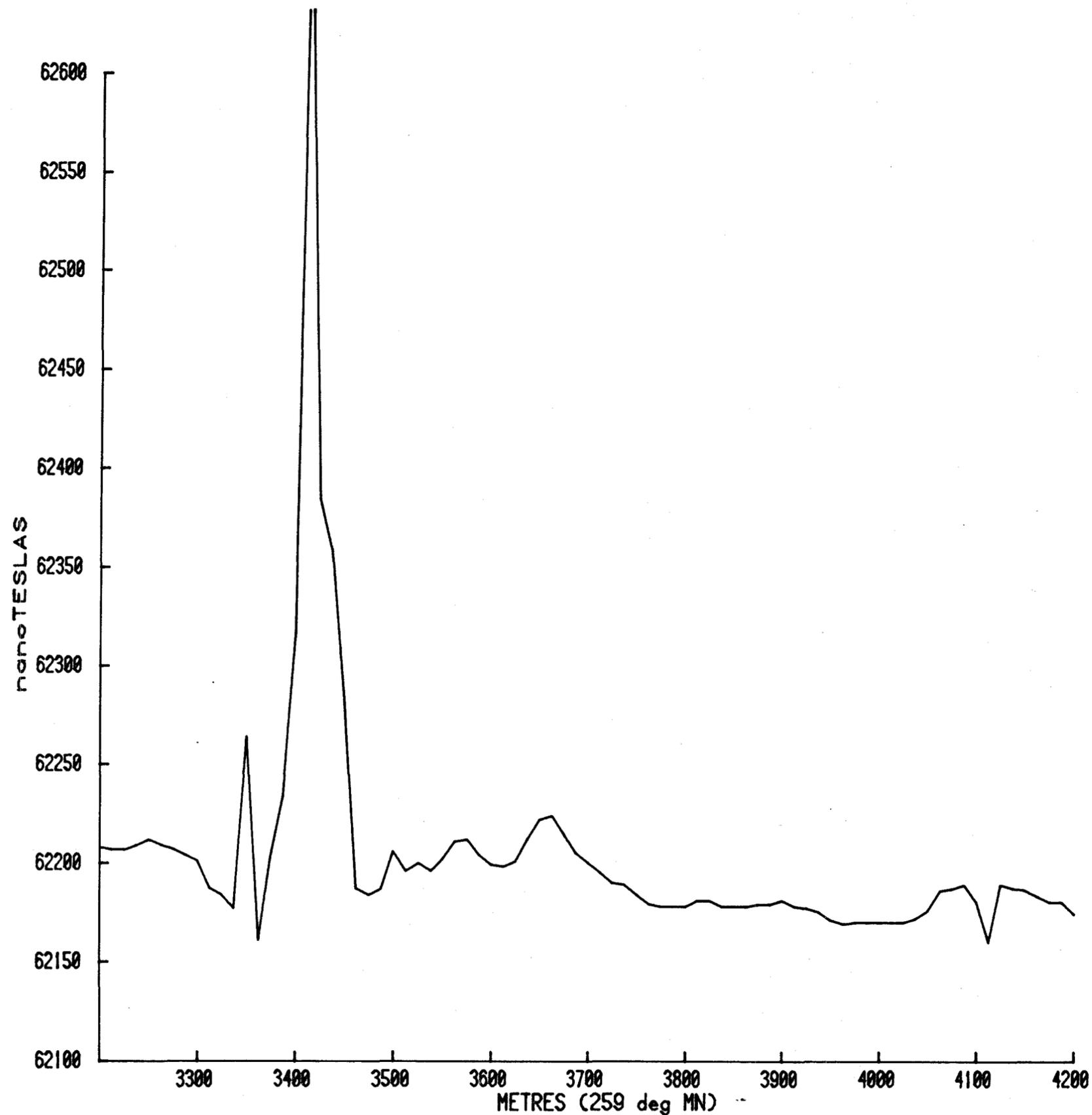
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 CRA EXPLORATION PTY. LIMITED  
 LEIGH RIVER E.L. 12/801610  
 SOIL GEOCHEM. PROFILES  
 'LEIGH SOUTH' & 'RIVER SOUTH'  
 AEROMAG. ANOMALIES LINE 5000 N  
 Ref: SK55 - 3  
 Scale: 1 : 5000  
 Author: J.W.  
 Date: 1 - 8 - 1984  
 Drawn: I.F.W. & R.T.  
 Report No. 12791  
 Plan No. TASH 198





