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TENEMENT: E.L. 947 - Angaston.

TENEMENT HOLDER: CRA Exploration Pty. Ltd.

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Env 4596

EL 947

A magnetic tape of an airborne magnetic/radiometric survey conducted by Geoex Pty. Ltd. in late, 1979 (prior to granting of EL 947) is held by Geophysics Branch, Department of Mines and Energy.

E.L. 947 Env. 4596

Transparencies of aerial magnetic survey data over this area and associated tenements are held in transparency cylinder TC 6188 (1-6) as listed below.

TC	SURVEY	PLAN NUMBERS					
		Contours	No.	Flight Path	No.	Stacked Profiles	No.
6188/1	KANMANTOO AREA	3670-3677	8	3678-3685	8	3686-3695	10
6188/2	KANMANTOO EXTENSION (BULL CREEK)	3634-3636	3	3637-3639	3	3640, 3641, 3643	3
6188/3	MURRAY BRIDGE	3915-3920, 3759	7	3932-3942	11	3921-3931	11
6188/4	NARRUNG	3817-3823	7	3824-3830	7	4030-4036	7
6188/5	FLORIETON NORTH	3943-3946	4	3951-3954	4	3947-3950	4
6188/6	FLORIETON SOUTH	3697-3701	5	3702-3710	9	3711-3719	9
			34		42		44

Data tapes for all surveys are held by Geophysics Branch, SADME.

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CRA EXPLORATION PTY. LIMITED

FIRST QUARTERLY REPORT FOR MOUNT KARINYA

E.L. 947, SOUTH AUSTRALIA,

FOR THE PERIOD ENDING 10TH MARCH, 1982.

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AUTHOR: G.J. BUBNER

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S.A.D.M.E.

DATE: 16TH APRIL, 1982.

SUBMITTED BY: G.J. BUBNER

ACCEPTED BY:

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1. SUMMARY AND CONCLUSIONS

A stream sediment survey was carried out to investigate tungsten anomalies outlined by previous explorers. This work has defined two areas returning elevated tungsten values up to 570 p.p.m.

Aeromagnetic data over the area has been reviewed by a consultant Geophysicist, and three anomalies selected for ground follow-up.

A review of minerlisation and exploration over an area encompassing the E.L. was completed by a consultant Geologist.

2. INTRODUCTION

Mount Karinya E.L. 947 comprises an area of 1150 square kilometres centred approximately 75 kilometres north east of Adelaide (Plan No. SAa 976). The primary target within the E.L. is lead-zinc mineralisation; secondary targets include copper and tungsten.

The E.L. was granted to CRA Exploration Pty. Limited on 11th December, 1981 for a period of one year. This report describes work carried out in the period ending 10th March, 1982.

3. RECOMMENDATIONS

The areas from which anomalous tungsten values were obtained be followed-up in detail by UV - lamping and high density stream sediment sampling.

Detailed ground follow-up comprising geological mapping and ground magnetometer traverses should commence on aeromagnetic anomalies "M", "N" and "O".

4. WORK CARRIED OUT

A review was undertaken of stream sediment sampling carried out by Australian Aquitaine Pertroleum Pty. Limited on S.M.L. 716 (formerly S.M.L. 593) in the Kayneton area from 1971 to 1973. This work outlined isolated areas returning anomalous scheelite concentrations in the heavy mineral concentrate, and more detailed work led to the conclusion that the source is the Milandella Limestone Member, carrying persistent but weak mineralisation. The prospects were subsequently down-graded.

In order to assess the validity of this data and subsequent conclusions a stream sediment sampling programme was carried out by CRA Exploration Pty. Limited in two phases in October - November, 1981. 32 samples from creeks draining horizons containing the Milandella Limestone Member were collected and analysed for Pb,Zn,Cu,Co,Sn and W and a further 12 samples were subsequently collected and analysed for Pb,Zn,Cu,Sn and W. The sample locations are shown on Plan No. SAal487, and the drainage sampling ledgers and assay results comprise Appendix I.

In the -10 + 20 # fraction samples from adjacent sites in an area north of Bundilla homestead assayed 570 and 145 p.p.m. W, and one isolated sample, possibly contaminated through buildings upstream, assayed 40 p.p.m. In the -80# fraction slightly elevated values of 45,40 and 30 p.p.m. were obtained from an area south of Bundilla homestead. Slightly elevated Cu and Co values of 70 and 22 p.p.m. respectively occur with the highest W assay, but there is no obvious correlation between elements in other samples.

Assay results for Pb,Zn and Cu were relatively low, with only one value of 480 p.p.m. Cu worthy of further investigation.

5. GEOPHYSICAL CONSULTANT

A report entitled "A review of aeromagnetic data in the Kanmantoo Trough and along the western margins of the Murray Basin" was completed by consultant K. Jones. In this report a number of aeromagnetic anomalies have been selected for further investigation, of which three, designated "M", "N" and "O" fall within the Mount Karinya E.L. (Plan No. SAa 1475). These anomalies are briefly discussed below:-

Anomaly "M" : A 600 nT dipolar anomaly occurring at the southern end of a linear magnetic anomaly. An undocumented mineral show is coincident with this anomaly.

Anomaly "N" : A 200 nT negative anomaly in an area of folding. Some cultural interference is possible.

Anomaly "O" : A localised broad 50 nT high along a linear shorter wavelength anomaly.

6. GEOLOGICAL CONSULTANT

A review of base metal mineralisation and exploration in the Kanmantoo Trough, part of which is encompassed by the Mount Karinya E.L. was completed by consultant D. Ransom.

G.J. BUBNER

GJB/lmc

REFERENCES

Ognar, S., June 1972.	Final report on S.M.L. 593 Keyneton. Australian Aquitaine Petroleum Pty. Limited. S.A.D.M.E. open file Env. No. 1806.
Ognar, S., June, 1973.	Quarterly and Final Report on S.M.L. 716. Australian Aquitaine Petroleum Pty. Limited. S.A.D.M.E. open file envelope no. 2126.
Jones, K. Jan., 1982.	A review of aeromagnetic data in the Kanmantoo Trough and along the western margins of the Murray Basin (unpub. CRAE report).
Ransom, D.M., Sept. 1981	A review of base metal mineralisation and exploration in the Kanmantoo Trough, S.A. (unpub. CRAE report no. 10815).

LOCATION

Adelaide SI54-9 1:250 000 sheet

KEYWORDS

copper, lead, zinc, tungsten, geochem-drainage, geophys-aeromag.

LIST OF ATTACHMENTS

Plan No.	Title	Scale
SAa 976	E.L. application	1:250 000
SAa 1475	Aeromagnetic Contours showing location of anomalies "M", "N" and "O"	1: 50 000
SAa 1487	Mount Karinya E.L. 947 Stream Sediment Sample sites	1: 50 000

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Appendix I - Drainage Sampling Ledgers

APPENDIX I

DRAINAGE SAMPLING LEDGERS

C.R.A. EXPLORATION PTY. LIMITED

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Tenement: MOUNT KARINYA E.L. 947

GEOCHEMICAL DRAINAGE SAMPLING LEDGER

D.P.O. No.: B0437

Area / Prospect : .....

Sample Nos.: 945066 - 945085

Geologist: A.J.V. Date: 22-10-81

Plan / Photo Ref.: ANGASTON

Mesh Size: -10+20 #

Analysed by: COMLABS

Sample Number	H.M. Trap/ Random	Channel						Sediment					pH	Metal Content in p.p.m.						Geological Observations
		Wet/Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %		Pb	Zn	Cu	Co	Sn	W	
945066	R	W	3	1.5	1°	80	20	20	50	20	10	0		<4	10	10	4	8	<10	Fair site
067	R	W	5	1	1°	60	40	30	40	20	10	0		6	16	16	6	6	<10	" "
068	R	D	2	0.5	1°	50	50	0	60	20	10	10		10	36	210	10	8	10	Poor "
069	R	D	3	0.5	1°	50	50	0	60	20	10	10		10	36	32	8	6	<10	" "
070	HMT	D	5	2	1°	90	10	60	30	10	0	0		6	26	24	6	4	<10	Good "
071	HMT	D	5	2	1°	90	10	60	30	10	0	0		10	30	36	8	6	<10	" "
072	R	W	3	1	1°	80	20	30	50	10	10	0		12	26	22	8	8	<10	Fair "
073	R	D	3	5	3°	80	20	40	50	10	0	0		6	34	30	14	4	15	Good "
074	R	D	3	2	2°	80	20	40	50	10	0	0		8	24	22	8	<4	10	" "
075	R	D	6	1	1°	90	10	50	40	10	0	0		10	32	26	8	8	<10	" "
076	HMT	W	20	3	1°	80	20	50	40	10	0	0		6	20	16	6	6	<10	" "
077	R	D	20	3	1°	90	10	60	30	10	0	0		4	30	18	6	4	10	Fair "
078	R	D	4	2	2°	50	50	10	50	20	20	0		10	36	70	22	<4	570	Poor "
079	R	D	5	2	1°	70	30	30	40	20	10	0		10	28	46	14	4	145	Fair "
080	R	D	4	2	2°	50	50	0	40	30	30	0		6	28	36	12	10	10	Poor "
081	R	D	5	2	1°	70	30	30	50	10	10	0		6	22	42	14	<4	10	Good "
082	R	D	3	1	1°	80	20	20	60	10	10	0		6	32	55	16	12	10	" "
083	R	D	6	1	1°	90	10	40	40	10	10	0		20	50	32	14	<4	10	" "
084	R	D	7	3	1°	80	20	40	40	10	10	0		10	55	65	12	8	<10	" "
945085	R	D	3	1	1°	60	40	0	60	20	20	0		10	48	24	12	4	<10	Fair "

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Tenement: MOUNT KARINYA E.L. 947 — GEOCHEMICAL DRAINAGE SAMPLING LEDGER — D.P.O. No: B 0437

Area / Prospect: ..... — Sample Nos: 945086-945097 — Geologist: A. J. V. Date: 22-10-81

Plan / Photo Ref.: ANGASTON — Mesh Size: -10+20# — Analysed by: COMLABS

Sample Number	H.M. Trap / Random	Channel						Sediment					pH	Metal Content in p.p.m.									Geological Observations
		Wet / Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %		Pb	Zn	Cu	Co	Sn	W				
945086	R	D	10	1	1°	70	30	40	40	10	10	0		14	70	48	14	<4	<10				Good site
087	R	D	8	2	1°	70	30	30	40	20	10	0		16	65	28	12	8	<10				" "
088	R	D	10	2	1°	80	20	40	40	10	10	0		10	55	26	12	<4	10				" "
089	R	D	5	1	1°	70	30	40	40	10	10	0		14	60	30	12	4	10				" "
090	R	D	5	1	1°	80	20	50	40	10	0	0		20	60	32	14	8	10				" "
091	R	D	4	1	1°	60	40	40	30	20	10	0		26	75	32	14	8	10				Fair "
092	R	D	2	2	1°	70	30	40	30	20	5	5		16	60	30	12	4	<10				" "
093	R	W	3	2	1°	80	20	30	40	20	10	0		20	70	28	14	<4	<10				Good "
094	R	D	2	2	1°	70	30	20	50	20	10	0		18	60	26	16	<4	<10				" "
095	R	D	2	1	1°	70	30	40	40	10	10	0		16	60	32	16	4	10				" "
096	R	D	2	1	1°	80	20	30	50	10	10	0		24	75	30	14	8	10				" "
945097	R	W	10	2	1°	90	10	50	40	10	0	0		14	65	26	14	4	10				" "

C.R.A. EXPLORATION PTY. LIMITED

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Tenement: MOUNT KARINYA E.L. 947 — GEOCHEMICAL DRAINAGE SAMPLING LEDGER — D.P.O. No: B0437

Area / Prospect: .....

Sample Nos: 945066 - 945085

Geologist: A.J.V. Date: 22-10-81

Plan / Photo Ref: ANGASTON

Mesh Size: -80#

Analysed by: COMLABS

Sample Number	H.M. Trap/ Random	Channel						Sediment					pH	Metal Content in p.p.m.									Geological Observations
		Wet/Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %		W									
945066	R	W	3	1.5	1°	80	20	20	50	20	10	0		<10									Fair site
067	R	W	5	1	1°	60	40	30	40	20	10	0		<10									" "
068	R	D	2	0.5	1°	50	50	0	60	20	10	10		<10									Poor "
069	R	D	3	0.5	1°	50	50	0	60	20	10	10		<10									" "
070	HMT	D	5	2	1°	90	10	60	30	10	0	0		<10									Good "
071	HMT	D	5	2	1°	90	10	60	30	10	0	0		40									" "
072	R	W	3	1	1°	80	20	30	50	10	10	0		30									Fair "
073	R	D	3	5	3°	80	20	40	50	10	0	0		10									Good "
074	R	D	3	2	2°	80	20	40	50	10	0	0		45									" "
075	R	D	6	1	1°	90	10	50	40	10	0	0		10									" "
076	HMT	W	20	3	1°	80	20	50	40	10	0	0		<10									" "
077	R	D	20	3	1°	90	10	60	30	10	0	0		15									Fair "
078	R	D	4	2	2°	50	50	10	50	20	20	0		10									Poor "
079	R	D	5	2	1°	70	30	30	40	20	10	0		<10									Fair "
080	R	D	4	2	2°	50	50	0	40	30	30	0		<10									Poor "
081	R	D	5	2	1°	70	30	30	50	10	10	0		<10									Good "
082	R	D	3	1	1°	80	20	20	60	10	10	0		15									" "
083	R	D	6	1	1°	90	10	40	40	10	10	0		15									" "
084	R	D	7	3	1°	80	20	40	40	10	10	0		<10									" "
945085	R	D	3	1	1°	60	40	0	60	20	20	0		<10									Fair "

C.R.A. EXPLORATION PTY. LIMITED

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Tenement: MOUNT KARINYA E.L. 947 — GEOCHEMICAL DRAINAGE SAMPLING LEDGER — D.P.O. No: B 0437

Area / Prospect: ..... — Sample Nos: 945086-945097 — Geologist: A.J.V. Date: 22-10-81

Plan / Photo Ref: ANGASTON — Mesh Size: -80# — Analysed by: COMLABS

Sample Number	H.M. Trap / Random	Channel						Sediment					pH	Metal Content in p.p.m.									Geological Observations
		Wet / Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %		W									
945086	R	D	10	1	1°	70	30	40	40	10	10	0		<10									Good site
087	R	D	8	2	1°	70	30	30	40	20	10	0		<10									" "
088	R	D	10	2	1°	80	20	40	40	10	10	0		<10									" "
089	R	D	5	1	1°	70	30	40	40	10	10	0		<10									" "
090	R	D	5	1	1°	80	20	50	40	10	0	0		<10									" "
091	R	D	4	1	1°	60	40	40	30	20	10	0		<10									Fair "
092	R	D	2	2	1°	70	30	40	30	20	5	5		<10									" "
093	R	W	3	2	1°	80	20	30	40	20	10	0		<10									Good "
094	R	D	2	2	1°	70	30	20	50	20	10	0		<10									" "
095	R	D	2	1	1°	70	30	40	40	10	10	0		<10									" "
096	R	D	2	1	1°	80	20	30	50	10	10	0		<10									" "
945097	R	W	10	2	1°	90	10	50	40	10	0	0		<10									" "

C.R.A. EXPLORATION PTY. LIMITED

Page: 5

Tenement: MOUNT KARINYA E.L.947 — GEOCHEMICAL DRAINAGE SAMPLING LEDGER — D.P.O. No: B 0440

Area / Prospect: .....

Sample Nos. 945301 - 945312

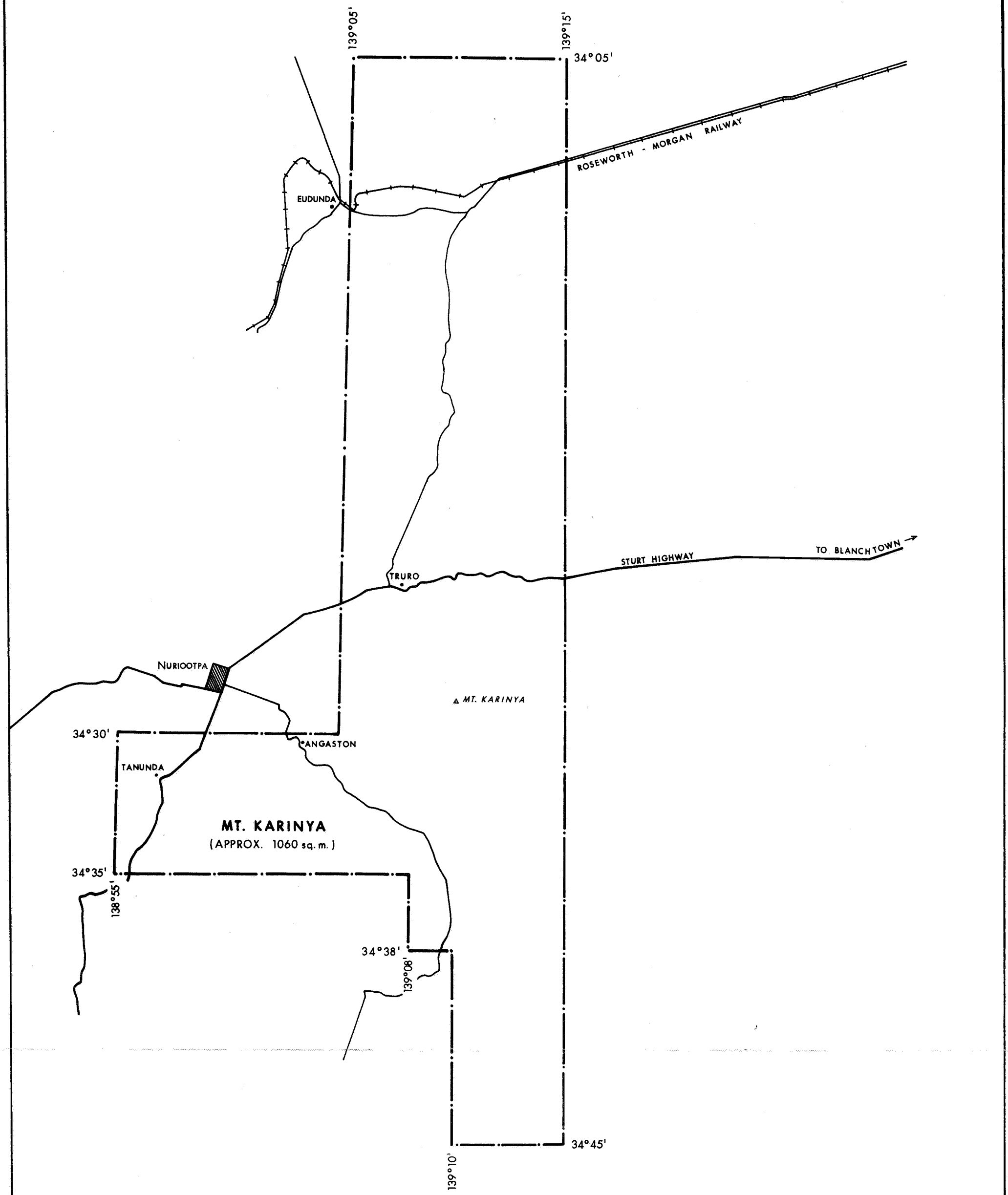
Geologist: A.J.V. Date: 12 - 11 - 81

Plan / Photo Ref.: ANGASTON / TRURO

Mesh Size: -10+20#

Analysed by: COMLABS

Sample Number	H.M. Trap/ Random	Channel						Sediment					pH	Metal Content in p.p.m.									Geological Observations
		Wet / Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %		Pb	Zn	Cu	Sn	W					
945301	R	D	4	3	1°	60	40	40	40	10	10	0		20	55	20	10	<10					Fair site
302	R	D	3	1	1°	50	50	40	40	10	10	0		32	110	30	6	<10					" "
303	R	D	2	1	1°	50	50	50	30	20	0	0		30	95	24	8	10					" "
304	R	W	6	2	1°	70	30	60	20	10	10	0		32	80	26	10	10					Good "
305	R	D	5	2	1°	60	40	50	30	10	10	0		30	90	22	4	40					" " farmhouse upstream
306	R	D	2	1	1°	50	50	10	60	20	10	0		28	80	16	6	10					Poor "
307	R	D	5	2	1°	70	30	50	40	10	0	0		24	60	16	<4	10					Good "
308	R	W	5	1	1°	70	30	60	20	10	10	0		18	65	18	4	<10					" "
309	R	W	2	1	5°	50	50	10	50	20	20	0		10	26	480	4	10					Poor "
310	R	W	2	1	4°	50	50	10	50	20	20	0		24	16	18	6	10					" "
311	R	D	1	1	5°	60	40	30	50	10	10	0		90	95	24	8	<10					Good "
945312	R	D	1	1	2°	30	70	10	60	20	10	0		10	28	185	<4	10					Poor "



C R A EXPLORATION PTY. LIMITED	
E.L. APPLICATION **MT. KARINYA**	
REF. : ADELAIDE SI 54-9	
SCALE : 1:250 000	DRAWN : J.C.R.
GEOL : A. J.V.	REPORT N°. :
DATE : AUGUST 1981	PLAN N°. : SAa 976

139°05"
34°15" +

139°15"
+ 34°15"

328500E
331000E
333500E
336000E
338500E
6206000N
6201000N
6196000N
6191000N
6186000N

ANOMALY "N"

ANOMALY "O"

ANOMALY "M"

34°30" +
139°05"

34°30"
139°15"

SCALE

METRES 1000 0 1 2 3 4 5 KILOMETRES

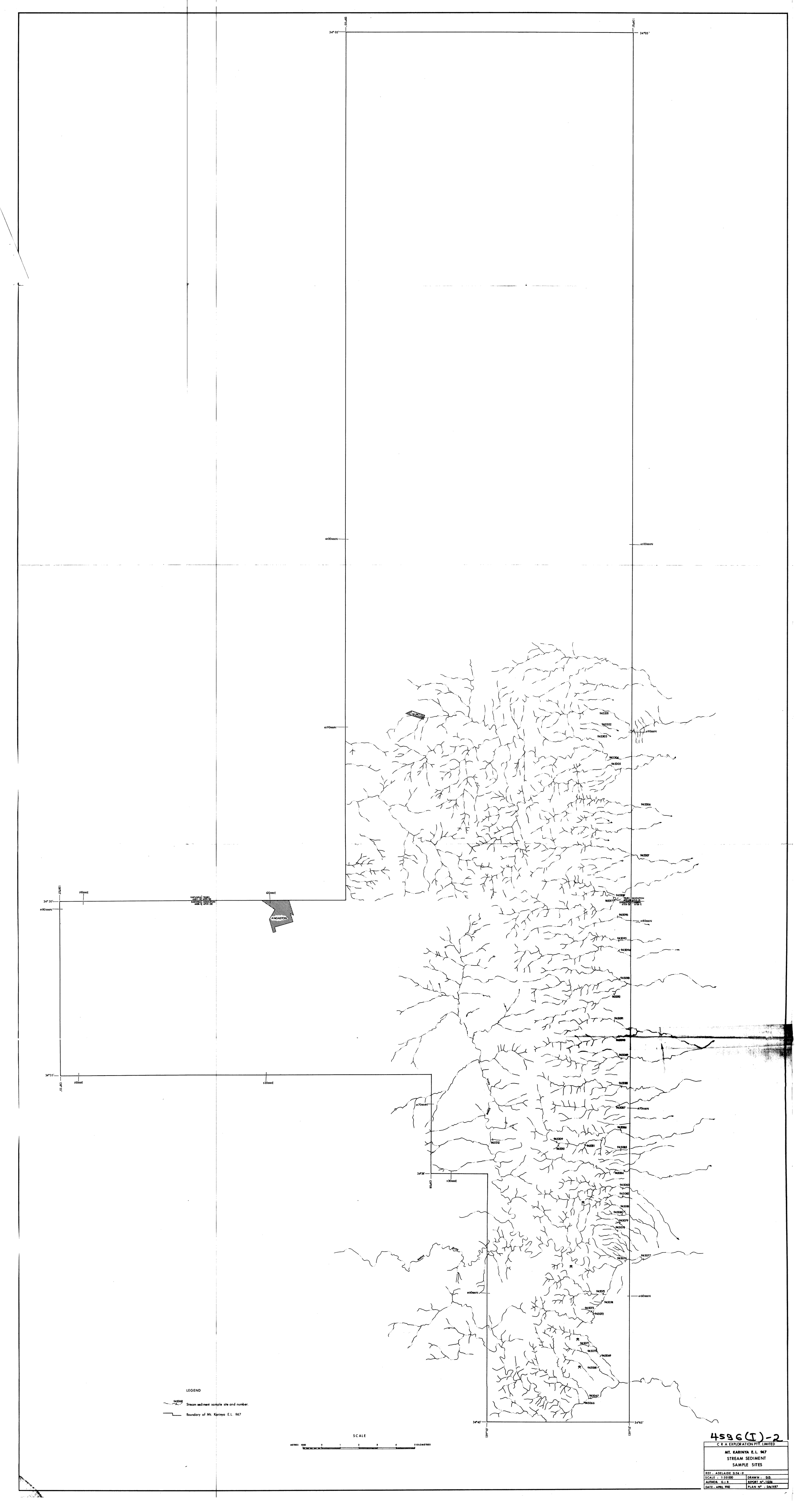
4596(1)-1

CRA EXPLORATION PTY. LIMITED

MT. KARINYA E.L. 947

AEROMAGNETIC CONTOURS SHOWING
LOCATION OF ANOMALIES "M", "N" & "O"

Ref: ADELAIDE SI54 - 9	
Author: G.J.B.	Scale: 1 : 50,000
Drawn: S.J.B.	Report No: 11256
Date: APRIL 1982	Plan No: SAa 1475


LEGEND
Stream sediment sample site and number.
Boundary of Mt Karinya E.L. 967
SCALE
KINGSTON
463201
463202
463203
463204
463205
463206
463207
463208
463209
463210
463211
463212
463213
463214
463215
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016

CRA EXPLORATION PTY. LIMITED

SECOND QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH JUNE, 1982.

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AUTHOR: G.J. BUBNER

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S.A.D.M.E.

DATE: 12TH JULY, 1982

SUBMITTED BY: G.J. BUBNER

ACCEPTED BY:

11256

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1. SUMMARY AND CONCLUSIONS

Detailed ground investigations were carried out on two aeromagnetic anomalies, and additional mapping and sampling was completed on the Cambrai Tungsten Prospect.

Anomaly "M" - Geological mapping and 17 line kilometres of ground magnetics were completed. The source of a narrow, 6000 nT anomaly is a magnetite-quartz lode. Assays of rock chip samples are generally low, the maximum assays for copper, lead and zinc being 620, 120 and 140 p.p.m. respectively. Three samples from the ironstone report detectable gold (maximum 0.02 p.p.m.).

Anomaly "O" - Geological mapping and 18.5 line kilometres of ground magnetics were completed. The source of a broad, low amplitude magnetic anomaly is not evident at the surface. The highest assay results were obtained from dark shales (Mount Karinya Shale) peripheral to the area, running to 5100, 4500, 660 and 250 p.p.m. for zinc, copper, nickel and cobalt respectively.

Detailed mapping, UV-traversing and collection of 17 drainage samples was completed on the Cambrai Tungsten Prospect. It is concluded that the host rocks to the scheelite are the Lower Cambrian, although the exact source has not been defined. Some inconsistencies in results from re-sampling may be a product of scheelite grainsize.

2. INTRODUCTION

Mount Karinya E.L. 947 comprises an area of 1150 square kilometres centred approximately 75 kilometres north-east of Adelaide (Plan No. SAa 976), and was granted to CRA Exploration Pty. Limited for a period of one year from 11th December, 1981. This report describes work carried out in the period ending 10th June, 1982.

3. RECOMMENDATIONS

- Anomaly "M" - no further geophysical work is required as the magnetic source has been identified. Some additional sampling of the ironstone could be carried out to assess the gold potential.

- Anomaly "O" - the magnetic source is relatively deep, and the dark shales which returned the highest geochemistry have previously been investigated by CRAE. No further work

is required at this stage.

- Cambrai Tungsten Prospect - additional creek traverses at night with a UV lamp should be undertaken to locate the scheelite in outcrop.

4. WORK CARRIED OUT

4.1 Anomaly "M" (Murray Creek)

This is a dipolar anomaly of approximately 500 nT amplitude at the southern end of a linear magnetic anomaly (Plan No. SAa 1475). It is located two kilometres south of the Wheal Barton Copper Mine, and a small mineral showing is coincident with the anomaly.

Ground magnetics data was acquired on a 100 x 10 metre grid over a strike length of 1600 metres (Plan No. SAa 1553). Traverses totalling 17 line kilometres were read using a Scintrex MP-2 and a GEM GSM-8 magnetometer, and the data diurnally corrected by reference to a Scintrex MBS-2 base station. Ground magnetics readings, profiles and contours are shown on Plan Nos. SAa 1544, SAa 1562 and SAa 1571 respectively.

The predominant magnetic high of 6000 nT occurs over a magnetite-quartz lode, whilst an elongate high of variable amplitude up to 1000 nT amplitude extends for 900 metres, much of it coincident with Murray Creek. The short wavelength nature of the anomalies indicates sources within tens of metres of the surface.

The area of the magnetic anomaly is underlain by a sequence of laminated quartzites and quartz-feldspar-biotite rocks, striking approximately north-south and mainly dipping east (Plan No. SAa 1530). The anomaly parallels a north-south bearing reach of Murray Creek. The quartzites to the east are more massive than those to the west. The creek valley is filled with alluvium in the south of the anomaly area. A few minor outcrops of fairly massive fine grained chlorite-sericite schist occur within this zone. To the north, quartzite occurs in the creek bed.

The mineral showing is a large excavation, being about 200 metres in length, up to 10 metres deep, and 5 metres wide occurring on an east-west striking, south dipping magnetite-quartz lode presumably previously worked for iron ore. In the excavation nearest Murray Creek two types of oxide material are observed, one a spongy goethite-limonite material, commonly cavernous, the other probably quartz-martite being fine grained, massive and strongly magnetic. The latter occurs as inclusions within the former. Minor

sulphide casts are present in both types. A bedded quartz-magnetite outcrop with a slightly brecciated appearance occurs immediately south-east of the easternmost pit, resembling an iron formation. The ironstone lode cuts across bedding and schistosity at a high angle. 300 metres to the north of the main pits, there is a further ironstone lode, striking north-west about 3 metres in width. In the creek bed to the north-west of the main pits there are a number of shallow dipping quartzite outcrops containing thin (1cm) veins sub-parallel to schistosity with sericite-chlorite selvedges of about the same width. The highest amplitude traverse of the ground magnetic anomaly lies on line 900N and coincides with the main pit. This line is parallel and within 10 metres of its southern margin. The anomaly also coincides with the smaller vein to the south and appears to be restricted to the east side of the creek. The creek may be interpreted as a fault to which the ironstone lodes are related. Susceptibility measurements show some laminated quartzite units are slightly magnetic, but the ironstone lodes are clearly the most magnetic rock type.

The following samples were collected and analysed for copper, lead, zinc, gold, tungsten, tin, nickel and cobalt:

219823: Yellow-brown stained slightly pyritic psammite with ragged flat west dipping quartz veins.

24: Soft green-brown schist outcrops in creek bed, massive, minor quartz-chlorite-sericite schist.

25: Soft goethite-limonite rock, crumbly texture, variegated, minor light coloured cherty layers.

26: Hematite (specularite) quartz rock, hard, minor voids possibly after sulphide.

27: Quartzite/ironstone, layered, brecciated appearance given by light and dark coloured quartz.

28: Ironstone, hard variety, as for 219826.

29: Thin quartz-magnetite veinlets with green micaceous or chloritic selvedge.

30: Narrow ironstone lode, gossanous magnetite rock.

31: Sericite-quartz schist, coarse grained, calcrete covered, pale brown weathered.

Samples of the ironstone lode are elevated in copper (200-630 p.p.m.) and slightly elevated in zinc and lead (>100 p.p.m.). (Refer Appendix I for assay results).

These ironstones also report detectable gold (up to .2 p.p.m.). They are obviously the source of the magnetic anomaly and no further work is required to define it, although additional sampling of the body is warranted to assess the gold potential.

4.2 Anomaly "N"

This anomaly is described as a 200 nT negative anomaly in an area of folding, with some cultural interference possible. Access to the central portion of the area was denied to CRA Exploration Pty. Limited, and no effective exploration is possible.

4.3 Anomaly "O" (Malabena)

Anomaly "O" is a broad, localised high of amplitude 30 nT, situated on a linear shorter wavelength anomaly. Ground magnetics data was acquired on traverses 200 metres apart over an area of 1.5 x 2 kilometres using a Scintrex MP-2 and GEM GSM-8 magnetometer (Plan No. SAa 1554). The data was reduced to the same datum as that of anomaly "M", and is presented in Plan Nos. SAa 1545, SAa 1563 and SAa 1572.

The broad airborne anomaly is represented on the ground as an equidimensional high of amplitude 60 nT and width of approximately one kilometre. Numerous linear anomalies of much shorter wavelength occur to the south and west, and a 150 nT high of intermediate wavelength on the southern edge of the grid is the northern edge of the linear airborne anomaly. Depth to the weakly magnetic source of the broad anomaly could vary from 100 to 400 metres, depending on whether a horizontal or vertical body were invoked.

The area is underlain by a sequence of poorly exposed schistose psammopelites, dark-grey to black shales and a quartzite sequence to the west (Plan No. SAa 1529). Bedding dips east, schistosity dips steeply west. Both strike approximately north-south. The siltstones are fine grained brown to red in colour. The black shale is well exposed in a creek along the southern boundary of the area mapped and on a series of bald topped hills in the north. It approximately coincides in the south with a broad magnetic anomaly presumably the linear anomaly referred to by Jones. This anomaly dies out although the black shale unit continues. The rocks to the east of the black shale are fairly distinctive laminated quartzites and their contact is defined by a ridge. The peak of Anomaly "O", as defined by the ground magnetics cannot be directly identified, but coincides with a wide zone of quartz vein float, some of which is magnetic. Susceptibility measurements throughout the area of the anomaly are uniformly low, of the order of 20 to 40 SI units x 10^{-5}. A few cobbles of ironstone float were observed in the creeks. Brown staining is characteristic of the black shale outcrops.

The following samples were collected and assayed for copper, lead, zinc, tungsten, gold, tin, nickel and cobalt:

219819: Dark brown/maroon, fine grained micaceous rock with limonite-goethite coated and enveloped fractures, float, resembles 219832.

20: Brown stained magnetite-bearing quartz vein float, possibly from near contact of black shale.

21,22: Dark grey shale with limonitic, slightly magnetic fractures and staining approximately parallel to schistosity.

32: Limonite-veined mid-brown weathered schist, possibly from Tertiary capping, float.

33: Brown stained, slightly limonitic, porous quartz.

35: As for 219833.

The geochemistry of the dark shales in the Anomaly "O" area is elevated in copper, lead, zinc, nickel and cobalt. Two samples 219819, 32 of ironstone float probably derived from the dark shale (which is the Mt. Karinya Shale and has been sampled by CRAE previously) assayed .51% zinc and .45% copper. The elevated nickel and cobalt values are characteristic of these rocks. The magnetic anomaly is not coincident with the black shale, although the linear anomaly to the south is closer. Hence the source of the broad magnetic anomaly is not clear, although the stratigraphy may dip shallowly to the east. The presence of the black shale probably precludes the effective use of electrical geophysics. No further geophysics apart from interpretation of the magnetic anomaly is warranted at this stage. Some further geochemical sampling might be warranted to clarify the source of the ironstones, which are initially identified in the field as probable fragments of Tertiary capping.

4.4 Cambrai Tungsten Prospect

More detailed mapping and drainage sampling was carried out by consultant D. Ransom on the Cambrai Tungsten Prospect. His report is attached as Appendix II.

pp Williams
for
G.J. BUBNER

GJB/pw

REFERENCES

Bubner, G.J. 16 April 82 First Quarterly Report for Mount Karinya E.L. 947, South Australia, For the Period Ending 10th March, 1982.

Jones, R.K. January 82 A Review of Aeromagnetic Data In The Kanmantoo Trough and Along The Western Margins of the Murray Basin. Unpublished CRAE Report No. 11368.

LOCATION

Adelaide SI 54-9 1:250 000 sheet

KEYWORDS

Copper, lead, zinc, tungsten, assays-geochem, Mount Karinya Shale, Ironstone, geophys-mag.

LIST OF ATTACHMENTS

Plan No.	Title	Scale
SAa 976	E.L. Application	1:250 000
SAa 1475	Aeromagnetic Contours Showing Location of Anomalies "M", "N" and "O"	1: 50 000
SAa 1529	Geology, assay results and magnetometer traverses Anomaly "O"	1: 10 000
SAa 1530	Geology, assay results and magnetometer traverses Anomaly "M"	1: 10 000
SAa 1544	Ground Magnetics Data - Anomaly "M" (Murray Creek)	1: 5 000
SAa 1545	Ground Magnetics Data - Anomaly "O" (Malabena)	1: 5 000
SAa 1553	Location Map - Anomaly "M" (Murray Creek)	1: 5 000
SAa 1554	Location Map - Anomaly "O" - (Malabena)	1: 5 000
SAa 1562	Ground Magnetics Profiles - Anomaly "M" (Murray Creek)	1: 5 000
SAa 1563	Ground Magnetics Profiles - Anomaly "O" (Malabena)	1: 5 000
SAa 1571	Ground Magnetics Contours - Anomaly "M" (Murray Creek)	1: 5 000

Plan No.	Title	Scale
SAa 1572	Ground Magnetics Contours - Anomaly "O" (Malabena)	1: 5 000
SAa 1800	Mt. Karinya E.L. 947 - Cambrai Scheelite Prospect, Geological Mapping	1: 25 000

LIST OF APPENDICES

Appendix I Assay Results
Appendix II Report on Cambrai Scheelite Prospect, memo to D.R. Kennedy from D.M. Ransom dated 9/7/82.

APPENDIX I

ASSAY RESULTS

The Australian
Mineral Development
Laboratories

lemington Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

Please address all
correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

GJ 026

3/1/6/0 - AC 6012/82

24th May 1982

amdel

NATA CERTIFICATE

PART REPORT 1

RECEIVED
26 MAY 1982

The Manager,
CRA Exploration Pty.Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067

REPORT AC 6012/82

YOUR REFERENCE: D.P.O. Number: B 0533

IDENTIFICATION: As listed

DATE RECEIVED: 12 May 1982

Dave Ransom
Mt Karinya:
anomalies M + N.

D.K. Rowley
Manager
Analytical Chemistry Division

D.L. Bourditch
for Norton Jackson
Managing Director

cc The Accountant,
CRA Exploration Pty.Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067

(Invoice)

219823 = 219831A

219831 = 219831B

le

Head Office:
Flemington Street, Frewville
South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
Osman Place
Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.
Telephone (09) 325 7311
Townsville
Queensland 4814
Telephone (077) 75 1377

This laboratory is registered by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of registration. This document shall not be reproduced except in full.

NOTE:

Two samples marked 219831 were received, now marked "A" and "B".

The samples 219823 and 219834 were listed but not received.

Samples 219836 and 219837 were received but not listed.

SAMPLE No. ~~2~~19831A = 219823

SAMPLE No. 219831B = 219831

amdel

Analysis code C1 Report AC 6012/82 Page 1

NATA Certificate Order B 05?? Results in ppm

Sample	Cu	Pb	Zn	Co	Ni
219819	160	120	5100	250	660
219820	2	35	55	5	20
219821	55	90	190	40	60
219822	16	110	530	40	60
219824	22	20	75	25	30
219825	520	120	140	50	55
219826	620	25	18	45	65
219827	50	25	55	50	40
219828	230	30	55	55	55
219829	4	20	28	30	45
219830	270	30	40	60	85
219831A	12	55	18	30	40
219831B	10	25	70	25	55
219832	4500	40	690	220	250
219833	60	10	22	10	10
219835	8	5	10	5	<5
Detn limit	(2)	(5)	(2)	(5)	(5)

SAMPLE No. 219831A = 219823

SAMPLE No. 219831B = 219831

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

FORM 38

REPORT AC 6012/82

ANALYSIS ppm

Sample N°		Sn	W.					
219819		8	<10					
219820		38	<10					
219821		<4	<10					
219822		12	<10					
219824		8	<10					
219825		12	15					
219826		4	<10					
219827		4	10					
219828		<4	<10					
219829		8	<10					
219830		4	<10					
219831A		6	<10	= 219823				
219831B		6	<10	= 219831				
219832		6	20					
219833		6	<10					
219835		16	<10					

METHOD B1/1.

The Australian
Mineral Development
Laboratories

mington Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

Please address all
correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

030

3/1/6/0 - AC 6012/82

28 May 1982

amdel

NATA CERTIFICATE

REPORT COMPLETE

The Manager,
CRA Exploration Pty.Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067

REPORT AC 6012/82

YOUR REFERENCE: D.P.O. Number: B 0533

IDENTIFICATION: As listed

DATE RECEIVED: 12 May 1982

D.K. Rowley
Manager
Analytical Chemistry Division

for Norton Jackson
Managing Director

cc The Accountant,
CRA Exploration Pty.Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067

(Invoice)

le

RECEIVED
2 JUN 1982

Head Office:
lemington Street, Frewville
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FORM 6 JOB 6012/82

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 1

TT	Sample No.	Au		
1	219819	<0.01		
2	820	<0.01		
3	821	<0.01		
4	822	<0.01		
5	824	<0.01	Code C3|3	
6	825	0.20		
7	826	<0.01		
8	827	<0.01		
9	STD			
10	828	0.10		
11	829	<0.01		
12	830	0.02		
13	831 A x	<0.01	=219823	
14	831 B	<0.01	=219831	
15	832	<0.01		
16	833	<0.01		
17	835	<0.01		
18				
19				
20	831 A x			

APPENDIX II

REPORT ON CAMBRAI SCHEELITE PROSPECT;

MEMO TO D.R. KENNEDY FROM D.M. RANSOM DATED 9/7/82

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)
Adelaide Office: 31 OSMOND TERRACE, NORWOOD 5067
Head Office: 55 COLLINS STREET, MELBOURNE 3001

P.O. BOX 254 Norwood
TELEPHONE: 42 8871
TELEGRAMS: "EXPLORECO"
TELEX: AA 88605

5th July, 1982

Memorandum to: D.R. KENNEDY

Copy to: G.J. BUBNER

Memorandum from: D.M. RANSOM

Re: SCHEELITE PROSPECT, CAMBRAI AREA

Following the Aquitaine work in the early 1970's and the drainage sampling by CRAE last year, I have spent about seven days mapping and sampling the Kanmantoo rocks in the hills immediately east of Cambrai. The 1973 and 1981 sampling shows that scheelite is to be found in creeks draining an area along the Milandella Fault escarpment extending from the area of the Kanappa Copper Mine to Boundary Creek, a distance of about 11 kilometres. The highest concentrations of scheelite occur about 2.5 kilometres to the north of the River Marne where values of 570 p.p.m. and 145 p.p.m. tungsten were found in two creeks. This particular area is represented on the Adelaide 1:250 000 sheet as underlain by Lower Cambrian rocks.