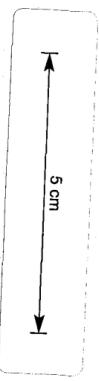
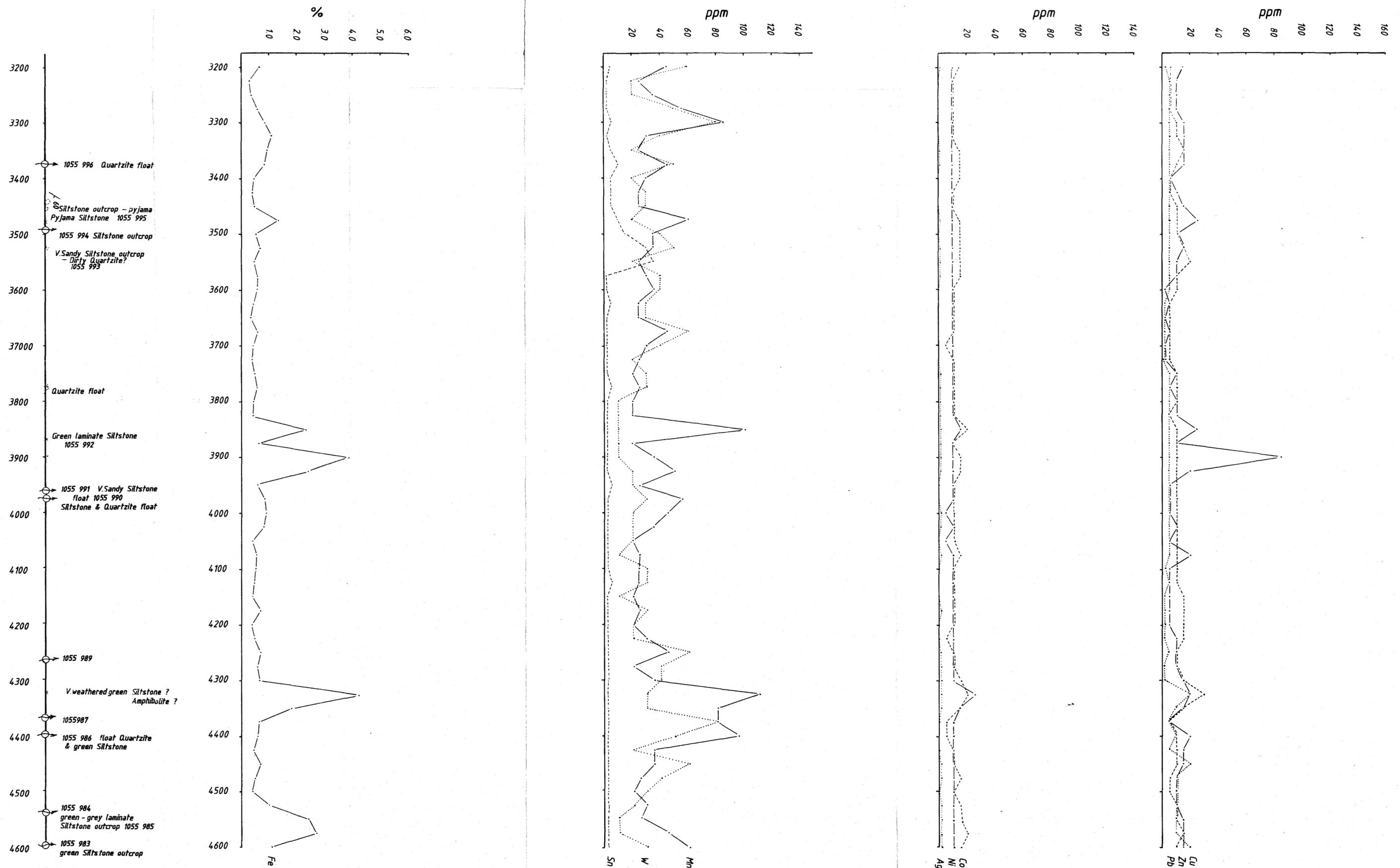
5 cm

CRA EXPLORATION PTY. LIMITED	
84-2194	
LEIGH RIVER E.L. 12/80	
RIVER SOUTH	
GROUND MAGNETIC TRAVERSE	
Ref	SK55 - 3
Scale	AS SHOWN
Author	M. F. F.
Date	15 - 11 - 1983
Drawn	M. F. F.
Report N°	12791
Plan N°	TASH 1535



5 cm

CRA EXPLORATION PTY. LIMITED			
84-2194			
LEIGH RIVER E.L. 12/80			
ODD			
GROUND MAGNETIC TRAVERSE			
Ref	SK55- 3		
Scale	AS SHOWN	Drawn	M. F. F.
Author	M. F. F.	Report N°	12791
Date	15 - 11 - 1983	Plan N°	TASH 1520

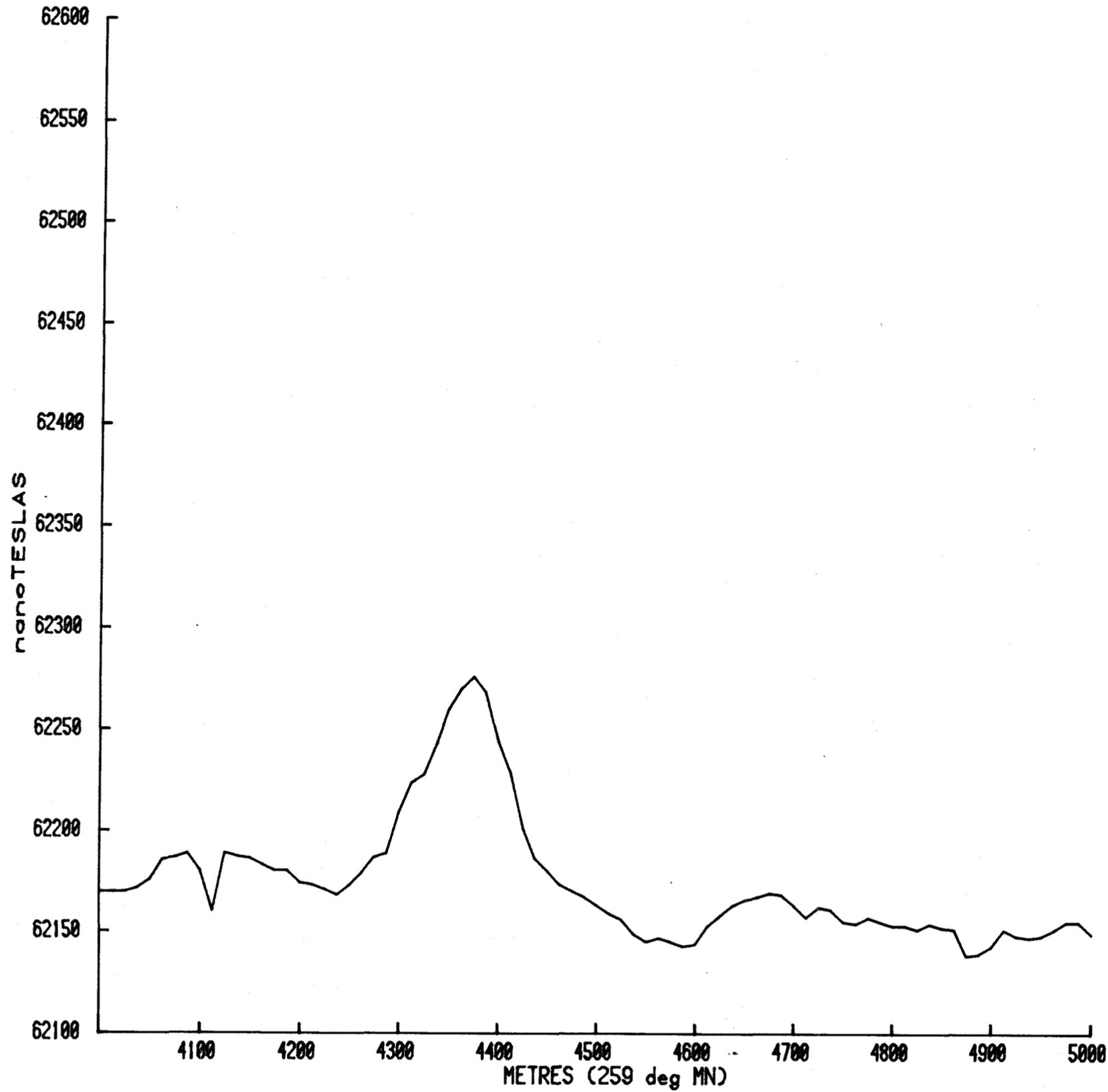


396657086

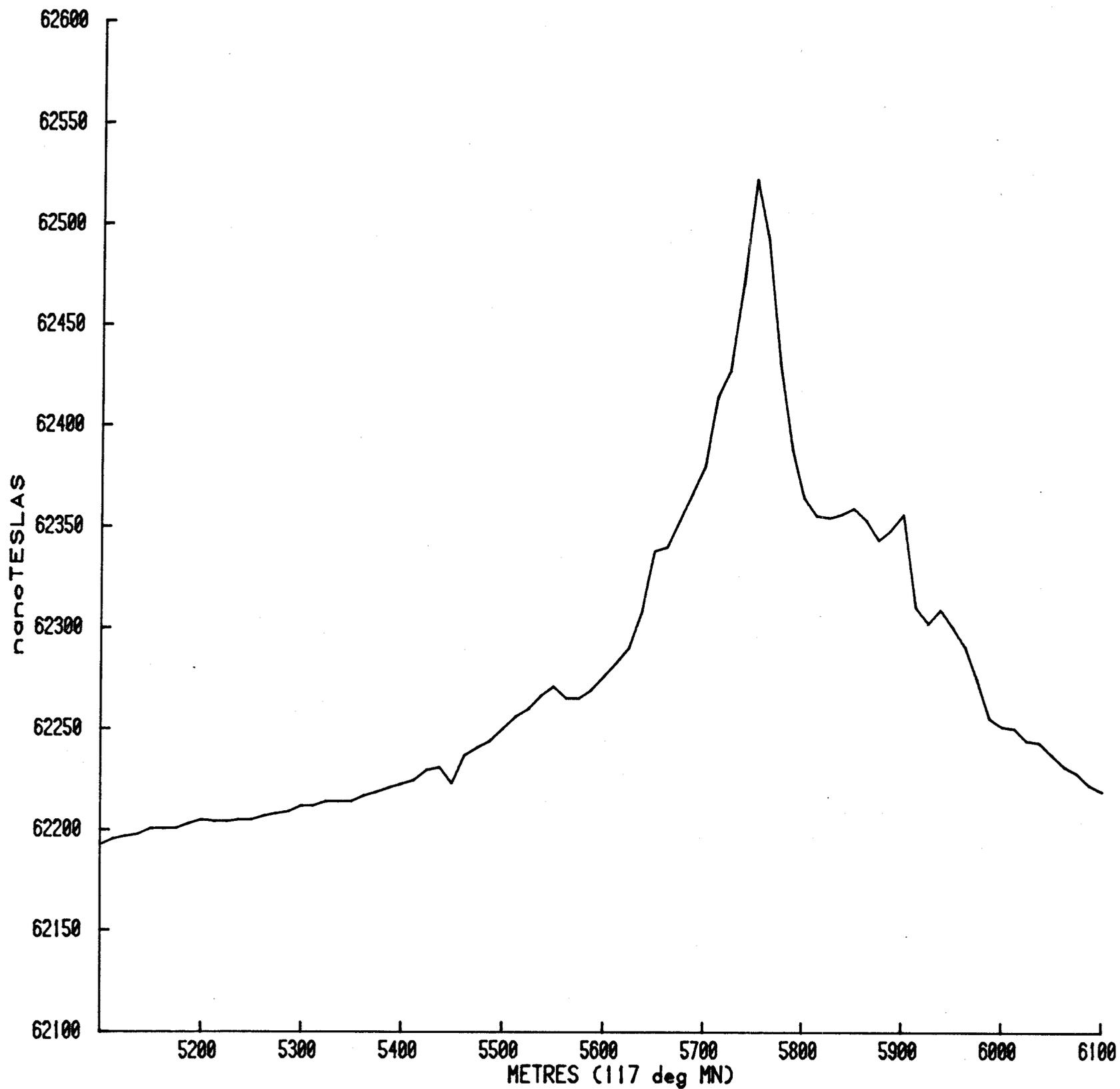
161

CRA EXPLORATION PTY. LIMITED  
LEIGH RIVER E.L. 12/80  
SOIL GEOCHEM. PROFILES  
'ODD' & 'END' AEROMAGNETIC  
ANOMALIES. LINE 5000 N