Eight creeks between the Kanappa Mine and Boundary Creek were traversed and mapped at 1:25 000 scale to obtain an appreciation of the regional geology. One of the two creeks with high tungsten values from the 1981 sampling programme was traversed at night with a UV lamp. An additional 17 drainage samples were collected in localities generally closer to the escarpment than previously in an attempt to define the anomalous area more clearly. The mapped geology and sample locations are shown on the accompanying plan.

Regional Geology

With the exception of the rocks designated Lower Cambrian, the area traversed is underlain by rock types typical of the Karinya Syncline, generally pelitic to psammitic metasediments, of the Strangway Hill Formation, the Milandella Limestone and minor intrusions of porphyritic mafic dykes, pegmatite and granite.

The Lower Cambrian is a sequence of psammopelitic schists, usually light grey and speckled with fine andalusite porphyroblasts, interlayered with "mafic" schists, usually on a mesoscopic scale, composed of a coarse grained quartz-feldspar-tremolite/actinolite-scapolite assemblage. This assemblage is more akin to a calc-silicate assemblage but is also very similar to outcrops of Truro volcanics, of lower metamorphic grade near Dutton and in addition to the beds of mafic mineralogy a suite of veins,

sub-parallel to bedding, carrying the same assemblage characterises this area. Chlorite is present, but may be a retrogressive phase.

To the west this sequence changes to a psammite/calc-silicate sequence. Thin (1-5m) beds of calc-silicate, (also Lower Cambrian on the Adelaide sheet) mainly tremolite/actinolite-diopside-quartz-(sulphide) assemblages lie within andalusite schists. The calc-silicate lenses can be traced for distances of over 1 000 metres. A thick calc-silicate unit 10 to 50 metres wide caps the ridge from which a number of the scheelite-bearing streams drain. To the west again there is a sequence of mainly psammitic rocks containing mappable calc-silicate lenses. These lenses are usually psammitic beds 10-20 metres in thickness with abundant thin beds (up to 10cm thick) and lenses (resembling a patchy alteration parallel to bedding in places) of calc-silicate. They also occur in the Marne Gorge near Bundilla Homestead, and in creeks between the River Marne and the Kanappa Mine, apparently stratigraphically below the Milandella Limestone.

The Milandella Limestone is a marble or calcite-tremolite/actinolite-diopside calc-silicate, usually 50 to 100 metres thick, complexly folded and abundantly developed in the Kanappa Mine area where it seems to form a large fold structure closing to the north. It is very little different from the calc-silicates except in its more abundant carbonate content. To the west of the Milandella Limestone are a sequence of monotonous psammitic and psammopelitic rocks which occupy the core of the Karinya Syncline.

Stratigraphy and structure are complicated by more intense folding and high grade metamorphics in the vicinity of the Kanappa Mine. A very detailed lithological map by Mills (1964) places a series of thrusts between the sequence along the escarpment and the hinge of the Karinya Syncline. The curved outcrop of the Lower Cambrian depicted in the Adelaide 1:250 000 sheet is truncated by one of these structures at its northern end, and a coincident flat lying structure has been mapped by the writer. Unfortunately Mills (1964) does not describe the apparent fold closure north of the Kanappa Mine in any detail, but combining Mills mapping and my own, the structure is essentially one of a west dipping upright fold limb with a stratigraphy as follows:

Psammites (uppermost)
Milandella Limestone sequence (perhaps more than one lens, interlayered with psammites, psammopelites)
Psammites with calc-silicate-rich beds
Psammopelite/calc-silicate, interlayered
Interbedded psammopelites and rocks of predominantly mafic mineralogy (lowermost)

Mills' map shows that in the area of the elevated scheelite in drainage samples the lowermost three units are uniquely developed in the southern portion of the Karinya Syncline, being thicker than their equivalents elsewhere, both to the south of the River Marne and on the western limb.

Mineralisation

The Aquitaine reports describe scheelite in garnetiferous calc-silicates in outcrop near the Kanappa Mine itself. The calc-silicates in the creek north of Kanappa contain garnet. Garnet is abundantly developed in the wall rocks of the copper mineralisation. These are the only garnetiferous calc-silicates observed by the writer, but Aquitaine describes an unmineralised garnetiferous rock to the south of Kanappa Mine. Aquitaine describes scheelite-bearing boulders near the junction of the River Marne and River Somme. It was concluded by that Company that the high percentage of creeks carrying scheelite indicated that the "skarn rock of the Milandella Limestone is regularly mineralised with a very low grade average....." and that scheelite concentrations of suitable grade would occur only in "an appropriate tectonic trap."

The limited time I spent prospecting at night did not find the source of the scheelite occurring in high concentration 2.5 kilometres north of the River Marne. The geography of the creeks in which the high concentrations were found indicates that the source may lie in any of the lower three rock units defined above. It is clearly within Milandella Limestone at Kanappa but more likely derived from the rocks below the Milandella Limestone (Lower Cambrian) north of the River Marne and again from the Milandella Limestone near Boundary Creek (as shown by semi-quantitative panning data of Aquitaine). The scheelite-bearing boulders at the Somme/Marne junction also probably derived from the Milandella Limestone on the western limb of the Karinya Syncline. The mapping of Mills also outlines a number of very large zones of alteration, related to the thrust structures.

Drainage Sampling

Since calc-silicates are abundant throughout the area mapped and locating the source in such a large area by UV prospecting is impractical, the further drainage samples were collected, using the -10+20# fraction employed in 1981. The ledger is attached.

The results are plotted on the map attached.

The following observations can be made:

*There is a lack of consistency between results from the 1981 and 1982 sampling. For example values in the two high tungsten creeks from 1981 are lower in the 1982 samples, from locations less than 200 metres upstream. However, these results are elevated (>50 p.p.m.) above background (about 10 p.p.m. or less).

*Sieved samples in the creek south of boundary creek are low in tungsten (≤10 p.p.m.) whereas abundant scheelite was found in panned concentrates by Aquitaine in the same location.

*Elevated (>50 p.p.m.) tungsten values were found in creeks draining east in the area of the escarpment between the River Marne and a creek

about three kilometres north, coinciding fairly closely with the Lower Cambrian outcrop.

A further elevated tungsten value also occurs in a west draining creek rising from the ridge of the thickest calc-silicate unit was described above.

Interpretation

The lack of consistency in sampling may result from variable trap site morphology, but is also possibly a product of scheelite grainsize, the fraction used being relatively coarse and more appropriate for search for Mt. Torrens-type base metal targets. Scheelite is noted for its tendency to break up and presumably will become finer with distance of transport. The Aquitaine panned scheelite concentrates varied in grain-size from very fine to 2mm.

Also it appears that scheelite occurs in both the Milandella Limestone and the calc-silicate/psammite sequence stratigraphically below. It appears to be concentrated in the Lower Cambrian stratigraphy, and considering the coarse fraction of the sample, has probably not been transported any great distance to the sample points.

Further Exploration

A further attempt to locate the scheelite in outcrop is necessary. This will require further prospecting of the creeks with elevated tungsten values at night with the UV lamp.

The conclusion that the Lower Cambrian seems to be the host rocks to the scheelite in the Cambrai area may imply further potential in the region at large. Some further sampling of prominent carbonate/calc-silicate sequences in the Lower Cambrian may be warranted. Also some attention might be directed at prospecting other marbles in the Kanmantoo Group, e.g. the Tungkillo Marble.

for D. RANSOM

D.M. RANSOM

DM/pw

REFERENCE

Mills, K.J. (1964) "The structural petrology of an area east of Springton, South Australia"
University of Adelaide Ph.D. Thesis (unpublished)

C.R.A. EXPLORATION PTY. LIMITED

Page: 1

Tenement: MT. KARINYA (W of CAMBRAI)

GEOCHEMICAL DRAINAGE SAMPLING LEDGER

D.P.O. N°:

Area / Prospect: EL 947

Sample Nos.:

Geologist: DMR Date: 26/5/82

Plan / Photo Ref.:

Mesh Size: -10 + 20

Analysed by:

Sample Number	H.M. Trap/ Random	Channel						Sediment					pH	Metal Content in p.p.m.								Geological Observations
		Wet/Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %										
219847								75%	25													
48								50	40	←	10	→										
49								"	"		"											
50								"	"		"											
52								40	40		"											
53								30	30	20	10	10										
54								"	"	"	"	"										
55								30	50	10	"											
56								70	20	10												
57								40	20	20	10	10										
58								30	20	40	10	—										
59								60	10	20	5	5										
60								60	20	10	10											
61								30	10	30	30	5										
62								20	60	10	5	5										
63								20	60	10	10	—										
64								20	70	5	5	—										
65								20	50	20	5	5										
66								10	60	20	5	5										
67								20	50	10	10	10										
68								30	10	30	20	10										

C.R.A. EXPLORATION PTY. LIMITED

Page: 2

Tenement: .....

Area / Prospect: .....

Plan / Photo Ref.: .....

GEOCHEMICAL DRAINAGE SAMPLING LEDGER

Sample Nos.: .....

Mesh Size: .....

D.P.O. N°: .....

Geologist: ..... Date: 27/5/82

Analysed by: .....

Sample Number	H.M. Trap / Random	Channel						Sediment					pH	Metal Content in p.p.m.								Geological Observations
		Wet / Dry	Width	Banks	Grad.	Alluv.	Colluv.	Grav %	Sand %	Silt %	Mud %	Org %										
219869								30	10	30	20	10										
70																						Galena bearing rock samples taken from C.W.
71																						
72								40	10	30	10	10										
73								"	"	"	"	"										

139°00'
139°05'
139°15'
139°30'
34°05'
34°15'
34°30'
34°35'
34°38'
34°45'
138°55'
139°08'
139°10'

ROSEWORTH - MORGAN RAILWAY

EUDUNDA

SCHNEIDERS GOSSAN AREA

STURT HIGHWAY

TO BLANCHTOWN

TRURO

NURIOOTPA

▲ MT. KARINYA

ANGASTON

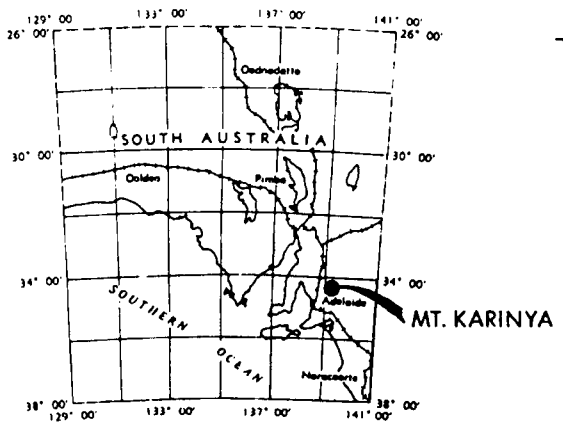
TANUNDA

MT. KARINYA
(1150 Km. Sq.)

MT. RHINE MINE AREA

CAMBRAI

LOCALITY



5 0 5 10 15 20 25 Kilometres

4596(I)-3

C R A EXPLORATION PTY. LIMITED

MT. KARINYA E.L. 947 — S. AUST.
LOCALITY PLAN

REF. : ADELAIDE SI 54-9	
SCALE : 1:250 000	DRAWN : J.C.R.
GEOL : P.L.	REPORT N° : 12977
DATE : Sept. 1984	PLAN N° : SAa 976

332000mE 335 338 341

139°10' 139°15'

6169 6166 6163 34°40' 6160 6157 6154000mN 34°45'

■ "KEYNOONA PARK"

■ "KAPPALUNTA"

■ "BUNDILLA"

■ "PINE CREST"

■ "GRAVALE"

■ "GLEN ROY STUD"

CAMBRAI

Kanappa Mine

MT RHINE MINE

PINE HUT ROAD

PINE HUT CREEK

JOMME

BOUNDARY CREEK

RIVER

WISHART GULLY

MARNE RIVER

TROUGH GULLY

KANAPPA CREEK

SAUNDERS CREEK

N

LEGEND

qt Quartzite
M Marble
Cs Calc-silicate
pe Pelite
ps Psammite
pm Psammopelite
A Amphibolite
se Psammite > Pelite
es Pelite > Psammite
cgt Conglomerate

a Andalusite
d Diopside
pyr Pyrite
po Pyrrhotite
e Epidote
b Biotite
f Feldspar

x 219855 Drainage samples -10+20 #, 1982
945068 Drainage samples -10+20 #, 1981
+949985 Sample sites (rock chip)

F Fault
Dip of bedding
Dip of schistosity
Plunge of lineation
FA Plunge of fold axis

Boundary of Mt. Karinya E.L. 947
Road
Track

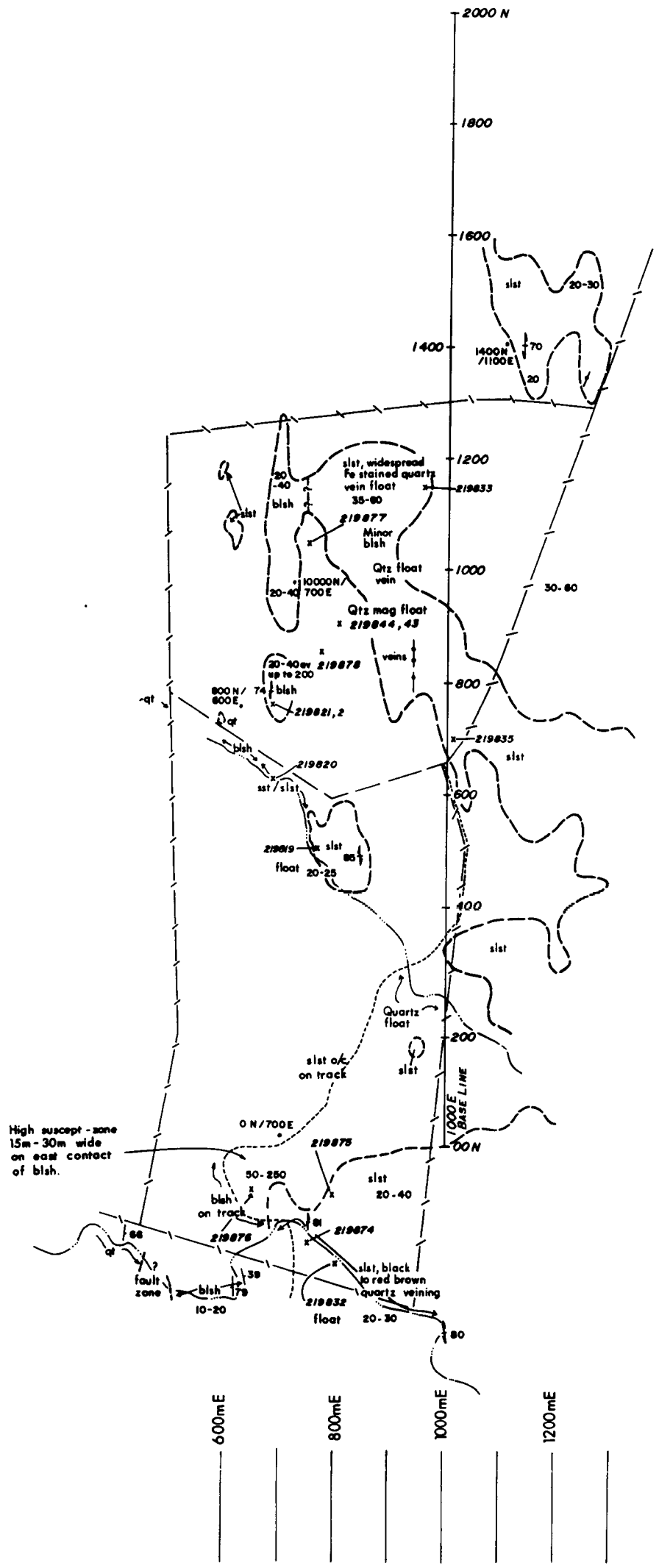
SCALE
Km 0 1 2 3 Km

4596(1)-4

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947
CAMBRAI SCHEELITE PROSPECT
GEOLOGICAL MAPPING

Ref.	ADELAIDE SI54-9		
Author	D. Ransom/P.Lewis	Scale	1:25000
Drawn	D.D., S.J.B.	Report No.	12637
Date	Feb. 1984	Plan No.	SAg 1800



	Cu	Pb	Zn	Au	Co	Ni	W	Sn	Ag
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219820	2	25	55	"	5	20	"	38	< 1
219821	55	90	190	"	40	60	"	< 4	1
219822	16	110	530	"	40	60	"	12	"
219832	4500	40	690	"	220	250	20	6	< 1
219833	60	10	22	"	10	10	< 10	6	"
219835	8	5	10	"	5	<5	"	16	"
219844	46	360	100	0·04	25	55	<10	8	"
219845	"	95	390	"	80	260	"	4	"
219874	44	50	20	0·06	10	15	"	8	"
219875	20	10	75	0·01	15	45	10	<4	"
219876	190	120	1400	0·04	80	190	< 10	"	1
219877	85	130	760	0·08	65	150	10	4	< 1
219878	90	280	1200	0·03	50	190	15	10	"

Geochemical Values in p.p.m.

LEGEND

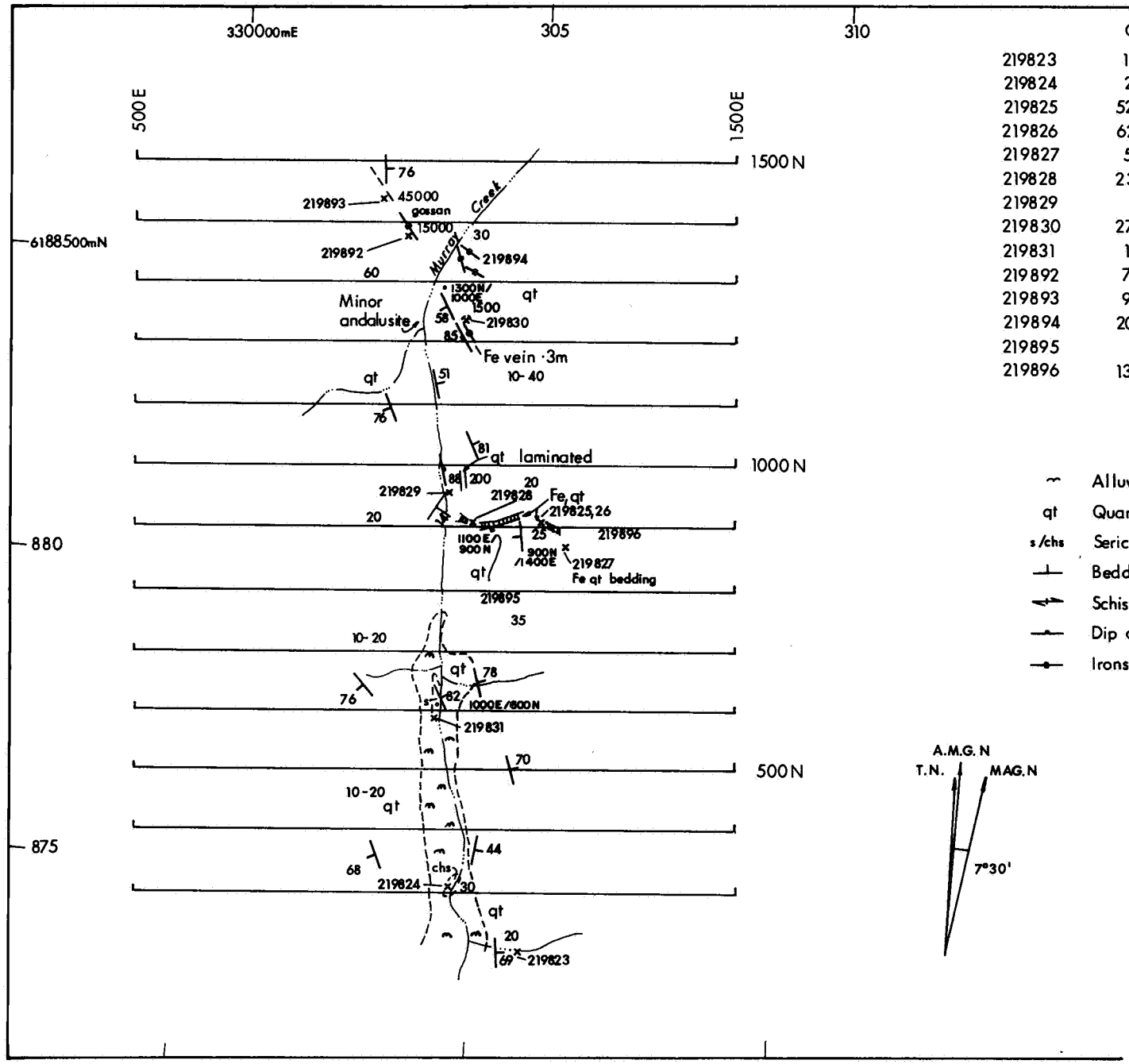
- slst — Siltstone, schistose
- blsh — Black, dark grey shale
- qt — Quartzite
- Bedding
- Schistosity
- Quartz veins
- • 1000N/700E — Grid peg locations
- 250 — Susceptibility measurements
- Outcrop boundries
- x 219832 — Sample locations
- Fences

4596(1)-5

CRA EXPLORATION PTY. LIMITED

MT. KARINYA E.L.947
KANMANTOO TROUGH
GEOLOGY, ASSAY RESULTS AND MAGNETOMETER TRAVERSES
ANOMALY O

Ref. : ADELAIDE SI54-9	
Geol. : D. Ransom	Drawn J.C.R.
Scale : 1:10000	Report No. 11256
Date : MAY 1982	Plan No. : SAa 1529



	Cu	Pb	Zn	Au	Co	Ni	W	Sn	Ag
219823	12	55	18	<005	30	40	12	<10	<1
219824	22	20	75	"	25	30	8	11	"
219825	520	120	140	<0·02	50	65	12	15	1
219826	620	25	18	<0·05	45	65	4	<10	<1
219827	50	25	55	"	50	40	4	10	"
219828	230	30	"	"	55	55	<4	<10	1
219829	4	"	28	"	30	45	8	"	<1
219830	270	"	48	<0·02	60	85	4	"	"
219831	10	25	70	<0·05	25	55	6	"	"
219892	70	"	42	0·09	"	70	15	6	"
219893	95	10	30	"	25	65	<10	4	"
219894	200	"	60	0·10	50	60	"	<4	"
219895									
219896	130	<5	48	0·08	25	65	"	14	"

Geochemical Values in p.p.m.

~	Alluvium		Magnetic veins
qt	Quartzite, psammite	219823	Sample location
s/chs	Sericite, chlorite schist	700E/1000N	Grid peg location
⊥	Bedding	35	Susceptibility measurement
⇌	Schistosity		Outcrop boundaries
	Dip of magnetite veins		
	Ironstone, veins		

SCALE

0 200 400 600 METRES

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947
KANMANTOO TROUGH
GEOLOGY, ASSAY RESULTS AND MAGNETOMETER TRAVERSE
ANOMALY "M"

Ref. ADELAIDE SI54-9	
Scale 1:10000	
Author D. Ransom	Report No. 11256
Date May 1982	Plan No. SAa 1530

253	248	248	247	202	222	272	257	248	289	300	289	282	281	290	355	357
255	255	235	245	203	198	266	259	250	294	304	284	284	266	284	352	368
251	254	225	263	201	193	265	268	258	286	306	267	276	273	283	344	401
243	248	219	285	198	191	270	272	275	288	313	307	269	276	282	338	418
237	228	219	242	199	192	257	268	284	301	320	314	293	278	277	328	438
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245	231	217	219	194	291	269	254	280	318	331	322	303	278	274	298	436
240	233	233	213	192	206	267	255	258	328	337	322	305	285	278	288	422
238	228	220	208	192	210	269	258	276	336	343	323	306	286	278	273	374
228	215	212	208	192	214	283	263	282	344	349	325	308	285	278	259	348
226	218	213	208	188	211	322	265	301	352	361	326	307	285	273	255	324
224	209	211	203	182	206	363	268	316	356	370	328	308	286	269	253	305
222	209	216	194	180	206	344	277	323	358	386	333	314	291	262	250	288
221	208	223	191	178	213	291	285	319	350	374	338	322	297	250	251	281
219	206	221	193	169	223	256	272	312	353	382	344	325	308	253	256	283
218	204	220	192	166	232	246	263	312	352	368	348	324	302	268	265	277
218	203	200	190	170	254	260	282	314	351	354	351	324	304	277	284	270
217	204	187	188	172	263	269	286	317	353	354	351	327	305	278	247	271
218	204	191	185	170	283	274	278	319	357	358	353	331	307	262	236	270
217	201	193	188	171	259	276	284	323	364	363	356	337	311	285	243	270
217	198	193	182	175	241	276	290	328	371	368	359	344	315	290	251	271
216	202	190	198	180	235	276	301	335	374	372	361	346	328	290	260	284
215	204	197	188	185	234	283	311	342	374	375	365	358	324	301	267	281
218	201	195	181	186	235	290	328	349	378	378	371	365	326	309	285	284
208	194	190	173	185	237	292	334	353	382	383	373	368	333	298	281	284
208	190	184	166	187	237	291	348	348	388	388	372	354	344	300	259	283
206	189	181	158	189	237	293	351	344	397	385	378	351	346	299	282	288
204	188	183	156	186	240	297	357	363	405	401	387	366	338	288	266	287
203	187	184	175	182	240	304	373	382	413	408	400	381	332	303	270	278
202	180	178	180	178	241	311	388	409	425	416	408	388	326	310	269	301
199	172	167	169	172	244	322	397	438	443	429	417	374	324	316	283	308
194	169	164	143	167	247	336	410	455	460	424	427	384	328	313	287	305
190	168	161	142	164	252	349	438	478	468	433	450	397	326	305	276	311
192	167	155	144	158	260	365	464	516	471	445	474	402	322	302	284	314
192	165	148	141	152	268	364	479	519	472	454	481	400	322	307	279	308
188	162	148	138	148	268	401	498	496	472	464	478	388	324	308	276	308
184	160	147	140	147	268	422	527	480	474	481	488	401	327	302	277	309
184	158	151	140	147	267	454	557	498	478	484	492	409	332	294	276	305
185	157	149	138	149	266	492	586	517	497	488	516	402	334	281	272	300
184	157	145	137	153	267	539	631	538	518	476	548	403	334	283	272	293
187	154	139	136	158	268	596	695	554	588	487	602	406	333	284	276	294
189	150	133	133	162	268	662	777	573	594	493	666	419	333	287	278	300
188	147	127	131	165	264	760	882	601	527	492	748	418	339	288	281	310
172	142	116	130	169	273	887	986	638	590	458	884	437	346	301	278	318
179	138	102	128	177	281	1058	1089	712	548	416	1006	483	344	303	282	301
167	132	93	135	190	258	1128	1278	883	583	384	1227	539	340	302	249	288
165	139	88	158	272	254	1138	1791	848	625	414	1515	565	335	306	251	296
164	162	111	178	441	277	1268	2595	838	683	482	1467	539	331	308	260	299
163	198	121	188	662	294	1597	3255	801	693	508	1085	447	328	303	278	298
155	287	128	283	926	736	2135	3439	788	725	612	788	384	328	301	288	288
144	178	129	466	1058	1202	2876	3044	784	763	615	621	358	336	303	271	281
136	165	123	588	972	893	3601	2474	785	795	683	599	342	331	310	271	282
157	177	119	599	783	616	4081	2093	761	816	583	466	329	316	323	299	278
207	159	122	537	578	648	4281	1789	723	768	549	423	311	318	343	313	288
241	123	121	480	438	582	4272	1531	661	673	583	388	298	311	365	308	288
253	121	125	445	358	466	5504	1348	642	592	454	378	382	305	361	293	287
248	137	132	381	302	398	6462	1220	609	536	434	383	386	303	386	279	289
217	142	133	398	258	340	6892	1128	561	508	483	358	295	315	382	281	281
197	145	134	257	228	305	5998	1066	556	478	376	348	292	313	352	291	281
192	147	136	221	208	282	4086	1016	533	475	358	337	304	293	282	291	281
189	148	142	182	189	287	3218	953	507	487	345	322	308	279	218	279	251
184	147	145	173	158	285	2935	894	481	448	331	311	278	268	208	281	251
178	145	144	161	158	278	1759	862	450	414	314	307	259	248	220	248	243
167	142	141	153	134	267	1503	812	435	401	316	320	264	258	238	242	248
154	142	139	148	122	255	1337	762	423	387	337	309	264	293	253	240	251
146	147	139	139	115	244	1147	687	407	378	346	288	289	312	255	238	258
156	158	139	132	107	231	1076	608	394	374	317	288	258	302	257	238	254
154	154	138	133	101	216	1143	581	384	364	295	278	258	286	255	243	245
156	145	137	133	104	209	1250	569	367	356	283	271	265	281	253	249	243
153	147	138	133	107	212	1338	552	368	351	282	273	284	284	255	247	248
161	153	142	133	109	212	1314	511	344	343	282	268	280	274	256	244	255
177	153	147	134	118	208	1160	475	325	330	288	278	268	248	252	246	277
181	152	151	138	113	207	966	488	324	322	303	273	278	242	253	266	295
175	152	151	141	120	208	787	468	330	325	301	287	262	254	260	290	288
175	155	149	142	125	205	637	447	316	325	295	284	258	263	276	289	271
179	155	158	143	132	211	528	403	298	328	284	285	272	270	308	284	284
183	168	162	147	148	222	458	381	288	335	274	288	279	278	336	298	282
186	160	163	152	162	230	408	363	285	330	273	278	282	283	319	312	258
184	161	155	157	171	244	378	345	285	316	273	278	278	285	278	289	248
173	163	158	160	179	240	352	330	278	305	287	288	269	293	258	281	237
164	163	162	162	182	240	336	319	269	304	264	281	254	288	250	239	237
165	162	163	163	185	239	316	313	286	300	284	288	244	289	246	240	227
171	165	165	163	190	238	294	312	270	293	282	288	243	254	244	248	203
177	164	166	163	192	235	275	309	260	284	284	288	247	249	239	254	199
187	166	166	165	189	234	261	302	248	269	267	248	256	246	231	254	211
202	171	167	166	187	230	254	294	253	281	284	245	258	244	222	246	220
205	169	168	169	187	224	246	283	269	285	258	252	251	243	220	248	224
193	169	165	172	187	215	241	281	257	299	254	258	245	242	239	260	224
182	172	165	173	187	212	236	292	254	268	249	251	237	242	268	260	224
188	173	171	172	187	208	232	296	254	282	245	247	219	242	283	251	228
180	174	172	171	184	205	232	298	252	282	246	246	202	242	281	238	233
180	174	173	165	180	208	231	287	249	282	247	243	217	248	274	229	235
181	178	175	155	178	207	227	287	245	278	239	241	238	238	283	234	235
183	177	174	161	178	201	221	285	238	269	235	241	234	238	248	244	236
183	179	174	178	179	196	217	279	235	264	243	240	233	235	240	236	237
182	182	177	188	182	194	216	269	237	272	247	248	236	233	239	219	236

GRID : 100 x 10 METRES

LINE ORIENTATION : 85 DEGREES AMG

MAGNETOMETERS : SCINTREX MP-2; GEM GSM-8

SENSITIVITY : +/- 1.0 nT

BASE VALUE : 59000 nT

FILTERS : 1) 50 nT SPIKE FILTER
2) 3 POINT AVERAGING
WEIGHTED .25-.5-.25

SURVEY DATE : APRIL, MAY 1982

4396(1)-6

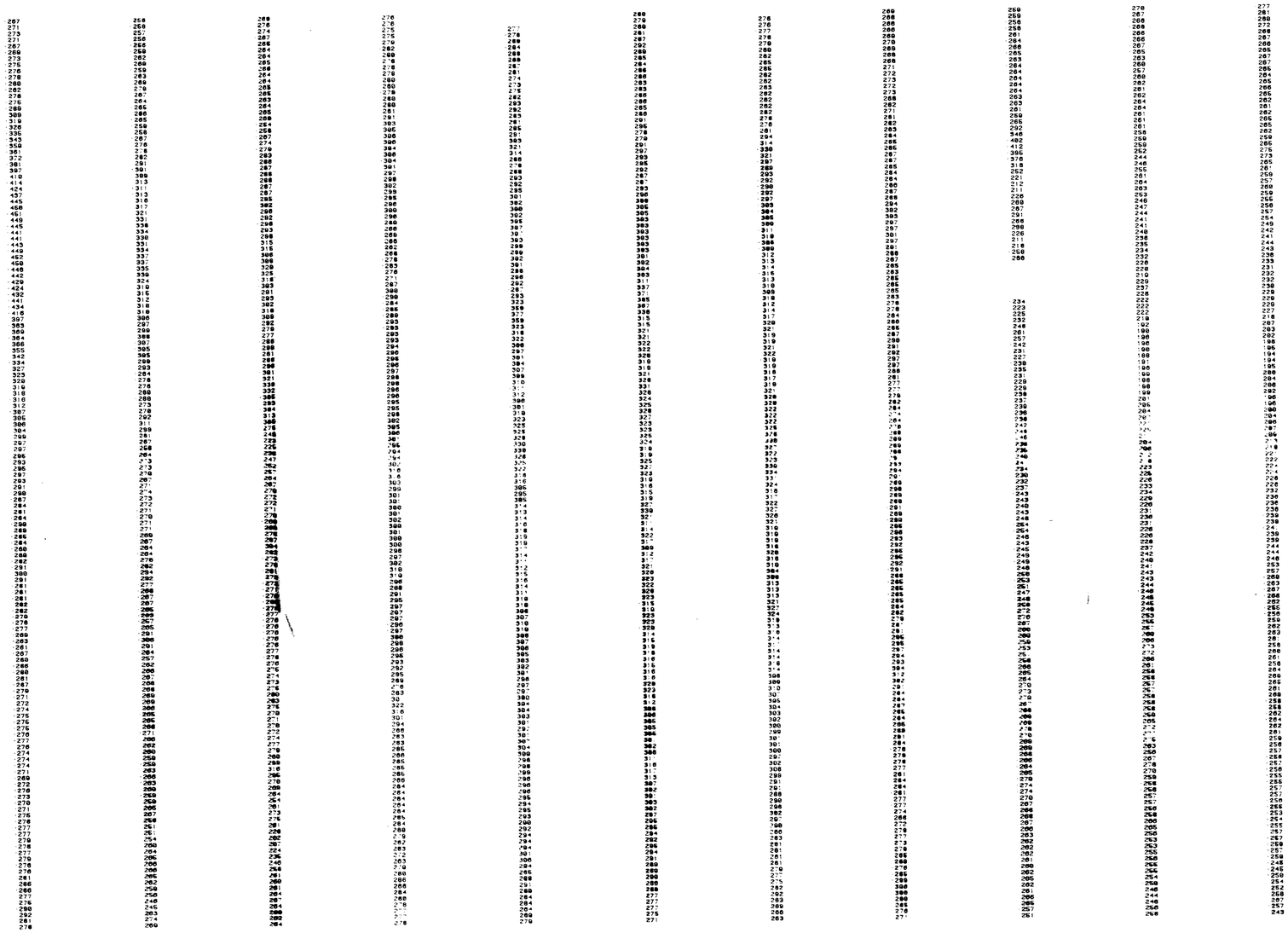
CRA EXPLORATION PTY LIMITED

MOUNT KARINYA E.L.947

GROUND MAGNETICS DATA

ANOMALY "M" (MURRAY CREEK)

REF. ADELAIDE SI 54-9	
SCALE 1:5000	
AUTHOR G.J.B.	REPORT 11256
DATE JUNE 1982	PLAN No. SAa 1544



GRID : 200 x 10 METRES.
LINE ORIENTATION : 91 DEGREES AMG
MAGNETOMETERS : SCINTREX MP-2, GEM GSM-8
SENSITIVITY : +/- 1.0 nT
BASE VALUE : 59000 nT
FILTERS : 1) 50 nT SPIKE FILTER
2) 3 POINT AVERAGING WEIGHTED .25-.5-.25

SURVEY DATE : APRIL 1982

4596(1)-7

CRA EXPLORATION PTY LIMITED

MOUNT KARINYA E.L.947

GROUND MAGNETICS DATA

ANOMALY "O" (MALABENA)

REF. ADELAIDE SI 54-9	
SCALE 1:5000	
AUTHOR G.J.B.	REPORT 11256
DATE JUNE 1982	PLAN No SAg 1545

6189500mN
329500mE
330000mE
330500mE
331000mE
139°09'
34°26'
6189000mN
6188500mN
6188000mN
6187500mN
6187000mN

1900mN
1800mN
1700mN
1600mN
1500mN
1400mN
1300mN
1200mN
1100mN
1000mN
900mN
800mN
700mN
600mN
500mN
400mN
300mN

MURRAY CREEK

A.M.G. N
GRID N
T.N.
MAG. N
7°30'

LEGEND

Magnetometer Traverse

Fence

SCALE

METRES 0 100 200 300 400 500 METRES

4596(1)-8

CRA EXPLORATION PTY. LIMITED

MOUNT KARINYA E.L. 947

LOCATION MAP

ANOMALY "M" (MURRAY CREEK)

Ref. ADELAIDE SI 54-9	
Author G.J.B.	Scale 1:5000
Drawn D. D.	Report No. 11256
Date JUNE 1982	Plan No. SAa 1553

331500mE
332000mE
332500mE
333000mE
139°11'
6198000mN
300mN
1000mE
1800mE
2000mN
1800mN
1600mN
1400mN
1200mN
1000mN
800mN
600mN
400mN
200mN
00mN
34°21'
6197500mN
6197000mN
6196500mN
6196000mN
6195500mN

A.M.G.N
GRID N.
T.N.
MAG N
7°35'

LEGEND

- Magnetometer Traverse
- Fence
- Track
- Drainage
- Dam

SCALE

METRES 0 100 200 300 400 500 METRES

4596(1)-9

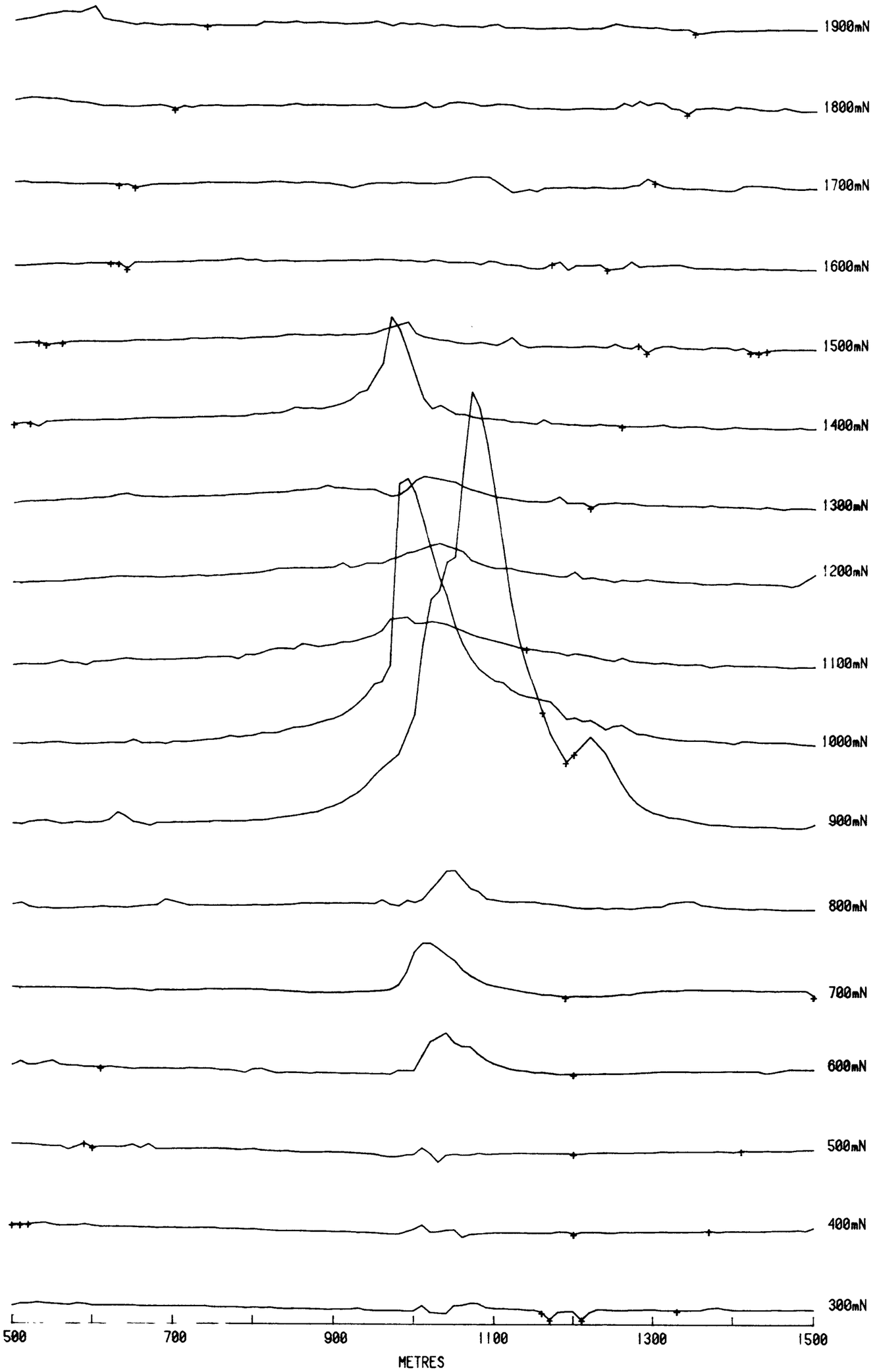
CRA EXPLORATION PTY LIMITED

MOUNT KARINYA E.L. 947

LOCATION MAP

ANOMALY "O" (MALABENA)

Ref.	ADELAIDE SI 54-9		
Scale	1:5000	Drawn	D.D.
Author	G. J. B	Report No.	11256
Date	JUNE 1982	Plan No.	SAa 1554

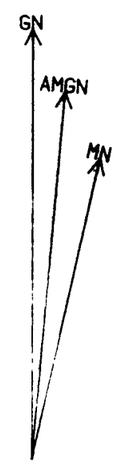


GRID : 100 x 10 METRES
LINE ORIENTATION : 85 DEGREES AMG
MAGNETOMETERS : SCINTREX MP-2; GEM GSM-8
SENSITIVITY : +/- 1.0 nT
BASE VALUE : 59000 nT
FILTER : 100 nT SPIKE FILTER

SURVEY DATE : APRIL, MAY 1982

VERTICAL SCALE : 500 nT/CM

+ : FENCES, ETC



CRA EXPLORATION PTY LIMITED

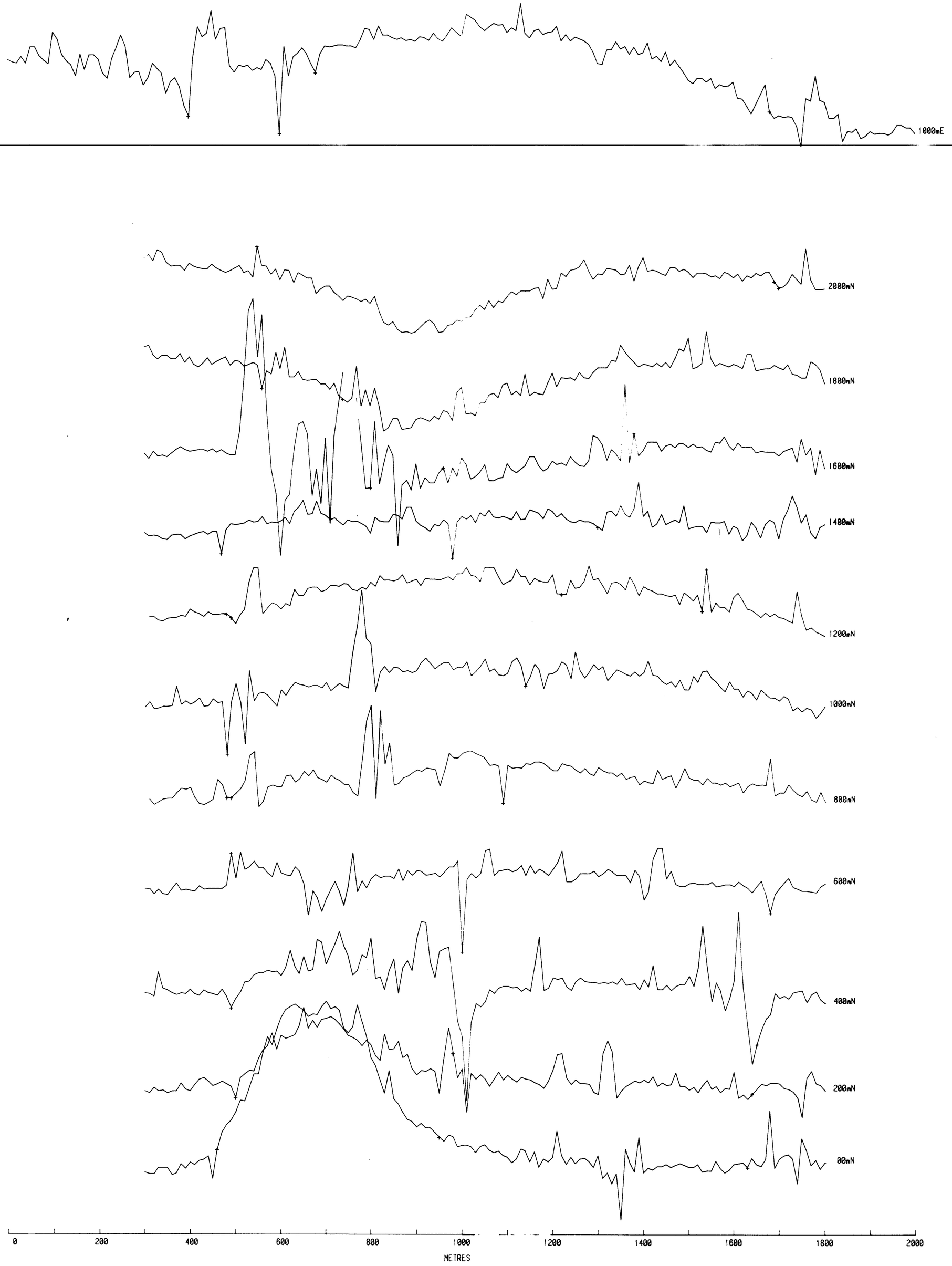
MOUNT KARINYA E.L.947

GROUND MAGNETICS PROFILES

ANOMALY "M" (MURRAY CREEK)

REF. ADELAIDE SI 54-9	
SCALE 1:5000	
AUTHOR G.J.B.	REPORT 11256
DATE JUNE 1982	PLAN No SAg 1562

4596 (1)-10



GRID : 200 x 10 METRES
LINE ORIENTATION : 91 DEGREES AMG
MAGNETOMETERS : SCINTREX MP-2, GEM GSM-8
SENSITIVITY : +/- 1.0 nT
BASE VALUE : 59000 nT
FILTER : 100 nT SPIKE FILTER

SURVEY DATE : APRIL 1982

VERTICAL SCALE : 25 nT/CM

\+ FENCES, ETC.

4596(1)-11

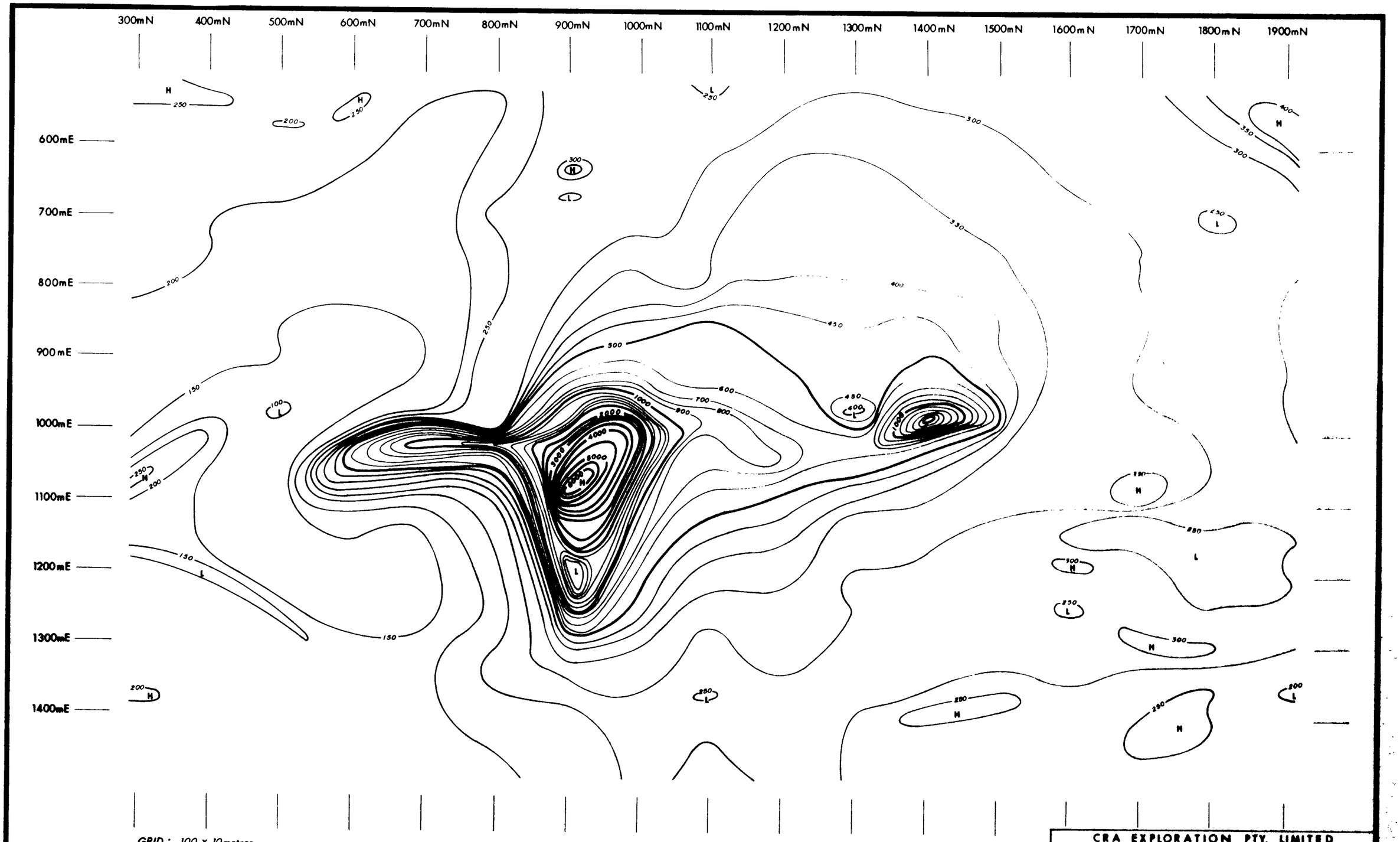
CRA EXPLORATION PTY LIMITED

MOUNT KARINYA E.L.947

GROUND MAGNETICS PROFILES

ANOMALY "O" (MALABENA)

REF. ADELAIDE SI 54-9	
SCALE 1:5000	
AUTHOR G.J.B.	REPORT 11256
DATE JUNE 1982	PLAN No SAg 1563



GRID : 100 × 10metres
MAGNETOMETERS : SCINTREX MP-2,GEM GSM-8
SENSITIVITY : +/- 1·0nT
BASE VALUE : 59000nT
FILTERS : 1) 50nT 'SPIKE' FILTER
2) THREE POINT AVERAGING
WEIGHTED ·25 - ·5 - ·25

CONTOUR INTERVAL : 50nT
50nT contours
500nT contours

SCALE

METRES 100 50 0 250 METRES

AMG N
MAG N

For location refer Plan No. SAa 1553
For data refer Plan No. SAa 1544

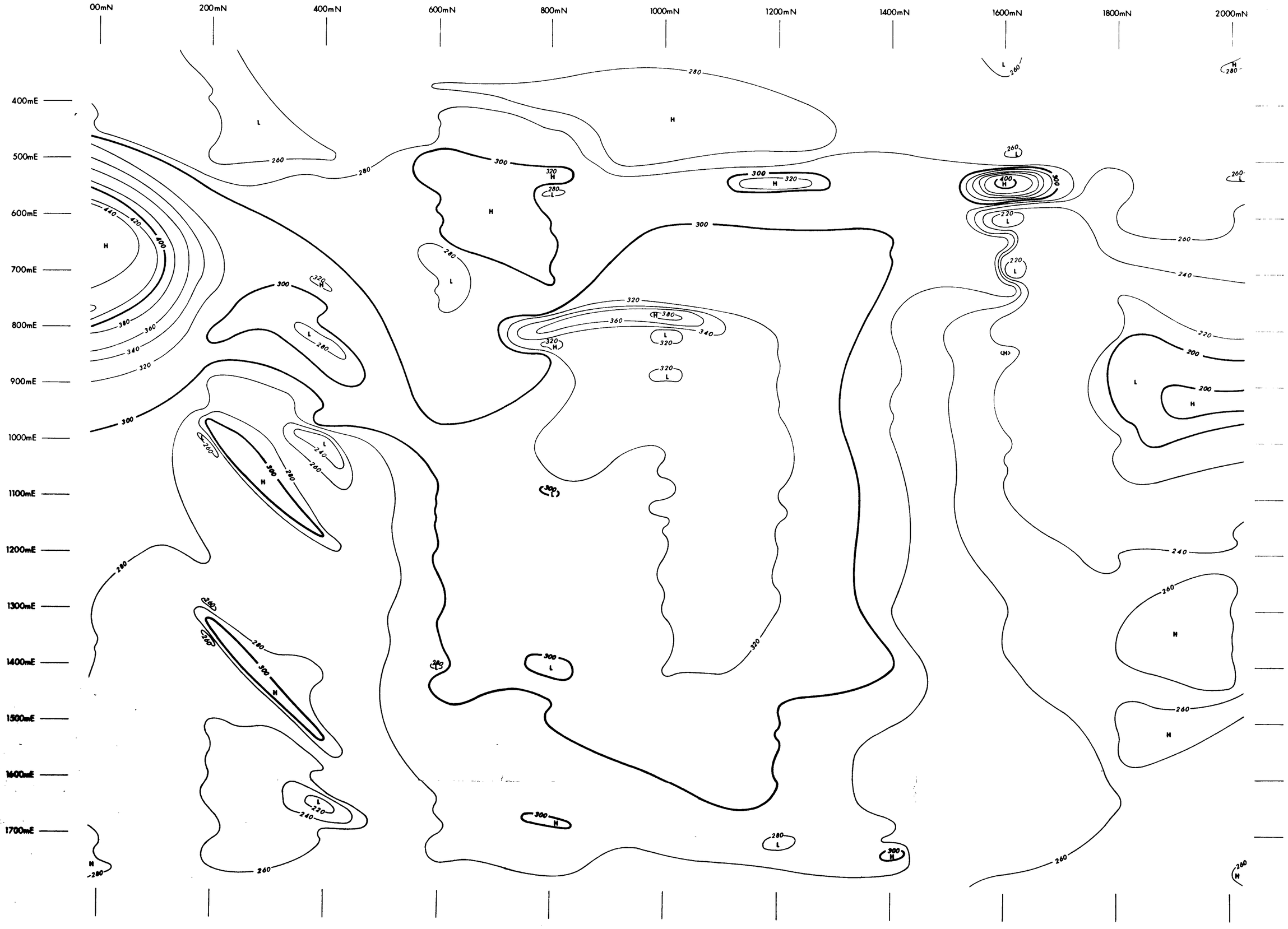
CRA EXPLORATION PTY. LIMITED

MOUNT KARINYA E.L. 947

GROUND MAGNETICS CONTOURS
ANOMALY "M"
(MURRAY CREEK)

Ref: ADELAIDE SI54-9	
Author: G.J.B.	Scale: 1:5,000
Drawn: S.J.B.	Report No: 11256
Date: JUNE 1982	Plan No: SAa 1571

4596(1)-12.



GRID : 200 × 10 metres

MAGNETOMETERS : SCINTREX MP-2 ; GEM GSM-8

SENSITIVITY : +/- 1·0nT

BASE VALUE : 59000nT

FILTERS : 1) 50nT 'SPIKE' FILTER

2) THREE POINT AVERAGING

WEIGHTED · 25-·5-·25

CONTOUR INTERVAL : 20nT

7°35' AMG. N — MAG. N

SCALE

METRES 400 200 0 1 2 KILOMETRES

For location refer Plan No. SAa 1554

For data refer Plan No. SAa 1545

CRA EXPLORATION PTY. LIMITED

MOUNT KARINYA E.L. 947

GROUND MAGNETICS CONTOURS

ANOMALY "O"

(MALABENA)

Ref: ADELAIDE SI54-9	
Author: G.J.B.	**Scale:** 1: 5,000
Drawn: S J B	**Report No:** 11256
Date: JUNE 1982	**Plan No:** SAa 1572

4596(1)-13

I

041

CRA EXPLORATION PTY. LIMITED

THIRD QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH SEPTEMBER, 1982

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AUTHOR: G.J. BUBNER

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S.A.D.M.E.

DATE: 8TH OCTOBER, 1982

SUBMITTED BY:

ACCEPTED BY:

11256

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1. SUMMARY & CONCLUSIONS

Resampling of aeromagnetic anomalies "M" and "O" confirmed previous weakly anomalous values, and no further work is warranted at present.

Investigations at Schneider's Gossan revealed work by previous explorers had not adequately tested the ironstone, which assayed 2700 p.p.m. copper, 4100 p.p.m. lead, 4300 p.p.m. zinc, 3800 p.p.m. manganese, 15 p.p.m. silver and 1.9 p.p.m. gold for a composite chip sample. It is associated with altered volcanics and dolomitic siltstone lithologies, and extends for a strike length of 600-700 metres. Additional work is warranted on this prospect.

The Truro Ironstone body was sampled without results being of interest.

UV lamping at the Cambrai Tungsten Prospect failed to detect any tungsten, and two small gossans in the area returned elevated copper, nickel and cobalt, but no tungsten.

2. INTRODUCTION

Mount Karinya E.L. 947 comprises an area of 1150 square kilometres centred approximately 75 kilometres north-east of Adelaide (Plan No. SAa 976), and was granted to CRA Exploration Pty. Limited for a period of one year from 11th December, 1981. Application for renewal of the E.L. for a further 12 months has been lodged.

This report describes work carried out in the three months to 10th September, 1982.

3. RECOMMENDATIONS

Anomaly "M" - no further work required.
Anomaly "O" - no further work required.
Schneider's Gossan - detailed geological mapping and additional sampling.
Truro Ironstone - no further work required.
Cambrai Tungsten Prospect - no further work pending a review of data collected to date.
Ongoing assessment of aeromagnetic data.

4. WORK CARRIED OUT

During the quarter geological investigations and sampling were carried out on two ironstones and at aeromagnetic anomalies "M" and "O", and UV traverses were carried out at the Cambrai Tungsten Prospect.

4.1 Aeromagnetic Anomaly Follow-Up

4.1.1 Anomaly "M" (Murray Creek)

This anomaly, established as an ironstone lode discordant to stratigraphy, was resampled to establish whether slightly elevated gold values in the original samples could be verified. Analytical results of a chip sample taken along the south wall of the open cut are as follows (p.p.m.):

Number	Cu	Pb	Zn	Ag	Au	Ni	Co	Sn	W	Mn
219896	130	<5	48	<1	0.08	65	25	14	<10	3.5%

Additional samples from magnetic ironstones to the north of the original map area (on an extension to the grid) were also collected. These ironstones, also cross-cutting bedding, are more gossanous than the ironstone above, and again are strongly magnetic. They were analysed as follows. (p.p.m., Plan No. SAa 1530).

Number	Cu	Pb	Zn	Ag	Au	Ni	Co	Sn	W	Mn
219892	70	25	42	<1	0.09	70	25	6	15	9400
219893	95	10	30	<1	0.09	65	25	4	<10	4400
219894	200	10	60	<1	0.10	60	50	<4	<10	2.7%

All of the above samples geochemically resemble those of the original samples, and gold is uniformly of background level. No further sampling is warranted.

4.1.2 Anomaly "O" (Malabena)

Previous sampling of Anomaly O produced two samples with elevated copper and zinc values. Additional samples of iron stained rocks were collected and analysed as follows. (p.p.m. Plan No. SAa 1529).

Number	Cu	Pb	Zn	Au	Ni	Co	Mn	Description
219844	46	36	100	0.04	55	25	110	Black schist, with
219845	46	95	390	0.04	260	80	340	goethitic veinlets
219874	44	50	20	0.06	15	10	60	Ironstone ? pisolithic, probably lateritic capping
219875	20	10	75	0.01	45	15	190	Siltstone with fine magnetite veinlets
219876	190	120	1400	0.04	190	80	320	Black shale with limonite-goethite gossan veinlets, magnetic
219877	85	130	760	0.08	150	65	410	Dark brown stained schist, possible 1-2 metre gossanous veinlets.
219877	90	280	1200	0.03	190	50	380	As for 877, less schistose, non-magnetic

All silver values were 1 p.p.m. or less. Tin and tungsten values were all < 10 p.p.m. and < 15 p.p.m. respectively. The zinc values are similar to those encountered in previous sampling with elevated copper and lead, nickel and cobalt in the dark coloured schists and black shales. These values probably reflect fluctuations from high background levels in the Mt. Karinya shale. The magnetite-bearing rocks 219844, 45 coincide with a minor linear magnetic high to the west of the centre of Anomaly "O". Susceptibility measurements of the black shales show that they are generally weakly magnetic, and the anomalous magnetometer profiles on lines 00N and 200N (Plan No. SAa 1563) are caused by a more magnetic zone on the east contact of the black shale unit exposed in the south of the map area.

The source of Anomaly "O" is not evident from the surface geology since the centre of the magnetic anomaly is located in an area of no outcrop. It may represent a shallow dipping folded repetition of the magnetic black shales. The elevated base metal values encountered have more regional than local significance and may influence the future direction of exploration in the E.L.

No further work on this anomaly is justified at present.

4.2 Ironstone Investigations

4.2.1 Schneider's Gossan

This is an impressive ironstone body exposed near the Milandella Fault in Pine Creek, 2 to 3 kilometers north of Accommodation Hill on the Sturt Highway east of Truro (Plan No. SAa 1832). The ironstone and its extensions were investigated by Asarco in the early 1970's, and percussion drilling of a number of strong I.P. anomalies indicated it occurred within a black shale sequence. Ironstone, some composed of massive gossan boxwork, occurs intermittently as float over a strike length of about 600-700 metres to the south of Schneider's Gossan. This float is usually magnetic and contains porous goethitic quartz occasionally resembling bedded chert. Obvious black shale/schist occurs as float with minor chloritic rock and siltstone.

The gossanous horizon occurs fairly close to the base of the Middle Cambrian. Schneider's Gossan itself occurs on the south bank of Pine Creek near the old 'Waterfall' station homestead. It is 10-15 metres wide along the creek and is composed of massive limonite associated with quartz veins and contorted dark grey schist. Three samples, 946906, 7 and 8, were submitted for petrographic examination (Appendix II). Samples 907 and 908 are composed of massive limonite with a very fine cellular boxwork of predominantly rhombic pattern, thought to be after carbonate. No replicate texture after sulphide is recognizable. Sample 906 is less definite, composed of 50% coarse mica probably replaced by exotic iron oxide. An included quartz vein is associated with a tight cubic or possibly rhombic boxwork, possibly after galena, composing 5 to 7% of the rock. Analytical results of samples from the black shale and the massive ironstone are as follows:

Number	Cu	Pb	Zn	Co	Ni	Mn	Ag	Au	Description
Black Shale Zone									
219887	180	20	38	10	20	610	<1	0.04	Laminated gossanous quartz, of cherty sediment
219888	700	20	60	140	120	39	<1	0.04	Scattered, dense, fairly massive iron-stone fragments
219889	1400	250	130	130	95	310	<1	0.06	As for 888, with goethite soils, quartz veins; magnetic

Number	Cu	Pb	Zn	Co	Ni	Mn	Ag	Au	Description
Schneider's Gossan									
219890	1600	160	1600	60	60	2900	< 1	1.1	Quartz-ironstone vein, 0.5m wide, 10m east of main gossan
219891	2700	4100	4300	45	60	3800	15	1.9	Composite chip sample over whole ironstone

Additional work is warranted on this ironstone.

4.2.2 Truro Ironstone

This ironstone is located five kilometres north of Dutton (Plan No. SAa 1832) and extends as prominent outcrops 500 metres north from Spring Farm Homestead. Occuring in Lower Cambrian rocks, it is a cream coloured, finely schistose, ?carbonate-bearing rock, apparently massive, but otherwise carrying spots and blotches of limonite, possibly after siderite. Quartz veins from 1 to 20cm wide are fairly common, and a brecciated texture is occasionally observed. Overall, the outcrops cut across schistosity, but are defined by lenses elongate parallel to schistosity, rather than bedding. Analytical results are as follows:

Number	Cu	Pb	Zn	Co	Ni	Mn	Description
219846	100	430	270	20	60	990	Quartz vein in massive limonite
219879	8	10	20	5	20	95	Fine white schist, brown stained joint surfaces
219880	36	20	110	10	40	210	Brown stained psammite, limonite stained veins
219881	42	30	55	25	60	370	Fine white rock with limonite voids, similar to breccia texture
219882	150	140	160	65	350	340	As for 881
219886	18	220	100	15	50	280	Maroon, dark brown stained psammite

Silver and gold values were < 1 and < 0.05 p.p.m. respectively. Tin and tungsten are all < 10 p.p.m. with the exception of 219882 which assays 50 p.p.m. tungsten.

The significance of these rocks is uncertain, but their geochemistry and general lack of sulphide indications suggests their potential is limited. A vague similarity to Schneider's Gossan might be recognised.

4.3 Cambrai Tungsten Prospect

Three creeks anomalous in tungsten from earlier geochemical sampling were U.V. lamped without locating scheelite. Underground workings at the nearby Kanappa Copper Mine, where scheelite has been reported, were also lamped but without success.

Two small gossans occurring in calc silicate lithologies where anomalous tungsten geochemical results have been obtained were sampled. Assay results are as follows:

Number	Cu	Pb	Zn	Ag	Au	Ni	Co	Sn	W	Mn
219841	990	5	65	< 1	0.05	490	360	< 4	10	410
219842	970	5	32	< 1	0.08	430	600	18	< 10	560

These rocks exhibit elevated cobalt, nickel and copper values, but no significant tungsten.

A review of the tungsten exploration programme to date is warranted before further field work is undertaken.

G.J. BUBNER

GJB/dp

REFERENCES

BUBNER, G.J. April 1982 — First Quarterly Report for Mt. Karinya E.L. 947, South Australia, for the period ending 10th March, 1982.

BUBNER, G.J. July 1982 — Second Quarterly Report for Mt. Karinya E.L. 947. South Australia, for the period ending 10th June, 1982.

WARNE, K.R. 1963 — Report on Truro Ironstone Prospect, S.A.D.M.E. Report Book.

LOCATION

Adelaide SI 54-9 1:250,000 sheet

KEYWORDS

Copper, lead, zinc, tungsten, assays-geochem, ironstone, geophys-mag, geophys-other.

LIST OF ATTACHMENTS

Plan No.	Title	Scale
SAa 976	E.L. Application	1:250 000
SAa 1529	Geology, assay results and magnetometer traverses Anomaly "O".	1: 10 000
SAa 1530	Geology, assay results and magnetometer traverses Anomaly "M".	1: 10 000
SAa 1563	Ground Magnetics Profiles - Anomaly "O" (Malabena)	1: 5 000
SAa 1800	Cambrai Scheelite Prospect, Geological Mapping	1: 25 000
SAa 1832	Location map - Schneider's Gossan and Truro Ironstone	1: 50 000

LIST OF APPENDICES

Appendix I - Assay Results
Appendix II - Petrographic Descriptions

APPENDIX I

ASSAY RESULTS

The Australian Mineral Development Laboratories

Flemington Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

Please address all correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

amdel

3/1/6/0 - AC 391/83

30 July 1982

NATA CERTIFICATE

Mr. D.M. Ransom,
CRA Exploration Pty. Ltd.,
14 Kincardine Avenue,
ST. GEORGES S.A. 5064

REPORT AC 391/83

YOUR REFERENCE:	D.P.O. No. B 0537
IDENTIFICATION:	As listed
DATE RECEIVED:	19 July 1982
NOTE:	Sample 219895 was listed but not received. Ag is analysed by Code C2.

D.K. Rowley
Manager
Analytical Chemistry Division

for Norton Jackson
Managing Director

cc The Manager,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067
(invoice)

ij

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Queensland 4814
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Analysis code B1/1 Report AC 391/83 Page 1

NATA Certificate Order B 0537 Results in ppm

	Sample	Sn	W
	219841	<4	10
	219842	18	<10
	219844	8	<10
	219845	4	<10
	219846	6	<10
	219874	8	<10
	219875	<4	10
	219876	<4	<10
	219877	4	10
	219878	10	15
	219879	4	<10
	219880	<4	<10
	219881	12	<10
	219882	8	50
	219886	6	<10
	219887	6	<10
	219888	12	<10
*	219889	<20	<50
	219890	6	<10
	219891	6	10
	219892	6	15
	219893	4	<10
	219894	<4	<10
	219896	14	<10
	Detn limit	(4)	(10)

*High detection limits due to matrix interferences

Analysis code C1/C2 Report AC 391/83 Page 1

NATA Certificate Order B 0537 Results in ppm

Sample	Cu	Pb	Zn	Co	Ni	Mn	Ag
219841	990	5	65	360	490	410	<1
219842	970	5	32	600	430	560	<1
219844	46	360	100	25	55	110	<1
219845	46	95	390	80	260	340	<1
219846	100	430	270	20	60	990	<1
219874	44	50	20	10	15	60	<1
219875	20	10	75	15	45	190	<1
219876	190	120	1400	80	190	320	1
219877	85	130	760	65	150	410	<1
219878	90	280	1200	50	190	380	<1
219879	8	10	20	5	20	95	<1
219880	36	20	110	10	40	210	<1
219881	42	30	55	25	60	370	<1
219882	150	140	160	65	350	340	1
219886	18	220	100	15	50	280	<1
219887	180	20	38	10	20	610	<1
219888	700	20	60	140	120	390	<1
219889	1400	250	130	130	95	310	<1
219890	1600	160	1600	60	60	2900	<1
219891	2700	4100	4300	45	60	3800	15
219892	70	25	42	25	70	9400	<1
219893	95	10	30	25	65	4400	<1
219894	200	10	60	50	60	2.70%	<1
219896	130	<5	48	25	65	3.50%	<1
Detn limit	(2)	(5)	(2)	(5)	(5)	(5)	(1)

TT	Sample No		Au						
1	21984		0.05						
2	42		0.08						
3	44		0.04						
4	45		0.04						
5	46		0.04						
6	74		0.06						
7	75 x		0.01						
8	76		0.04						
9	77		0.08						
10	78		0.03						
11	79		0.02						
12	80		0.06						
13	81		0.04						
14	82		0.06						
15	STD								
16									
17									
18					Code C3/3				
19									
20	2195 75 x								

JOB 591/83 — *Results in ppm unless otherwise stated* — BATCH NO. 2/3

FORM 6

TT	Sample No.		Au						
1	219887		0.04						
2	88		0.04						
3	89		0.06						
4	90		1.10						
5	91		1.95						
6	92		0.09						
7	93		0.09						
8	94		0.10						
9	95		LNR						
10	96		0.02						

APPENDIX II

PETROGRAPHIC DESCRIPTIONS

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 3779

6th August, 1982

TO: Anomaly "D"

The Chief Geologist,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

COPY TO:

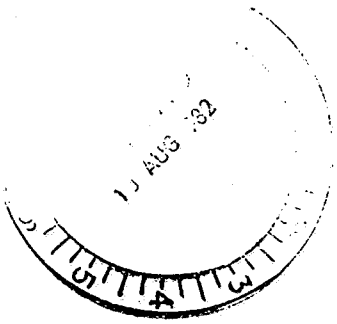
Dr. D.M. Ransom,
14 Kincardie Avenue,
ST GEORGES, S.A. 5064

YOUR REFERENCE: Order No. B0538

MATERIAL: Rock and 'ironstone' samples

IDENTIFICATION AND WORK REQUESTED: 946906, 907, 908 examination in polished section; 946909 examination in thin section

SAMPLES & SECTIONS: Returned to D. Ransom with this report



PONTIFEX & ASSOCIATES PTY. LTD.

946906 : mass of largely accretionary limonite of exotic origin invading and replacing a deformed quartz-mica schist, minor localised fine boxwork, probably after carbonate (but some possibly after galena)

At least 60% of this rock consists of an irregularly cellular mass of more or less colloform, accretionary limonite which appears to have flooded and largely replaced a mica-bearing and lesser meta-quartz silt/sandstone. Residual micas incorporated in the limonite are partly schistose, partly at random (?crenulated). The fine granuloblastic quartz mosaic is permeated by the same transported, exotic limonite.

One small area forming about 10% of the section and adjacent to vein-quartz, includes fine-scale boxwork, which also has been encroached upon by the colloform material. Most of this boxwork is rhombic to (?pseudo) cubic, and probably after carbonate.

The less likely interpretation of this boxwork is that it may be after galena, although there is an absence of definite textures after sulphides. If however, this sample reports anomalous Pb, the possibility of galena boxwork would be more seriously considered.

946907 : mass of microcrystalline boxwork, replacing an original coarse aggregate of carbonate, minor boxwork possibly after amphibole; trace manganese oxides

Most of this rock (70 - 80%) consists of fairly well-developed, microscopic rhombic boxwork, subdivided into individual areas of 1 to 3 mm dimension, which are interpreted to represent an original granular aggregate of carbonate. The boxwork has developed by leaching and ferruginisation along intergranular contacts and along crystallographic planes within the carbonate.

Minor localised areas of ?meta-quartz-siltstone, incorporated within this carbonate boxwork, are extensively permeated by limonite.

Minor, somewhat 'prismatic' structures including some thin limonite partitions, parallel to a possible 'C-axis', together with obliquely crossing partitions, may be after amphibole, which was intergrown with the carbonate aggregate.

Minor small pyramidal crystals of quartz, and small grains of manganese oxides located in some boxwork, appear to be supergene and post-leaching.

946908 : (virtually same as 946907),
mass of microcrystalline boxwork
replacing a carbonate aggregate;
minor boxwork possibly after amphibole;
minor areas of ferruginised fine sediment,
and patches of manganese oxides

The very fine-scale boxwork textures throughout this rock are essentially the same as in 946907, i.e. a variably continuous rhombic fabric, subdivided into domains on a scale of about 1 mm which indicates an original aggregate of subhedral to anhedral carbonate crystals.

As suggested in 946907, minor, more or less prismatic forms ± vague internal partitions, may have developed from amphibole. Minor areas of loosely packed fine quartz grains in a limonite matrix appear to be ?clasts of sediment, incorporated within the carbonate.

Minor small patches of manganese oxide (7 - 10%) are more abundant than in 946907, and appear to have formed after the development of the boxwork.

060

EUDUNDA 11km

SUTHERLANDS 13km

SUTHERLANDS 12km

139° 15'

34° 15'

Narcoota

Leakes

D.C. EUDUNDA

Water Hes

Overland Spring

LAKE LOOKOUT

Spring Farm

Stockyard

Dry Waterhole

MOUNT RUFUS

TRURO IRONSTONE
Sample Nos. 219846
79
80
81
82
86

L O P T Y

Amaroo

Oaklands

Hill Farm

Dutton

Water Res.

Pine

Malabena

Valley Farm

Debbies

D.C. TRURO

R A N G E S

Frankton

THE WATCHBOX

Rocky Creek

Creek

Yards

Sheds

Shed

Ruin

Ford

Water Res.

Waterfall

SCHNEIDER GOSSAN
Sample Nos. 219890
91

Dutton East

BLACK SHALE GOSSAN
Sample Nos. 219887
88
89

The Gap

ACCOMODATION HILL

HIGHWAY

SOUTH OF SPRINGS

PT 288 ROAD

PT 288

PT 308

PT 309

SCHOOL BUS ROAD

DUTTON

STONEFIELD 6km

STONEFIELD 5km

BLANCHETOWN 34km

UH

UG

62 05

62 00

61 95

SCALE 1:50000

METRES 1000 0 1 2 3 4 5 KILOMETRES

CRA EXPLORATION PTY. LIMITED

MT. KARINYA – E.L. 947

LOCATION MAP

SCHNEIDER GOSSAN AND TRURO IRONSTONE

Ref. ADELAIDE SI 54-9

Scale 1:50000

Author G. Bubner. Report No. 11256

Date Aug. 1982 Plan No. SAa 1832

I

061

CRA EXPLORATION PTY. LIMITED

The contents of this report remain the property of C.R.A. Exploration Pty. Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

FOURTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH DECEMBER, 1982.

AUTHOR: P. LEWIS

COPIES TO: CRAE LIBRARY
S.A.D.M.E.

DATE: 20TH JANUARY, 1983

SUBMITTED BY:

ACCEPTED BY:

11256

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1. SUMMARY AND CONCLUSIONS

Surface rock chip sampling of metamorphic segregation and alteration zones was undertaken in the Cambrai Scheelite Prospect area. Anomalous copper (max. 700 p.p.m.) and manganese (max. 4.7%) assays were obtained from limonite-hematite-carbonate skarns. Petrographic examination identified the skarns as false gossans.

A composite rock chip sample from a gossanous quartz ironstone outcrop located north of Boundary Creek assayed 1.1% copper. Further work on the ironstone is warranted.

Anomalous gold assays (0.4 - 14.2 gms/tonne) were obtained from samples of a ferruginous quartz carbonate breccia. The breccia is part of an ENE-WSW trending fault zone. Further sampling of the fault zone is warranted.

2. INTRODUCTION

Mount Karinya E.L. 947 covers an area of 1150 square kilometres centred approximately 75 kilometres north east of Adelaide (Plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981 for a period of twelve months and was renewed for a further twelve month period on the 11th December, 1982.

3. RECOMMENDATIONS

1. Further sampling and mapping of the ironstone north of Boundary Creek be undertaken.

2. Regional sampling of breccias along the main thrust zones be undertaken.

4. SAMPLING

Twenty eight rock chip samples were collected from hematite-limonite skarns; actinolite-chlorite-talc alteration zones; scapolite and garnet segregations, and zones of tourmaline veining described by Mills (1964). The samples were analysed for copper, lead, zinc, manganese, silver, gold, tin and tungsten. Assay results and sample ledgers are presented in Appendix I. Anomalous copper (max. 700 p.p.m.) and manganese (max. 4.7%) assays were obtained from the limonite-

hematite-carbonate skarns. A sample submitted for petrographic description was identified as a false gossan (Appendix II). Samples of quartz tourmaline rocks returned low assays but all contained detectable tungsten (max. 50 p.p.m.).

Two samples of gossanous ironstone float (949983, 949984) collected from a small creek north of Boundary Creek (Plan SAa 1800) returned anomalous copper assays (530, 3 300 p.p.m.). Follow up of these samples located a subdued outcrop of gossanous quartz ironstone from which a composite rock chip sample assayed 1.1% copper. Further sampling and definition of the ironstone is warranted.

Small shallow workings approximately 12 kilometres south of Towitta were inspected and sampled following reports that gold (up to 7 dwt/tonne) had been obtained from the workings (pers. comm. F. Platzik, prospector). The workings occur in a gossanous, ferruginous quartz carbonate breccia which is part of an ENE-WSW trending fault zone. Very fine visible gold is present. Analytical results of samples from the workings are as follows:

Number	Cu	Pb	Zn	Mn	Au	Ag	Sn	W	As	Hg	Description
949994	3700	3000	110	1.9%	7.6 14.2*	550	-	-	300	18	Gossanous rock, soft red oxide, visible gold
949995	390	420	390	8100	0.4	4	6	15	80	5	Puggy breccia zone
949996	420	410	250	1100	4.2 4.4*	8	-	10	380	N/A	Net veining, hanging wall of 949995

* Fire assay check of initial high gold assays

Further sampling of breccias along the fault zone is warranted.

P. LEWIS

PL/pw

REFERENCE

Mills, K.J. 1964 "The structural petrology of an area east of Springton, South Australia" University of Adelaide Ph.D. Thesis (unpublished)

KEYWORDS

Assays-surf.(rock), Geochem.-rock, Petrography, Ironstone, Gossan.

LOCATION

Adelaide SI 54-9 1:250 000

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	E.L. Application	1:250 000
SAa 1800	Cambrai Scheelite Prospect, Geological Mapping	1: 25 000

APPENDICES

Appendix I Assay results and sample ledgers.
Appendix II Petrographic Description.

APPENDIX I

ASSAY RESULTS AND SAMPLE LEDGERS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA SHEET.