Ref: SK55 - 3	Drawn: J.F.W. & R.T.
SCALE: 1 : 5000	Report No. 12791
Author: J.W.	Plan No. TASH 1920
Date: 1 - 8 - 1984	

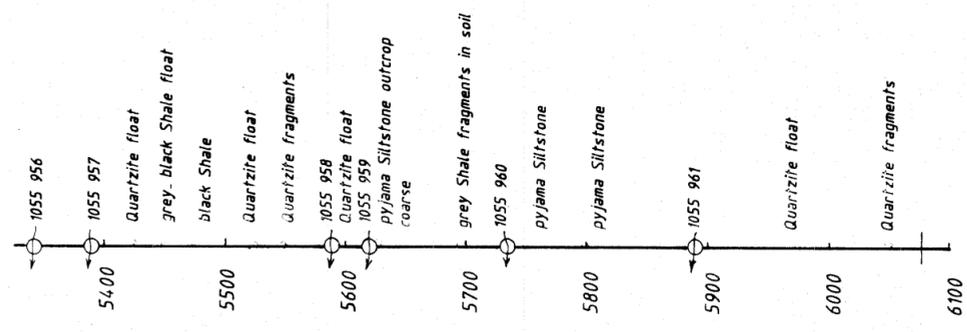
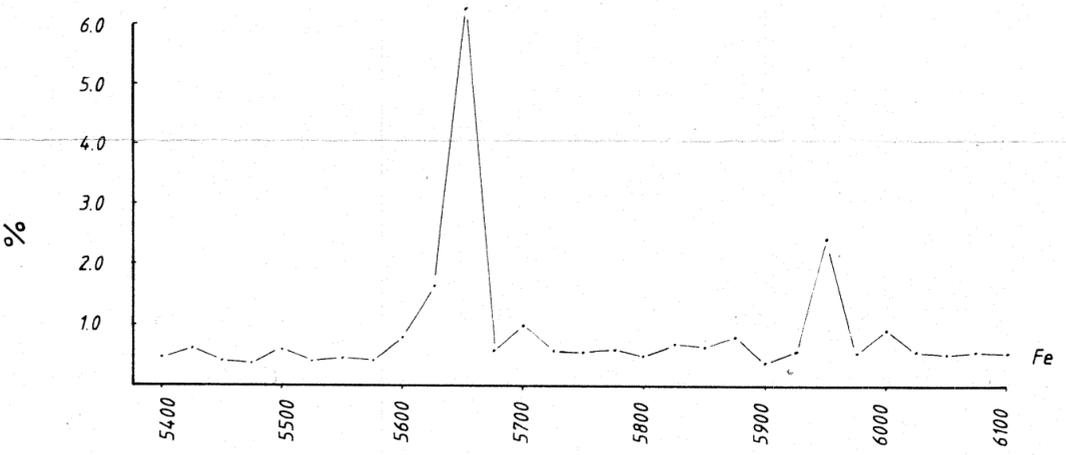
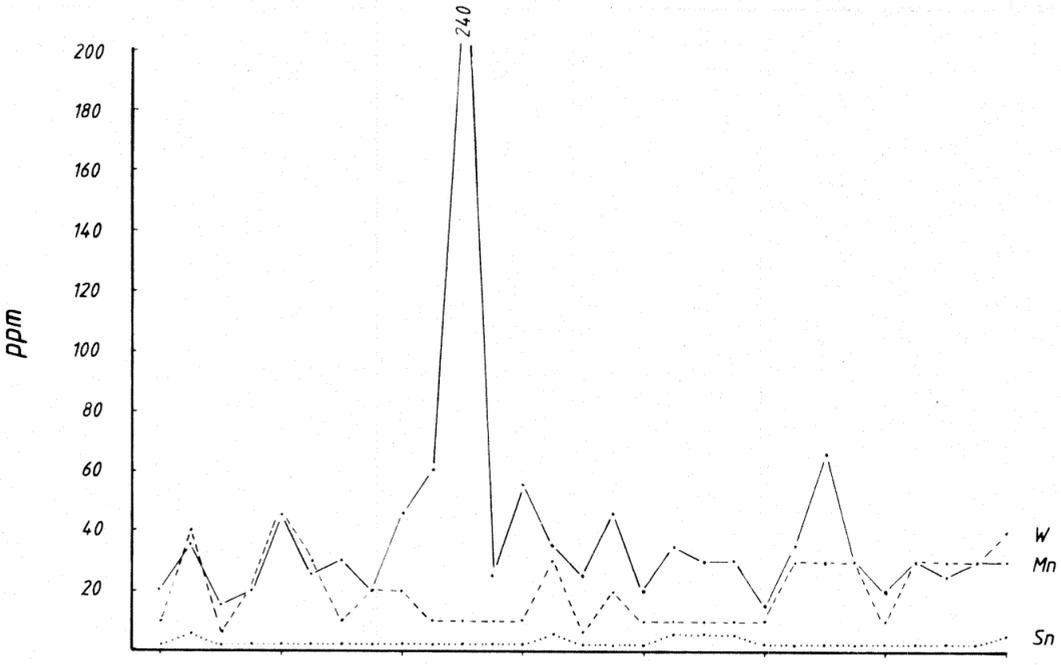
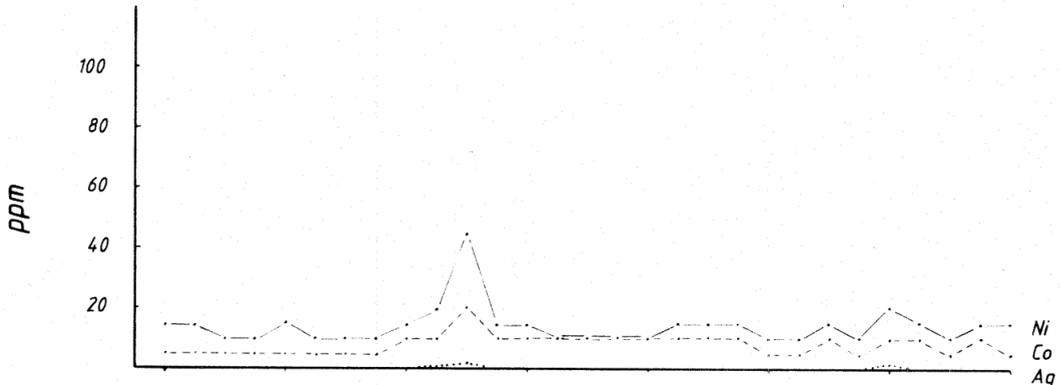
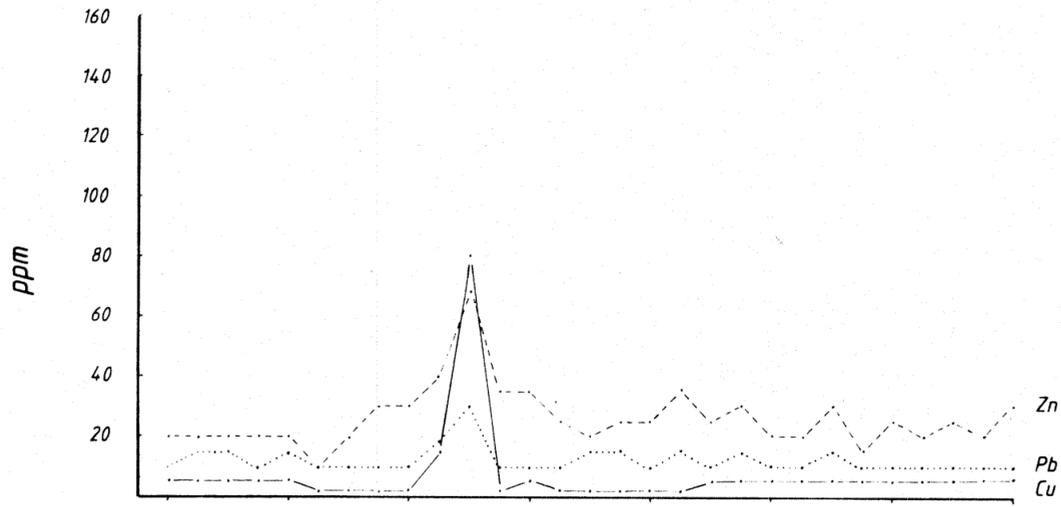