PAGE N°: 1

Area: Mt KARNYA | Collected: D. RANSOM | Analysed by: AMDEL, PONTIFEX | Lab. report no: 1995/83
Map ref: 6728-IV | Date collected: 22-24/9/82 | Date anal. rec: 1-10-82
Photo name: | Date to lab: 27/9/82 | Plan no: SAa 1800
Run No: | D.P.O. No: 182, 185 | C.R.A. report no:

Less than detection limit [-]

Sample type: 1. Chip. 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Mn	Ag	Au	Sn	W
								ANALYSIS METHOD	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF
								DETECTION LIMIT (ppm)	2	5	2	5	1	0.01	4	10
									Metal Content (ppm)							
949963			1				1	Ironstone fissure in Marble, subvertical?	80	–	130	3.9%		0.01	12	–
64			1				1	" " " " "	140	–	120	2.6%	–	0.05	–	–
65			1				1	" " " " "	700	–	65	4.7%	–	–	12	–
66			1				1	" " " " "	410	5	48	4.0%	–	0.05	–	10
67			1				3/4	" " " " (phtogrecyty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
68			1				1	Scapolite - felds - qtz - pyt. pegmatoid	14	5	26	490	–	–	8	–
69			1				1	" " " " "	8	5	12	290	–	–	6	–
70			1				1	Qtz - tourm veins in albite - qtz rock	4	–	12	55	–	–	16	40
71			1				1	" " " " " " "	4	–	24	50	1	–	14	40
72			1				1	Talc - act - chl - carb rock	2	–	50	320	–	–	–	–
73			1				1	" " " " "	4	–	36	360	1	–	–	–
74			1				1	" " " rock	2	–	18	220	–	–	8	–
75			1				1	Garnet - bearing ? albite psammite layer	22	–	16	300	1	–	–	–
76			1				1	" " " " "	14	–	10	210	–	–	8	–
77			1				1	Laminated qtz - tourm. rock	14	–	14	65	–	–	4	10
78			1				1	" " " "	8	–	10	40	–	–	6	25
79			1				1	Tourm. rock assoc'd with minor Cu pit	12	–	4	25	–	–	4	25
80			1				1	" " " " " " "	12	–	12	25	1	–	–	25
81			1				1	Qtz stringers, Cu stained in schist	1.2%	–	170	500	3	0.16	6	–
82			1				1	Qtz - tourm gashes in brecciated (?) psammite	370	–	32	80	–	0.14	4	–
83			1				1	Limonitic, gossanous vein } float in	3300	5	190	140	–	0.06	–	–
84			1				1	Cf 83, less obvious boxwork } creek	530	–	95	320	–	0.05	–	10
85			1				1	Massive, vein-like tourmaline rock	90	–	6	60	–	–	–	20

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA SHEET

PAGE N°: 1

Area: Mt KARINYA | Collected: D. RANSOM, P. LEWIS | Analysed by: AMDEL | Lab. report no: 2216/83
Map ref: 6728-IV | Date collected: 5/10/82 | Date anal. rec: 22/10/82
Photo name: | Date to lab: 6/10/82 | Plan no: SA& 1800
Run No: | D.P.O. No: 184 | C.R.A. report no: 11256

Less than detection limit [-]

Sample type: 1. Chip. 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Mn	Au	Ag	Sn	W	As	Hg
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	AAS	XRF
DETECTION LIMIT (ppm)									(2)	(5)	(2)	(5)	(0.01)	(1)	(4)	(10)	(20)	(3)
									Metal Content (ppm)									
- 994			1				1	Gossanous rock with soft red oxide; visible gold	3700	3000	110	1.90%	7.60	550	-	-	300	18
- 995			1				1	Puggy brecciated zone (prev. assay 7 dwt)	390	420	390	8100	0.40	4	6	15	80	5
- 996			1				1	Not veining, hanging wall of 995	420	410	250	1100	4.20	8	-	10	380	N/A
- 997			1				1	Tourmaline qtz rocks associated with	260	35	10	110	0.05	-	-	45	20	"
- 998			1				1	Cu stained qtz veins + sericite rocks	230	25	12	95	0.10	1	-	50	-	"
- 999			1				1	Qtz - tourmaline rocks	150	20	6	65	0.10	-	-	30	-	"
950000			1				1		240	15	18	60	0.38	-	-	20	-	"
948606			1				1	Slight gossanous qtz - tour, with end zone 999	350	5	16	130	0.04	-	10	10	-	"
- 607			1				1	Gossanous, silicified, quartz breccia,	1.10%	15	70	140	0.15	-	-	10	60	15
- 608			1				1	from thrust breccia zone	6900	15	36	130	0.14	-	4	-	950	-
- 609			1				1	Tourmaline - qtz rocks	14	10	4	35	-	1	-	25	-	N/A
- 610			1				1		12	10	6	45	0.01	-	-	20	-	"

* Result may be error due to metric interferences.

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amdel

3/1/6/0 - AC 1995/83

30 September 1982

NATA CERTIFICATE

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NORWOOD, S.A. 5067

REPORT AC 1995/83

YOUR REFERENCE:	D.P.O. No. B 0182
IDENTIFICATION:	As listed
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for Norton Jackson
Managing Director

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FORM 6 JOB 1995/83 AMDEL ANALYTICAL SERVICE BATCH NO. 1

Results in ppm unless otherwise stated

TT	Sample No.		Au						
1	STD								
2	949963		0.01						
3	64		0.05						
4	65		<0.01						
5	66		0.05						
6	68		<0.01						
7	69		<0.01						
8	70		<0.01						
9	71		<0.01						
10	72 x		<0.01						
11	73		<0.01						
12	74		<0.01						
13	75		<0.01						
14	76		<0.01						
15	77		<0.01						
16	78		<0.01						
17	79		<0.01						
18	80		<0.01						
19	949981		0.16			Code	C3/3		
20	949972 x								

FORM 6 JOB 1995/83 AMDEL ANALYTICAL SERVICE BATCH NO. 2

Results in ppm unless otherwise stated

TT	Sample No.		Au						
1	949982		0.14						
2	83 x		0.06						
3	84		0.05						
4	85		<0.01						
5									
6	STD								
7	BLANK								
8	949983 x					Code	C3/3		
9	1/1995								
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

amdel

Analysis code C1/C2 Report AC 1995/83 Page 1

NATA Certificate Order B 0182 Results in ppm

Sample	Cu	Pb	Zn	Mn	Ag
949963	80	<5	130	3.90%	<1
949964	140	<5	120	2.60%	<1
949965	700	<5	65	4.70%	<1
949966	410	5	48	4.00%	<1
949968	14	5	26	490	<1
949969	8	5	12	290	<1
949970	4	<5	12	55	<1
949971	4	<5	24	50	1
949972	2	<5	50	320	<1
949973	4	<5	36	360	1
949974	2	<5	18	220	<1
949975	22	<5	16	300	1
949976	14	<5	20	210	<1
949977	14	<5	14	65	<1
949978	8	<5	10	40	<1
949979	12	<5	4	25	<1
949980	12	<5	12	25	1
949981	1.20%	<5	170	500	3
949982	370	<5	32	80	<1
949983	3300	5	190	140	<1
949984	530	<5	95	320	<1
949985	90	<5	6	60	<1
Detn limit	(2)	(5)	(2)	(5)	(1)

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3/1/6/0 - AC 2216/83

22 October 1982

NATA CERTIFICATE

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REPORT AC 2216/83

YOUR REFERENCE:	D.P.O. B 0184
IDENTIFICATION:	As listed
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AMDEL ANALYTICAL SERVICE

FORM 6 JOB 2216/83 *Results in ppm unless otherwise stated* BATCH NO. 1/2

TT	Sample No.		fU						
	Std								
	94		7·60						
	9499 95		0·40						
	96		4·20						
	97		0·05						
	98		0·10						
	99		0·10						
	9500 00		0·38						
	948606		0·04						
	07		0·15						
	08		0·14						
	948609		<0·01			Code	C3/3		
	948610		0·01						

amdel

074

Analysis code C1/C2 Report AC 2216/83 Page 1

NATA Certificate Order B 0184 Results in ppm

Sample	Cu	Pb	Zn	Mn	Ag	As
949994	3700	3000	110	1.90%	550	300
949995	390	420	390	8100	4	80
949996	420	410	250	1100	8	380
949997	260	35	10	110	<1	20
949998	230	25	12	95	1	<20
949999	150	20	6	65	<1	<20
950000	240	15	18	60	<1	<20
948606	350	5	16	130	<1	<20
948607	1.10%	15	70	140	<1	60
948608	6900	15	36	130	<1	950
948609	14	10	4	35	1	<20
948610	12	10	6	45	<1	<20
Detn limit	(2)	(5)	(2)	(5)	(1)	(20)

amdel

Analysis code B1/1 Report AC 2216/83 Page 1

NATA Certificate Order B 0184 Results in ppm

Sample	Sn	W
949994	<4	<10
949995	6	15
949996	<4	10
949997	<4	45
949998	<4	50
949999	<4	30
950000	<4	20
948506	10	10
948507	<4	10
948508	4	<10
948509	<4	25
948510	<4	20
Detn limit	(4)	(10)

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

FORM 38

REPORT AC 2216/83

ANALYSIS ppm

Sample N°		Hg						
94		18						
949995		5						
948607		15						
948608		<3						

METHOD:

ANALYSIS
g/tonne

SAMPLE MARK	GOLD Au
994	14.2
996	4.4

Method: K4/1

APPENDIX II

PETROGRAPHIC DESCRIPTION

Pontifex & Associates Pty. Ltd.

079

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

Copy to Admin
CRA. Adelaide

MINERALOGICAL REPORT NO. 3845

4th October, 1982

TO:	Dr. Dave Ransom Mr. Paul Lewis, CRA Exploration Pty. Ltd., P.O. Box 254, NORWOOD, S.A. 5067
YOUR REFERENCE:	Order No. B0183
MATERIAL:	"Gossanous" rock sample
IDENTIFICATION:	949967
WORK REQUESTED:	Microscopic identification of possible gossanous characteristics
SAMPLE & SECTION:	Returned to you with this report

PONTIFEX & ASSOCIATES PTY. LTD.

949967 : massive medium grained aggregate of carbonate (?siderite or ferroan-dolomite) extensively oxidised to produce very fine limonite/hematite, boxwork/replica; minor vein-quartz decussate sericite and chlorite locally enclosed; (a false gossan)

To examine the relationships of the opaque and non-opaque phases, this rock was examined in polished thin section.

At least 70% of the sample consists of an irregular aggregate of coarse carbonate. At least two-thirds of this carbonate is very extensively oxidised, and leached to form extremely fine limonite boxworks and limonite ± hematite replica, characterised by extremely well developed networks following a rhombic pattern.

Minor relict cores of carbonate are scattered through this network, and these are gradational into the other one-third of the iron-rich area which consists of fine carbonate mosaic, permeated along intergranular contacts and along crystallographic directions, by limonite.

The remaining 30% of the sample consists of patches of fine to medium grained "vein" quartz; which incorporates minor very small clusters of decussate chlorite and sericite. A set of more or less parallel veinlets of sericite ± chlorite and rare unoxidised carbonate cuts across the coarse ferruginised carbonate aggregate.

Single euhedral crystals of quartz, patches of decussate sericite and chlorite are scattered as inclusions in the boxwork after carbonate.

I

081

CRA EXPLORATION PTY. LIMITED

FIFTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH ~~FEBRUARY~~ MARCH, 1983.

The contents of this report remain the property of C.R.A. Exploration Pty. Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

AUTHOR: P. LEWIS

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S.A.D.M.E.

DATE: 31ST MARCH, 1983

SUBMITTED BY: Ran Lewis

ACCEPTED BY: K K Kennedy

11256

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1. SUMMARY AND CONCLUSIONS

Surface rock chip sampling of the shear zones in the vicinity of the Mt. Rhine Mine was undertaken. Elevated lead (max. 4 200 p.p.m.), zinc (max. 1 600 p.p.m.) and gold (0.28 p.p.m.) were returned from the eastern end of the ENE-WSW trending fault zone. A sample from a small outcrop of copper stained gossanous ironstone assayed 7.7 p.p.m. gold and 24 p.p.m. silver. Further work in this area is warranted.

A study of the heavy mineral concentrates from selected stream sediment samples collected during 1982, positively identified scheelite grains and inferred lower amphibolite facies metamorphic rocks derived from impure dolomitic silty sediments as possible source rocks.

2. INTRODUCTION

Mount Karinya E.L. 947 covers an area of 1 150 square kilometres centred approximately 75 kilometres north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981 for a period of twelve months and was renewed for a further twelve month period on the 11th of December, 1982.

This report describes the work carried out during the quarter ending the 10th of March, 1983.

3. RECOMMENDATIONS

1. Mt. Rhine Mine - detailed mapping and sampling of the eastern end of the fault breccia be undertaken;

   - an E.M. or I.P. survey be conducted over the fault breccia.

2. Schnieder's Gossan - detailed ground magnetic and gravity surveys be conducted over the ironstone.

3. Cambrai Tungsten Prospect - detailed follow up of positive drainage sites be undertaken.

4. WORK CARRIED OUT

4.1 Sampling

Twelve rock chip samples were collected from shear zones in the vicinity of the Mt. Rhine Mine (plan SAa 1800).

Away from the Mt. Rhine Mine net veining occurs in sheared, relatively undisturbed, fine grained, micaceous sandy schists. The width and extent of veining varies markedly along the shear zones being more extensively developed in the more competent units. Analytical results and sample ledgers are presented in Appendix I. Gold and silver values are low, only being above the detection limit along the ENE-WSW trending fault zone. Elevated lead (max. 4 200 p.p.m.) and zinc (max. 1 600 p.p.m.) were returned from samples taken at the eastern end of this fault zone. A sample of gossanous, copper stained, ironstone breccia taken from a shallow pit, adjacent to a coarse grained, weakly foliated, altered gabbro assayed 7.7 p.p.m. gold and 24 p.p.m. silver. The surface expressions of this ironstone breccia is very small. No significant assays were returned from the gabbro.

Detailed mapping and sampling of the eastern end of the ENE-WSW trending fault zone where high gold and silver assays were previously returned is warranted. Investigation of the fault breccia at depth is also warranted.

4.2 Cambrai Tungsten Prospect

Heavy mineral concentrates of fourteen $^{-}$10# - $^{+}$20# stream sediment samples collected during 1982 were UV lamped for scheelite grains. Scheelite grains (some <1 mm) were recovered from nine samples, eight of which had previously returned tungsten in assay (Table 1). The concentrates were submitted for identification of the heavy mineral assemblage and positive identification of the scheelite grains. (Appendix II).

Table 1 UV Lamping Results - Cambrai Tungsten Prospect

Sample No.	Stream Sediment Sample No.	Number of Fluorescent Grains	Previous Tungsten Geochem Assay (p.p.m.)
949679	219855	-	-
680	852	1	55
681	849	19 (5 small)	65
682	850	2 (small)	10
683	848	1 (small)	10
684	858	-	-
685	856	2	100
686	859	2	10
687	863	1	10
688	869	1	-

Table 1 UV Lamping Results - Cambrai Tungsten Prospect (cont.)

Sample No.	Stream Sediment Sample No.	Number of Fluorescent Grains	Previous Tungsten Geochem Assay (p.p.m.)
949689	219854	23	80
690	847	-	-
691	860	-	-
692	865	-	-

Nine of the above samples were collected from streams which drain Lower Cambrian calcareous schists and scapolite amphibolites. Seven of these samples contained scheelite grains. Detailed geological traverses will be undertaken along the creeks containing positive drainage samples 219849 and 219854 to locate the scheelite in outcrop.

P. LEWIS

PL/pw

KEYWORDS

Assays-surf. (rock), Geochem.-rock, Petrography, Ironstone, Gossan, Tungsten.

LOCATION

Adelaide SI 54-9 1:250 000

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	E.L. Application	1:250 000
SAa 1800	Cambrai Scheelite Prospect, Geological Mapping	1: 25 000

APPENDICES

Appendix I Assay Results and Sample Ledgers
Appendix II Petrographic Description

APPENDIX I

ASSAY RESULTS AND SAMPLE LEDGERS

The Australian
Mineral Development
Laboratories

Kingston Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

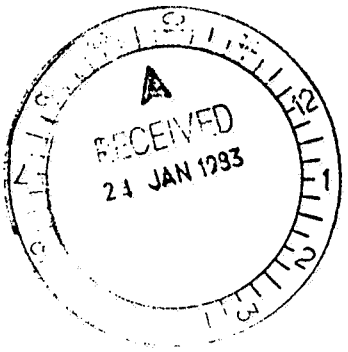
Please address all
correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

3/1/6/0 - AC 3681/83

21 January 1983

NATA CERTIFICATE

REPORT COMPLETE



Mr. Paul Lewis,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

REPORT AC 3681/83

YOUR REFERENCE:	*DPO B 0194*
IDENTIFICATION:	*As listed*
DATE RECEIVED:	*24 December 1982*

D. K. Rowley
Manager
Analytical Chemistry Division

for Norton Jackson
Managing Director

cc The Manager,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

(Invoice)

cjw

Pilot Plant: Osman Place
Thebarton S.A.
Telephone [redacted] 43 5733
Branch Laboratories:
Perth W.A.
Telephone 325 7311
Melbourne Vic.
Telephone 645 3093

JOB 3681/83 AMDEL ANALYTICAL SERVICE *Results in ppm unless otherwise stated* BATCH NO. 089

	Sample No.		Au						
	STD								
2	888951		<0.01						
3	2		<0.01						
4	3		<0.01						
5	4		<0.01						
6	5		<0.01						
7	6		<0.01						
8	7		<0.01						
15	4		7.70						
16	5		<0.01						
17	6		<0.01						
18	7		<0.01						
19	888968		0.28			Code	C3/4		
20	888962 x								

Analysis code: Cl Report AC 1681/82 Page 1

NATA Certificate Order B 0194 Results in ppm

Sample	Cu	Pb	Zn	Co	Cr
888951	28	<5	14	10	10
888952	110	<5	14	10	10
888953	46	5	14	5	10
888954	2	<5	14	40	10
888955	8	<5	16	10	10
888956	4	<5	36	30	20
888957	4	5	24	15	<10
888958	14.5%	400	290	170	<10
888959	430	15	90	25	40
888960	670	560	130	20	<10
888961	85	680	910	5	10
888962	75	1200	1500	5	<10
Detn limit	(2)	(5)	(2)	(5)	(10)

Analysis code C1/02 Report AC 3691/83 Page 2

NATA Certificate Order B 0194 Results in ppm

Sample	Ni	Mn	Ag	As
888951	15	600	<1	<20
888952	20	1400	<1	<20
888953	15	970	<1	<20
888954	20	2700	<1	<20
888955	15	1300	<1	<20
888956	50	7800	1	<20
888957	30	1.40%	1	<20
888964	710	570	24	390
888965	55	790	1	<20
888966	55	4800	1	40
888967	20	6600	<1	20
888968	15	850	3	<20
Detn limit	(5)	(5)	(1)	(20)

Analysis code B1/1' Report AC 3681/83 Page 1

NATA Certificate Results in ppm

Sample	Sn	W
888951	10	10
888952	10	10
888953	10	10
888954	<4	<10
888955	6	<10
888956	12	<10
888957	<4	<10
888964	<4	20
888965	<4	<10
888966	4	20
888967	4	10
888968	<4	10
Detn limit	(4)	(10)

Analysis code B1/2 Report AC 3581/83 Page 2

NATA Certificate Results in ppm

Sample	Hg
888951	<3
888952	<3
888953	<3
888954	<3
888955	<3
888956	40
888957	<3
888964	<3
888965	15
888966	<3
888967	6
888968	11
Detn limit	(3)

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA SHEET.

PAGE N°

Area: Mt KARINYA Collected: D. RANSOM, P. LEWIS Analysed by: AMDEL Lab. report no: 3681/83
Map ref: 6728 -IV Date collected: 22-12-82 Date anal. rec: 21-1-83
Photo name: Date to lab: 24-12-82 Plan no:
Run No: D.P.O. No: 194 C.R.A. report no:

Less than detection limit -

Sample type: 1. Chip. 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Mn	Au	Ag	Sn	W	As	Hg	Co	Ni
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	AAS	XRF	AAS	AAS
DETECTION LIMIT (ppm)									(2)	(5)	(2)	(5)	(0.01)	(1)	(4)	(10)	(20)	(3)	(5)	(5)
									Metal Content (ppm)											
888951			1				1		28	-	14	600	-	-	10	10	-	-	10	15
52			1				1		110	-	14	1400	-	-	10	10	-	-	10	20
53			1				1	Not veining in sheared pelitic rock -	46	5	14	970	-	-	10	10	-	-	5	15
54			1				1	micaceous schist - associated with Thrust	2	-	14	2300	-	-	-	-	-	-	40	20
55			1				1	breccia zone. Fe & Mn oxide common	8	-	16	1300	-	-	6	-	-	-	10	15
56			1				1		4	-	36	7800	-	1	12	-	-	40	30	50
57			1				1	Vein quartz round Fe oxide	4	5	24	1.4%	-	1	-	-	-	-	15	30
64			1				1	Gossanous Cu stained isometone breccia	14.5%	400	290	570	7.70	24	-	20	390	-	170	710
65			1				1	Gabbro - coarse grained weak foliation	430	15	90	790	-	1	-	-	-	15	25	55
66			1				1		670	360	130	4800	-	1	4	20	40	-	20	65
67			1				1	Not veining sheared pelite - as above	85	680	910	6600	-	-	4	10	20	6	5	20
68			1				1		75	4200	1600	850	0.28	3	-	10	-	11	5	15

APPENDIX II

PETROGRAPHIC DESCRIPTIONS

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 3978

11th March, 1983

TO: Mr. Paul Lewis,
CRA Exploration Pty. Ltd.,
31 Osmond Terrace,
NORWOOD, S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
31 Osmond Terrace,
NORWOOD, S.A. 5067

YOUR REFERENCE: Order No. B0198

MATERIAL: Heavy mineral grains,
panned from stream sediment samples

IDENTIFICATION: 949681, to 949689
948658, 79, 90

WORK REQUESTED: Positive identification of fluorescent grains
Identification of heavy mineral assemblage associated with fluorescent grains

SAMPLES & SECTIONS: Returned to you with this report

PONTIFEX & ASSOCIATES PTY. LTD.

Fluorescent heavy mineral grains

Fluorescent heavy mineral grains were most abundant in samples 949681 (B) and 949689 (B). These were examined in a single polished thin section grain mount, where all grains are seen to be the same. Their optical properties considered together with their fluorescence, indicate almost certain sheelite; however another possible mineral with these same properties is willemite (Zn_2SIO_4).

X-ray powder diffraction analysis positively confirmed the identity of scheelite.

Associated heavy mineral assemblage

In an effort to identify the likely (heavy) minerals directly associated with the scheelite grains, and hence the rock type(s) at the source of these panned stream sediments, a polished thin section grain mount of the heavy mineral grains in samples 949681 (A) and 949689 (B) were examined. The assemblage was found to be essentially the same in both samples, and include the following minerals listed in approximate order of abundance :-

..	actinolite hornblende	dominant
..	reddish to very pale pink euhedral crystals of garnet commonly crowded with minute inclusions of black opaque oxides	
..	composite grains of fine granular quartz, actinolite, ± garnet, biotite, and opaque oxide	
..	titaniferous magnete	accessory
..	ilmenite	
..	totally oxidised opaque oxides	
..	totally oxidised pyrite cubes	
..	rutile, sphene and leucoxene	
..	carbonate (?siderite or ankerite)	
..	staurolite, crowded with minute inclusions	

.. andalusite)
) trace
.. hematite)

This assemblage is not exclusively diagnostic of a specific source rock, but it would suggest a lower amphibolite facies metamorphic rock, which has derived from an impure dolomitic, silty to pelitic sediment, possibly involving localised thermal metamorphism.

A study of all other panned concentrate samples 949679 to 949692 under binocular microscope indicates essentially the same assemblage of minerals, although minor schistose muscovite, marititised-magnetite, and tourmaline, also trace epidote, corundum and ?kuanite, are variably present throughout the samples.

Sample 949687 is unique in that about 90% of it consists of single, euhedral (rhombic-dodecahedral) crystals of garnet, of even size, and pinkish-brown, pinkish to mauve and purplish colour. Most contain minute inclusions of black opaque oxides. Green actinolite, brownish staurolite? and black euhedral magnetite grains make up the other 10% of this sample.

Rare garnet grains in this sample are composite with fine quartz-actinolite aggregate.

II

099

CRA EXPLORATION PTY. LIMITED

SIXTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH JUNE, 1983.

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AUTHOR: G.J. BUBNER

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S.A.D.M.E.

DATE: 28TH JULY, 1983

SUBMITTED: FOR G.J.BUBNER

ACCEPTED BY:

12253

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1. SUMMARY & CONCLUSIONS

During the quarter detailed geological and geophysical investigations were completed on two prospects; Mt. Rhine Mine and Schneider's Gossan.

a. Mt. Rhine Mine: Mapping and channel sampling of a net veined quartz-sericite breccia along a fault zone within Lower to Middle Cambrian metasediments returned maximum gold and silver assays of 1.3 p.p.m. and 11 p.p.m. respectively. This is an order of magnitude less than that previously recorded. Elevated base metal values were obtained from channel sampling of an impure marble unit (maximum 1.1% zinc, 4700 p.p.m. lead, 9 p.p.m. silver). Five lines of 100 metre dipole-dipole I.P. across the fault breccia did not produce any response worthy of follow up, although a sixth line across the marble unit revealed a 20 mV/v chargeability anomaly. A 150 metre percussion hole will be drilled to test the source of this anomaly.

b. Schneider's Gossan: Detailed gravity and magnetics data has been acquired over a 3.8 kilometre strike north and south of Schneider's Gossan. Various magnetic rock types mapped in the area such as volcanics, marbles and ironstones are responsible for strong magnetic anomalies. A 0.5 milligal gravity anomaly is partly coincident with one of these anomalies. Two Sirotem traverses revealed weak anomalies over the gossan and gravity/magnetic anomaly. Assays of rock chip and float samples are generally low, with maximum 210 p.p.m. copper, 280 p.p.m. lead and 530 p.p.m. zinc. It is planned to drill a 100 metre hole into the gossan, and a 150 metre hole to establish the source of the gravity/magnetic anomaly.

2. INTRODUCTION

Mount Karinya E.L. 947 covers an area of 1 150 square kilometres centred approximately 75 kilometres north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981 for a period of twelve months and was renewed for a further twelve month period on the 11th of December, 1982.

This report describes the work carried out during the quarter ending the 10th of June, 1983.

3. RECOMMENDATIONS

a. Mt. Rhine Mine - drill-testing of I.P. anomaly and assessment.

b. Schneider's Gossan - drill-testing of gossan and gravity/magnetic anomaly, and assessment.

4. WORK CARRIED OUT

4.1 Mt. Rhine Mine

4.1.1 Geology

The Mount Rhine Mine is situated approximately three kilometres west of Cambrai. Shallow workings occur in a mineralised quartz-sericite breccia associated with a steeply dipping ENE-WSW trending fault zone. Two impure, bedded marble units containing rare clusters of coarse galena crystals are truncated by the fault in close proximity to the mine workings. The geology of the area surrounding the fault zone and the marble unit was mapped at 1:5000 (plans SAa 2226, 2224).

Stratigraphy

The mapped area is underlain by Lower to Middle Cambrian metasediments of the Strangway Hill and Inman Hill Formations. The Strangway Hill Formation has been divided into two units. The lower unit (Unit 1) is at least 1400 metres thick and consists of fine to medium grained sandy schists, and porphyroblastic andalusite schists interbedded with thin (<3 metres) calc-silicate lenses. The calc-silicates (quartz-actinolite/tremolite-chlorite±scapolite assemblage) outcrop as low ridges above the schist lithologies and can be traced for several hundred metres along strike. Several irregular pods of coarse grained amphibole-feldspar rocks (?meta-igneous mafic rocks) outcrop within this unit in the eastern part of the area. The upper unit (Unit 2) unconformably overlies the lower unit and is comprised predominantly of fine to medium grained, siliceous quartz-biotite schists, calcareous siltstones and sandy biotite schists. These rocks are generally dark coloured in fresh section but weather to a rusty brown colour in outcrop. An impure, bedded, grey-white marble member (Milendella Limestone Member) up to 75 metres thick occurs within the upper part of this unit. Tight folding has resulted in the thickening and repetition of this member in the mapped area.

Conformably overlying Unit 2 is a sequence of light coloured, medium grained, quartzo-feldspathic sandstones, quartzites and minor sandy biotite schists of the Inman Hill Formation. The more siliceous rocks of this unit form bare, rubbly outcrops. Minor tight drag folding occurs within this unit.

Structure

The mapped area lies on the eastern limb of the Karinya Syncline. The bedding generally trends 360° and dips steeply (60°-70°) to the west. Axial plane cleavage dipping steeply (75°-90°) toward 270° is developed throughout the area. Tight mesoscopic to macroscopic drag folds plunging 20°-50° to 360° occur in the upper two units.

The major structure in the area is the cross cutting reverse slip (60°) fault. The rocks of the lower unit of the Strangway Hill Formation (Unit 1) have been thrust over rocks of the two younger units. Displacement of the bedding along the fault indicate oblique movement of the fault blocks. A net veined quartz sericite breccia up to 25 metres wide is associated with the fault. Several mesoscopic faults roughly parallel to the major reverse slip fault occur within the area.

Jointing is a common feature of the rocks in the mapped area being more pronounced in the more siliceous rocks. The dominant joint set developed in the area (50°-60° towards 150°) roughly parallels the major fault.

Sampling

Forty-five surface rock chip samples were collected and assayed for copper, lead, zinc, bismuth, manganese, silver and gold by A.A.S. techniques and uranium by X.R.F. Selected samples were also analysed for arsenic, barium, antimony, tin, tungsten and tantalum by X.R.F. and mercury by A.A.S. Sample locations are shown on plan SAa 2226. Full assay results and sample ledgers are presented in Appendix I.

Two metre rock chip channel samples were collected along three traverses across the eastern end of the fault zone, where previous rock chip sampling had returned anomalous gold and silver assays (14.2 p.p.m., 530 p.p.m. respectively). Maximum gold and silver assays were 1.3 p.p.m. and 11 p.p.m. respectively. Elevated gold and silver assays were returned over the following intervals; 10 metres averaging 0.56 p.p.m. gold (range 0.2-1.3 p.p.m.) and 3.4 p.p.m. silver (1-5 p.p.m.) on traverse 3 and 6 metres averaging 0.56 p.p.m. gold (0.2-0.8 p.p.m.) and 5.6 p.p.m. silver (2-11 p.p.m.) on traverse 2. The results are presented on plan SAa 2225.

Five metre rock chip channel samples were collected along a traverse across the sideritic alteration zone in the eastern marble unit of the Milendella Limestone member. Rare clusters of coarse galena crystals occur in this alteration zone. Anomalous zinc (1.1%), lead (4700 p.p.m.) and silver (9 p.p.m.) assays were returned from the western margin of the alteration zone.

4.1.2 Geophysics

4.1.2.1 I.P. Survey

Six lines of I.P. were completed at the Mt. Rhine Mine Prospect; five lines over the ENE-WSW fault zone, and one line over a wedge of carbonate rock to the north. The survey was carried out by Solo Geophysics and Co. over the period 29th April-6th May, 1983, using a 100 metre dipole-dipole configuration with a Huntec 7.5 kVA transmitter and Huntec MkIV receiver. The northern line was repeated on 9th June after insulating a fence perpendicular to the line at 350 metres east.

The pseudo-sections are plotted in plan nos. SAa 2153-2154, SAa 2164-2167 and SAa2244. The traverses across the fault zone display very high resistivities, typically 1000-3000 Ωm. Lines 100E and 300E are relatively 'flat', with chargeabilities varying only slightly from 6 to 10. On lines 500E, 700E and 900E the fault is reflected by a chargeability and vague apparent resistivity anomaly at 750N. The southern side of the anomaly is stronger than the northern side, indicating a south dip; this is consistent with the observed geology. There are no other features of interest apparent in the pseudosections across the fault.

The east-west traverse to the north displays a definite apparent resistivity and chargeability anomaly centred over the contact between the schists and marble member of Unit 2.

4.1.2.2 Magnetics Survey

The isolated northern line was surveyed at 10m intervals with ground magnetics, using a GEM GSM-8 magnetometer. The total field profile is plotted in plan no. SAa 2234.

4.1.3 Proposed Drilling

It is proposed to drill test the I.P. chargeability anomaly on the northern line using a percussion rig. An interpretation of the I.P. data is shown in plan no. SAa 2242, and the drill-section is plotted in plan no. SAa 2243. The proposed 150 metre inclined hole would be cased off with PVC, and geophysically logged.

4.2 Schneider's Gossan

4.2.1 Geology

Schneider's Gossan outcrops in the south bank of Pine Creek near the old Waterfall Station homestead (plan no. SAa 1832). Several creeks in the area of the gossan were traversed and mapped at 1:5000 scale (plan no. SAa 2227).

The area lies on the western fault bounded margin of the Murray Basin and much of the eastern half of the area is covered by unconsolidated Cainozoic sediments. Grey, green and brown shales, siltstones and quartzites of the Cambrian Strangway Hill Formation predominate in the western part of the area. The gossan itself occurs within the major north-south trending Palmer Fault zone. The host rocks are altered, brecciated, pyritic and carbonaceous shales. Fragments of porphyritic volcanic occur within the breccia adjacent to the gossan. Outcrop of a porphyritic andesite and a dense meta-?basalt (epidotised phenocrysts in a dark green chlorite/amphibole matrix) occur approximately 1.5 kilometres north of the gossan. Impure grey marble float occurs adjacent to these volcanics. Both the volcanics and the marble are variably magnetic (magnetic susceptibilities up to 2000 x 10^{-5} SI). A small outcrop of gossanous ironstone occurs in the creek approximately two kilometres north of the main gossan. Quartz-ironstone breccia subcrop and float occurs intermittently along the fault zone. Twenty-one rock chip and float samples collected from the area were submitted for petrology or geochemical analysis. Sample locations are shown on plan no. SAa 2227. Sample ledgers and petrological descriptions occur in Appendix I. Geochemical assays were generally low, maximum values being 210 p.p.m. copper, 280 p.p.m. lead and 530 p.p.m. zinc, returned from bleached shales which outcrop in the southern creek along strike from the gossan.

Several thin (<1 metre) lamprophyre dykes intrude the Cambrian rocks to the west of the main gossan. The lamprophyres are described as flow textured phlogopite-orthoclase rocks and contain abundant accessory apatite (3-7%). A sample of one of the lamprophyres has been submitted for mineralogical observation. Results are awaited.

Bedding in the area generally trends to the north and dips steeply (50°-70°) to the west. Open mesoscopic drag folds occur in the Cambrian rocks in the north-western part of the area. These folds plunge 30°-50° to the north.

4.2.2 Geophysics

4.2.2.1 Gravity Survey

Nineteen gravity traverses have been completed across the interpreted strike extension of the gossan. The data was acquired by Solo Geophysics & Co. over the period 19th April-7th May, using a La Coste and Romberg gravity meter. Reading interval was 25 and 50 metres on east-west lines 200 metres apart. Elevations were obtained by optical levelling, and the data reduced to an arbitrary datum. The error in the Bouguer gravity values is estimated at +/- 0.02 milligals. All data is attached in Appendix II.

The Bouguer gravity contours are shown in plan no. SAa 2201. The most prominent feature is an inflexion of 0.5-1.0 milligal caused by the Palmer Fault. Superimposed on this is a 0.5 milligal high at 337300mE extending from 6196400mN to 6196900mN, corresponding in part to the mapped marble and volcanic units near or in the fault.

4.2.2.2 Magnetics Survey

Ground magnetics data was acquired on east-west traverses spaced 200 metres apart over a strike length of 3.8 kilometres. Readings were taken at ten metre intervals, closing to five metre intervals over the central half of each traverse. The data has been diurnally corrected, and is shown in contour form in plan no. SAa 2217. Schneider's Gossan occurs at the northern end of a 1000nT anomaly, and a 2000nT anomaly is partly coincident with the gravity anomaly.

4.2.2.3 Sirotem Survey

Two traverses of 100 metre displaced loop T.E.M. were completed by Solo Geophysics and Co. using a Mark II Sirotem unit. Readings were taken at 50 and 25 metre intervals on lines 6195250mN and 6196650mN. This data is shown in profile and apparent resistivity pseudo-section format in plan nos. SAa 2236-2239. The major feature of each profile is the decreasing resistivities to the east; this is a

function of the differing lithologies on each side of the fault, and the increasing depth of overburden to the east. A weak anomaly is observed on each line approximately coincident with the fault zone.

4.2.3 Proposed Drilling

It is planned to drill test two features at this prospect;
a) the gossan at depth, and
b) the semi-coincident gravity/magnetic anomaly;
with an inclined percussion hole of 100 and 150 metres depth respectively. It is intended to case the holes with PVC, and obtain geophysical logs. The proposed drillsections are shown in plan nos. SAa 2240 and SAa 2241.

G.J. BUBNER

GJB/pw

EXPENDITURE

Expenditure for the period ended 31st May, 1983, the nearest accounting period, amounted to $22 430.00, comprising:-

	$
Salaries and Wages	6 619
General Supplies	88
Vehicles	313
Travel and Accomodation	425
Rent and Property	349
Tenement Payments	2
Contractors	9 830
Assaying	209
General Overheads	4 595
	$22 430

KEYWORDS

Assays-surf.(rock), Geochem.-rock, Gossan, Geophys.-mag., Geophys.-grav., Geophys.-I.P., Geophys.-E.M.

LOCATION

Adelaide SI 54-9 1:250 000

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	E.L. Application Mt. Karinya	1:250 000
SAa 1832	Location Map - Schneider's Gossan and Truro Ironstone	1: 50 000
SAa 2153	I.P. Pseudosection Mt. Rhine Prospect Line 300E	1: 5 000
SAa 2154	I.P. Pseudosection Mt. Rhine Prospect Line 500E	1: 5 000
SAa 2164	I.P. Pseudosection Mt. Rhine Prospect - Northern Line	1: 5 000
SAa 2165	I.P. Pseudosection Mt. Rhine Prospect Line 100E	1: 5 000
SAa 2166	I.P. Pseudosection Mt. Rhine Prospect Line 700E	1: 5 000
SAa 2167	I.P. Pseudosection Mt. Rhine Prospect Line 900E	1: 5 000
SAa 2201	Schneider's Gossan - Bouguer Gravity Contours	1: 5 000
SAa 2217	Schneider's Gossan - Residual Total Field Ground Magnetic Contours	1: 5 000
SAa 2224	Mt. Rhine Mine - Geological Section	1: 5 000
SAa 2225	Mt. Rhine Mine Area - Surface Rock Chip Sample Traverses - Gold and Silver Assays (p.p.m.)	1: 1 000
SAa 2226	Mt. Rhine Mine - Geological Plan	1: 5 000
SAa 2227	Schneider's Gossan Geological Traverses	1: 5 000
SAa 2234	Mt. Karinya E.L. 947 Ground Magnetics Profile - Mt. Rhine Mine Prospect	1: 5 000
SAa 2236	Schneider's Gossan-Sirotem Profiles - Line 6195250N	1: 5 000
SAa 2237	Schneider's Gossan-Sirotem Profiles - Line 6196650N	1: 5 000
SAa 2238	Schneider's Gossan-Apparent Resistivity pseudo-section 6195250N	1: 5 000
SAa 2239	Schneider's Gossan-Apparent Resistivity pseudo-section 6196650N	1: 5 000

LIST OF PLANS (cont.)

Plan No.	Title	Scale
SAa 2240	Schneider's Gossan-Proposed Drillhole 83SGP1	1: 1 000
SAa 2241	Schneider's Gossan-Proposed Drillhole 83SGP2	1: 1 000
SAa 2242	Interpretation of I.P. Data - Northern Traverse - Mt. Rhine Mine Prospect	1: 5 000
SAa 2243	Mt. Rhine Mine Prospect - Proposed Drillhole 83MRNP1	1: 1 000
SAa 2244	I.P. Pseudosection - Mt. Rhine Prospect - Northern Line (repeat)	1: 5 000

LIST OF APPENDICES

Appendix I	Geochemical Assay Results and Petrographic Reports
Appendix II	Schneider's Gossan Gravity Survey Data

APPENDIX I

GEOCHEMICAL ASSAY RESULTS AND PETROGRAPHIC REPORTS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA SHEET.

PAGE N°

Area: MT KARINYA | Collected: P. LEWIS | Analysed by COMLABS, PETROLOGY BY PONTIFEX

SCHNEIDERS GOSSAN

Map ref: | Date collected JUNE 83 | Date anal. rec. 14-7-83

Photo name | Date to lab: 8-7-83 | Plan no:

Run No: | D.P.O. No: 739 | Report no:

Less than detection limit [-]

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.

Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (cm)	AREA (sq.cm)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Bi	Fe	Mn	Cr	Ag	Mo	V	Cd	As	Nb	Sn	W	U	Au
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	XRF	XRF	AAS
DETECTION LIMIT (ppm)									2	4	2	4	4	4	4	4	4	1	4	10	1	2	2	4	10	4	0.05
									Metal Content (ppm)																		
953046			1	10			1	BLEACHED, MOTTLED SHALES, MINOR PLATY FE OXIDES	210	280	530	36	34	–	6.7%	440	12	1	–	60	–	105	14	–	10	–	–
047			1				1	HARD GREEN-WHITE CALCRETISED SHALE	28	60	50	8	6	–	0.9%	240	8	1	–	50	–	16	10	8	–	–	–
048			1				3	PHLOGOPITE RICH LAMPROPHYRE? ✓	N/A																		
049			1	2			1	BLEACHED, KAOLINITIC SHALES, FROM BRECCIATED ZONE	16	10	14	10	10	–	2.4%	130	8	–	–	20	–	3	18	6	15	–	–
050			1				1	GOETHITIC – LIMONITIC V. LIGHT GOSSANOUS ROCK	34	100	185	60	80	–	43.0%	2.5%	28	2	14	30	–	6	6	4	–	–	–
051			2				1	VESICULAR, GREY, IRON RICH, VOLCANIC	20	16	80	22	20	–	22.0%	300	10	1	–	90	–	120	38	–	–	–	–
052			2				1	GREY VESICULAR VOLCANIC, GLASSY.	14	30	22	6	24	–	2.9%	130	24	1	–	140	–	5	60	4	10	–	–
053			2				1	DARK GREEN META-BASART, DENSE, EPIDOTE ALTERATION	34	22	120	16	34	–	6.5%	1050	14	1	–	160	–	5	65	–	–	–	–
054			2				1	DARK GREY PORPHYRITIC VOLCANIC – DACITIC	34	8	22	10	10	–	6.0%	70	12	1	–	310	–	30	70	4	–	–	–
055			1				1	DARK GREEN MASSIVE EPIDOTISED VOLCANIC META-BASALT	30	20	125	26	36	–	4.6%	840	20	1	–	140	–	5	46	–	–	–	–
056			1				3	LAMPROPHYRE (– CHRIS SMITH.)	N/A																		
057			1				1/3	LAMPROPHYRE – AS ABOVE BUT MORE SILICEOUS?	80	24	65	180	28	–	4.2%	260	190	1	–	380	–	8	30	4	–	4	–
058								NO SAMPLE.																			
059			1				3	LAMPROPHYRE - HARD, RED-BN, ROCK-MARKED	N/A																		
060			1				1/3	LAMPROPHYRE - HARD, GREY, SILICEOUS	130	30	65	175	28	–	4.6%	960	170	1	–	320	–	5	20	–	–	6	–

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C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA SHEET.

113 PAGE No. 1

Area: MT KARINYA
Map ref:
Photo name
Run No:

Collected: G. BUSNER, P. LEWIS
Date collected MAY-83
Date to lab: 9-5-83
D.P.O. No: 732

Analysed by COMLABS, PETROLOGY BY PONTIFEX
Date anal. rec. 25-5-83
Plan no:
Report no:

SCHNEIDERS GOSSAN (949551-556)
MT RHINE MINE (949557-560)

Less than detection limit [-]

Sample types: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

ANALYSIS METHOD	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	AAS	AAS	AAS												
DETECTION LIMIT (ppm)	2	4	2	4	1	4	2	4	10	1	4	0.05												

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Metal Content (ppm) Cu	Pb	Zn	Co	Cd	Mn	As	Sn	W	Ag	Bi	Au
949551			2				1	VEIN QUARTZ WITH TOURMALINE CRYSTALS	10	10	6	—	—	32	2	—	—	1	—	—
949552			2				1	QUARTZ-MAGNETITE-FELDSPAR-VOLCANIC? BRECCIATED	18	42	32	10	—	1700	5	4	—	—	—	—
553			2				3	AS ABOVE — BRECCIATED LEUCO-PORPHYRITIC DIORITE	N/A											
554			2				3	QUARTZ-MAGNETITE-HEMATITE BRECCIA	N/A											
555			1				1	FE-STONE BRECCIA MINOR GOSSANOUS: BOXWORKS	16	60	36	55	—	3.6%	38	4	20	—	—	—
556			1				3	AS ABOVE - QUARTZ-MICA-ROCK, BRECCIATED	N/A											
557			1	2			1	BLEACHED QUARTZ-SERICITE SILTSTONE BRECCIA	14	—	28	50	—	6000	12	—	10	—	—	—
558			1				1	IRON-STAINED QUARTZ-SERICITE BRECCIA	170	760	50	12	—	2100	160	—	10	7	—	0.2
559			1				3	AS ABOVE — MT RHINE MINE EAST	N/A											
560			1				3	AS ABOVE - BANDED.	N/A.											

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA SHEET.

114 PAGE No. 1 of 2

Area: Mt Karinya
Map ref: 6728 - IV
Photo name
Run No:

Collected: P. Lewis
Date collected 25-5-83 → 1-6-83
Date to lab: 3-6-83
D.P.O. No: 735

Analysed by COMLABS - PETROLOGY PONTIFEX
Date anal. rec. 23-6-83
Plan no: SAa 2226
Report no:

Mt Rhine Mine Area

Less than detection limit [-]

Sample type: 1. Chip 2. Float 3. Channel 4. Panel
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	Coordinates AMG/Long./Lat./Local EAST	NORTH	Sample Type	Width (m)	Area (sq.m)	No. Chips	Test		Cu	Pb	Zn	Bi	Ag	Mn	Au	U	Ba	Sb	Sn	As
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	XRF	XRF
DETECTION LIMIT (ppm)									2	4	2	4	1	4	0.05	4	10	4	4	2
									Metal Content (ppm)											
953001			1	0.5			1	Siliceous greenish brown, slightly ferruginous schist	80	600	460	–	1	180	–	–				
002			1	0.5			1	Mottled clays	170	480	1500	–	1	270	–	–				
003			1	0.75			1	Siliceous, ferruginous green schist	120	770	400	–	2	1600	0.10	–	160	6	6	50
004			1	1			1	Sulphide, ferruginous clay - breccia	600	2-4%	4900	12	40	1-10%	3.20	–	40	18	–	50
005			1				1/3	Feldspar - quartz - chlorite - schist	20	55	28	–	1	310	–	–				
006			1	0.9			1	Mottled green, brown, ferruginous clays.	620	700	1100	4	22	2900	0.20	–				
007			1				1/3	Scapolite - actinolite - mica rock extensive carbonate veining	90	10	22	–	1	420	–	6				
008			1	5			1	Extensive carbonate veined amphibole - mica schists.	42	10	18	–	1	1300	–	–	190	4	–	3
009			1	2			1	Quartz - muscovite - sericite schist.	140	65	40	–	1	780	–	–				
010			1				1/3	Chlorite - biotite hornblende - schist	34	8	46	–	1	400	–	–				
011			1				1	Quartz - fe veining in quartzitic schist	8	8	26	–	1	1-00%	–	–				
012			1	2			1	Quartz - sericite schist brecciated.	20	1050	1050	–	1	1200	–	–				
013			1	1			1	Quartz - sericite schist broken.	90	3000	260	–	3	120	1.30	–				
014			1	2			1	Net veined quartz - sericite breccia, limonite	120	2000	1000	–	3	1650	–	–	230	–	–	40
015			1	2			1	and manganese oxides, minor quartz	110	2800	2100	–	3	1600	–	–				
016			1	2			1	veining in 017.	95	1800	1600	–	1	1200	–	–				
017			1	2			1		28	540	650	–	1	1050	0.15	–				
018			1	2			1		80	1450	1400	–	1	1200	–	–				
019			1	2			1		330	130	240	–	11	5100	0.70	–				
020			1	2			1		280	280	190	–	4	2400	0.50	–				
021			1	2			1		180	170	430	14	2	1100	0.20	–				
022			1	2			1	Net veined quartz sericite breccia, minor	70	100	250	–	1	960	–	–				
023			1	2			1	siliceous clays, limonite and manganese	110	100	180	6	1	1500	–	–	220	8	–	100
024			1	2			1	veining.	60	75	160	–	1	870	–	–				
025			1	2			1		80	160	450	–	1	1200	–	6				
026			1	2			1		55	170	590	–	1	810	0.20	–				
027			1	2			1		170	140	140	–	1	1650	–	–				

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA SHEET.

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Area: MT KARINYA
Map ref: 6728-IV
Photo name
Run No:

Collected: P. LEWIS
Date collected MAY 83
Date to lab: 3-6-83
D.P.O. No: 735, 734

Analysed by COMLABS - PETROLOGY PONTIFEX
Date anal. rec. 23-6-83
Plan no: 2226
Report no:

MT RHINE MINE AREA

Less than detection limit [-]

Sample Type: 1. Chip 2. Float 3. Channel 4. Panel
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Bi	Ag	Mn	Au	U	Ba	Sb	Sn	As
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	XRF	XRF
DETECTION LIMIT (ppm)									2	4	2	4	1	4	0.05	4	10	4	4	2
									Metal Content (ppm)											
953028			1	2			1		240	100	85	-	2	560	-	-				
029			1	2			1		350	130	40	12	8	1100	-	-				
030			1	2			1		160	80	65	-	4	610	-	-				
031			1	2			1		270	55	60	16	4	1500	0.40	-				
032			1	2			1	Net veined quartz sericite breccia, limonite and manganese oxides, minor clayey bands.	360	44	75	6	5	1550	0.30	-				
033			1	2			1		560	42	46	30	5	1450	1.30	-	200	8	8	90
035			1	2			1		250	55	34	40	2	1100	0.60	-				
036			1	2			1		120	30	55	-	1	850	0.20	-				
037			1	2			1		160	22	48	-	5	1700	0.10	4				
038			1	2			1		190	26	30	-	1	1500	0.10	-				
039			1	5			1		14	195	160	-	1	7400	0.10	-				
040			1	5			1		10	65	75	-	2	9300	-	-	50	-	6	8
041			1	5			1	Cream - buff recrystallised siliceous marble with brown siderite? alteration, rare coarse galena clusters - not sampled.	10	90	110	-	2	8200	-	-				
042			1	5			1		12	60	260	-	2	8500	-	-				
043			1	5			1		12	810	370	-	11	8800	-	-				
044			1	5			1		16	4700	1-10%	-	9	8100	-	-				
045			1	2			1	Finely net veined quartz sericite schist - brecciated.	14	6	16	-	1	430	-	-	380	-	-	9
034			1				1/3	Red hematitic - siderite altered marble.	10	8	34	-	1	530	-	-				

SAMPLE 003, 004, 008, 014, 023, 033, 040, 045 ALSO ANALYSED FOR W, Ta, Hg. SAMPLES 004, 023, 040 RETURNED 20 ppm W, 045 15 ppm W, 004 RETURNED 0.10 ppm Hg ALL Ta ASSAYS BELOW DETECTION LIMIT.

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4028

24th May, 1983

TO:	Mr. Paul Lewis, CRA Exploration PO Box 254, NORWOOD S.A. 5067
COPY TO:	The Administrator, CRA Exploration, PO Box 254 NORWOOD S.A. 5067
YOUR REFERENCE:	Order No. B0731
MATERIAL:	Rock samples (Cambrai)
IDENTIFICATION:	949553, 54, 56, 59, 60
WORK REQUESTED:	Thin section (one polished section of 949556), microscopic examination and description
SAMPLES & SECTIONS:	Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

949553 : sheared and more extensively brecciated, leuco-porphyritic-dioritic high level intrusive or possible extrusive, albitised and locally silicified;
invaded and largely replaced by (oxidised) siderite, minor calcite;
thin vein of quartz, chlorite, oxidised magnetite.

Irregular breccia fragments up to 10 mm maximum dimension occur as a chaotic, loose-packed aggregate, to form about 70% of this rock. Most of these fragments consist of tectonised porphyry, seen as deformed plagioclase phenocrysts up to 2.5 mm irregularly scattered through a fine crystalline groundmass of stressed, vaguely flow-oriented albitic plagioclase laths with minor small patches of quartz more-or-less interstitial. Fine apatite is an unusually abundant accessory phase, also minor single rhombs of ferruginised carbonate and lenses of chlorite occur locally in the groundmass.

This rock is identified as a sheared and brecciated leuco-cratic, porphyritic "diorite", albitised and to a lesser extent silicified; it may be a high-level intrusive or an extrusive.

Reddish brown areas as a matrix to these fragments consist essentially of oxidised siderite, together with minor, clearer calcite.

A fairly complex, distorted vein of quartz, chlorite and oxidised euhedral magnetite crystals locally cut through this breccia.

949554 : complex, patchy, contorted layered, (including vaguely colloform layered), mass of vein-quartz; minor small crystals of magnetite and specularite, accessory tourmaline, commonly outline a zonal layering.

This rock consists essentially of a complex mass of vein quartz. Variable textures of an elongation of quartz mosaic on different scales, commonly in poorly defined folded bands with very small euhedral crystals of magnetite and/or blades of hematite also tending to follow around folds, indeed locally with a vague colloform zoning. This may be:

1. primary contorted, hydrothermal quartz, magnetite, hematite mineralisation, or

2. conceivably these components pervasively replace a former folded and brecciated rock, (with bedding and axial-plane cleavage more-or-less preserved). Accessory fine chlorite selectively in some layers tends to support this.

Extremely fine dendritic-like networks of hematite are locally more-or-less intergranular to the quartz aggregate. Accessory small crystals of tourmaline occur in several small clusters, and tend to follow around some zones.

949556 : fine layered and locally fractured, fine quartz mica rock, (?cf. 949560) leached invaded and largely replaced by exotic limonite; minor boxwork/replica after carbonate but no evidence of sulphides.

This is a rather irregularly, thin layered and moderately porous ironstone with possible gossanous characteristics as seen in hand specimen. This composition rendered a polished section the most appropriate for microscopic examination.

It is thereby seen to consist almost entirely of a former rock which has been leached, very extensively invaded and replaced by exotic limonite or siliceous-limonite. Basically the former rock consisted of fine subrounded quartz and fine micas, locally vaguely schistose, locally brecciated. These remain as relicts in, and the mica is replaced by, limonite.

Localised areas of very fine limonite boxwork and replica textures after carbonate occur locally forming 5 - 7% of the rock; there is no eivdence of former sulphides.

949559 : tectonic breccia of massive fine grained quartz-sericite rock, in which the sericite is decussate and probably hydrothermal (? sericitised brecciated siltstone); limonite staining along fracture networks.

This handspecimen appears to have a fairly homogeneous composition, but it has a heterogeneous fairly fine scale fragmental structure.

In thin section it is confirmed that all domains have essentially the same composition, with a loose-packed aggregate of subrounded to sub-angular quartz grains, average and fairly consistent size 0.1 mm, within a matrix of fine decussate muscovite. Minute short needles of rutile are randomly disposed through the muscovite.

This aggregate more-or-less constitutes a massive (rutile) muscovite-quartz "hornfels"; (the muscovite is not simply metamorphic-schistose, but appears to be due to hydrothermal alteration).

A random network of fractures occurs throughout this aggregate, separating these breccia fragments of similar composition, except for the presence of more sericite in some fragments than in others. Iron staining along these fractures emphaseses the breccia texture. Minor fragments of vein quartz are incorporated in this breccia.

949560 : mixed, thin bedded to lenticular very fine sandy pelitic facies in which the pelitic domains have been sericitised partly hydrothermally as in 949559, and partly as a metamorphic schistosity; abundant iron-stained fractures.

This rock represents a similar facies as 949559, it is moderately heterogeneous, not so much due to brecciation, but rather to an original mixed sediment.

Basically, it consists of thin layers and irregular lenses of very fine quartz sand (35%), albeit with sericitic matrix, all more-or-less parallel, and intercalated at irregular intervals within a predominantly sericitic matrix (with minor dispersed quartz silt.)

The sericitic domains are quite compact, partly decussate (as in 949559), but also partly schistose. Minor numerous fractures are intensely iron-stained, and the lenticular areas are differentially iron-stained, thus tending to indicate a breccia fabric.

Pontifex & Associates Pty. Ltd.

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SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

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MINERALOGICAL REPORT NO. 4052

23rd June, 1983

TO:	Mr. Paul Lewis, CRA Exploration Pty. Ltd., PO Box 254 NORWOOD S.A. 5067
COPY TO:	The Administrator, CRA Exploration Pty. Ltd., PO Box 254 NORWOOD S.A. 5067
YOUR REFERENCE:	Order No. B0734
MATERIAL:	Rock samples.
IDENTIFICATION:	953005, 007, 010, 011, 034. Also 953049 delivered separately at a later date.
WORK REQUESTED:	Thin section and petrographic description.
SAMPLES & SECTIONS:	Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

953005 : extremely fine, quartzite, with
poikiloblastic actinolite;
and minor scattered fine biotite.

This rock consists mainly of a massive, homogeneous granoblastic aggregate of quartz, and slightly less abundant albitic plagioclase. This aggregate incorporates ragged patches of intergranular/poikiloblastic actinolite (10-15%) with an overall grainsize to 5 mm in length. Accessory, fine opaque oxide grains, and patches with oriented biotite occur locally.

The original rock type is not clear, but it may have been an impure dolomitic or sideritic, argillaceous, very fine quartz sandstone.

953007 (A) : relicts of fractured tremolite rock incorporated in an extensive cement of supergene carbonate and limonite (calcrete)

This rock contains ill-defined patches and grains of tremolite to 5 mm across, extensively fractured and randomly disposed through a heterogeneous matrix of clouded, micro to cryptocrystalline secondary carbonate ± limonite. The carbonate-(calcite)-limonite is almost certainly of supergene origin and appears to represent a calcrete horizon.

953007 (B) : micro-fractured scapolite-actinolite rock, minor primary carbonate, extensive pervasive secondary (supergene) carbonate cement of calcrete type; (metamorphosed very impure dolomite/ limestone facies)

This is a crudely layered rock with lenses and layers rich in polygonised prisms of scapolite, to 5 mm long, alternating with lenses rich in unoriented pale green actinolite grains 0.5 - 2 mm in length. These components are extensively micro-fractured. Very minor primary granular calcite and traces of quartz occur in some of the scapolite.

The whole rock is pervaded by veins of supergene calcite (calcrete), of the type which dominates 953007 (A).

953010 : biotite-chlorite-dolomite-actinolite schist, with calcrete veins; (metamorphosed very impure dolomitic facies)

This is a highly irregularly layered rock, with lenses and layers variously rich in chlorite, actinolite and fine crystalline dolomite. The actinolite is zoned with green cores and paler rims, and occurs as poorly oriented prisms to 3 mm long, commonly with basal fractures, and defines a weak schistosity.

The chlorite is strongly schistose, and fine grained; chlorite lenses and laminae locally contain minor altered biotite (now possibly vermiculite ?).

The carbonate is dolomite, and occurs sporadically as lenses to 10 x 1 mm parallel to the chlorite schistosity.

Fine opaque oxides (oxidised magnetite) are disseminated, and there are cross-cutting veins of supergene calcite (calcrete).

953011 : Sericitic metaquartzite, cut by a zoned quartz vein, incorporating fragments of sandstone and layers of limonite after carbonate.

This sample is a sericitic metasediment, composed of a loose quartzitic aggregate with a grain size of 0.1 to 0.2 mm, with a ubiquitous, moderately schistose sericitic matrix. Fragments of this sandstone, with more-or-less "hydrothermal" mica development, occur in a composite vein of quartz and limonite. The limonite has relict textures to indicate that it derived from a carbonate such as siderite, and occurs in layers parallel to the vein wall in a zone 4 - 8 mm wide, and in thin off shoots cutting the metasandstone.

Granular to prismatic quartz occurs between the limonitic layers (with interstitial limonite) and in the 8 mm wide core of the vein. Sericite, limonite and rock fragments occur in the core of the vein.

953034 : layered, schistose, impure carbonate rock with lenses and disseminations of quartz, and fine white mica; carbonate completely limonitised.

This rock is composed dominantly of limonite with residual partly limonitised lenses of fine grained granular carbonate.

Other lenses in the rock consist of granular quartz and schistose white mica, between 0.2 and 1 mm wide, and discontinuous. They occur in well defined layers about 5 mm wide alternating with more limonite rich layers with disseminated quartz and mica.

There is a cross-cutting vein of limonite, also probably originally of carbonate.

953048 : flow textured lamprophyre of minette type; abundant accessory apatite, fine disseminated magnetite, rare scattered quartz.

Abundant strongly oriented pale phlogopite crystals (40%) occur throughout a groundmass of diffuse-microcrystalline K-spar (50%), apparently orthoclase.

The phlogopite crystals have "battlemented" ends and narrow darker (? iron rich) margins. The alkali felspar is mainly granular but is euhedral when projecting into patches of minor, late-magmatic quartz (3%).

Apatite is abundant (5 - 7%) as needles and prisms 0.1 - 1 mm long, and very fine euhedral crystals of oxidised magnetite are disseminated.

Patches of clay-stained limonite are common.

Pontifex & Associates Pty. Ltd.

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SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4071

13th July, 1983

TO: Mr. P. Lewis,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD S.A. 5067

YOUR REFERENCE: Order No. B0737

MATERIAL: Rock samples

IDENTIFICATION: 953057, 059, 060

WORK REQUESTED: Thin section preparation
and petrographic description

SAMPLES & SECTIONS: Returned to you
with this report

PONTIFEX & ASSOCIATES PTY. LTD.

953057 : flow-textured and vaguely porphyritic phlogopite-orthoclase rock, accessory apatite disseminated magnetite; classified as a lamprophyre of minette type (cf. 953048)

At least 35% of this rock consists of similarly oriented flakes of phlogopite, up to 0.15 x 1.5 mm in size. These have a fairly even distribution through a groundmass of intricately interlocking ill-defined laths of orthoclase, with rare plagioclase, mostly with a similar orientation to the prevailing direction of the phlogopite flakes.

The phlogopite crystals have "battlemented" ends, and darker brown (iron-rich) margins surrounding a paler core. Abundant very fine flakes (0.1 mm) of phlogopite, also of euhedral magnetite crystals (5 - 7%) and ultrafine leucoxene (1 - 2%) are disseminated through the groundmass. Accessory crystals of apatite (3 - 5%), rarely up to 1.5 mm long, are randomly scattered. Rare small quartz grains are interstitial.

953059 : oxidised/limonitised, flow-textured (including minor spherulitic texture) phlogopite-orthoclase lamprophyre of minette type;
accessory disseminated apatite and very fine magnetite (cf. 953048, 057), but also with minor scattered, oxidised carbonate as in 953060

This has essentially the same composition as 953057 (and 953048), but the primary texture in the groundmass is slightly different; there is slightly more apatite present, and the rock is more oxidised.

It consists of rather ragged flakes of pale brown phlogopite flakes (35%) with darker brown rims, with an even and generalised common orientation throughout a fine crystalline groundmass dominated by orthoclase laths. Many of these laths have a similar, flow orientation, but commonly they are arranged in small spherulitic clusters.

Small crystals of apatite (5 - 7%), smaller crystals of oxidised magnetite (5%), and finer leucoxene are disseminated. Highly irregular patches and veins of limonite occur throughout and appear to be oxidised carbonate (10%), equivalent to the fresh carbonate in 953060.

953060 : flow-textured phlogopite-orthoclase, lamprophyre of minette type; minor scattered dolomite and disseminated very fine magnetite

This rock has virtually the same composition as the minette-lamprophyres 953059, 057, 048, but it contains minor carbonate (as oxidised in 953059).

Flakes of pale brown phlogopite (35%), with darker brown rims and "battlement" ends, have a mainly common orientation throughout this rock. They occur within a groundmass of fine laths and some wedge-shaped crystals of orthoclase, which occur partly in the same plane as the phlogopite, but quite commonly have a spherulitic arrangement.

Irregular patches of carbonate (10 - 12%), up to 1 mm across are scattered throughout the aggregate, staining indicates that this has a ferroan-dolomite composition.

Apatite appears to be absent from this sample.

APPENDIX II

SCHNEIDER'S GOSSAN GRAVITY SURVEY DATA

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 134

LOOP | METER | D D M M Y Y | B | STAFF OPERATOR

0 0 5 | 5 5 6 | 2 1 0 4 8 3 | L | K. LEECH

COVERAGE

LINE 4 1 0 0 N

FROM 7 4 2 5 E TO 7 2 0 0 E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG-RB6	LINE	COMMENTS
0 0 0 0 0 0 0	0 0 0 0 0 3	3 1 6 2 9 9	0 9 0 0	9 0 9 2		6 3 1 5		
4 1 0 0	7 1 4 2 5	6 1 0 0 1	0 9 1 1 0	1 0 3 3 3		6 1 1 6		6348
	7 1 4 0 0	6 0 8 8	0 9 1 1 4	1 0 4 8 4		6 1 0 4		6366
	7 1 3 7 5	6 0 7 2	0 9 1 1 8	1 0 6 4 1		6 0 8 8		6382
	7 1 3 5 0	6 0 5 4	0 9 1 2 1	1 0 7 1 0		6 0 7 0		6390
	7 1 3 2 5	6 0 3 3	0 9 1 2 5	1 0 8 8 7		6 0 4 9		6392
	7 1 3 0 0	6 0 1 9 1	0 9 1 2 8	1 0 9 5 8		6 0 3 4		6392
	7 1 2 7 5	5 9 9 9 1	0 9 1 3 2	1 1 0 7 1		6 0 1 4		6395
	7 1 2 5 0	5 9 7 2 1	0 9 1 3 5	1 1 2 5 5		5 9 8 7		6405
	7 1 2 2 5	5 9 4 2 1	0 9 1 3 8	1 1 4 1 8		5 9 5 7		6407
	7 1 2 0 0	5 9 0 7 1	0 9 1 4 1	1 1 5 8 6		5 9 2 2		6406
4 1 0 0	7 1 3 7 5	6 0 7 2	0 9 1 4 7	1 0 6 4 1		6 0 8 7		6382 REPEAT
9 9 9 9 9 9 9	0 0 0 1 0 0 3	3 1 6 3 9 0	0 9 1 5 4	9 0 9 2		6 3 1 5		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 135

LOOP	METER	D D M M Y Y	OPERATOR
0 0 0 6	5 5 6	2 1 0 4 8 3	L K L E E C H

COVERAGE

L I N E 4 1 0 0 M

S T A R T 7 4 2 5 E T O 7 7 0 0 E

File 65.

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAG RDG	LINE		COMMENTS
0 0 0 0 0 0 0	0 0 0 0 0 3	3 1 6 3 0 0	0 9 5 4	9 0 9 2		6315			
4 1 0 0	7 4 2 5	6 1 0 2	1 0 1 0 6	1 0 3 3 3		6116		-2.48	~~65.98~~ 63.50
	7 4 5 0	6 1 1 8	1 0 0 9	1 0 1 7 9		6132		-2.17	63.35
	7 4 7 5	6 1 3 9	1 0 1 2	1 0 0 3 9		6153		-1.89	63.28
	7 5 0 0	6 1 5 5	1 0 1 5	9 9 3 0		6169		-1.68	63.23
	7 5 2 5	6 1 7 9	1 0 1 9	9 8 3 0		6193		-1.48	63.27
	7 5 5 0	6 2 0 2	1 0 2 2	9 7 3 6		6216		-1.29	63.31
	7 5 7 5	6 2 1 9	1 0 2 5	9 6 9 6		6239		-1.21	63.40
	7 6 0 0	6 2 3 2	1 0 2 8	9 5 9 7		6245		-1.01	63.33
	7 6 2 5	6 2 4 6	1 0 3 1	9 5 3 8		6259		-.89	63.35
	7 6 5 0	6 2 5 9	1 0 3 4	9 4 7 5		6272		-.77	63.36
	7 6 7 5	6 2 7 0	1 0 3 7	9 4 2 1		6283		-.66	63.36
	7 7 0 0	6 2 7 8	1 0 4 1	9 3 7 7		6291		-.57	63.35
4 1 0 0	7 5 0 0	6 1 5 7	1 0 4 7	9 9 3 0		6169		REPEAT	
9 9 9 9 9 9 9	0 0 0 0 0 3	3 1 6 3 0 3	1 0 5 3	9 0 9 2		6315			

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 136

LOOP: 1007 | METER: 5516 | D D M M Y Y: 21 04 83 | L/B: | OPERATOR: M BURROOF

COVERAGE: LINE 4300N
E.ON 7450E TO 7200E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE N	TIME	ELEVATION	STN. I.D.	MAG. DEC.	LINE		COMMENTS	
0000000	0000003	31630.3	10.53	9092		6315				
4300	7450	31610.1	11.06	10328		6122			-2.47	63.57
4300	7425	31607.7	11.10	10501		6089			2.82	63.59
4300	7400	31604.5	11.14	10741		6057			3.30	63.75
4300	7375	31599.8	11.18	11033		6010			3.88	63.86
4300	7350	31594.0	11.20	11326		5952			4.47	63.87
4300	7325	31591.1	11.23	11526		5922			5.03	63.98
4300	7300	31589.5	11.26	11613		5906			5.04	63.99
4300	7275	31586.0	11.29	11791		5871			5.42	64.09
4300	7250	31582.2	11.32	11999		5833			5.81	64.03
4300	7225	31578.9	11.35	12176		5800			6.17	64.04
4300	7200	31575.8	11.38	12338		5769		BPC	6.49	64.07
4300	7400	31604.6	11.43	10741		6057				
9999999	0000003	31630.4	11.50	9092		6315				

SOLO GEOPHYSICS LTD. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO: 84

LOOP	METER	D D M M Y Y	OPERATOR
1008	556	21048 3	M BURROWS

COVERAGE:

LINE 43000N

FROM 74500E TO 77005E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG RDG.	LINE		COMMENTS
0000000	0000003	31630241	1150	90912		6315			
43000	71450	31612121	1158	103218		6123		63559	
43000	71475	31612147	1201	101155		6157		63560	
43000	71500	31612166	1203	100923		6176		63552	
43000	71525	31612197	1206	98446		6207		63548	
43000	71550	31622209	1209	97092		6230		63542	
43000	71575	31622421	1212	95716		6252		63539	
43000	71600	31622557	1215	94710		6266		63533	
43000	71625	31622721	1217	93718		6281		63529	
43000	71650	31622886	1221	92855		6295		63525	
43000	71675	31623098	1224	92212		6307		63524	
43000	71700	31630109	1226	91158		6320		63522	
43000	71550	31622121	1231	97108		6229		63543	
9999999	0000003	31630107	1239	90912		6315			

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 138

LOOP	METER	D D M M Y Y	B	OPERATOR
10	556	21048 3	L	

COVERAGE

LINE 4500N

FROM 7450E TO 7700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG-RDG	LINE	COMMENTS
0000000	0010003	3163133	1430	90992		6315		
4500	7450	61161	1442	10119		6118		6321
	7475	61344	1446	99943		6136		6314
	7500	61553	1449	99017		6155		6315
	7525	61691	1451	98116		6171		6314
	7550	61932	1454	97124		6195		6319
	7575	62151	1457	96223		6217		6321
	7600	62371	1500	95144		6239		6327
	7625	62521	1505	94511		6253		6324
	7650	62711	1509	93722		6272		6327
	7675	62887	1513	92714		6288		6323
	7700	63022	1518	92017		6303		6325
4500	7500	61552	1525	99091		6153		6314
9999999	0010003	3163141	1536	90992		6315		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE ___ OF ___ | JOB NO:

LOOP	METER	D D M M Y Y	B	OPERATOR
00.09	556	21.04.83	L	K. L.E.E.C.H.

COVERAGE

LINE 45.00N

FROM 7450E TO 7700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	~~GRAV RDG~~	LINE	COMMENTS
00.00.00	00.00.03	31.63.09	1332	90.92		6315		
45.00	74.50	61.14	1340	10.19		6119		6319
	74.25	60.95	1344	10.283		6100		6333
	74.00	60.77	1347	10.469		6082		6352
	73.75	60.43	1355	10.738		6047		6372
	73.50	59.92	1358	11.042		5996		6388
	73.25	59.30	1401	11.353		5934		6383
	73.00	59.05	1405	11.529		5909		6392
	72.75	58.75	1408	11.720		5878		6401
	72.50	58.71	1412	11.767		5874		6406
	72.25	58.58	1415	11.832		5861		6406
	72.00	58.38	1418	11.937		5841		6407
45.00	74.00	60.79	1424	10.469		6081		6354
99.99.99	00.00.03	31.63.13	1430	90.92		6315		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO:

LOOP	METER	D D M M Y Y	OPERATOR
10	556	31 04 83	MURPHY

COVERAGE

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAG REG.	LINE	COMMENTS
000000	000003	31631.4	15336	9092		6315		
4700	7450	31601.001	15342	10101		6101		63.02
4300	7425	31600.87	15345	10268		6089		63.22
4300	7400	31601.62	15350	10439		6064		63.31
4700	7375	31600.32	15353	10618		6034		63.37
4700	7350	31601.16	15357	10807		6018		63.58
4700	7325	31599.70	16000	11064		5973		63.65
4900	7300	31598.18	16004	11360		5921		63.72
4700	7275	31598.83	16008	11568		5886		63.78
4700	7250	31598.62	16011	11705		5865		6385
4700	7225	31598.30	16014	11910		5833		6392
4700	7200	31597.95	16017	12071		5799		6391
4700	7400	31606.61	16022	10439		6065		6330
9999999	000003	31631.1	16026	9092		6315		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 141

LOOP	METER	D D M M Y Y	OPERATOR
10	1 2 5 5 6	2 2 0 4 8 3	M RUDROOF

COVERAGE
LINE 47.00N
FROM 7.450E TO 7.700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG-RDG.	LINE		COMMENTS
000000	000003	31629.21	09111	9092		6315			
4700	7450	31608.01	09115	10197		6103		6282	
4700	7475	31610.3	09118	9946		6126		6274	
4700	7500	31611.8	09121	9839		6141		6267	
4700	7525	31611.34	09124	9755		6157		6267	
4700	7550	31611.57	09127	9671		6180		6273	
4700	7575	31611.82	09129	9560		6205		6276	
4700	7600	31612.05	09132	9453		6227		6277	
4700	7625	31612.29	09135	9348		6251		6280	
4700	7650	31612.53	09138	9262		6275		6287	
4700	7675	31612.741	09140	9174		6296		6290	
4700	7700	31612.95	09143	9092		6317		6295	
4700	7500	31611.9	09148	9839		6141		6268	Rpt
999999	000003	31629.3	09152	9092		6315			

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 142

Loop	METER	D D M M Y Y	OPERATOR
20	1355	22 04 83	M BURDORF

COVERAGE

LINE 49.00N

FROM 7.450E TO 7.850E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible] C.	LINE		COMMENTS
000000	000003	31629.31	09.52	910.92		6315			
4900	7450	31608.91	10.00	999.98		6111		6270	
4900	7475	31612.11	10.03	980.00		6143		6263	
4900	7500	31611.49	10.06	964.49		6171		6260	
4900	7525	31611.80	10.09	949.10		6203		6260	
4900	7550	31611.99	10.12	940.03		6222		6261	
4900	7575	31621.14	10.15	932.77		6237		6264	
4900	7600	31623.31	10.17	922.29		6254		6258	
4900	7625	31625.59	10.20	908.22		6282		6257	
4900	7650	31628.83	10.23	896.99		6306		6258	
4900	7675	31631.01	10.27	884.45		6333		6261	
4900	7700	31631.24	10.30	871.72		6347		6260	
4900	7725	31633.46	10.33	863.16		6369		6255	
4900	7800	31637.73	10.36	849.77		6396		6254	FENCE 7825E GATE 5TH @200N
4900	7850	31638.11	10.41	837.77		6405		6238	
4900	7700	31632.23	10.52	871.72		6347		6259	SE/SM/C
999999	000003	31629.11	10.55	910.92		6315			

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LOOP	METER	D D M M Y Y	OPERATOR
00,1,5	5,5,6	2,2,0,4,8,3	L K L E E C H

COVERAGE
LINE 49,0,0 N
FROM 7,4,5,0 E TO 6,8,5,0 E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE N	TIME	ELEVATION	STN I.D.	[illegible]	LINE	[illegible]	COMMENTS
00,0,0,0,0,0	00,0,0,3	3,1,6,3,0,3	1,2,3,4	9,0,9,2		6,3,1,5			
49,0,0	7,4,5,0	6,1,0,0	1,2,4,5	9,9,9,8		6,1,1,7		6,2,8,1	
	7,4,2,5	6,0,7,5	1,2,4,8	1,0,1,6,7		6,0,8,6		6,2,9,0	
	7,4,0,0	6,0,4,4	1,2,5,3	1,0,3,3,1		6,0,5,5		6,2,9,2	
	7,3,7,5	6,0,0,3	1,2,5,7	1,0,5,7,6		6,0,1,4		6,3,0,0	
	7,3,5,0	5,9,7,3	1,3,0,1	1,0,8,6,9		5,9,8,3		6,3,2,8	
	7,3,2,5	5,9,2,7	1,3,0,4	1,1,1,9,6		5,9,3,7		6,3,4,8	
	7,3,0,0	5,8,6,7	1,3,0,8	1,1,5,3,1		5,8,7,7		6,3,5,5	
	7,2,7,5	5,8,4,4	1,3,1,2	1,1,6,5,1		5,8,5,4		6,3,5,6	
	7,2,5,0	5,8,6,2	1,3,1,5	1,1,5,9,2		5,8,7,1		6,3,6,2	
	7,2,2,5	5,8,4,4	1,3,1,9	1,1,7,1,8		5,8,5,3		6,3,6,9	
	7,2,0,0	5,8,2,9	1,3,2,3	1,1,8,0,4		5,8,3,8		6,3,7,1	
	7,1,5,0	5,7,6,7	1,3,2,7	1,2,1,4,1		5,7,7,6		6,3,7,7	
	7,1,0,0	5,6,8,8	1,3,3,1	1,2,5,4,4		5,6,9,6		6,3,7,8	
	7,0,5,0	5,5,9,8	1,3,3,6	1,2,9,8,5		5,6,0,6		6,3,7,7	
	7,0,0,0	5,5,1,0	1,3,3,9	1,3,3,9,8		5,5,1,8		6,3,7,1	
	6,9,5,0	5,4,3,0	1,3,4,4	1,3,8,0,0		5,4,3,8		6,3,7,2	
	6,9,0,0	5,3,6,0	1,3,4,8	1,4,1,5,6		5,3,6,7		6,3,7,3	
	6,8,5,0	5,2,8,9	1,3,5,3	1,4,5,0,7		5,2,9,6		6,3,7,2	
	7,3,2,5	5,9,2,9	1,4,0,2	1,1,1,9,6		5,9,3,6		6,3,5,0	
99,9,9,9,9,9	0,0,0,0,0,3	3,1,6,3,0,9	1,4,0,8	9,0,9,2		6,3,1,5			

SOLO GEOPHYSICS & CO. GRAVITY & MAGNETICS FIELD DATA SHEET PAGE OF JOB NO: 146

LOOP	METER	D D M M Y Y	L/B	OPERATOR
0.0.1.8	5.5.6	2.2.0.4.8.3	L	K, L, E, E, C, H,

COVERAGE

LINE 49.00 N

FROM 78.50 E TO 80.50 E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

LINE N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG REG	LINE	COMMENTS
0.0.0.0.0.0	0.0.0.0.0.3	3.1.6.3.1.1	1.5.5.9	9.0.9.2		6315		
49.00	78.50	6.3.9.8	1.6.0.5	8.3.7.7		6402		6255
	79.00	6.3.8.9	1.6.0.8	8.3.0.3		6393		6231
	79.50	6.3.8.6	1.6.1.1	8.2.1.0		6390		6210
	80.00	6.3.9.3	1.6.1.4	8.1.4.1		6397		6203
	80.50	6.4.1.0	1.6.1.7	8.0.4.9		6414		6201
49.00	78.50	6.3.9.7	1.6.2.0	8.3.7.7		6401		6254
9.9.9.9.9.9	0.0.0.0.0.3	3.1.6.3.1.1	1.6.2.6			6315		

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Loop	Meter	D D M M Y Y	L/B	Operator
00.14	55.6	22.04.83	L	K. LEECH

COVERAGE

LINE 5100N

FROM 7450E TO 7700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOO ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	~~MAG BDG.~~	LINE		COMMENTS
0.0.0.0.0.0.0	0.0.0.0.0.3	3.1.6.3.0.0	1.1.4.4	9.0.9.2		6315		F/A	
5.1.0.0	7.4.5.0	6.2.0.3	1.1.5.1	9.4.0.2		6218		6365	
	7.4.7.5	6.2.4.1	1.1.5.5	9.2.0.3		6255		6263	
	7.5.0.0	6.2.7.1	1.1.5.8	9.0.5.7		6285		6264	
	7.5.2.5	6.2.9.6	1.2.0.1	8.9.2.3		6310		6262	
	7.5.5.0	6.3.1.0	1.2.0.4	8.8.5.5		6324		6263	
	7.5.7.5	6.3.2.1	1.2.0.7	8.7.9.2		6335		6261	
	7.6.0.0	6.3.3.1	1.2.1.0	8.7.4.5		6344		6262	
	7.6.2.5	6.3.3.7	1.2.1.3	8.7.1.1		6350		6261	
	7.6.5.0	6.3.2.3	1.2.1.7	8.7.5.0		6336		6255	
	7.6.7.5	6.3.2.6	1.2.2.1	8.7.0.2		6339		6248	
	7.7.0.0	6.3.5.8	1.2.2.5	8.5.0.5		6370		6241	
5.1.0.0	7.4.5.0	6.2.0.5	1.2.3.0	9.4.0.2		6217		REPEAT	6267
9.9.9.9.9.9.9	0.0.0.0.0.3	3.1.6.3.0.3	1.2.3.4	9.0.9.2		6315			

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 146

LOOP	METER	D D M M Y Y	B	OPERATOR
0016	5566	22 04 83	L	M. BURROF

COVERAGE

LINE 5100N

FROM 7450E TO 7200E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAGNETICS	LINE		COMMENTS
00000000	00010037	31630971	1408			6315			
5100	7450	31624111	1422	94012		6217		62733	
5100	7425	31618177	1426	95666		6192		62882	
5100	7400	31615353	1428	97128		6158		62880	
5100	7375	31611771	1432	99141		6122		62887	
5100	7350	31607111	1436	102447		6076		63002	
5100	7325	31603881	1439	105136		6043		63227	
5100	7300	31600823	1442	106666		6028		63338	FENCE GATE ~350m SOUTH
5100	7275	31599323	1446	108137		5998		63412	
5100	7250	31598809	1449	108994		5985		63440	
5100	7225	31595555	1451	110816		5960		63454	
5100	7200	31592727	1454	112554		5931		63459	
5100	7400	31615616	1503	97128		6160		62853	
99999999	00010037	31631111	1509			6315			

SOLO GEOPHYSICS & CO. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO:

LOOP	METER	D M M Y	OPERATOR
001	556	22 04 83	C.M. B.U. R.D. O.R. F.