CRA EXPLORATION PTY. LIMITED			
84-2194			
LEIGH RIVER E.L. 12/80			
END			
GROUND MAGNETIC TRAVERSE			
Ref	SK55 -3		
Scale	AS SHOWN	Drawn	M. F. F.
Author	M. F. F.	Report N°	12791
Date	15 - 11 - 1983	Plan N°	1527



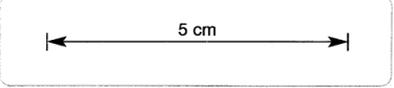
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CRA EXPLORATION PTY. LIMITED	
84-2194	
LEIGH RIVER E.L. 12/80 1615	
TRIB	
GROUND MAGNETIC TRAVERSE	
Ref	SK55 - 3
Scale	AS SHOWN
Author	M. F. F.
Date	15 - 11 - 1983
Drawn	M. F. F.
Report No	12791
Plan No	TASH 1529



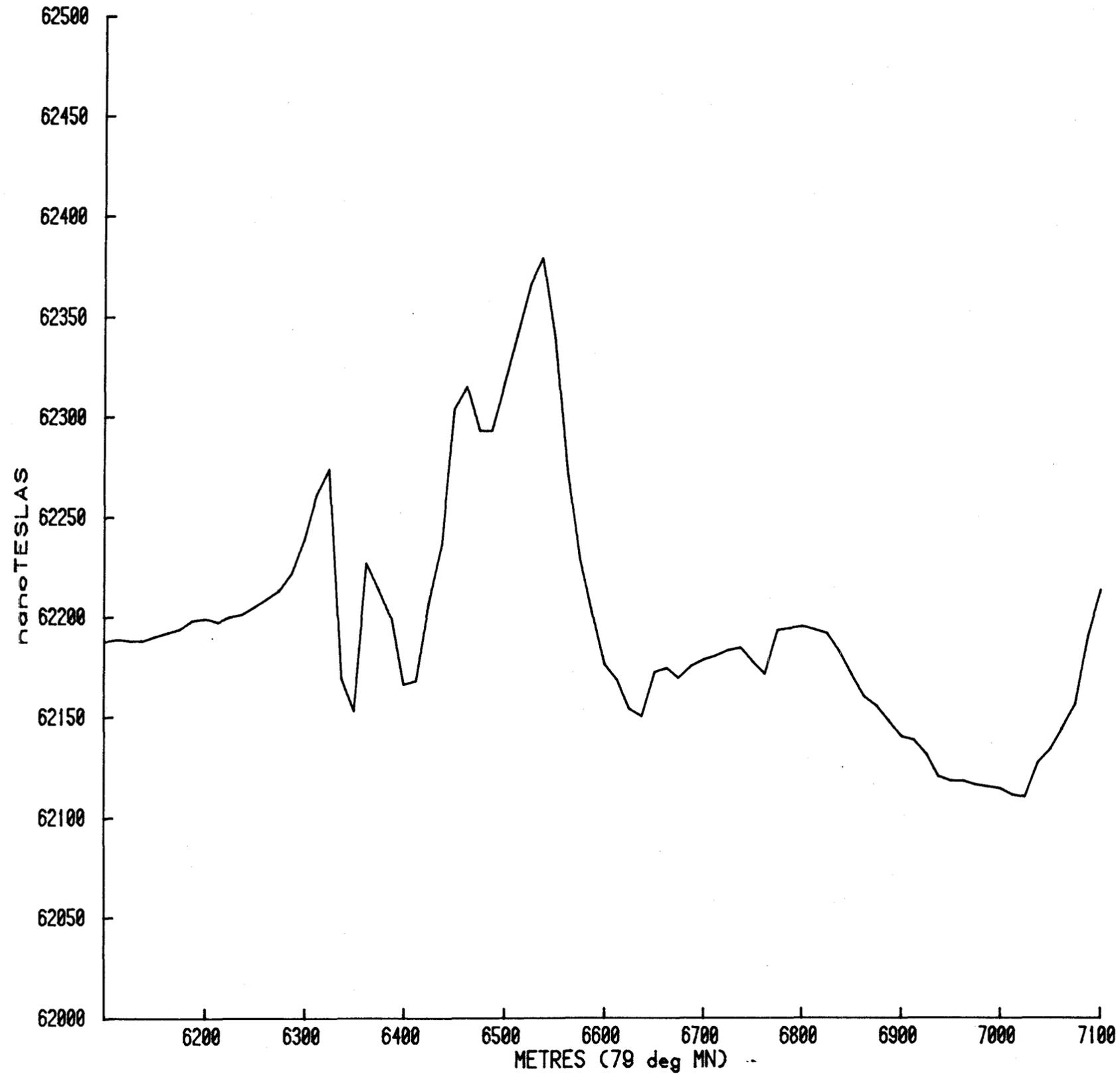
1142 108

Stream & Creek Sediment Sample No.