COVERAGE

LINE 5300N

FROM 7450E TO 7700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L — LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	LINE	COMMENTS
9999999	999993	31,631.1	1509	9092		6315		
5300	74.50	31,627.4	1515	8998		6278		62:55
5300	74.75	31,629.4	1518	8923		6298		62:60
5300	7500	31,632.7	1523	8770		6331		62:63
5300	75.25	31,636.5	1526	8556		6369		62:58
5300	75.50	31,642.4	1529	8285		6428		62:63
5300	75.75	31,647.6	1534	8037		6480		62:65
5300	7600	31,650.0	1536	7951		6504		62:72
5300	7625	31,650.5	1539	7898		6509		62:66
5300	7650	31,650.5	1541	7878		6509		62:62
5300	7675	31,651.2	1544	7819		6516		62:57
5300	7700	31,654.1	1546	7662		6545		62:55
5300	7500	31,632.7	1553	8770		6331		62:63 Rpt
9999999	999993	31,631.1	1559	9092		6315		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 148

LOOP	METER	D D M M Y Y	OPERATOR
D	0 2 1	5 5 6	2 3 0 4 8 3	L	K L E E C H

COVERAGE:
LINE 53.00N
FROM 7450E TO 7200

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAGNETICS	LINE	COMMENTS
00.0.0.0.0.0	0.0.0.0.0.3	3.1.6.2.9.8	1.2.7.7	9.0.9.2		63.15		
53.0.0	7.4.5.0	6.2.6.1	1.2.2.5	8.9.9.9		62.77		62.42
	7.4.2.5	6.2.2.5	1.2.2.8	9.1.1.8		62.47		62.39
	7.4.0.0	6.2.1.1	1.2.3.1	9.2.0.2		62.27		62.33
	7.3.7.5	6.1.9.7	1.2.3.5	9.3.1.2		62.13		62.41
	7.3.5.0	6.1.9.8	1.2.3.8	9.4.2.5		62.13		62.65
	7.3.2.5	6.1.6.5	1.2.4.2	9.7.1.1		61.80		62.88
	7.3.0.0	6.1.6.3	1.2.4.5	9.7.3.4		61.78		62.91
	7.2.7.5	6.1.3.3	1.2.4.9	9.8.9.7		61.48		62.94
	7.2.5.0	6.1.1.0	1.2.5.4	10.0.4.0		61.24		63.00
	7.2.2.5	6.1.5.1	1.2.5.9	9.8.2.1		61.65		62.97
	7.2.0.0	6.1.3.6	1.3.0.7	9.9.2.1		61.49		63.92
53.0.0	7.3.5.0	6.2.0.0	1.3.1.6	9.4.2.5		62.13		
99.9.9.9.9.9	0.0.0.0.0.3	3.1.6.3.0.3	1.3.2.4	9.0.9.2		63.15		

SOLO GEOPHYSICS & CO. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO: 149

LOOP	METER	D D M M Y Y	L/B	OPERATOR
NO.19	556	230483	L	K. LERCH

COVERAGE

LINE 5500N

FROM 74.25 TO 72.00E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	[illegible]	LINE	COMMENTS
0.000.000	000002	31,606,3	09,26	9,845		6087		
5500	31,74,25	31,62,68	09,30	8,961		6292		60.94 FENCE, stn by band
5500	74,00	31,62,47	09,33	9,043		6271		60.87
5500	73,75	31,62,16	09,36	9,261		6240		60.99
5500	73,50	31,62,37	09,41	9,192		6361		61.06
5500	73,25	31		87,39				
5500	73,25	31,64,09	09,45	8,283		6433		60.97
5500	73,00	31,64,58	09,50	7,987		6481		.86
5500	72,75	31,64,53	09,53	8,021		6476		.88
5500	72,50	31,64,30	09,57	8,129		6453		.87
5500	72,25	31,64,17	10,00	8,154		6440		.74
5500	31,73,75	31,62,18	10,07	9,261		6241		61.01
9999999	9999002	31,60,64	10,12	9,845		6087		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO: 150

LOOP	METER	DAY MONTH YEAR	OPERATOR
02	556	23 04 83	K. LEECH

COMMENTS

LINE 55.0 N

FROM 7425 E TO 7700 E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG-VAR	LINE	COMMENTS
0.0.0.0.0.0.0	0.0.0.0.0.2	3.1.6.0.6.4	1.0.1.2	9.8.4.5		6.0.8.7		
55.0.0	7.4.2.5	6.2.6.8	1.0.1.9	8.9.6.7		6.2.9.1		60.91
	7.4.5.0	6.2.7.5	1.0.2.3	8.9.3.7		6.2.9.8		60.93
	7.4.7.5	6.3.3.3	1.0.2.7	8.6.7.0		6.3.5.6		60.98
	7.5.0.0	6.3.7.3	1.0.3.0	8.4.6.7		6.3.9.6		60.97
	7.5.2.5	6.3.9.3	1.0.3.3	8.3.4.4		6.4.1.6		60.93
	7.5.5.0	6.4.0.8	1.0.3.7	8.2.1.7		6.4.3.1		60.82
	7.5.7.5	6.4.0.0	1.0.4.0	8.2.1.4		6.4.2.3		60.74
	7.6.0.0	6.4.0.6	1.0.4.3	8.1.5.2		6.4.2.8		60.67
	7.6.2.5	6.4.1.7	1.0.4.6	8.0.8.0		6.4.3.9		60.64
	7.6.5.0	6.4.3.4	1.0.4.8	7.9.6.8		6.4.5.6		60.59
	7.6.7.5	6.4.3.2	1.0.5.1	7.9.5.9		6.4.5.4		60.55
	7.7.0.0	6.2.9.9	1.0.5.7	8.4.6.8		6.3.2.1		60.24 [illegible] creek edge
	7.4.7.5	6.3.3.4	1.1.0.2	8.6.7.0		6.3.5.6		
9.9.9.9.9.9.9	0.0.0.0.0.2	3.1.6.0.6.5	1.1.0.8	9.8.4.5		6.0.8.7		

1 2 3 4	5 6 7	8 9 10 11 12 13	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
LOOP I.D.	METER	D D M M Y Y	OPERATOR	CASE
8 8 0 2	5 5 6	1 9 0 4 8 3	L K L E E C H	

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

COVERAGE

LINE 5700N

FROM 7500E TO 7200E

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAG. BRG.	LINE	COMMENTS		
0 0 0 0 0 0 0	0 0 0 0 0 0 2	3 1 6 0 8 5	1 5 4 3	9 8 4 5		6 0 8 7				
5 7 0 0	7 5 0 0	3 1 6 0 8 5	1 5 4 5	9 8 4 5		6 0 8 7				
	7 4 7 5	3 1 6 0 6 0	1 5 5 5	9 9 7 0		6 0 6 2		25	60.85	
	7 4 5 0	3 1 6 0 3 8	1 5 5 9	1 0 1 2 3		6 0 4 0		56	60.94	
	7 4 2 5	3 1 6 0 1 0	1 6 0 3	1 0 3 1 2		6 0 1 2		93	61.03	
	7 4 0 0	3 1 5 9 7 6	1 6 0 7	1 0 5 0 0		5 9 7 8		1.31	61.07	
	7 3 7 5	3 1 5 9 4 4	1 6 1 0	1 0 6 9 6		5 9 4 6		1.70	61.14	
	7 3 5 0	3 1 5 9 2 1	1 6 1 6	1 0 8 4 7		5 9 2 3		2.00	61.21	
	7 3 2 5	3 1 5 9 0 3	1 6 1 9	1 0 9 8 3		5 9 0 5		2.28	61.31	
	7 3 0 0	3 1 5 8 8 5	1 6 2 3	1 1 1 1 3		5 8 8 7		2.54	61.39	
	7 2 7 5	3 1 5 8 8 8	1 6 2 7	1 1 1 5 6		5 8 9 0		2.62	61.50	
	7 2 5 0	3 1 5 8 7 9	1 6 3 2	1 1 2 0 0		5 8 8 1		2.71	61.59	
	7 2 2 5	3 1 5 8 8 3	1 6 3 7	1 1 2 0 4		5 8 8 5		2.72	61.55	
	7 2 0 0	3 1 5 8 8 1	1 6 4 1	1 1 2 4 3		5 8 8 3		2.80	61.61	
5 7 0 0	7 3 5 0	3 1 5 9 2 1	1 6 4 8	1 0 8 4 7		5 9 2 3		REPEAT		
9 9 9 9 9 9 9	0 0 0 0 0 0 2	3 1 6 0 8 5	1 6 5 1	9 8 4 5		6 0 8 7				

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE 6 | JOB NO: 152

Loop: 50.01 | Meter: 556 | D D M M Y Y: 19 04 83 | L/B: L | Operator: KLEECH

Coverage: LINE 57.00N; F.O.M. 75.00E TO 77.00E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	LINE	COMMENTS
0	0	31608771	14516	98415	6087		TRACK STAR JUMPED
5700	7500	31608771	14517	98415	6087		32
	7525	31609991	15012	97610	6099		17 60:32
	7550	31610301	15106	97019	6103		27 60:35
	7575	31610101	15110	96619	6102		35 60:6
	7600	31611101	15115	95917	6111		51 60:59
	7625	31611111	15119	95510	6112		59 60:52
	7650	31611101	15123	95019	6111		27 60:43
	7675	31610501	15128	94719	6106		73 60:32
	7700	31609991	15131	94316	6100		82 60:7
5700	7525	31609991	15138	97610	6101		REPEAT
0	0	31608515	15143	98415	6087		

SOLO GEOPHYSICS & CO. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO: 153

LOOP	METER	D D M M Y Y	OPERATOR
5003	55.6	20 04 83	M. BURDORF

COVERAGE

LINE 5900N

720M, 7500E TO 7200E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N.	GRID E.	GRAV / BASE M.	TIME	ELEVATION	STN. I.D.	DRIFT-REG.	LINE		COMMENTS	
9999999	9999992	3160831	14556	98445		6087			Δ2 track drops	370/755
5900	7500	3160351	15012	101016		6039		6066		
5900	7475	3160191	15025	101092		6023		6068		
5900	7450	3160912	15108	102102		6016		6083		
5900	7425	3160171	15112	103017		6021		6109		
5900	7400	3160051	15115	104127		6009		6121		
5900	7375	3159811	15118	105316		5985		6119		
5900	7350	3159631	15121	106140		5967		6122		
5900	7325	3159381	15124	107153		5942		6120		
5900	7300	3159161	15127	108158		5919		6119		
5900	7275	3158871	15132	109810		5890		6114		
5900	7250	3158811	15135	110816		5884		6129		
5900	7225	3158701	15138	111914		5873		6140		
5900	7200	3158451	15142	112811		5848		6132		
5900	7500	3160361	15149	101010		6039		6067		
9999999	9990092	3160841	15154	98445		6087				

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO:

LOOP	METER	D D M M Y Y	OPERATOR
0004	556	20 04 83	L M. B.U.R.D.O.R.F

COVERAGE

LINE 5900 N

FROM 7500E TO 7700E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAGNETIC	LINE	COMMENTS
0000000	000002	31,608.4	1554	9845		6087		
5900	7500	31,603.5	1559	10000		6038		6066
5900	7525	31,605.4	1603	9906		6057		6066
5900	7550	31,607.1	1606	9822		6074		6066
5900	7575	31,608.2	1610	9747		6085		6062
5900	7600	31,609.1	1613	9674		6094		6057
5900	7625	31,609.4	1616	9604		6098		6046
5900	7650	31,609.5	1619	9541		6099		6034
5900	7675	31,609.8	1622	9489		6102		6027
5900	7700	31,610.4	1625	9439		6108		6023
5900	7500	31,603.4	1630	10000		6038		6065
9999999	000002	31,608.3	1634	9845		6087		

SOLID GEOPHYSICS & CO. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO:

LOOP: 025 | METER: 556 | DD MM YY: 29 04 83 | OPERATOR: RAH

OVERPAGE

LINE: 6L 961100N

FROM: 337ROE TO: 337800E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	[illegible]	LINE	COMMENTS	
000000	000002	31606	1408			6087		LAT	34° 21' 49.53"
196100	33 7100	31575	1420	11573		5772			34.36376
	7150	5791	1423	11293		5811			
	7175	5817	1425	11160		5837			
	7200	5832	1427	11047		5852			
	7225	5851	1429	10952		5871			
	7250	5884	1431	10850		5903			
	7275	5908	1434	10760		5927			
	7300	5931	1436	10656		5950			
	7325	5940	1438	10543		5959			
	7350	5955	1440	10437		5974			
	7375	5970	1442	10341		5989			
	7400	5961	1444	10241		5980			
	7425	5965	1446	10145		5983			
	7450	5974	1448	10074		5992			
	7475	5989	1450	09915		6007			
	7500	6005	1452	09910		6023		DUMSY	
	7525	6018	1454	09842		6036			
	7550	6032	1456	09780		6050			
	7575	6042	1512	09707		6059		3160.42	
	7600	6047	1515	09660		6064			
	7625	6055	1517	09598		6071			
	7650	6063	1519	09536		6079			
196100	337700	31607	1521	09423		6094			

GRAVITY & MAGNETICS FIELD DATA SHEETS

2 3 4	5 6 7	8 9 10 11 12 13	L	15 16 17 18 19 20 21 22 23 24 25 26	28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	43 44 45 46 47	49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73
LOOP	METER	D D M M Y Y	B	OPERATOR	PROJECT		
825							

AVERAGE

CONT'D

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L = LOOP GRAVITY/MAGNETICS OR B = BASE MAGNETICS.
3) USE ALL FIELDS OR INDICATE WITH BLANK.
4) ZERO FILL LAST ROW IN LOOP.

156

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAG READ	LINE	COMMENTS
21961.00	33775.0	31614.3	1525	9362		6429		
	7800	61323	1527	9247		6428		
99999900000.2		31607.2	1539			6087		

GEOPHYSICS, INC. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE — OF — JOB NO:

LOOP	METER	D D M M Y Y	B	OPERATOR
524	556	29 04 82	L	G. RAU

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L = LOOP GRAVITY/MAGNETICS OR B = BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

157

LINE 6L 9630 ON
FROM 33 7200E TO 33 7800E

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN TYPE	READING	TIME	COMMENTS
2000000	6000002	3160677	1239			6087		LAT 34° 21' 43.04"
1963000	337100	58041	1306	113345		5824		34.36195
	7150	58331	1308	111881		5853		
	7175	58431	1311	110971		5863		
	7200	58477	1313	110097		5867		
	7225	58701	1315	108996		5890		337225E ✓
	7250	59011	1318	107759		5921		
	7275	59221	1319	106550		5942		
	7300	59421	1321	105299		5962		
	7325	59581	1323	104004		5979		
	7350	59691	1325	102812		5990		
	7375	59701	1327	101812		5991		
	7400	59801	1329	100775		6001		
	7425	59971	1331	99776		6018		
	7450	60131	1334	98887		6034		
	7475	60271	1336	98113		6048		
	7500	60361	1338	97145		6057		337500E ✓
	7525	60431	1340	96711		6064		
	7550	60461	1343	96211		6067		
	7575	60471	1344	95711		6068		
	7600	60461	1346	95312		6067		
	7625	60471	1348	94888		6068		13:48 Time
	7650	60491	1350	94411		6070		
	7700	3160677	1353	93333		6088		

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.

2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS

3) USE ALL FIELDS OR INDICATE WITH BLANK

4) ZERO FILL LAST ROW IN LOOP

158

LOOP: 024 METER: [illegible] DD MMM YY: [illegible] OPERATOR: [illegible]

OVERLOAD: cont'd

GRID N	GRID E	GRAV / BASE MT	TEMP	ELEVATION	S-N	E-D	TIME	COMMENTS
79630	33750	31610E	1355	9240		6123		
	7800	31613.8	1357	9156		6159		
99999	000002	31606.6	1408			6087		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE | JOB NO:

LOOP	METER	D D M M Y Y	B	OPERATOR
0	23556	29 07 83	L	G. R. AV

AVERAGE

LINE 6196500N

FROM 337150E TO 337800E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

159

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	[illegible]	LINE	COMMENTS
9000000	0000002	31607	11125			6087		31607
196500	337150	31594	11147	10769		5922		LAT 34° 21' 36.55"
	7175	5920	11151	10678		5938		34 36015
	7200	5918	11153	10647		5936		
	7225	5927	11155	10606		5945		
	7250	5946	11157	10602		5964		
	7275	5950	11159	10579		5968		
	7300	5969	12001	10494		5987		
	7325	5995	12003	10336		6014		
	7350	6013	12004	10194		6032		
	7375	6016	12006	10102		6035		
	7400	6019	12007	10027		6038		
	7425	6028	12009	9962		6047		
	7450	6035	12011	9899		6054		
	7475	6030	12013	9840		6049		
	7500	6023	12015	9784		6042		
	7525	6015	12017	9717		6034		
	7550	6017	12019	9653		6036		
	7575	6027	12021	9583		6046		
	7600	6035	12023	9516		6054		
	7625	6037	12025	9456		6056		
	7650	6048	12027	9405		6068		
	7700	6083	12029	9288		6103		
	7750	6120	12032	9191		6140		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO:

LOOP | METER | D D M M Y Y | OPERATOR

023 556 | 1 5 0 4 | [illegible]

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

160

OUTRAGE [illegible] COMP

GRID N	GRID E	GRAV / BASE MT	TIME	ELEVATION	STN I D	MAG	LINE	COMMENTS
196500	337800	31615.5	1234	91.14		61.75		
999999	000002	31606.7	1239			6087		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE ___ OF ___ | JOB NO:

LOOP	METER	D D M M Y Y	OPERATOR
B	2255	29 04 83	LG-RAU

WATERFALL

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

161

RANGE:
LINE 6+9670 0N
ROM 33780 E 33715 0E

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	LINE	COMMENTS
000000	000002	31607.3	9.53			6087		LAT 34° 21' 30.06"
19670.0	33780.0	31614.0	10.09	90.80		6155		34.358355
	7750	31612.4	10.12	92.04		6139		
	7700	31610.6	10.15	93.31		6115		DIAL FACTOR = 1.01362
	7650	31607.2	10.18	94.38		6087		
	7625	31606.1	10.20	95.06		6076		
	7600	31605.6	10.23	95.95		6071		
	7575	31605.3	10.25	96.55		6068		
	7550	31605.3	10.27	97.09		6068		
	7525	31604.2	10.30	97.68		6057		
	7500	31603.3	10.32	98.32		6048		
	7475	31602.1	10.34	98.84		6036		
	7450	31602.1	10.37	99.12		6036		
	7425	31600.8	10.40	99.56		6024		
	7400	31599.4	10.43	100.21		6010		31599.4 ✓
	7375	31599.1	10.47	101.09		6007		
	7350	31599.0	10.53	102.44		6006		
	7325	31597.9	10.55	103.76		5995		
	7300	31594.7	10.58	105.13		5963		31594.7 ✓
	7275	31592.5	11.00	106.04		5941		
	7250	31590.2	11.02	106.74		5918		
	7225	31586.9	11.04	107.62		5883		
	7200	31584.3	11.07	108.51		5859		
	7175	31583.4	11.09	109.51		5851		

OP	METER	D D M M Y Y	L/B	OPERATOR
5,22				

AVERAGE

CONTD

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	TIME	COMMENTS
7,16700	53,7750	3158,31	1112	11079		5848		
7999999	000002	3160,70	1125			6087		

SOLO GEOPHYSICS & CO. GRAVITY & MAGNETICS FIELD DATA SHEET PAGE _ OF JOB NO:

LOOP	METER	D M M Y	OPERATOR
0028	556	050583	RAU

COVERAGE
LINE 19690.0N
FROM 33705.0E TO 33772.0E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LO ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BAS MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

163

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	LINE	COMMENTS
0000000	0000004	31603.2	1119			6046	
6900	7050	31578.1	1124			5793	
	7100	58127	1127			5841	
	7125	58141	1130			5855	
	7150	58164	1132			5876	1132
	7175	58158	1134			5872	
	7200	58157	1136			5870	
	7225	58169	1138			5882	1134
	7250	58196	1140			5909	
	7275	59125	1142			5938	
	7300	59150	1144			5963	
	7325	59158	1146			5971	BPT IN LOOP 29
	7350	59132	1149			5945	
	7375	59141	1151			5954	
	7400	59132	1153			5945	
	7425	59139	1155			5952	
	7450	59161?	1157	ASSUME 5916		5974	
	7475	59166	1210			5979	
	7500	59185	1202			5998	
	7525	59197	1204			6010	
	7550	60210	1206			6023	
	7575	60216	1208			6028	
	7600	60223	1210			6035	
	7650	31606.7	1212			6009	7650

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE | OF | JOB NO:

LOOP	METER	D D M M Y Y	B	OPERATOR
1		050583		GR

COVERAGE: COMP

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

164

GRID N.	GRID E.	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	LINE	COMMENTS
619.69.00	337.80.0	31607.7	12:13			6089		
9999.99	000004	31603.4	12:19			6046		

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE 3 OF | JOB NO:

LOOP 29 | METER 556 | D D M M Y Y | OPERATOR LG. RAV

COVERAGE

LINE 6970.00 N

FROM 337000E TO 337600E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LO ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BAS MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

165

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN T.D	MAG	LINE	COMMENTS
0000000	000004	316034	12.19			6046		
6969.00	337325	315959	12.24			5971		R
7100	7000	57.73	12.29	11277		5785		
	7050	57.76	12.32	11222		5788		
	7100	57.56	12.34	11190		5768		
	7125	57.59	12.36	11164		5770		
	7150	57.66	12.38	11143		5777		
	7175	57.75	12.39	11072		5786		
	7200	57.87	12.40	10941		5798		
	7225	57.97	12.42	10834		5808		
	7250	58.09	12.44	10769		5820		
	7275	58.29	12.46	10662		5840		
	7300	58.30	12.48	10571		5841		
	7325	58.32	12.49	10470		5843		
	7350	58.31	12.53	10365		5842		
	7375	58.41	12.54	10273		5852		
	7400	58.56	12.56	10191		5867		RPT IN Loop 32
	7425	58.80	12.58	10110		5891		
	7450	59.08	13.00	10021		5919		
	7475	59.33	13.03	09943		5944		
	7500	59.49	13.05	09875		5960		
	7525	59.62	13.07	09807		5973		13.07
	7550	59.71	13.09	09755		5981		
6970.00	337575	315963	13.11	09688		5993		

GRAVITY & MAGNETICS FIELD DATA SHEET

LOOP	METER	D D M M Y Y	B/L	OPERATOR
		05 05 83	L	

(4)

COVERAGE CONT'D

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

166

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	REC. DOC.	LINE	COMMENTS
		76010						
6197100	3371600	3159951	1312	9643		5605	6005	
7230	71600	3159811	1316	9679		5991		Δ 5 Rpt
99999900000004		3160316	1324			6046		

GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE — OF — JOB NO.

LOOP	METER	D D M M Y Y	L/B	OPERATOR
00 30	556	05 05 83	L	G. RAU

(5)

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

167

COVERAGE

LINE 6697300N

FROM 3376000E TO 3377000E

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	MAGNETICS	LINE	COMMENTS
0000000	00004	31,6036	1324	0000000		6046		
6,197,100	33,7300	5833	1,333	10571		5843		RPT
7230	76000	59811	13336	96779		5991		Δ5 RPT -98 mgal from D2
73000	76000	59719	13410	96199		5989		
	75750	59611	13444	96911		5971		
	75500	59351	13445	97899		5945		
	75250	59141	13446	98897		5924		
	75000	58944	13448	99723		5904		7500
	74750	58750	13512	100814		5885		
	74500	58591	13558	101711		5869		13:55
	74250	58501	13558	102773		5860		
	74000	5829	14000	104012		5839		14:00 7400
	73750	58044	14008	105310		5814		
	73500	57911	14111	106115		5801		
	73250	57855	14113	107146		5795		
	73000	57855	14115	109091		5795		7300
	72750	57719	14119	110113		5788		11:13
	72500	57611	14211	111318		5770		
	72250	57432	14223	112441		5751		
	72000	57128	14225	112449		5737		
	71750	57003	14227	113516		5712		
	71500	57004	14230	114312		5713		
	71250	57002	14234	115128		5711		
6,197,300	33,7100	31,5619	14317	116118		5700		

GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE ___ OF ___ — JOB NO: ___

LOOP	METER	D D M M Y Y	B	OPERATOR
1		050583		

COVERAGE: CONT'D

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

168

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	LINE	COMMENTS
6197300	3370550	3156616	1442	11784	5675		7050
7300	7950	56311	1445	11959	5640		7000
7230	7690	59821	1458	10571	5991		KPT Δ5 -.98 mgal
9999999	0000004	3160317	1508		6046		Δ4
							Δ LOCATED BASE OF FENCE POST
							STEEL PLATE NAILED TO POST & BASE
							FIVE WRITTEN ON IT
							DUMPY LEVEL 10571
							AT BASE OF POST.
							Δ5 LOCATED APPROX
							125 M. EAST OF SOLITARY
							TREE ON FENCE LINE.

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO:

LOOP	METER	D D M M Y Y	B	OPERATOR
30	32556	07 05 83	L	G. RAU

COVERAGE

LINE 619,7500 N

FROM 69.00E TO 7500 E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

169

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	~~MAG DRG~~	LINE	COMMENTS
0000000	000005	31,598,2	1317			5991		
7500	6900	55227	1345	12402		5531 5539		
	6950	55559	1347	12226		5568		
	7000	56033	1350	12055		5613		
	70125	56311	1353	11928		5640		
	70250	56544	1355	11807		5663		
	70375	56811	1357	11676		5690		
	71000	57011	1359	11568		5710		
	7125	57218	1402	11439		5727		
	71500	57422	1404	11276		5751		
	71750	57620	1406	11134		5778		
	72000	57917	1409	10949		5805		
	72250	58111	1411	10927		5799		
	72500	58312	1413	10850		5826		
	72750	58537	1416	10708		5845		
	73000	58643	1418	10605		5851		
	73250	58851	1420	10484		5859		
	73500	58868	1424	10381		5876		
	73750	58981	1426	10196		5906		
	74000	59119	1428	10112		5927		
	74250	59427	1430	9936		5950		
	74500	59229	1433	9897		5937		
	74750	59244	1435	9882		5932		
	75000	31592,5	1437	9842		5933		EDGE OF CREEK.

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETICS FIELD DATA SHEET | PAGE OF | JOB NO:

1 2 3 4	5 6 7	8 9 10 11 12 13	14	15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	35 36 37 38 39 40 41 42	43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	59 60 61 62 63 64 65 66 67 68 69 70 71 72 73
LOOP	METER	D D M M Y Y	B	OPERATOR			

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

170

OVERAGE

2 CONTD

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	LINE	COMMENTS
7800	7250	3158.58	1442	103.26		5866		
7500	7350	58.69	1445	103.81		5877		
7300	7400	58.29	1449	104.02		5837		
9999999	000005	3159.83	1453			5991		

SAT.

SOLO GEOPHYSICS & CO. | GRAVITY & MAGNETIC FIELD DATA SHEET | PAGE OF | JOB NO:

LOOP	METER	D D M M Y Y	OPERATOR
03	556	07 05 83	G. RAU

OVERAGE:
INE 619 7800N? SHOULD BE 7700N.
ROM 33 6900E TO 33 7500E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

171

GRID N	GRID E	GRAV / BASE M	TIME	ELEVATION	STN I.D.	MAG-BASE	LINE	COMMENTS
000000	000005	31597.9	1213	000000		5991		
97800	33900	57111	1218	11366		5723		59.84
	6950	57148	1222	11201		5760		59.88
	7000	57171	1225	11118		5782		59.95
	7025	57198	1227	10980		5809		59.94
	7050	58008	1230	10919		5819		59.92
	7075	58101	1232	10896		5821		59.89
	7100	57198	1234	10902		5809		59.78
	7128	57198	1236	10869		5809		59.70
	7150	58224	1238	10740		5833		59.70
	7175	58144	1240	10622		5855		59.68
	7200	58150	1242	10516		5861		59.53
	7225	58556	1245	10415		5867		59.39
	7250	58554	1247	10326		5864		59.19 RPT Loop 32
	7275	58558	1249	10281		5868		59.14
	7300	58774	1251	10223		5884		59.19
	7325	58901	1254	10191		5900		59.28
	7350	59087	1257	09746		5997		59.36
	7400	59005	1300	10151		5915		59.35 EDGE OF CREEK
	7425	59003	1302	10163		5913		5936 7375 MISER
	7450	58993	1305	10212		5903		59.35 TOO STEEP SLOPE
	4775	58877	1307	10306		5887		5938
697800	337500	58556	1310	10420		5865		5940
999999	000005	31598.2	1317	000000		5991		

SOLO GEOPHYSICS & CO. — GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE — OF — JOB NO: 172

LOOP	METER	D	D	M	M	Y	Y	OPERATOR
	556	29	04	83				LG RAU

OVERAGE

CHECK LOOP ACROSS LINES 6196.00N 6196.00N

16650N 16670N AT STATIONS 33750E

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

GRID N	GRID E	GRAV / BASE M	TEMP	ELEVATION	STN I D		LINE	COMMENTS
000000	000002	3 60.72	15.39			6087		
196100	337500	60.07	15.46	99.10		6022		
6300	7500	60.40	15.50	97.45		6054		
6500	7500	60.27	15.54	97.84		6041		6
6700	7500	60.33	16.00	98.32		6047		
999999	000002	3 60.74	16.10			6087		

LOOP	METER	D	M	Y	B	OPERATOR
00	27556	05	08	83	L	G.R.A.U.

Oil Factor: 1.01362

178

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

COVERAGE

BASE TIE

BASE TWP TO BASE 4 A.B.A.B.

GRID N.	GRID E.	GRAV / BASE M	TIME	ELEVATION	STN I.D.	[illegible]	LINE	COMMENTS	
0000000	0000002	31607.3	1057			6087			A
619.6700	337500	31603.2	1104			6046		Δ4	B -.42 mgals of Δ2
619.5700	337500	31607.3	1111			6087		Δ3	A
9999999	0000004	31603.2	1119			6046		Δ4	B
								Δ5 is -.98 mgals of Δ2	
								Δ5 DRIFTED IN LOOP 30 AND CHECKED IN LOOP 29	

GRAVITY & MAGNETICS FIELD DATA SHEET — PAGE: OF: JOB NO:

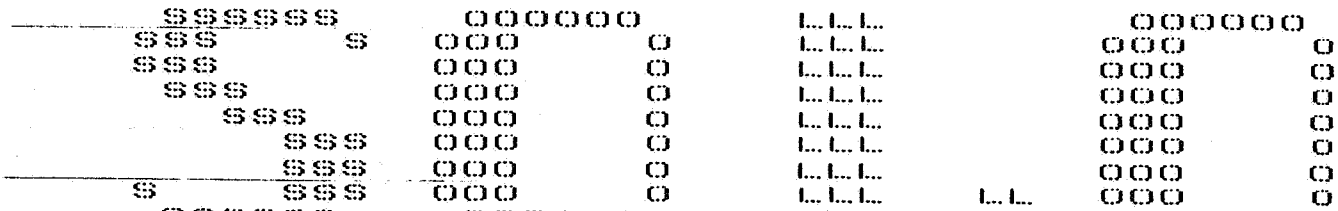
Loop	METER	D D M M Y Y	L/B	OPERATOR
	556	230483		K. LEECH

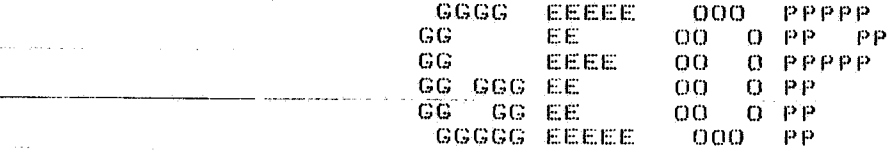
COVERAGE: BASE TIE

1) LOOP INFO. TO BE WRITTEN AT BEGINNING OF LOOP ONLY.
2) WRITE L - LOOP GRAVITY/MAGNETICS OR B - BASE MAGNETICS
3) USE ALL FIELDS OR INDICATE WITH BLANK
4) ZERO FILL LAST ROW IN LOOP

174

GRID N.	GRID E.	GRAV / BASE M	TIME	ELEVATION	STN. I.D.	[illegible]	LINE	COMMENTS
	2	31607.5	1339			6087		
	3	31630.4	1346			6315		D3 4710N/7700E
	2	31607.7	1352					
	3	31630.6	1402					D2 7500E/5700N
	2	31607.8	1410					





3a McInnes St., Ridleyton, South Australia. 5008

Telephone : (08) 468277
Postal Address : P.O. Box 212
Nth. Adelaide
S.A. 5006
Telex : AA 88765
User No. AD 183

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 10 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6194100	337700	93.77	6		30.542	30.149	29.756	29.363	28.970	28.577	28.184	27.791	27.398	27.005
2	000000	6194100	337675	94.21	6		30.566	30.171	29.776	29.381	28.986	28.592	28.197	27.802	27.407	27.012
3	000000	6194100	337650	94.75	6		30.581	30.184	29.787	29.390	28.993	28.596	28.199	27.802	27.405	27.007
4	000000	6194100	337625	95.38	6		30.598	30.198	29.798	29.399	28.999	28.599	28.200	27.800	27.400	27.000
5	000000	6194100	337600	95.97	6		30.595	30.193	29.791	29.388	28.986	28.584	28.182	27.779	27.377	26.975
6	000000	6194100	337575	96.96	6		30.696	30.290	29.883	29.477	29.071	28.664	28.258	27.851	27.445	27.039
7	000000	6194100	337550	97.36	6		30.618	30.210	29.802	29.394	28.986	28.578	28.170	27.762	27.354	26.946
8	000000	6194100	337525	98.30	6		30.606	30.194	29.782	29.370	28.958	28.546	28.134	27.722	27.310	26.898
9	000000	6194100	337500	99.30	6		30.601	30.185	29.769	29.353	28.937	28.521	28.104	27.688	27.272	26.856
10	000000	6194100	337500	99.30	6	****	30.598	30.182	29.765	29.349	28.933	28.517	28.101	27.685	27.268	26.852
11	000000	6194100	337475	100.39	6		30.691	30.271	29.850	29.429	29.008	28.588	28.167	27.746	27.325	26.905
12	000000	6194100	337450	101.79	6		30.807	30.380	29.954	29.527	29.101	28.674	28.247	27.821	27.394	26.967
13	000000	6194100	337425	103.33	5		30.999	30.566	30.133	29.700	29.267	28.834	28.401	27.968	27.535	27.102
14	000000	6194100	337425	103.33	6	****	31.005	30.572	30.139	29.706	29.273	28.840	28.407	27.974	27.541	27.108
15	000000	6194100	337400	104.84	5		31.228	30.789	30.350	29.910	29.471	29.031	28.592	28.153	27.713	27.274
16	000000	6194100	337375	106.41	5		31.432	30.986	30.540	30.094	29.648	29.202	28.756	28.310	27.864	27.418
17	000000	6194100	337375	106.41	5	****	31.427	30.981	30.535	30.089	29.643	29.197	28.751	28.305	27.859	27.413
18	000000	6194100	337350	107.70	5		31.550	31.098	30.647	30.196	29.744	29.293	28.841	28.390	27.939	27.487
19	000000	6194100	337325	108.87	5		31.609	31.153	30.696	30.240	29.784	29.327	28.871	28.415	27.959	27.502
20	000000	6194100	337300	109.58	5		31.632	31.172	30.713	30.254	29.795	29.335	28.876	28.417	27.958	27.499
21	000000	6194100	337275	110.71	5		31.692	31.228	30.764	30.300	29.836	29.372	28.908	28.444	27.980	27.516
22	000000	6194100	337250	112.55	5		31.847	31.375	30.904	30.432	29.960	29.488	29.017	28.545	28.073	27.602
23	000000	6194100	337225	114.18	5		31.922	31.443	30.965	30.486	30.008	29.529	29.051	28.572	28.093	27.615
24	000000	6194100	337200	115.86	5		31.958	31.473	30.987	30.502	30.016	29.531	29.045	28.559	28.074	27.588

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

FINAL DATA

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 11 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6194300	337700	91.58	8		30.458	30.074	29.690	29.307	28.923	28.539	28.155	27.771	27.388	27.004
2	000000	6194300	337675	92.22	8		30.497	30.111	29.724	29.338	28.951	28.565	28.178	27.792	27.405	27.019
3	000000	6194300	337650	92.85	8		30.524	30.135	29.746	29.356	28.967	28.578	28.189	27.800	27.411	27.022
4	000000	6194300	337625	93.78	8		30.602	30.209	29.815	29.422	29.029	28.636	28.243	27.850	27.457	27.064
5	000000	6194300	337600	94.70	8		30.665	30.268	29.871	29.474	29.077	28.681	28.284	27.887	27.490	27.093
6	000000	6194300	337575	95.76	8		30.762	30.361	29.959	29.558	29.157	28.755	28.354	27.953	27.551	27.150
7	000000	6194300	337550	97.02	8		30.831	30.425	30.018	29.611	29.205	28.798	28.392	27.985	27.578	27.172
8	000000	6194300	337550	97.02	8	****	30.835	30.428	30.022	29.615	29.209	28.802	28.395	27.989	27.582	27.176
9	000000	6194300	337525	98.46	8		30.940	30.527	30.114	29.702	29.289	28.877	28.464	28.051	27.639	27.226
10	000000	6194300	337500	100.23	8		31.040	30.620	30.200	29.780	29.360	28.940	28.519	28.099	27.679	27.259
11	000000	6194300	337475	101.55	8		31.156	30.731	30.305	29.880	29.454	29.029	28.603	28.177	27.752	27.326
12	000000	6194300	337450	103.28	7		31.199	30.766	30.333	29.901	29.468	29.035	28.602	28.169	27.736	27.303
13	000000	6194300	337450	103.28	8	****	31.207	30.774	30.341	29.908	29.475	29.043	28.610	28.177	27.744	27.311
14	000000	6194300	337425	105.01	7		31.267	30.827	30.387	29.947	29.507	29.067	28.627	28.187	27.746	27.306
15	000000	6194300	337400	107.41	7		31.502	31.052	30.602	30.151	29.701	29.251	28.801	28.351	27.901	27.451
16	000000	6194300	337400	107.41	7	****	31.506	31.056	30.606	30.156	29.706	29.256	28.806	28.355	27.905	27.455
17	000000	6194300	337375	110.33	7		31.705	31.243	30.781	30.318	29.856	29.394	28.931	28.469	28.006	27.544
18	000000	6194300	337350	113.26	7		31.800	31.326	30.851	30.376	29.902	29.427	28.952	28.478	28.003	27.528
19	000000	6194300	337325	115.26	7		31.972	31.489	31.006	30.523	30.040	29.557	29.074	28.591	28.108	27.625
20	000000	6194300	337300	116.13	7		32.012	31.526	31.039	30.552	30.066	29.579	29.092	28.606	28.119	27.632
21	000000	6194300	337275	117.91	7		32.072	31.578	31.084	30.590	30.096	29.602	29.107	28.613	28.119	27.625
22	000000	6194300	337250	119.99	7		32.172	31.669	31.166	30.663	30.160	29.657	29.154	28.651	28.149	27.646
23	000000	6194300	337225	121.76	7		32.249	31.739	31.229	30.718	30.208	29.698	29.188	28.677	28.167	27.657
24	000000	6194300	337200	123.38	7		32.312	31.795	31.278	30.761	30.244	29.727	29.209	28.692	28.175	27.658

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

FINAL DATA

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 12 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6194500	337700	92.07	10		30.576	30.190	29.804	29.419	29.033	28.647	28.261	27.875	27.489	27.103
2	000000	6194500	337675	92.74	10		30.581	30.193	29.804	29.415	29.027	28.638	28.249	27.861	27.472	27.083
3	000000	6194500	337650	93.72	10		30.648	30.255	29.862	29.469	29.077	28.684	28.291	27.898	27.506	27.113
4	000000	6194500	337625	94.51	10		30.640	30.244	29.848	29.452	29.056	28.660	28.264	27.868	27.472	27.075
5	000000	6194500	337600	95.44	10		30.706	30.306	29.906	29.506	29.106	28.706	28.306	27.906	27.506	27.106
6	000000	6194500	337575	96.23	10		30.668	30.264	29.861	29.458	29.054	28.651	28.248	27.844	27.441	27.038
7	000000	6194500	337550	97.24	10		30.680	30.273	29.865	29.458	29.050	28.643	28.235	27.828	27.420	27.013
8	000000	6194500	337525	98.16	10		30.652	30.241	29.829	29.418	29.007	28.595	28.184	27.772	27.361	26.950
9	000000	6194500	337500	99.01	10		30.673	30.258	29.843	29.428	29.013	28.598	28.183	27.768	27.353	26.938
10	000000	6194500	337500	99.01	10	****	30.688	30.273	29.858	29.443	29.028	28.613	28.198	27.783	27.368	26.954
11	000000	6194500	337475	99.93	10		30.711	30.292	29.873	29.454	29.035	28.617	28.198	27.779	27.360	26.941
12	000000	6194500	337450	101.19	9		30.839	30.415	29.991	29.567	29.143	28.719	28.295	27.871	27.447	27.022
13	000000	6194500	337450	101.19	10	****	30.823	30.399	29.975	29.551	29.127	28.702	28.278	27.854	27.430	27.006
14	000000	6194500	337425	102.83	9		31.026	30.595	30.165	29.734	29.303	28.872	28.441	28.010	27.579	27.148
15	000000	6194500	337400	104.69	9		31.275	30.837	30.398	29.959	29.520	29.082	28.643	28.204	27.765	27.327
16	000000	6194500	337400	104.69	9	****	31.270	30.831	30.393	29.954	29.515	29.076	28.638	28.199	27.760	27.321
17	000000	6194500	337375	107.38	9		31.553	31.103	30.653	30.203	29.753	29.303	28.853	28.403	27.953	27.503
18	000000	6194500	337350	110.42	9		31.742	31.279	30.816	30.354	29.891	29.428	28.965	28.503	28.040	27.577
19	000000	6194500	337325	113.53	9		31.837	31.361	30.885	30.409	29.933	29.458	28.982	28.506	28.030	27.554
20	000000	6194500	337300	115.29	9		31.991	31.508	31.024	30.541	30.058	29.575	29.092	28.608	28.125	27.642
21	000000	6194500	337275	117.20	9		32.130	31.639	31.148	30.657	30.165	29.674	29.183	28.692	28.201	27.710
22	000000	6194500	337250	117.67	9		32.196	31.703	31.210	30.717	30.224	29.731	29.238	28.744	28.251	27.758
23	000000	6194500	337225	118.32	9		32.214	31.718	31.222	30.726	30.231	29.735	29.239	28.743	28.247	27.751
24	000000	6194500	337200	119.37	9		32.254	31.753	31.253	30.753	30.253	29.752	29.252	28.752	28.251	27.751

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

FINAL DATA

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 13 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6194700	337700	90.92	12		30.601	30.220	29.839	29.458	29.077	28.696	28.314	27.933	27.552	27.171
2	000000	6194700	337675	91.74	12		30.580	30.195	29.811	29.426	29.042	28.657	28.273	27.888	27.504	27.119
3	000000	6194700	337650	92.62	12		30.572	30.184	29.796	29.408	29.019	28.631	28.243	27.855	27.467	27.079
4	000000	6194700	337625	93.48	12		30.530	30.138	29.747	29.355	28.963	28.571	28.180	27.788	27.396	27.004
5	000000	6194700	337600	94.53	12		30.533	30.136	29.740	29.344	28.948	28.552	28.156	27.759	27.363	26.967
6	000000	6194700	337575	95.60	12		30.549	30.149	29.748	29.347	28.947	28.546	28.146	27.745	27.344	26.944
7	000000	6194700	337550	96.71	12		30.555	30.150	29.745	29.339	28.934	28.529	28.123	27.718	27.313	26.908
8	000000	6194700	337525	97.55	12		30.519	30.110	29.701	29.293	28.884	28.475	28.066	27.657	27.248	26.840
9	000000	6194700	337500	98.39	12		30.557	30.145	29.732	29.320	28.908	28.495	28.083	27.671	27.258	26.846
10	000000	6194700	337500	98.39	12	****	30.554	30.142	29.729	29.317	28.905	28.492	28.080	27.668	27.255	26.843
11	000000	6194700	337475	99.46	12		30.651	30.235	29.818	29.401	28.984	28.567	28.150	27.734	27.317	26.900
12	000000	6194700	337450	101.01	11		30.765	30.342	29.919	29.495	29.072	28.649	28.225	27.802	27.379	26.955
13	000000	6194700	337450	101.01	12	****	30.781	30.357	29.934	29.511	29.087	28.664	28.241	27.817	27.394	26.971
14	000000	6194700	337425	102.68	11		31.025	30.594	30.164	29.734	29.303	28.873	28.443	28.012	27.582	27.152
15	000000	6194700	337400	104.39	11		31.173	30.736	30.298	29.861	29.423	28.986	28.548	28.111	27.673	27.236
16	000000	6194700	337400	104.39	11	****	31.183	30.745	30.308	29.870	29.433	28.995	28.558	28.120	27.683	27.245
17	000000	6194700	337375	106.18	11		31.288	30.843	30.398	29.953	29.508	29.063	28.618	28.173	27.728	27.283
18	000000	6194700	337350	108.04	11		31.562	31.109	30.657	30.204	29.751	29.298	28.845	28.393	27.940	27.487
19	000000	6194700	337325	110.64	11		31.714	31.250	30.787	30.323	29.859	29.396	28.932	28.468	28.005	27.541
20	000000	6194700	337300	113.60	11		31.870	31.394	30.917	30.441	29.965	29.489	29.013	28.537	28.061	27.585
21	000000	6194700	337275	115.68	11		32.002	31.517	31.032	30.548	30.063	29.578	29.093	28.608	28.124	27.639
22	000000	6194700	337250	117.05	11		32.111	31.620	31.129	30.639	30.148	29.658	29.167	28.677	28.186	27.696
23	000000	6194700	337225	119.00	11		32.242	31.744	31.245	30.746	30.247	29.749	29.250	28.751	28.252	27.754
24	000000	6194700	337200	120.71	11		32.288	31.782	31.277	30.771	30.265	29.759	29.253	28.747	28.241	27.735

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

FINAL DATA

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 14 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6194900	336850	145.07	15		33.026	32.418	31.810	31.202	30.594	29.986	29.378	28.770	28.162	27.554
2	000000	6194900	336900	141.56	15		32.930	32.337	31.744	31.151	30.557	29.964	29.371	28.777	28.184	27.591
3	000000	6194900	336950	138.00	15		32.812	32.234	31.656	31.077	30.499	29.921	29.342	28.764	28.186	27.607
4	000000	6194900	337000	133.98	15		32.689	32.128	31.566	31.005	30.443	29.882	29.320	28.759	28.197	27.636
5	000000	6194900	337050	129.85	15		32.620	32.076	31.532	30.987	30.443	29.899	29.355	28.811	28.266	27.722
6	000000	6194900	337100	125.44	15		32.508	31.982	31.456	30.930	30.405	29.879	29.353	28.828	28.302	27.776
7	000000	6194900	337150	121.41	15		32.371	31.862	31.354	30.845	30.336	29.827	29.318	28.809	28.301	27.792
8	000000	6194900	337200	118.04	15		32.217	31.722	31.227	30.732	30.238	29.743	29.248	28.754	28.259	27.764
9	000000	6194900	337225	117.18	15		32.170	31.679	31.188	30.697	30.206	29.715	29.224	28.733	28.242	27.751
10	000000	6194900	337250	115.92	15		32.062	31.576	31.090	30.604	30.119	29.633	29.147	28.661	28.175	27.690
11	000000	6194900	337275	116.51	15		32.019	31.531	31.042	30.554	30.066	29.577	29.089	28.601	28.112	27.624
12	000000	6194900	337300	115.31	15		31.975	31.492	31.008	30.525	30.042	29.559	29.075	28.592	28.109	27.626
13	000000	6194900	337325	111.96	15		31.787	31.318	30.849	30.380	29.910	29.441	28.972	28.503	28.033	27.564
14	000000	6194900	337325	111.96	15	****	31.804	31.335	30.866	30.397	29.928	29.458	28.989	28.520	28.051	27.581
15	000000	6194900	337350	108.69	15		31.510	31.055	30.599	30.144	29.688	29.233	28.777	28.322	27.866	27.411
16	000000	6194900	337375	105.76	15		31.133	30.690	30.247	29.804	29.360	28.917	28.474	28.031	27.587	27.144
17	000000	6194900	337400	103.31	15		30.981	30.548	30.115	29.682	29.249	28.816	28.383	27.950	27.517	27.084
18	000000	6194900	337425	101.67	15		30.916	30.490	30.064	29.638	29.212	28.786	28.359	27.933	27.507	27.081
19	000000	6194900	337450	99.98	13		30.776	30.357	29.938	29.519	29.100	28.681	28.262	27.843	27.424	27.005
20	000000	6194900	337450	99.98	15	****	30.777	30.358	29.939	29.520	29.101	28.682	28.263	27.844	27.425	27.006
21	000000	6194900	337475	98.00	13		30.640	30.229	29.818	29.408	28.997	28.586	28.176	27.765	27.354	26.943
22	000000	6194900	337500	96.49	13		30.573	30.169	29.764	29.360	28.955	28.551	28.147	27.742	27.338	26.933
23	000000	6194900	337525	94.90	13		30.517	30.119	29.722	29.324	28.926	28.528	28.131	27.733	27.335	26.938
24	000000	6194900	337550	94.03	13		30.508	30.114	29.720	29.326	28.932	28.538	28.144	27.750	27.355	26.961
25	000000	6194900	337575	93.27	13		30.484	30.093	29.702	29.311	28.920	28.529	28.138	27.747	27.357	26.966
26	000000	6194900	337600	92.29	13		30.428	30.041	29.655	29.268	28.881	28.494	28.107	27.721	27.334	26.947
27	000000	6194900	337625	90.82	13		30.370	29.989	29.609	29.228	28.848	28.467	28.086	27.706	27.325	26.944
28	000000	6194900	337650	89.69	13		30.351	29.975	29.599	29.224	28.848	28.472	28.096	27.720	27.344	26.968
29	000000	6194900	337675	88.45	13		30.337	29.966	29.595	29.225	28.854	28.483	28.113	27.742	27.371	27.001
30	000000	6194900	337700	87.72	13		30.310	29.942	29.574	29.207	28.839	28.471	28.104	27.736	27.369	27.001
31	000000	6194900	337700	87.72	13	****	30.306	29.939	29.571	29.203	28.836	28.468	28.101	27.733	27.365	26.998
32	000000	6194900	337750	86.36	13		30.216	29.854	29.492	29.130	28.768	28.406	28.045	27.683	27.321	26.959
33	000000	6194900	337800	84.97	13		30.167	29.811	29.455	29.099	28.742	28.386	28.030	27.674	27.318	26.962
34	000000	6194900	337850	83.77	13		29.970	29.619	29.268	28.917	28.565	28.214	27.863	27.512	27.161	26.810
35	000000	6194900	337850	83.77	18	****	29.944	29.593	29.242	28.891	28.540	28.189	27.838	27.487	27.136	26.785
36	000000	6194900	337850	83.77	18	****	29.934	29.583	29.232	28.881	28.530	28.179	27.828	27.477	27.126	26.774
37	000000	6194900	337900	83.03	18		29.681	29.333	28.985	28.637	28.289	27.941	27.593	27.245	26.897	26.549
38	000000	6194900	337950	82.10	18		29.433	29.089	28.745	28.401	28.057	27.713	27.368	27.024	26.680	26.336
39	000000	6194900	338000	81.41	18		29.343	29.002	28.661	28.320	27.979	27.637	27.296	26.955	26.614	26.273
40	000000	6194900	338050	80.49	18		29.301	28.964	28.627	28.289	27.952	27.615	27.277	26.940	26.603	26.265

40 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 15 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6195100	337200	112.54	16		32.034	31.563	31.091	30.619	30.148	29.676	29.204	28.733	28.261	27.789
2	000000	6195100	337225	110.86	16		31.927	31.463	30.998	30.533	30.069	29.604	29.139	28.675	28.210	27.746
3	000000	6195100	337250	108.94	16		31.734	31.277	30.820	30.364	29.907	29.451	28.994	28.538	28.081	27.624
4	000000	6195100	337275	108.37	16		31.734	31.280	30.826	30.371	29.917	29.463	29.009	28.555	28.101	27.646
5	000000	6195100	337300	106.66	16		31.640	31.193	30.746	30.299	29.852	29.405	28.958	28.511	28.064	27.617
6	000000	6195100	337325	105.36	16		31.490	31.048	30.607	30.165	29.724	29.282	28.841	28.399	27.958	27.516
7	000000	6195100	337350	102.47	16		31.152	30.722	30.293	29.863	29.434	29.004	28.575	28.145	27.716	27.287
8	000000	6195100	337375	99.41	16		30.906	30.489	30.073	29.656	29.239	28.823	28.406	27.989	27.573	27.156
9	000000	6195100	337400	97.28	16		30.794	30.387	29.979	29.571	29.164	28.756	28.348	27.941	27.533	27.125
10	000000	6195100	337400	97.28	16	****	30.775	30.368	29.960	29.552	29.144	28.737	28.329	27.921	27.514	27.106
11	000000	6195100	337425	95.66	16		30.744	30.343	29.942	29.541	29.140	28.739	28.338	27.937	27.536	27.135
12	000000	6195100	337450	94.02	14		30.616	30.222	29.827	29.433	29.039	28.645	28.251	27.857	27.463	27.069
13	000000	6195100	337450	94.02	14	****	30.612	30.218	29.824	29.430	29.036	28.642	28.248	27.854	27.460	27.066
14	000000	6195100	337450	94.02	16	****	30.605	30.211	29.817	29.423	29.029	28.635	28.241	27.847	27.453	27.059
15	000000	6195100	337475	92.03	14		30.535	30.149	29.764	29.378	28.992	28.606	28.221	27.835	27.449	27.064
16	000000	6195100	337500	90.57	14		30.496	30.117	29.737	29.358	28.978	28.598	28.219	27.839	27.460	27.080
17	000000	6195100	337525	89.23	14		30.436	30.062	29.688	29.314	28.940	28.566	28.192	27.818	27.444	27.070
18	000000	6195100	337550	88.55	14		30.417	30.046	29.675	29.304	28.933	28.562	28.191	27.819	27.448	27.077
19	000000	6195100	337575	87.92	14		30.380	30.011	29.643	29.274	28.906	28.538	28.169	27.801	27.432	27.064
20	000000	6195100	337600	87.45	14		30.370	30.004	29.637	29.271	28.904	28.538	28.171	27.805	27.438	27.072
21	000000	6195100	337625	87.11	14		30.350	29.985	29.620	29.255	28.890	28.525	28.160	27.794	27.429	27.064
22	000000	6195100	337650	87.50	14		30.296	29.930	29.563	29.196	28.830	28.463	28.096	27.729	27.363	26.996
23	000000	6195100	337675	87.02	14		30.212	29.848	29.483	29.118	28.754	28.389	28.024	27.659	27.295	26.930
24	000000	6195100	337700	85.05	14		30.075	29.718	29.362	29.005	28.649	28.293	27.936	27.580	27.223	26.867

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 16 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6195300	337200	99.21	21		31.285	30.869	30.453	30.038	29.622	29.206	28.790	28.374	27.959	27.543
2	000000	6195300	337225	98.21	21		31.210	30.798	30.386	29.975	29.563	29.152	28.740	28.328	27.917	27.505
3	000000	6195300	337250	100.40	21		31.308	30.888	30.467	30.046	29.625	29.205	28.784	28.363	27.942	27.521
4	000000	6195300	337275	98.97	21		31.212	30.797	30.383	29.968	29.553	29.138	28.723	28.309	27.894	27.479
5	000000	6195300	337300	97.34	21		31.139	30.731	30.323	29.915	29.507	29.099	28.691	28.283	27.875	27.467
6	000000	6195300	337325	97.11	21		31.108	30.701	30.294	29.887	29.480	29.073	28.666	28.259	27.852	27.445
7	000000	6195300	337350	94.25	21		30.770	30.375	29.980	29.585	29.190	28.795	28.400	28.005	27.610	27.215
8	000000	6195300	337350	94.25	21	****	30.779	30.384	29.989	29.594	29.199	28.804	28.409	28.014	27.619	27.224
9	000000	6195300	337375	93.12	21		30.508	30.117	29.727	29.337	28.947	28.556	28.166	27.776	27.385	26.995
10	000000	6195300	337400	92.02	21		30.395	30.010	29.624	29.238	28.853	28.467	28.081	27.696	27.310	26.924
11	000000	6195300	337425	91.18	21		30.344	29.962	29.579	29.197	28.815	28.433	28.051	27.669	27.287	26.905
12	000000	6195300	337450	89.99	17		30.440	30.063	29.686	29.309	28.932	28.555	28.177	27.800	27.423	27.046
13	000000	6195300	337450	89.99	21	****	30.433	30.056	29.679	29.302	28.925	28.548	28.170	27.793	27.416	27.039
14	000000	6195300	337475	89.23	17		30.466	30.092	29.718	29.344	28.970	28.596	28.222	27.848	27.474	27.100
15	000000	6195300	337500	87.70	17		30.443	30.076	29.708	29.341	28.973	28.606	28.238	27.871	27.503	27.135
16	000000	6195300	337500	87.70	17	****	30.443	30.076	29.708	29.341	28.973	28.606	28.238	27.871	27.503	27.135
17	000000	6195300	337525	85.56	17		30.329	29.971	29.612	29.253	28.895	28.536	28.178	27.819	27.461	27.102
18	000000	6195300	337550	82.85	17		30.296	29.949	29.602	29.254	28.907	28.560	28.213	27.865	27.518	27.171
19	000000	6195300	337575	80.37	17		30.244	29.907	29.570	29.234	28.897	28.560	28.223	27.886	27.549	27.213
20	000000	6195300	337600	79.51	17		30.287	29.954	29.621	29.288	28.954	28.621	28.288	27.955	27.621	27.288
21	000000	6195300	337625	78.98	17		30.214	29.883	29.552	29.221	28.890	28.559	28.228	27.897	27.566	27.235
22	000000	6195300	337650	78.78	17		30.167	29.837	29.507	29.177	28.847	28.516	28.186	27.856	27.526	27.196
23	000000	6195300	337675	78.19	17		30.101	29.773	29.446	29.118	28.790	28.463	28.135	27.807	27.479	27.152
24	000000	6195300	337700	76.62	17		30.029	29.708	29.387	29.066	28.745	28.424	28.103	27.782	27.460	27.139

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 17 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6195500	337700	84.68	20		29.792	29.437	29.082	28.727	28.372	28.017	27.663	27.308	26.953	26.598
2	000000	6195500	337675	79.59	20		29.954	29.620	29.287	28.953	28.620	28.286	27.953	27.619	27.285	26.952
3	000000	6195500	337650	79.68	20		29.996	29.662	29.328	28.994	28.660	28.326	27.992	27.658	27.324	26.990
4	000000	6195500	337625	80.80	20		30.085	29.746	29.408	29.069	28.731	28.392	28.053	27.715	27.376	27.037
5	000000	6195500	337600	81.52	20		30.142	29.801	29.459	29.117	28.776	28.434	28.092	27.751	27.409	27.067
6	000000	6195500	337575	82.14	20		30.226	29.882	29.538	29.194	28.849	28.505	28.161	27.817	27.472	27.128
7	000000	6195500	337550	82.17	20		30.315	29.970	29.626	29.282	28.937	28.593	28.249	27.904	27.560	27.215
8	000000	6195500	337525	83.49	20		30.472	30.122	29.772	29.422	29.072	28.722	28.372	28.022	27.672	27.322
9	000000	6195500	337500	84.67	20		30.545	30.190	29.835	29.480	29.125	28.770	28.415	28.061	27.706	27.351
10	000000	6195500	337475	86.70	20		30.617	30.253	29.890	29.526	29.163	28.800	28.436	28.073	27.710	27.346
11	000000	6195500	337475	86.70	20	****	30.613	30.250	29.886	29.523	29.160	28.796	28.433	28.070	27.706	27.343
12	000000	6195500	337450	89.31	20		30.634	30.260	29.885	29.511	29.137	28.763	28.388	28.014	27.640	27.265
13	000000	6195500	337425	89.61	19		30.645	30.269	29.893	29.518	29.142	28.767	28.391	28.016	27.640	27.265
14	000000	6195500	337425	89.61	20	****	30.634	30.258	29.883	29.507	29.132	28.756	28.381	28.005	27.629	27.254
15	000000	6195500	337400	90.43	19		30.623	30.244	29.865	29.486	29.107	28.728	28.349	27.970	27.591	27.212
16	000000	6195500	337375	92.61	19		30.816	30.428	30.040	29.651	29.263	28.875	28.487	28.099	27.711	27.323
17	000000	6195500	337375	92.61	19	****	30.829	30.441	30.053	29.665	29.276	28.888	28.500	28.112	27.724	27.336
18	000000	6195500	337350	91.92	19		30.867	30.482	30.096	29.711	29.326	28.941	28.555	28.170	27.785	27.400
19	000000	6195500	337325	82.83	19		30.490	30.142	29.795	29.448	29.101	28.754	28.407	28.060	27.712	27.365
20	000000	6195500	337300	79.87	19		30.295	29.960	29.625	29.291	28.956	28.621	28.286	27.952	27.617	27.282
21	000000	6195500	337275	80.21	19		30.323	29.987	29.650	29.314	28.978	28.642	28.306	27.970	27.633	27.297
22	000000	6195500	337250	81.29	19		30.341	30.000	29.659	29.319	28.978	28.637	28.297	27.956	27.615	27.275
23	000000	6195500	337225	81.54	19		30.267	29.925	29.583	29.241	28.900	28.558	28.216	27.874	27.533	27.191

23 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 18 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6195700	337200	112.43	2		31.971	31.500	31.029	30.558	30.087	29.615	29.144	28.673	28.202	27.731
2	000000	6195700	337225	112.04	2		31.901	31.431	30.962	30.492	30.023	29.553	29.084	28.614	28.145	27.675
3	000000	6195700	337250	112.00	2		31.851	31.382	30.912	30.443	29.974	29.504	29.035	28.565	28.096	27.627
4	000000	6195700	337275	111.56	2		31.839	31.372	30.904	30.437	29.969	29.502	29.034	28.567	28.099	27.631
5	000000	6195700	337300	111.13	2		31.709	31.244	30.778	30.312	29.846	29.381	28.915	28.449	27.983	27.518
6	000000	6195700	337325	109.83	2		31.588	31.128	30.668	30.207	29.747	29.287	28.827	28.366	27.906	27.446
7	000000	6195700	337350	108.47	2		31.454	30.999	30.545	30.090	29.635	29.181	28.726	28.272	27.817	27.362
8	000000	6195700	337350	108.47	2	****	31.454	30.999	30.545	30.090	29.635	29.181	28.726	28.272	27.817	27.362
9	000000	6195700	337375	106.96	2		31.335	30.886	30.438	29.990	29.542	29.093	28.645	28.197	27.749	27.300
10	000000	6195700	337400	105.00	2		31.202	30.762	30.322	29.882	29.442	29.002	28.562	28.122	27.681	27.241
11	000000	6195700	337425	103.12	2		31.108	30.676	30.244	29.812	29.380	28.947	28.515	28.083	27.651	27.219
12	000000	6195700	337450	101.23	2		30.951	30.527	30.103	29.679	29.254	28.830	28.406	27.982	27.557	27.133
13	000000	6195700	337475	99.70	2		30.818	30.400	29.982	29.564	29.146	28.729	28.311	27.893	27.475	27.057
14	000000	6195700	337500	98.45	1		30.780	30.368	29.955	29.542	29.130	28.717	28.304	27.892	27.479	27.067
15	000000	6195700	337500	98.45	2	****	30.780	30.367	29.954	29.542	29.129	28.717	28.304	27.891	27.479	27.066
16	000000	6195700	337525	97.60	1		30.706	30.297	29.888	29.479	29.070	28.660	28.251	27.842	27.433	27.024
17	000000	6195700	337525	97.60	1	****	30.721	30.312	29.903	29.494	29.085	28.676	28.267	27.858	27.449	27.040
18	000000	6195700	337550	97.09	1		30.629	30.222	29.815	29.408	29.001	28.594	28.187	27.780	27.373	26.966
19	000000	6195700	337575	96.69	1		30.517	30.112	29.707	29.301	28.896	28.491	28.086	27.680	27.275	26.870
20	000000	6195700	337600	95.97	1		30.443	30.040	29.638	29.236	28.834	28.432	28.029	27.627	27.225	26.823
21	000000	6195700	337625	95.50	1		30.345	29.945	29.545	29.144	28.744	28.344	27.944	27.543	27.143	26.743
22	000000	6195700	337650	95.09	1		30.241	29.842	29.444	29.045	28.647	28.248	27.850	27.451	27.053	26.654
23	000000	6195700	337675	94.79	1		30.122	29.725	29.328	28.931	28.533	28.136	27.739	27.342	26.944	26.547
24	000000	6195700	337700	94.36	1		29.963	29.567	29.172	28.777	28.381	27.986	27.590	27.195	26.799	26.404

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 19 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6195900	337200	112.81	3		31.859	31.386	30.913	30.440	29.968	29.495	29.022	28.549	28.076	27.604
2	000000	6195900	337225	111.94	3		31.910	31.441	30.972	30.503	30.033	29.564	29.095	28.626	28.157	27.688
3	000000	6195900	337250	110.86	3		31.770	31.305	30.841	30.376	29.912	29.447	28.982	28.518	28.053	27.588
4	000000	6195900	337275	109.80	3		31.584	31.124	30.664	30.204	29.744	29.284	28.823	28.363	27.903	27.443
5	000000	6195900	337300	108.58	3		31.595	31.140	30.685	30.230	29.774	29.319	28.864	28.409	27.954	27.499
6	000000	6195900	337325	107.53	3		31.573	31.122	30.672	30.221	29.770	29.320	28.869	28.418	27.968	27.517
7	000000	6195900	337350	106.40	3		31.563	31.118	30.672	30.226	29.780	29.334	28.888	28.442	27.996	27.550
8	000000	6195900	337375	105.36	3		31.504	31.063	30.621	30.179	29.738	29.296	28.855	28.413	27.972	27.530
9	000000	6195900	337400	104.27	3		31.494	31.057	30.620	30.183	29.746	29.309	28.872	28.435	27.998	27.561
10	000000	6195900	337425	103.07	3		31.336	30.904	30.472	30.040	29.608	29.176	28.744	28.312	27.880	27.448
11	000000	6195900	337450	102.02	3		31.042	30.614	30.186	29.759	29.331	28.904	28.476	28.049	27.621	27.193
12	000000	6195900	337475	100.92	3		30.856	30.433	30.010	29.587	29.165	28.742	28.319	27.896	27.473	27.050
13	000000	6195900	337500	100.00	4		30.794	30.375	29.956	29.537	29.118	28.699	28.280	27.861	27.441	27.022
14	000000	6195900	337500	100.00	3	****	30.804	30.385	29.966	29.547	29.128	28.709	28.290	27.871	27.452	27.033
15	000000	6195900	337500	100.00	3	****	30.807	30.388	29.969	29.549	29.130	28.711	28.292	27.873	27.454	27.035
16	000000	6195900	337500	100.00	4	****	30.797	30.378	29.959	29.540	29.121	28.701	28.282	27.863	27.444	27.025
17	000000	6195900	337525	99.06	4		30.772	30.356	29.941	29.526	29.111	28.696	28.281	27.865	27.450	27.035
18	000000	6195900	337550	98.22	4		30.748	30.337	29.925	29.513	29.102	28.690	28.278	27.867	27.455	27.044
19	000000	6195900	337575	97.47	4		30.686	30.277	29.869	29.460	29.052	28.643	28.235	27.826	27.418	27.009
20	000000	6195900	337600	96.74	4		30.608	30.203	29.797	29.392	28.986	28.581	28.175	27.770	27.365	26.959
21	000000	6195900	337625	96.04	4		30.476	30.073	29.671	29.268	28.866	28.463	28.061	27.658	27.256	26.853
22	000000	6195900	337650	95.41	4		30.340	29.940	29.540	29.140	28.741	28.341	27.941	27.541	27.141	26.741
23	000000	6195900	337675	94.89	4		30.250	29.852	29.454	29.057	28.659	28.261	27.864	27.466	27.068	26.671
24	000000	6195900	337700	94.39	4		30.195	29.799	29.404	29.008	28.613	28.217	27.821	27.426	27.030	26.635

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 20 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6196100	337100	115.73	25		31.920	31.435	30.950	30.465	29.980	29.495	29.010	28.525	28.040	27.555
2	000000	6196100	337150	112.93	25		31.661	31.187	30.714	30.241	29.767	29.294	28.821	28.348	27.874	27.401
3	000000	6196100	337175	111.60	25		31.613	31.145	30.677	30.210	29.742	29.274	28.806	28.339	27.871	27.403
4	000000	6196100	337200	110.47	25		31.500	31.037	30.574	30.111	29.648	29.185	28.722	28.259	27.796	27.333
5	000000	6196100	337225	109.52	25		31.469	31.010	30.551	30.092	29.633	29.174	28.715	28.256	27.797	27.338
6	000000	6196100	337250	108.50	25		31.565	31.110	30.655	30.201	29.746	29.291	28.836	28.382	27.927	27.472
7	000000	6196100	337275	107.60	25		31.596	31.146	30.695	30.244	29.793	29.342	28.891	28.440	27.989	27.538
8	000000	6196100	337300	106.56	25		31.586	31.139	30.692	30.246	29.799	29.353	28.906	28.459	28.013	27.566
9	000000	6196100	337325	105.43	25		31.412	30.970	30.528	30.086	29.645	29.203	28.761	28.319	27.877	27.435
10	000000	6196100	337350	104.37	25		31.315	30.878	30.441	30.003	29.566	29.128	28.691	28.254	27.816	27.379
11	000000	6196100	337375	103.41	25		31.243	30.809	30.376	29.942	29.509	29.076	28.642	28.209	27.775	27.342
12	000000	6196100	337400	102.41	25		30.917	30.488	30.058	29.629	29.200	28.771	28.342	27.912	27.483	27.054
13	000000	6196100	337425	101.45	25		30.732	30.307	29.882	29.457	29.031	28.606	28.181	27.756	27.331	26.906
14	000000	6196100	337450	100.74	25		30.657	30.234	29.812	29.390	28.968	28.546	28.123	27.701	27.279	26.857
15	000000	6196100	337475	99.95	25		30.623	30.204	29.786	29.367	28.948	28.529	28.110	27.691	27.272	26.853
16	000000	6196100	337500	99.10	25		30.585	30.170	29.755	29.339	28.924	28.509	28.093	27.678	27.263	26.847
17	000000	6196100	337500	99.10	26	****	30.570	30.155	29.739	29.324	28.909	28.493	28.078	27.663	27.247	26.832
18	000000	6196100	337525	98.42	25		30.558	30.145	29.733	29.320	28.908	28.495	28.083	27.671	27.258	26.846
19	000000	6196100	337550	97.80	25		30.554	30.144	29.734	29.324	28.914	28.504	28.094	27.684	27.275	26.865
20	000000	6196100	337575	97.07	25		30.474	30.067	29.660	29.253	28.846	28.440	28.033	27.626	27.219	26.812
21	000000	6196100	337600	96.60	25		30.413	30.009	29.604	29.199	28.794	28.389	27.984	27.579	27.175	26.770
22	000000	6196100	337625	95.98	25		30.348	29.946	29.544	29.141	28.739	28.337	27.935	27.532	27.130	26.728
23	000000	6196100	337650	95.36	25		30.283	29.884	29.484	29.084	28.685	28.285	27.885	27.486	27.086	26.686
24	000000	6196100	337700	94.23	25		30.170	29.775	29.380	28.985	28.591	28.196	27.801	27.406	27.011	26.616
25	000000	6196100	337750	93.22	25		30.287	29.896	29.506	29.115	28.724	28.334	27.943	27.552	27.162	26.771
26	000000	6196100	337800	92.47	25		30.303	29.916	29.528	29.141	28.753	28.365	27.978	27.590	27.203	26.815

26 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 21 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6196300	337100	113.45	24		32.068	31.593	31.117	30.642	30.166	29.691	29.215	28.740	28.264	27.789
2	000000	6196300	337150	111.81	24		31.980	31.511	31.043	30.574	30.105	29.637	29.168	28.700	28.231	27.763
3	000000	6196300	337175	110.91	24		31.872	31.407	30.942	30.477	30.013	29.548	29.083	28.618	28.153	27.688
4	000000	6196300	337200	110.07	24		31.717	31.255	30.794	30.333	29.872	29.410	28.949	28.488	28.026	27.565
5	000000	6196300	337225	108.96	24		31.691	31.234	30.778	30.321	29.865	29.408	28.951	28.495	28.038	27.581
6	000000	6196300	337250	107.59	24		31.686	31.235	30.784	30.333	29.882	29.431	28.981	28.530	28.079	27.628
7	000000	6196300	337275	106.50	24		31.645	31.199	30.753	30.306	29.860	29.414	28.967	28.521	28.075	27.628
8	000000	6196300	337300	105.29	24		31.566	31.124	30.683	30.242	29.800	29.359	28.918	28.477	28.035	27.594
9	000000	6196300	337325	104.04	24		31.437	31.001	30.565	30.129	29.693	29.257	28.821	28.385	27.949	27.513
10	000000	6196300	337350	102.82	24		31.264	30.833	30.402	29.971	29.540	29.109	28.679	28.248	27.817	27.386
11	000000	6196300	337375	101.82	24		31.041	30.615	30.188	29.761	29.334	28.908	28.481	28.054	27.628	27.201
12	000000	6196300	337400	100.75	24		30.893	30.471	30.049	29.626	29.204	28.782	28.360	27.937	27.515	27.093
13	000000	6196300	337425	99.76	24		30.835	30.417	29.999	29.581	29.163	28.745	28.327	27.909	27.491	27.073
14	000000	6196300	337450	98.87	24		30.790	30.375	29.961	29.547	29.132	28.718	28.304	27.889	27.475	27.061
15	000000	6196300	337475	98.13	24		30.760	30.348	29.937	29.526	29.115	28.703	28.292	27.881	27.469	27.058
16	000000	6196300	337500	97.45	24		30.693	30.284	29.876	29.467	29.059	28.650	28.242	27.834	27.425	27.017
17	000000	6196300	337500	97.45	26	****	30.668	30.260	29.851	29.443	29.035	28.626	28.218	27.809	27.401	26.993
18	000000	6196300	337525	96.71	24		30.592	30.186	29.781	29.376	28.970	28.565	28.160	27.754	27.349	26.944
19	000000	6196300	337550	96.21	24		30.505	30.102	29.699	29.295	28.892	28.489	28.086	27.683	27.279	26.876
20	000000	6196300	337575	95.71	24		30.399	29.998	29.597	29.196	28.795	28.394	27.993	27.591	27.190	26.789
21	000000	6196300	337600	95.32	24		30.298	29.898	29.499	29.099	28.700	28.300	27.901	27.501	27.102	26.703
22	000000	6196300	337625	94.88	24		30.206	29.809	29.411	29.013	28.616	28.218	27.821	27.423	27.025	26.628
23	000000	6196300	337650	94.41	24		30.117	29.721	29.326	28.930	28.534	28.139	27.743	27.347	26.952	26.556
24	000000	6196300	337700	93.33	24		30.048	29.656	29.265	28.874	28.483	28.092	27.701	27.310	26.918	26.527
25	000000	6196300	337750	92.40	24		30.186	29.799	29.411	29.024	28.637	28.250	27.862	27.475	27.088	26.701
26	000000	6196300	337800	91.56	24		30.355	29.971	29.588	29.204	28.820	28.436	28.053	27.669	27.285	26.901

26 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 22 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6196500	337150	107.69	23		31.865	31.414	30.963	30.511	30.060	29.609	29.157	28.706	28.255	27.803
2	000000	6196500	337175	106.78	23		31.817	31.369	30.922	30.474	30.027	29.579	29.132	28.684	28.237	27.789
3	000000	6196500	337200	106.47	23		31.725	31.279	30.833	30.387	29.941	29.494	29.048	28.602	28.156	27.710
4	000000	6196500	337225	106.06	23		31.722	31.277	30.833	30.388	29.944	29.499	29.055	28.610	28.166	27.721
5	000000	6196500	337250	106.02	23		31.906	31.462	31.017	30.573	30.129	29.684	29.240	28.796	28.351	27.907
6	000000	6196500	337275	105.79	23		31.894	31.450	31.007	30.564	30.120	29.677	29.233	28.790	28.347	27.903
7	000000	6196500	337300	104.94	23		31.889	31.449	31.009	30.569	30.129	29.690	29.250	28.810	28.370	27.930
8	000000	6196500	337325	103.36	23		31.785	31.352	30.918	30.485	30.052	29.619	29.186	28.752	28.319	27.886
9	000000	6196500	337350	101.94	23		31.636	31.209	30.782	30.355	29.927	29.500	29.073	28.646	28.218	27.791
10	000000	6196500	337375	101.02	23		31.453	31.030	30.607	30.183	29.760	29.336	28.913	28.490	28.066	27.643
11	000000	6196500	337400	100.27	23		31.309	30.889	30.469	30.048	29.628	29.208	28.788	28.367	27.947	27.527
12	000000	6196500	337425	99.62	23		31.249	30.832	30.414	29.997	29.579	29.162	28.744	28.327	27.909	27.492
13	000000	6196500	337450	98.99	23		31.174	30.760	30.345	29.930	29.515	29.100	28.685	28.270	27.855	27.441
14	000000	6196500	337475	98.40	23		30.987	30.575	30.162	29.750	29.337	28.925	28.513	28.100	27.688	27.275
15	000000	6196500	337500	97.84	23		30.786	30.376	29.966	29.556	29.146	28.736	28.326	27.916	27.506	27.096
16	000000	6196500	337500	97.84	26	****	30.776	30.366	29.956	29.546	29.136	28.726	28.316	27.906	27.496	27.085
17	000000	6196500	337525	97.17	23		30.550	30.143	29.735	29.328	28.921	28.514	28.107	27.699	27.292	26.885
18	000000	6196500	337550	96.53	23		30.422	30.017	29.612	29.208	28.803	28.399	27.994	27.590	27.185	26.781
19	000000	6196500	337575	95.83	23		30.361	29.959	29.557	29.156	28.754	28.353	27.951	27.549	27.148	26.746
20	000000	6196500	337600	95.16	23		30.286	29.888	29.489	29.090	28.691	28.292	27.894	27.495	27.096	26.697
21	000000	6196500	337625	94.56	23		30.168	29.772	29.375	28.979	28.583	28.186	27.790	27.394	26.997	26.601
22	000000	6196500	337650	94.05	23		30.161	29.767	29.373	28.979	28.584	28.190	27.796	27.402	27.008	26.614
23	000000	6196500	337700	92.88	23		30.244	29.855	29.466	29.076	28.687	28.298	27.909	27.519	27.130	26.741
24	000000	6196500	337750	91.91	23		30.394	30.009	29.624	29.239	28.853	28.468	28.083	27.698	27.313	26.927
25	000000	6196500	337800	91.14	23		30.570	30.188	29.806	29.424	29.042	28.660	28.278	27.896	27.514	27.132

25 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 23 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6196700	337800	90.80	22		30.436	30.056	29.675	29.295	28.914	28.534	28.153	27.773	27.392	27.011
2	000000	6196700	337750	92.04	22		30.564	30.179	29.793	29.407	29.021	28.636	28.250	27.864	27.478	27.093
3	000000	6196700	337700	93.31	22		30.618	30.227	29.836	29.445	29.054	28.663	28.272	27.881	27.490	27.099
4	000000	6196700	337650	94.38	22		30.585	30.189	29.794	29.398	29.003	28.607	28.212	27.816	27.421	27.025
5	000000	6196700	337625	95.06	22		30.632	30.234	29.836	29.437	29.039	28.640	28.242	27.844	27.445	27.047
6	000000	6196700	337600	95.95	22		30.790	30.388	29.986	29.584	29.182	28.780	28.377	27.975	27.573	27.171
7	000000	6196700	337575	96.55	22		30.900	30.495	30.091	29.686	29.281	28.877	28.472	28.067	27.663	27.258
8	000000	6196700	337550	97.09	22		31.027	30.620	30.213	29.806	29.399	28.992	28.585	28.178	27.771	27.364
9	000000	6196700	337525	97.68	22		31.054	30.644	30.235	29.826	29.416	29.007	28.597	28.188	27.779	27.369
10	000000	6196700	337500	98.32	22		31.113	30.701	30.289	29.877	29.465	29.053	28.640	28.228	27.816	27.404
11	000000	6196700	337500	98.32	26	****	31.096	30.684	30.272	29.860	29.448	29.036	28.624	28.212	27.800	27.388
12	000000	6196700	337475	98.84	22		31.113	30.698	30.284	29.870	29.456	29.041	28.627	28.213	27.799	27.384
13	000000	6196700	337450	99.12	22		31.179	30.763	30.348	29.933	29.517	29.102	28.686	28.271	27.856	27.440
14	000000	6196700	337425	99.56	22		31.151	30.734	30.317	29.899	29.482	29.065	28.648	28.230	27.813	27.396
15	000000	6196700	337400	100.21	22		31.162	30.742	30.322	29.902	29.482	29.062	28.642	28.222	27.802	27.382
16	000000	6196700	337375	101.09	22		31.338	30.914	30.490	30.067	29.643	29.219	28.796	28.372	27.948	27.525
17	000000	6196700	337350	102.44	22		31.644	31.215	30.786	30.356	29.927	29.498	29.068	28.639	28.210	27.780
18	000000	6196700	337325	103.76	22		31.841	31.407	30.972	30.537	30.102	29.667	29.232	28.797	28.363	27.928
19	000000	6196700	337300	105.13	22		31.838	31.397	30.956	30.516	30.075	29.635	29.194	28.753	28.313	27.872
20	000000	6196700	337275	106.04	22		31.827	31.383	30.938	30.494	30.050	29.605	29.161	28.716	28.272	27.828
21	000000	6196700	337250	106.74	22		31.758	31.310	30.863	30.416	29.968	29.521	29.074	28.626	28.179	27.732
22	000000	6196700	337225	107.62	22		31.609	31.158	30.707	30.256	29.805	29.354	28.903	28.452	28.001	27.550
23	000000	6196700	337200	108.51	22		31.574	31.120	30.665	30.210	29.755	29.301	28.846	28.391	27.936	27.482
24	000000	6196700	337175	109.51	22		31.716	31.258	30.799	30.340	29.881	29.422	28.963	28.504	28.045	27.586
25	000000	6196700	337150	110.79	22		31.986	31.521	31.057	30.593	30.128	29.664	29.200	28.735	28.271	27.807

25 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 24 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6196900	337050	112.93	28		32.097	31.624	31.151	30.677	30.204	29.731	29.258	28.784	28.311	27.838
2	000000	6196900	337100	110.16	28		31.916	31.455	30.993	30.531	30.070	29.608	29.146	28.684	28.223	27.761
3	000000	6196900	337125	109.34	28		31.866	31.408	30.950	30.491	30.033	29.575	29.117	28.658	28.200	27.742
4	000000	6196900	337150	108.53	28		31.890	31.435	30.980	30.525	30.070	29.615	29.160	28.706	28.251	27.796
5	000000	6196900	337175	108.08	28		31.743	31.290	30.837	30.384	29.932	29.479	29.026	28.573	28.120	27.667
6	000000	6196900	337200	107.31	28		31.553	31.103	30.653	30.204	29.754	29.304	28.855	28.405	27.955	27.505
7	000000	6196900	337225	106.49	28		31.483	31.036	30.590	30.144	29.697	29.251	28.805	28.359	27.912	27.466
8	000000	6196900	337250	105.54	28		31.534	31.092	30.650	30.207	29.765	29.323	28.881	28.438	27.996	27.554
9	000000	6196900	337275	104.81	28		31.657	31.218	30.779	30.340	29.900	29.461	29.022	28.583	28.143	27.704
10	000000	6196900	337300	103.88	28		31.693	31.258	30.823	30.387	29.952	29.517	29.081	28.646	28.211	27.775
11	000000	6196900	337325	102.68	28		31.494	31.064	30.633	30.203	29.773	29.342	28.912	28.482	28.051	27.621
12	000000	6196900	337325	102.68	29	****	31.491	31.061	30.630	30.200	29.770	29.339	28.909	28.479	28.049	27.618
13	000000	6196900	337350	102.12	28		31.099	30.671	30.243	29.815	29.387	28.959	28.531	28.103	27.675	27.247
14	000000	6196900	337375	100.64	28		30.844	30.423	30.001	29.579	29.157	28.735	28.314	27.892	27.470	27.048
15	000000	6196900	337400	100.72	28		30.771	30.349	29.927	29.505	29.083	28.660	28.238	27.816	27.394	26.972
16	000000	6196900	337425	100.35	28		30.755	30.335	29.914	29.494	29.073	28.652	28.232	27.811	27.391	26.970
17	000000	6196900	337450	99.66	28		30.816	30.399	29.981	29.563	29.146	28.728	28.310	27.893	27.475	27.057
18	000000	6196900	337475	99.35	28		30.794	30.378	29.961	29.545	29.128	28.712	28.296	27.879	27.463	27.047
19	000000	6196900	337500	98.58	28		30.806	30.393	29.980	29.567	29.154	28.740	28.327	27.914	27.501	27.088
20	000000	6196900	337525	98.07	28		30.809	30.398	29.987	29.576	29.165	28.754	28.343	27.932	27.521	27.110
21	000000	6196900	337550	97.56	28		30.820	30.412	30.003	29.594	29.185	28.776	28.367	27.958	27.549	27.141
22	000000	6196900	337575	97.01	28		30.753	30.346	29.939	29.533	29.126	28.720	28.313	27.907	27.500	27.093
23	000000	6196900	337600	96.52	28		30.708	30.304	29.899	29.495	29.090	28.686	28.281	27.877	27.472	27.068
24	000000	6196900	337650	95.08	28		30.717	30.318	29.920	29.521	29.123	28.724	28.326	27.927	27.529	27.130
25	000000	6196900	337700	94.20	28		30.714	30.319	29.924	29.529	29.135	28.740	28.345	27.950	27.555	27.161