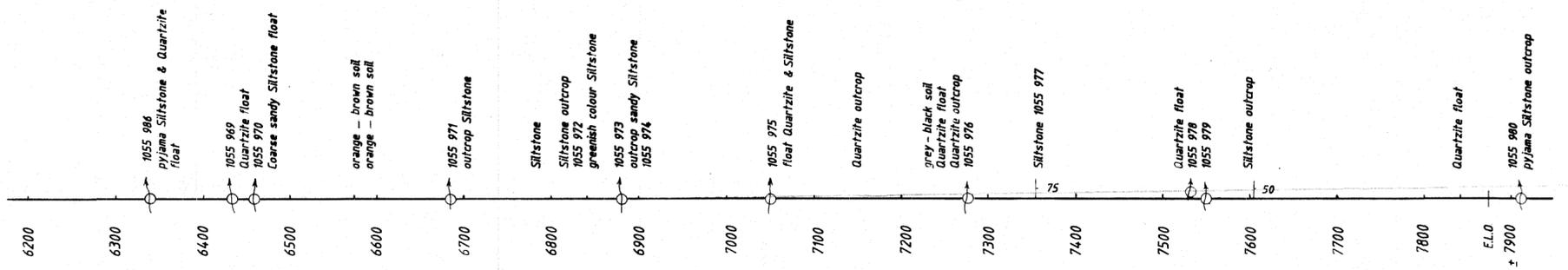
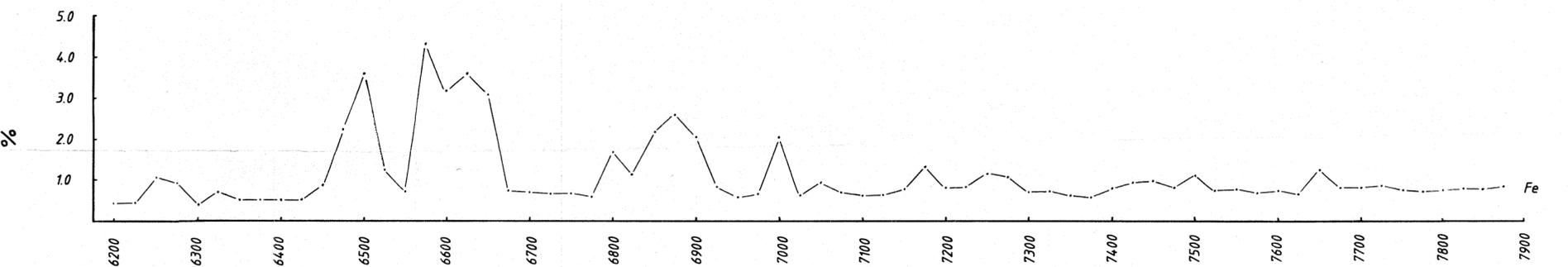
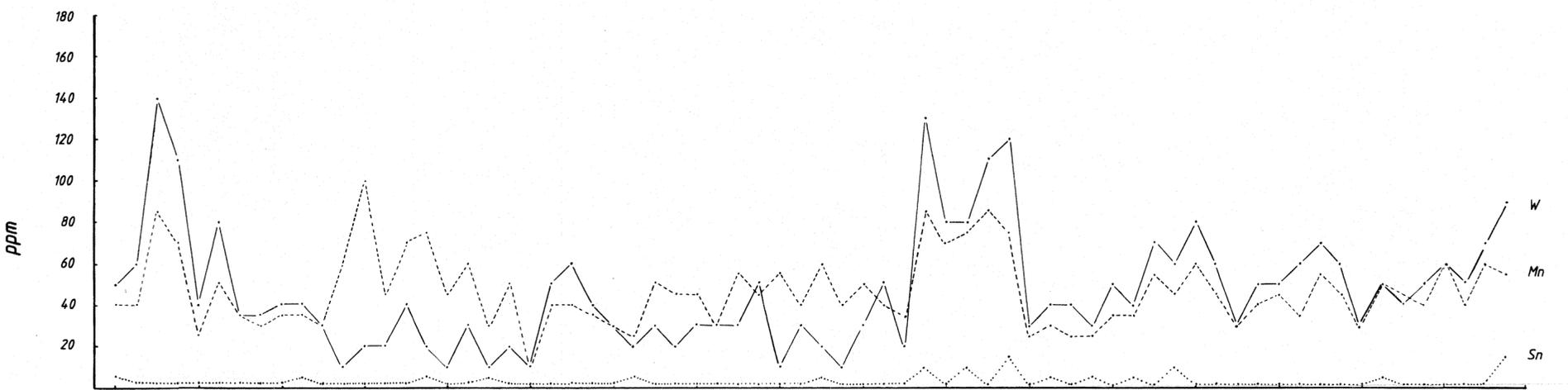
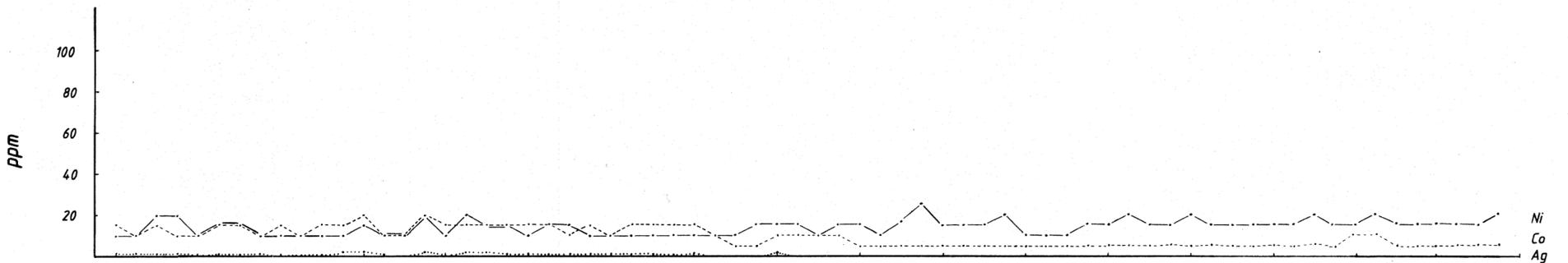
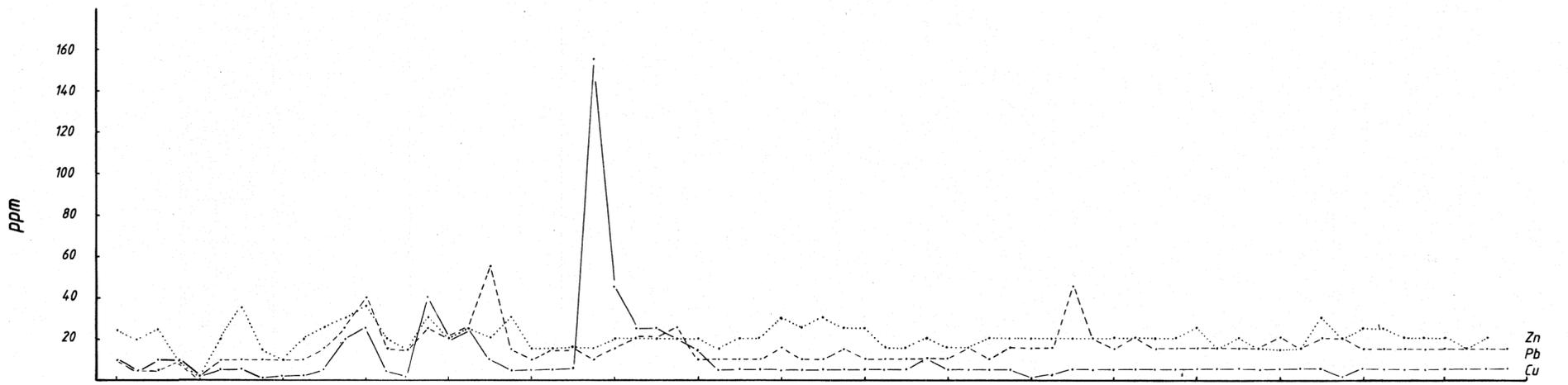
365089

CRA EXPLORATION PTY. LIMITED	
LEIGH RIVER E.L. 12/80 1616	
SOIL GEOCHEM. PROFILES	
'TRIB' AEROMAGNETIC ANOMALY	
LINE 5000 N 84-2194	
Ref: SK55- 3	
Scale: 1 : 5000	Drawn: I.F.W. & R.T.
Author: J.W.	Report No. 12791
Date: 1- 8 - 1984	Plan No. TASH 1917



5 cm

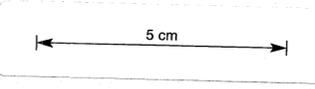
CRA EXPLORATION PTY. LIMITED	
84-2194	
LEIGH RIVER E.L. 12/80	
SOURCE	
GROUND MAGNETIC TRAVERSE	
Ref	SK55 - 3
Scale	AS SHOWN
Author	M. F. F.
Date	15 - 11 - 1983
Drawn	M. F. F.
Report N°	12791
Plan N°	TASh 1533



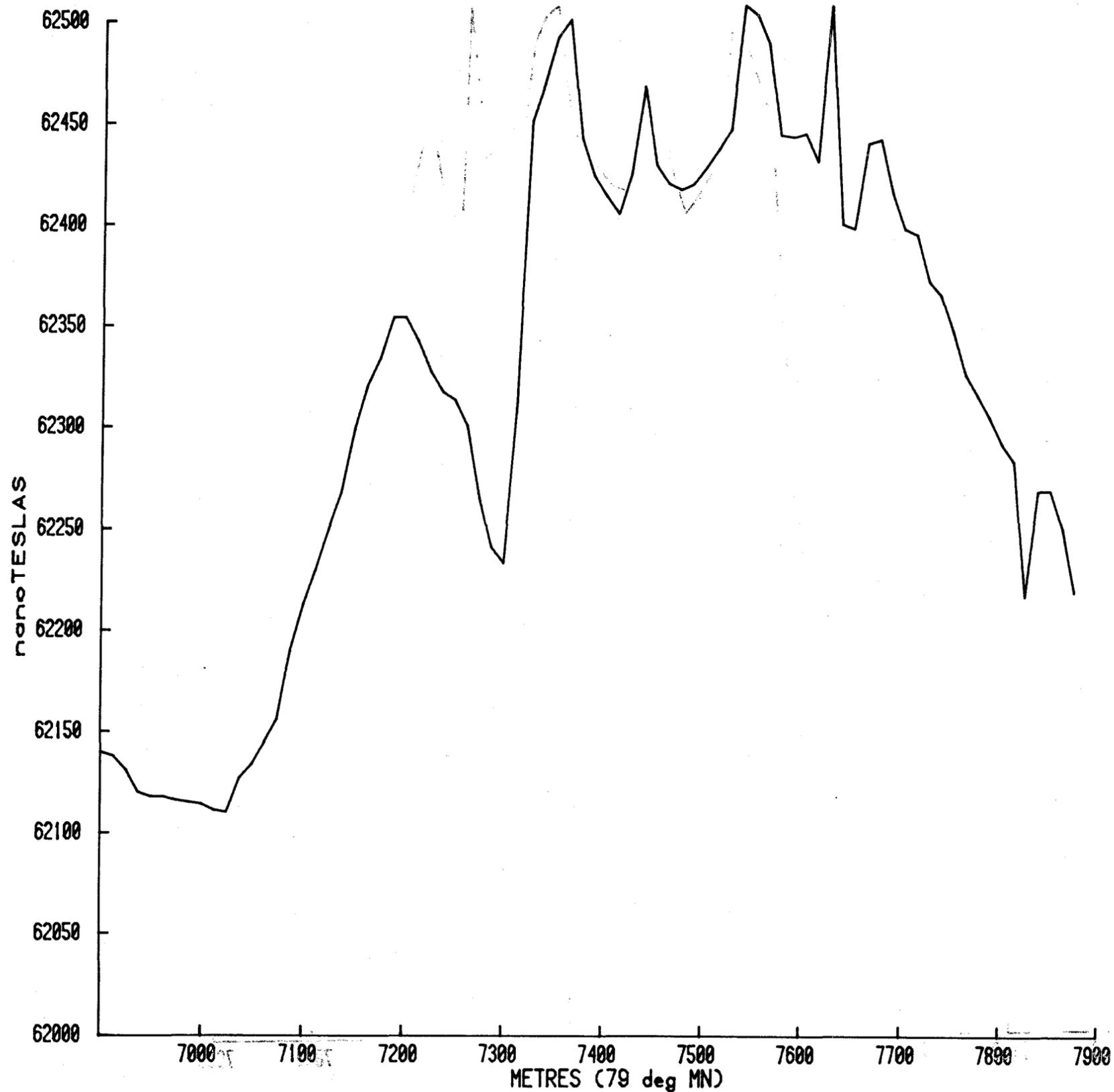
1142 108

Stream & Creek Sediment Sample No.

365091



CRA EXPLORATION PTY. LIMITED	
LEIGH RIVER E.L. 12/80 1618	
SOIL GEOCHEM. PROFILES	
'SOURCE' & 'STRIKE' AEROMAG.	
ANOMALIES. LINE 5000 N	
Ref: SK55 - 3	Scale: 1 : 5000
Author: J.W.	Drawn: I.F.W. & R.T.
Date: 1 - 8 - 1984	Report No. 12791
	Plan No. TASH 1919



5 cm

CRA EXPLORATION PTY. LIMITED	
LEIGH RIVER E.L. 12/80 STRIKE GROUND MAGNETIC TRAVERSE 84-2194	
Ref	SK55 - 3
Scale	AS SHOWN
Author	M. F. F.
Date	15 - 11 - 1983
Drawn	M. F. F.
Report N°	12791
Plan N°	TASh. 1532