25 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 25 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6197100	337000	112.77	29		32.108	31.635	31.163	30.690	30.218	29.745	29.272	28.800	28.327	27.855
2	000000	6197100	337050	112.22	29		32.009	31.539	31.069	30.598	30.128	29.658	29.187	28.717	28.247	27.776
3	000000	6197100	337100	111.90	29		31.732	31.263	30.794	30.325	29.856	29.387	28.918	28.449	27.980	27.511
4	000000	6197100	337125	111.64	29		31.700	31.232	30.765	30.297	29.829	29.361	28.893	28.425	27.957	27.489
5	000000	6197100	337150	111.43	29		31.722	31.255	30.788	30.321	29.854	29.387	28.920	28.453	27.986	27.519
6	000000	6197100	337175	110.72	29		31.647	31.183	30.719	30.255	29.791	29.327	28.863	28.399	27.935	27.471
7	000000	6197100	337200	109.41	29		31.463	31.005	30.546	30.088	29.629	29.171	28.712	28.254	27.795	27.336
8	000000	6197100	337225	108.34	29		31.315	30.861	30.407	29.953	29.499	29.044	28.590	28.136	27.682	27.228
9	000000	6197100	337250	107.69	29		31.284	30.832	30.381	29.930	29.478	29.027	28.576	28.124	27.673	27.222
10	000000	6197100	337275	106.62	29		31.237	30.790	30.343	29.896	29.449	29.002	28.556	28.109	27.662	27.215
11	000000	6197100	337300	105.71	29		31.034	30.591	30.148	29.705	29.261	28.818	28.375	27.932	27.489	27.046
12	000000	6197100	337300	105.71	30	****	31.052	30.609	30.166	29.723	29.280	28.837	28.394	27.951	27.508	27.065
13	000000	6197100	337325	104.70	29		30.818	30.380	29.941	29.502	29.063	28.624	28.186	27.747	27.308	26.869
14	000000	6197100	337350	103.65	29		30.562	30.128	29.693	29.259	28.824	28.390	27.956	27.521	27.087	26.652
15	000000	6197100	337375	102.73	29		30.449	30.018	29.588	29.157	28.727	28.296	27.865	27.435	27.004	26.574
16	000000	6197100	337400	101.91	29		30.409	29.982	29.555	29.127	28.700	28.273	27.846	27.419	26.992	26.565
17	000000	6197100	337425	101.10	29		30.462	30.039	29.615	29.191	28.768	28.344	27.920	27.496	27.073	26.649
18	000000	6197100	337450	100.21	29		30.538	30.118	29.698	29.279	28.859	28.439	28.019	27.599	27.179	26.759
19	000000	6197100	337475	99.43	29		30.609	30.192	29.776	29.359	28.942	28.525	28.109	27.692	27.275	26.859
20	000000	6197100	337500	98.75	29		30.612	30.198	29.784	29.370	28.957	28.543	28.129	27.715	27.301	26.887
21	000000	6197100	337525	98.07	29		30.585	30.174	29.763	29.352	28.941	28.530	28.119	27.708	27.297	26.886
22	000000	6197100	337550	97.55	29		30.554	30.145	29.736	29.328	28.919	28.510	28.101	27.692	27.283	26.875
23	000000	6197100	337575	96.88	29		30.519	30.113	29.707	29.301	28.895	28.489	28.083	27.677	27.271	26.865
24	000000	6197100	337600	96.43	29		30.535	30.131	29.727	29.323	28.919	28.514	28.110	27.706	27.302	26.898

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 26 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6197300	337600	96.19	30		30.463	30.060	29.657	29.253	28.850	28.447	28.044	27.641	27.238	26.835
2	000000	6197300	337575	96.91	30		30.448	30.042	29.635	29.229	28.823	28.417	28.011	27.605	27.199	26.792
3	000000	6197300	337550	97.89	30		30.412	30.002	29.592	29.182	28.771	28.361	27.951	27.541	27.130	26.720
4	000000	6197300	337525	98.97	30		30.452	30.037	29.622	29.207	28.793	28.378	27.963	27.548	27.134	26.719
5	000000	6197300	337500	99.73	30		30.426	30.008	29.590	29.172	28.754	28.336	27.918	27.500	27.082	26.664
6	000000	6197300	337475	100.84	30		30.492	30.069	29.646	29.224	28.801	28.379	27.956	27.533	27.111	26.688
7	000000	6197300	337450	101.71	30		30.532	30.105	29.679	29.253	28.827	28.400	27.974	27.548	27.122	26.695
8	000000	6197300	337425	102.73	30		30.678	30.248	29.817	29.387	28.956	28.526	28.095	27.665	27.234	26.803
9	000000	6197300	337400	104.02	30		30.766	30.330	29.894	29.458	29.022	28.586	28.150	27.714	27.278	26.843
10	000000	6197300	337400	104.02	32	****	30.747	30.311	29.875	29.439	29.003	28.567	28.131	27.696	27.260	26.824
11	000000	6197300	337375	105.30	30		30.810	30.369	29.928	29.486	29.045	28.604	28.162	27.721	27.280	26.838
12	000000	6197300	337350	106.15	30		30.876	30.431	29.987	29.542	29.097	28.652	28.207	27.762	27.317	26.872
13	000000	6197300	337325	107.46	30		31.121	30.671	30.220	29.770	29.320	28.869	28.419	27.968	27.518	27.068
14	000000	6197300	337300	109.01	30		31.482	31.025	30.569	30.112	29.655	29.198	28.741	28.284	27.827	27.370
15	000000	6197300	337275	110.13	30		31.682	31.220	30.759	30.297	29.836	29.374	28.913	28.451	27.990	27.528
16	000000	6197300	337250	111.38	30		31.791	31.324	30.857	30.390	29.923	29.457	28.990	28.523	28.056	27.589
17	000000	6197300	337225	112.41	30		31.838	31.367	30.896	30.425	29.954	29.483	29.012	28.540	28.069	27.598
18	000000	6197300	337200	112.49	30		31.715	31.243	30.772	30.300	29.829	29.357	28.886	28.414	27.943	27.472
19	000000	6197300	337175	113.56	30		31.710	31.234	30.759	30.283	29.807	29.331	28.855	28.379	27.903	27.427
20	000000	6197300	337150	114.32	30		31.898	31.418	30.939	30.460	29.981	29.502	29.023	28.544	28.065	27.586
21	000000	6197300	337125	115.28	30		32.101	31.617	31.134	30.651	30.168	29.685	29.202	28.719	28.235	27.752
22	000000	6197300	337100	116.18	30		32.199	31.712	31.225	30.738	30.251	29.764	29.277	28.790	28.303	27.817
23	000000	6197300	337050	117.84	30		32.332	31.838	31.344	30.850	30.356	29.863	29.369	28.875	28.381	27.887
24	000000	6197300	337000	119.59	30		32.385	31.884	31.383	30.882	30.380	29.879	29.378	28.877	28.375	27.874

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 27 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
				File 9												File 10
1	000000	6197500	336900	124.02	32		32.457	31.937	31.417	30.897	30.377	29.858	29.338	28.818	28.298	27.779
2	000000	6197500	336950	122.26	32		32.421	31.909	31.396	30.884	30.371	29.859	29.347	28.834	28.322	27.809
3	000000	6197500	337000	120.55	32		32.468	31.963	31.457	30.952	30.447	29.942	29.436	28.931	28.426	27.921
4	000000	6197500	337025	119.28	32		32.455	31.956	31.456	30.956	30.456	29.956	29.456	28.956	28.456	27.956
5	000000	6197500	337050	118.07	32		32.406	31.911	31.416	30.922	30.427	29.932	29.437	28.942	28.447	27.953
6	000000	6197500	337075	116.76	32		32.374	31.885	31.396	30.906	30.417	29.928	29.438	28.949	28.460	27.970
7	000000	6197500	337100	115.68	32		32.324	31.840	31.355	30.870	30.385	29.900	29.416	28.931	28.446	27.961
8	000000	6197500	337125	114.39	32		32.196	31.717	31.237	30.758	30.279	29.799	29.320	28.840	28.361	27.882
9	000000	6197500	337150	112.76	32		32.059	31.587	31.114	30.641	30.169	29.696	29.224	28.751	28.278	27.806
10	000000	6197500	337175	111.34	32		32.011	31.545	31.078	30.612	30.145	29.678	29.212	28.745	28.278	27.812
11	000000	6197500	337200	109.49	32		31.854	31.395	30.936	30.477	30.018	29.559	29.101	28.642	28.183	27.724
12	000000	6197500	337225	109.27	32		31.741	31.283	30.825	30.367	29.909	29.451	28.993	28.536	28.078	27.620
13	000000	6197500	337250	108.50	32		31.774	31.320	30.865	30.410	29.955	29.501	29.046	28.591	28.137	27.682
14	000000	6197500	337275	107.08	32		31.696	31.248	30.799	30.350	29.901	29.452	29.004	28.555	28.106	27.657
15	000000	6197500	337300	106.05	32		31.517	31.073	30.628	30.184	29.739	29.295	28.850	28.406	27.961	27.517
16	000000	6197500	337325	104.84	32		31.315	30.876	30.436	29.997	29.558	29.118	28.679	28.240	27.800	27.361
17	000000	6197500	337350	103.81	32		31.248	30.812	30.377	29.942	29.507	29.072	28.637	28.202	27.767	27.332
18	000000	6197500	337350	103.81	32	****	31.255	30.820	30.385	29.950	29.515	29.080	28.645	28.210	27.774	27.339
19	000000	6197500	337375	101.96	32		31.120	30.692	30.265	29.838	29.410	28.983	28.556	28.128	27.701	27.274
20	000000	6197500	337400	101.12	32		31.136	30.713	30.289	29.865	29.441	29.018	28.594	28.170	27.746	27.322
21	000000	6197500	337425	99.36	32		30.959	30.542	30.126	29.710	29.293	28.877	28.460	28.044	27.627	27.211
22	000000	6197500	337450	98.97	32		30.736	30.321	29.907	29.492	29.077	28.662	28.248	27.833	27.418	27.003
23	000000	6197500	337475	98.82	32		30.650	30.236	29.822	29.408	28.994	28.579	28.165	27.751	27.337	26.923
24	000000	6197500	337500	98.42	32		30.567	30.155	29.742	29.330	28.917	28.505	28.092	27.680	27.267	26.855

24 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Line ID 28 **
****

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

No.	STATION ID	GRID NORTH	GRID EAST	ELEVATION	LOOP No.	RPTS	BOUGUER GRAVITY (gms/cc) 1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1	000000	6197700	337500	104.20	31		31.378	30.941	30.505	30.068	29.631	29.194	28.758	28.321	27.884	27.448
2	000000	6197700	337475	103.06	31		31.326	30.895	30.463	30.031	29.599	29.167	28.735	28.303	27.871	27.439
3	000000	6197700	337450	102.12	31		31.271	30.843	30.415	29.987	29.559	29.131	28.703	28.275	27.847	27.419
4	000000	6197700	337425	101.63	31		31.259	30.833	30.407	29.981	29.555	29.129	28.704	28.278	27.852	27.426
5	000000	6197700	337400	101.51	31		31.252	30.827	30.401	29.976	29.550	29.125	28.700	28.274	27.849	27.423
6	000000	6197700	337350	97.46	31		31.141	30.732	30.324	29.915	29.507	29.098	28.690	28.282	27.873	27.465
7	000000	6197700	337325	101.91	31		31.196	30.769	30.342	29.915	29.488	29.061	28.634	28.207	27.779	27.352
8	000000	6197700	337300	102.23	31		31.110	30.682	30.253	29.825	29.396	28.968	28.540	28.111	27.683	27.254
9	000000	6197700	337275	102.81	31		31.084	30.653	30.223	29.792	29.361	28.930	28.499	28.068	27.637	27.206
10	000000	6197700	337250	103.26	32		31.167	30.734	30.301	29.869	29.436	29.003	28.570	28.138	27.705	27.272
11	000000	6197700	337250	103.26	31	****	31.150	30.717	30.284	29.851	29.419	28.986	28.553	28.120	27.688	27.255
12	000000	6197700	337225	104.15	31		31.378	30.942	30.505	30.069	29.632	29.196	28.759	28.323	27.886	27.450
13	000000	6197700	337200	105.15	31		31.552	31.111	30.671	30.230	29.789	29.349	28.908	28.467	28.027	27.586
14	000000	6197700	337175	106.22	31		31.742	31.296	30.851	30.406	29.961	29.516	29.071	28.625	28.180	27.735
15	000000	6197700	337150	107.40	31		31.795	31.345	30.895	30.445	29.995	29.544	29.094	28.644	28.194	27.744
16	000000	6197700	337125	108.69	31		31.853	31.398	30.942	30.487	30.031	29.575	29.120	28.664	28.209	27.753
17	000000	6197700	337100	109.02	31		31.931	31.474	31.017	30.560	30.103	29.646	29.190	28.733	28.276	27.819
18	000000	6197700	337075	108.96	31		32.040	31.583	31.127	30.670	30.213	29.757	29.300	28.843	28.387	27.930
19	000000	6197700	337050	109.19	31		32.074	31.616	31.159	30.701	30.244	29.786	29.328	28.871	28.413	27.956
20	000000	6197700	337025	109.80	31		32.116	31.656	31.196	30.736	30.275	29.815	29.355	28.895	28.435	27.975
21	000000	6197700	337000	111.18	31		32.165	31.699	31.233	30.768	30.302	29.836	29.370	28.904	28.438	27.972
22	000000	6197700	336950	112.01	31		32.127	31.658	31.188	30.719	30.249	29.780	29.310	28.841	28.371	27.902
23	000000	6197700	336900	113.66	31		32.139	31.662	31.186	30.710	30.233	29.757	29.280	28.804	28.328	27.851

23 points printed Computed on 4:19 PM WED., 18 MAY , 1983 Revision : 0

Total points printed for selection given - 477

SOLO GEOPHYSICS & Co

****

********** DATA REDUCTION PARAMETERS **********

Client : CRA EXPLORATION PTY. LTD.

Area : TRURO S.A.

Grid : SCHNEIDERS GOSSAN GRID (JOB 435)

FINAL DATA

Time zone is 0.00

Grid rotation is 0.00 degrees

The Known Point of 34.3674 degrees Latitude and 139.2323 degrees Longitude is located
at 6195700 Northing and 337450 Easting - Current grid coordinates (METERS)
or 6195700.00 Northing and 337450.00 Easting - Mercator coordinates

The Base Station observed gravity values are :

BASE	OBSERVED GRAVITY (mgals)
2	979700.000
3	979702.310
4	979699.580
5	979699.020

****
Computed on 8:15 AM TUE., 1 DEC., 1981 Revision 0

FINAL DATA

Loop catalog

LOOP	DATE	METER	OPERATOR	COVERAGE
1	190483	556	K.LEECH	LINE 6195700N FROM 337500E TO 337700E
2	190483	556	K.LEECH	LINE 6195700N FROM 337500E TO 337200E
3	200483	556	M.BURDORF	LINE 6195900N FROM 337500E TO 337200E
4	200483	556	M.BURDORF	LINE 6195900N FROM 337500E TO 337700E
5	210483	556	K.LEECH	LINE 6194100N FROM 337425E TO 337200E
6	210483	556	K.LEECH	LINE 6194100N FROM 337425E TO 337700E
7	210483	556	M.BURDORF	LINE 6194300N FROM 337450E TO 337200E
8	210483	556	M.BURDORF	LINE 6194300N FROM 337450E TO 337700E
9	210483	556	K.LEECH	LINE 6194500N FROM 337450E TO 337200E
10	210483	556	K.LEECH	LINE 6194500N FROM 337450E TO 337700E
11	210483	556	M.BURDORF	LINE 6194700N FROM 337450E TO 337200E
12	220483	556	M.BURDORF	LINE 6194700N FROM 337450E TO 337700E
13	220483	556	M.BURDORF	LINE 6194900N FROM 337450E TO 337850E
14	220483	556	K.LEECH	LINE 6195100N FROM 337450E TO 337700E
15	220483	556	K.LEECH	LINE 6194900N FROM 337450E TO 336850E
16	220483	556	M.BURDORF	LINE 6195100N FROM 337450E TO 337200E
17	220483	556	M.BURDORF	LINE 6195300N FROM 337450E TO 337700E
18	220483	556	K.LEECH	LINE 6194900N FROM 337850E TO 338050E
19	230483	556	K.LEECH	LINE 6195500N FROM 337425E TO 337200E
20	230483	556	K.LEECH	LINE 6195500N FROM 337425E TO 337700E
21	230483	556	K.LEECH	LINE 6195300N FROM 337450E TO 337200E
22	290483	556	G.RAU	LINE 6196700 NFROM 337800E TO 337150E
23	290483	556	G.RAU	LINE 6196500 NFROM 337150E TO 337800E
24	290483	556	G.RAU	LINE 6196300 N FROM 337100E TO 337800E
25	290483	556	G.RAU	LINE 6196100 NFROM 337100E TO 337800E

28	050583	556	G.RAU	LINE 6196900N FROM 337050E TO 337700E	
29	050583	556	G.RAU	LINE 6197100N FROM 337000E TO 337600E	
30	050583	556	G.RAU	LINE 6197300N	FROM 337600E TO 337000E
31	070583	556	G.RAU	LINE 6197700N	FROM 336900E TO 337500E

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195700N

FINAL DATA

SOLO GEOPHYSICS & Co.
****
** Loop No. 1 **
****

FROM 337500E TO 337700E

Loop time : .78 Drift rate : -.026 Gravimeter # 556 Operator : K.LEECH

Loop drift :-.021 Time zone : 0.000 Calib. Factor :1.0136 Date : 190483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.870	1456		979700.000					
18	000000	6195700	337500	6195699.13	337499.99	3160.87	1457	98.45	979700.000	979692.175	29.542	27.892	27.190	26.654
18	000000	6195700	337525	6195698.69	337524.99	3160.99	1502	97.60	979700.124	979692.175	29.479	27.842	27.147	26.615
18	000000	6195700	337550	6195698.26	337549.98	3161.03	1506	97.09	979700.166	979692.175	29.408	27.780	27.088	26.560
18	000000	6195700	337575	6195697.82	337574.98	3161.01	1510	96.69	979700.148	979692.175	29.301	27.680	26.992	26.465
18	000000	6195700	337600	6195697.39	337599.98	3161.10	1515	95.97	979700.241	979692.175	29.236	27.627	26.943	26.421
18	000000	6195700	337625	6195696.95	337624.97	3161.11	1519	95.50	979700.253	979692.175	29.144	27.543	26.863	26.343
18	000000	6195700	337650	6195696.52	337649.97	3161.10	1523	95.09	979700.245	979692.175	29.045	27.451	26.774	26.256
18	000000	6195700	337675	6195696.08	337674.97	3161.05	1528	94.79	979700.196	979692.175	28.931	27.342	26.666	26.150
18	000000	6195700	337700	6195695.65	337699.96	3160.99	1531	94.36	979700.137	979692.175	28.777	27.195	26.522	26.008
18	000000	6195700	337525	6195698.69	337524.99	3160.99	1538	97.60	979700.140	979692.175	29.494	27.858	27.163	26.631
Base # 2						3160.850	1543		979700.000					

10 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 2 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195700N FROM 337500E TO 337200E

Loop time :1.13 Drift rate : 0.000 Gravimeter # 556 Operator : K.LEECH

Loop drift :0.000 Time zone : 0.000 Calib. Factor :1.0136 Date : 190483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.850	1543		979700.000					
18	000000	6195700	337500	6195699.13	337499.99	3160.85	1545	98.45	979700.000	979692.175	29.542	27.891	27.190	26.654
18	000000	6195700	337475	6195699.56	337475.00	3160.60	1555	99.70	979699.747	979692.175	29.564	27.893	27.182	26.639
18	000000	6195700	337450	6195700.00	337450.00	3160.38	1559	101.23	979699.523	979692.175	29.679	27.982	27.260	26.709
18	000000	6195700	337425	6195700.44	337425.00	3160.10	1603	103.12	979699.240	979692.175	29.812	28.083	27.348	26.787
18	000000	6195700	337400	6195700.87	337400.01	3159.76	1607	105.00	979698.895	979692.175	29.882	28.122	27.373	26.801
18	000000	6195700	337375	6195701.31	337375.01	3159.44	1610	106.96	979698.571	979692.175	29.990	28.197	27.435	26.852
18	000000	6195700	337350	6195701.74	337350.02	3159.21	1616	108.47	979698.338	979692.175	30.090	28.272	27.499	26.908
18	000000	6195700	337325	6195702.18	337325.02	3159.03	1619	109.83	979698.155	979692.175	30.207	28.366	27.584	26.985
18	000000	6195700	337300	6195702.61	337300.02	3158.85	1623	111.13	979697.973	979692.175	30.312	28.449	27.657	27.052
18	000000	6195700	337275	6195703.05	337275.03	3158.88	1627	111.56	979698.003	979692.175	30.437	28.567	27.772	27.164
18	000000	6195700	337250	6195703.48	337250.03	3158.79	1632	112.00	979697.912	979692.175	30.443	28.565	27.767	27.157
18	000000	6195700	337225	6195703.92	337225.03	3158.83	1637	112.04	979697.953	979692.175	30.492	28.614	27.816	27.205
18	000000	6195700	337200	6195704.35	337200.04	3158.81	1641	112.43	979697.932	979692.175	30.558	28.673	27.872	27.259
18	000000	6195700	337350	6195701.74	337350.02	3159.21	1648	108.47	979698.338	979692.175	30.090	28.272	27.499	26.908
Base # 2						3160.850	1651		979700.000					

14 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 3 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195900N FROM 337500E TO 337200E

Loop time : .97 Drift rate : .010 Gravimeter # 556 Operator : M.BURDORF

Loop drift : .011 Time zone : 0.000 Calib. Factor :1.0136 Date : 200483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.830	1456		979700.000					
19	000000	6195900	337500	6195899.10	337503.48	3160.35	1502	100.00	979699.512	979692.024	29.547	27.871	27.158	26.613
19	000000	6195900	337475	6195899.53	337478.48	3160.19	1505	100.92	979699.350	979692.024	29.587	27.896	27.177	26.627
19	000000	6195900	337450	6195899.97	337453.48	3160.12	1508	102.02	979699.278	979692.024	29.759	28.049	27.322	26.766
19	000000	6195900	337425	6195900.41	337428.49	3160.17	1512	103.07	979699.328	979692.024	30.040	28.312	27.578	27.016
19	000000	6195900	337400	6195900.84	337403.49	3160.05	1515	104.27	979699.206	979692.024	30.183	28.435	27.692	27.124
19	000000	6195900	337375	6195901.28	337378.50	3159.81	1518	105.36	979698.962	979692.024	30.179	28.413	27.663	27.088
19	000000	6195900	337350	6195901.71	337353.50	3159.63	1521	106.40	979698.779	979692.024	30.226	28.442	27.684	27.104
19	000000	6195900	337325	6195902.15	337328.50	3159.38	1524	107.53	979698.525	979692.024	30.221	28.418	27.652	27.066
19	000000	6195900	337300	6195902.58	337303.51	3159.16	1527	108.58	979698.302	979692.024	30.230	28.409	27.636	27.044
19	000000	6195900	337275	6195903.02	337278.51	3158.87	1532	109.80	979698.007	979692.024	30.204	28.363	27.581	26.983
19	000000	6195900	337250	6195903.45	337253.51	3158.81	1535	110.86	979697.946	979692.024	30.376	28.518	27.728	27.124
19	000000	6195900	337225	6195903.89	337228.52	3158.70	1538	111.94	979697.834	979692.024	30.503	28.626	27.828	27.219
19	000000	6195900	337200	6195904.32	337203.52	3158.45	1542	112.81	979697.580	979692.024	30.440	28.549	27.745	27.131
19	000000	6195900	337500	6195899.10	337503.48	3160.36	1549	100.00	979699.515	979692.024	29.549	27.873	27.161	26.616
Base # 2						3160.840	1554		979700.000					

14 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 4 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195900N FROM 337500E TO 337700E

Loop time : .67 Drift rate : -.015 Gravimeter # 556 Operator : M.BURDORF

Loop drift :-.011 Time zone : 0.000 Calib. Factor :1.0136 Date : 200483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.840	1554		979700.000					
19	000000	6195900	337500	6195899.10	337503.48	3160.35	1559	100.00	979699.505	979692.024	29.540	27.863	27.151	26.606
19	000000	6195900	337525	6195898.66	337528.47	3160.54	1603	99.06	979699.698	979692.024	29.526	27.865	27.160	26.620
19	000000	6195900	337550	6195898.23	337553.47	3160.71	1606	98.22	979699.871	979692.024	29.513	27.867	27.167	26.632
19	000000	6195900	337575	6195897.79	337578.46	3160.82	1610	97.47	979699.983	979692.024	29.460	27.826	27.132	26.601
19	000000	6195900	337600	6195897.36	337603.46	3160.91	1613	96.74	979700.076	979692.024	29.392	27.770	27.081	26.554
19	000000	6195900	337625	6195896.92	337628.46	3160.94	1616	96.04	979700.107	979692.024	29.268	27.658	26.974	26.451
19	000000	6195900	337650	6195896.49	337653.45	3160.95	1619	95.41	979700.118	979692.024	29.140	27.541	26.861	26.341
19	000000	6195900	337675	6195896.05	337678.45	3160.98	1622	94.89	979700.149	979692.024	29.057	27.466	26.790	26.273
19	000000	6195900	337700	6195895.61	337703.45	3161.04	1625	94.39	979700.211	979692.024	29.008	27.426	26.753	26.239
19	000000	6195900	337500	6195899.10	337503.48	3160.34	1630	100.00	979699.502	979692.024	29.537	27.861	27.148	26.603
Base # 2						3160.830	1634		979700.000					

10 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194100N FROM 337425E TO 337200E

SOLO GEOPHYSICS & Co.
****
** Loop No. 5 **
****

Loop time : .90 Drift rate : .011 Gravimeter # 556 Operator : K.LEECH

Loop drift : .011 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3162.990	900		979702.310					
10	000000	6194100	337425	6194100.68	337397.13	3161.00	910	103.33	979700.291	979693.385	29.700	27.968	27.231	26.668
10	000000	6194100	337400	6194101.11	337372.14	3160.88	914	104.84	979700.168	979693.385	29.910	28.153	27.406	26.834
10	000000	6194100	337375	6194101.55	337347.14	3160.72	918	106.41	979700.006	979693.385	30.094	28.310	27.552	26.972
10	000000	6194100	337350	6194101.98	337322.14	3160.54	921	107.70	979699.823	979693.385	30.196	28.390	27.623	27.036
10	000000	6194100	337325	6194102.42	337297.15	3160.33	925	108.87	979699.609	979693.385	30.240	28.415	27.639	27.046
10	000000	6194100	337300	6194102.86	337272.15	3160.19	928	109.58	979699.467	979693.385	30.254	28.417	27.636	27.039
10	000000	6194100	337275	6194103.29	337247.16	3159.99	932	110.71	979699.263	979693.385	30.300	28.444	27.655	27.052
10	000000	6194100	337250	6194103.73	337222.16	3159.72	935	112.55	979698.989	979693.385	30.432	28.545	27.743	27.130
10	000000	6194100	337225	6194104.16	337197.16	3159.42	938	114.18	979698.684	979693.385	30.486	28.572	27.759	27.136
10	000000	6194100	337200	6194104.60	337172.17	3159.07	941	115.86	979698.329	979693.385	30.502	28.559	27.734	27.103
10	000000	6194100	337375	6194101.55	337347.14	3160.72	947	106.41	979700.001	979693.385	30.089	28.305	27.547	26.967
Base # 3						3163.000	954		979702.310					

11 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 6 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194100N FROM 337425E TO 337700E

Loop time : .98 Drift rate : .031 Gravimeter # 556 Operator : K.LEECH

Loop drift : .030 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.000	954		979702.310					
10	000000	6194100	337425	6194100.68	337397.13	3161.02	1005	103.33	979700.298	979693.385	29.706	27.974	27.238	26.675
10	000000	6194100	337450	6194100.24	337422.13	3161.18	1009	101.79	979700.458	979693.385	29.527	27.821	27.095	26.541
10	000000	6194100	337475	6194099.81	337447.13	3161.39	1012	100.39	979700.669	979693.385	29.429	27.746	27.031	26.484
10	000000	6194100	337500	6194099.37	337472.12	3161.55	1015	99.30	979700.829	979693.385	29.349	27.685	26.977	26.436
10	000000	6194100	337525	6194098.94	337497.12	3161.79	1019	98.30	979701.071	979693.385	29.370	27.722	27.022	26.486
10	000000	6194100	337550	6194098.50	337522.11	3162.02	1022	97.36	979701.302	979693.385	29.394	27.762	27.069	26.538
10	000000	6194100	337575	6194098.07	337547.11	3162.19	1025	96.96	979701.473	979693.385	29.477	27.851	27.161	26.632
10	000000	6194100	337600	6194097.63	337572.11	3162.32	1028	95.97	979701.603	979693.385	29.388	27.779	27.096	26.573
10	000000	6194100	337625	6194097.19	337597.10	3162.46	1031	95.38	979701.744	979693.385	29.399	27.800	27.120	26.601
10	000000	6194100	337650	6194096.76	337622.10	3162.59	1034	94.75	979701.874	979693.385	29.390	27.802	27.127	26.610
10	000000	6194100	337675	6194096.32	337647.10	3162.70	1037	94.21	979701.984	979693.385	29.381	27.802	27.131	26.617
10	000000	6194100	337700	6194095.89	337672.09	3162.78	1041	93.77	979702.063	979693.385	29.363	27.791	27.123	26.612
10	000000	6194100	337500	6194099.37	337472.12	3161.57	1047	99.30	979700.833	979693.385	29.353	27.688	26.981	26.440
Base # 3						3163.030	1053		979702.310					

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13 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194300N FROM 337450E TO 337200E

SOLO GEOPHYSICS & Co.
****
** Loop No. 7 **
****

Loop time : .95 Drift rate : .011 Gravimeter # 556 Operator : M.BURDORF

Loop drift : .010 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.030	1053		979702.310					
11	000000	6194300	337450	6194300.21	337425.61	3161.10	1106	103.28	979700.352	979693.233	29.901	28.169	27.433	26.871
11	000000	6194300	337425	6194300.65	337400.62	3160.77	1110	105.01	979700.016	979693.233	29.947	28.187	27.438	26.866
11	000000	6194300	337400	6194301.08	337375.62	3160.45	1114	107.41	979699.691	979693.233	30.151	28.351	27.586	27.000
11	000000	6194300	337375	6194301.52	337350.62	3159.98	1118	110.33	979699.214	979693.233	30.318	28.469	27.683	27.082
11	000000	6194300	337350	6194301.95	337325.63	3159.40	1120	113.26	979698.626	979693.233	30.376	28.478	27.671	27.054
11	000000	6194300	337325	6194302.39	337300.63	3159.11	1123	115.26	979698.331	979693.233	30.523	28.591	27.770	27.142
11	000000	6194300	337300	6194302.83	337275.64	3158.95	1126	116.13	979698.169	979693.233	30.552	28.606	27.778	27.145
11	000000	6194300	337275	6194303.26	337250.64	3158.60	1129	117.91	979697.814	979693.233	30.590	28.613	27.773	27.131
11	000000	6194300	337250	6194303.70	337225.64	3158.22	1132	119.99	979697.428	979693.233	30.663	28.651	27.797	27.143
11	000000	6194300	337225	6194304.13	337200.65	3157.89	1135	121.76	979697.093	979693.233	30.718	28.677	27.810	27.146
11	000000	6194300	337200	6194304.57	337175.65	3157.58	1138	123.38	979696.778	979693.233	30.761	28.692	27.813	27.141
11	000000	6194300	337400	6194301.08	337375.62	3160.46	1143	107.41	979699.696	979693.233	30.156	28.355	27.590	27.005
Base # 3						3163.040	1150		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194300N FROM 337450E TO 337700E

SOLO GEOPHYSICS & Co.
****
** Loop No. 8 **
****

Loop time : .82 Drift rate : .037 Gravimeter # 556 Operator : M.BURDORF

Loop drift : .030 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.040	1150		979702.310					
11	000000	6194300	337450	6194300.21	337425.61	3161.12	1158	103.28	979700.359	979693.233	29.908	28.177	27.441	26.878
11	000000	6194300	337475	6194299.78	337450.61	3161.47	1201	101.55	979700.712	979693.233	29.880	28.177	27.454	26.901
11	000000	6194300	337500	6194299.34	337475.61	3161.66	1203	100.23	979700.904	979693.233	29.780	28.099	27.385	26.839
11	000000	6194300	337525	6194298.91	337500.60	3161.97	1206	98.46	979701.216	979693.233	29.702	28.051	27.350	26.813
11	000000	6194300	337550	6194298.47	337525.60	3162.20	1209	97.02	979701.447	979693.233	29.615	27.989	27.298	26.769
11	000000	6194300	337575	6194298.04	337550.59	3162.42	1212	95.76	979701.668	979693.233	29.558	27.953	27.271	26.749
11	000000	6194300	337600	6194297.60	337575.59	3162.57	1215	94.70	979701.818	979693.233	29.474	27.887	27.212	26.696
11	000000	6194300	337625	6194297.16	337600.59	3162.72	1217	93.78	979701.969	979693.233	29.422	27.850	27.182	26.671
11	000000	6194300	337650	6194296.73	337625.58	3162.86	1221	92.85	979702.108	979693.233	29.356	27.800	27.138	26.632
11	000000	6194300	337675	6194296.29	337650.58	3162.98	1224	92.22	979702.228	979693.233	29.338	27.792	27.135	26.632
11	000000	6194300	337700	6194295.86	337675.58	3163.09	1226	91.58	979702.339	979693.233	29.307	27.771	27.119	26.620
11	000000	6194300	337550	6194298.47	337525.60	3162.21	1231	97.02	979701.443	979693.233	29.611	27.985	27.294	26.765
Base # 3						3163.070	1239		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194500N FROM 337450E TO 337200E

SOLO GEOPHYSICS & Co.
****
** Loop No. 9 **
****

Loop time : .97 Drift rate : .042 Gravimeter # 556 Operator : K.LEECH

Loop drift : .041 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.090	1332		979702.310					
12	000000	6194500	337450	6194500.18	337429.10	3161.14	1340	101.19	979700.328	979693.082	29.567	27.871	27.150	26.598
12	000000	6194500	337425	6194500.62	337404.10	3160.95	1344	102.83	979700.133	979693.082	29.734	28.010	27.277	26.717
12	000000	6194500	337400	6194501.05	337379.10	3160.77	1347	104.69	979699.948	979693.082	29.959	28.204	27.458	26.888
12	000000	6194500	337375	6194501.49	337354.11	3160.43	1355	107.38	979699.598	979693.082	30.203	28.403	27.638	27.052
12	000000	6194500	337350	6194501.92	337329.11	3159.92	1358	110.42	979699.078	979693.082	30.354	28.503	27.716	27.114
12	000000	6194500	337325	6194502.36	337304.12	3159.30	1401	113.53	979698.448	979693.082	30.409	28.506	27.697	27.078
12	000000	6194500	337300	6194502.79	337279.12	3159.05	1405	115.29	979698.192	979693.082	30.541	28.608	27.787	27.159
12	000000	6194500	337275	6194503.23	337254.12	3158.75	1408	117.20	979697.886	979693.082	30.657	28.692	27.857	27.218
12	000000	6194500	337250	6194503.67	337229.13	3158.71	1412	117.67	979697.843	979693.082	30.717	28.744	27.906	27.265
12	000000	6194500	337225	6194504.10	337204.13	3158.58	1415	118.32	979697.709	979693.082	30.726	28.743	27.900	27.255
12	000000	6194500	337200	6194504.54	337179.14	3158.38	1418	119.37	979697.503	979693.082	30.753	28.752	27.901	27.251
12	000000	6194500	337400	6194501.05	337379.10	3160.79	1424	104.69	979699.943	979693.082	29.954	28.199	27.453	26.882
Base # 3						3163.130	1430		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 10 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194500N FROM 337450E TO 337700E

Loop time :1.10 Drift rate : .009 Gravimeter # 556 Operator : K.LEECH

Loop drift : .010 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.130	1430		979702.310					
12	000000	6194500	337450	6194500.18	337429.10	3161.16	1442	101.19	979700.312	979693.082	29.551	27.854	27.133	26.582
12	000000	6194500	337475	6194499.75	337454.09	3161.34	1446	99.93	979700.493	979693.082	29.454	27.779	27.067	26.523
12	000000	6194500	337500	6194499.31	337479.09	3161.53	1449	99.01	979700.685	979693.082	29.443	27.783	27.078	26.539
12	000000	6194500	337525	6194498.88	337504.09	3161.69	1451	98.16	979700.847	979693.082	29.418	27.772	27.073	26.538
12	000000	6194500	337550	6194498.44	337529.08	3161.93	1454	97.24	979701.090	979693.082	29.458	27.828	27.135	26.605
12	000000	6194500	337575	6194498.00	337554.08	3162.15	1457	96.23	979701.313	979693.082	29.458	27.844	27.159	26.635
12	000000	6194500	337600	6194497.57	337579.07	3162.37	1500	95.44	979701.535	979693.082	29.506	27.906	27.226	26.706
12	000000	6194500	337625	6194497.13	337604.07	3162.52	1505	94.51	979701.686	979693.082	29.452	27.868	27.194	26.679
12	000000	6194500	337650	6194496.70	337629.07	3162.71	1509	93.72	979701.878	979693.082	29.469	27.898	27.231	26.720
12	000000	6194500	337675	6194496.26	337654.06	3162.87	1513	92.74	979702.040	979693.082	29.415	27.861	27.200	26.695
12	000000	6194500	337700	6194495.83	337679.06	3163.02	1518	92.07	979702.191	979693.082	29.419	27.875	27.219	26.718
12	000000	6194500	337500	6194499.31	337479.09	3161.52	1525	99.01	979700.670	979693.082	29.428	27.768	27.063	26.523
Base # 3						3163.140	1536		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 11 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194700N FROM 337450E TO 337200E

Loop time : .83 Drift rate : -.037 Gravimeter # 556 Operator : M.BURDORF

Loop drift :-.031 Time zone : 0.000 Calib. Factor :1.0136 Date : 210483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.140	1536		979702.310					
13	000000	6194700	337450	6194700.15	337432.58	3161.00	1542	101.01	979700.145	979692.931	29.495	27.802	27.082	26.532
13	000000	6194700	337425	6194700.59	337407.58	3160.87	1545	102.68	979700.015	979692.931	29.734	28.012	27.281	26.721
13	000000	6194700	337400	6194701.02	337382.59	3160.62	1550	104.39	979699.764	979692.931	29.861	28.111	27.367	26.798
13	000000	6194700	337375	6194701.46	337357.59	3160.32	1553	106.18	979699.462	979692.931	29.953	28.173	27.417	26.838
13	000000	6194700	337350	6194701.89	337332.60	3160.16	1557	108.04	979699.302	979692.931	30.204	28.393	27.623	27.034
13	000000	6194700	337325	6194702.33	337307.60	3159.71	1600	110.64	979698.848	979692.931	30.323	28.468	27.680	27.077
13	000000	6194700	337300	6194702.76	337282.60	3159.18	1604	113.60	979698.314	979692.931	30.441	28.537	27.728	27.109
13	000000	6194700	337275	6194703.20	337257.61	3158.83	1608	115.68	979697.961	979692.931	30.548	28.608	27.784	27.154
13	000000	6194700	337250	6194703.64	337232.61	3158.62	1611	117.05	979697.750	979692.931	30.639	28.677	27.843	27.205
13	000000	6194700	337225	6194704.07	337207.62	3158.30	1614	119.00	979697.427	979692.931	30.746	28.751	27.903	27.255
13	000000	6194700	337200	6194704.51	337182.62	3157.95	1617	120.71	979697.074	979692.931	30.771	28.747	27.887	27.229
13	000000	6194700	337400	6194701.02	337382.59	3160.61	1622	104.39	979699.774	979692.931	29.870	28.120	27.376	26.808
Base # 3						3163.110	1626		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 12 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194700N FROM 337450E TO 337700E

Loop time : .68 Drift rate : .015 Gravimeter # 556 Operator : M.BURDORF

Loop drift : .010 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3162.920	911		979702.310					
13	000000	6194700	337450	6194700.15	337432.58	3160.80	915	101.01	979700.160	979692.931	29.511	27.817	27.098	26.547
13	000000	6194700	337475	6194699.72	337457.58	3161.03	918	99.46	979700.392	979692.931	29.401	27.734	27.025	26.483
13	000000	6194700	337500	6194699.28	337482.57	3161.18	921	98.39	979700.544	979692.931	29.317	27.668	26.967	26.431
13	000000	6194700	337525	6194698.85	337507.57	3161.34	924	97.55	979700.705	979692.931	29.293	27.657	26.962	26.431
13	000000	6194700	337550	6194698.41	337532.57	3161.57	927	96.71	979700.937	979692.931	29.339	27.718	27.029	26.502
13	000000	6194700	337575	6194697.97	337557.56	3161.82	929	95.60	979701.190	979692.931	29.347	27.745	27.064	26.543
13	000000	6194700	337600	6194697.54	337582.56	3162.05	932	94.53	979701.423	979692.931	29.344	27.759	27.086	26.571
13	000000	6194700	337625	6194697.10	337607.55	3162.29	935	93.48	979701.665	979692.931	29.355	27.788	27.122	26.612
13	000000	6194700	337650	6194696.67	337632.55	3162.53	938	92.62	979701.908	979692.931	29.408	27.855	27.195	26.690
13	000000	6194700	337675	6194696.23	337657.55	3162.74	940	91.74	979702.121	979692.931	29.426	27.888	27.235	26.735
13	000000	6194700	337700	6194695.80	337682.54	3162.95	943	90.92	979702.333	979692.931	29.458	27.933	27.286	26.790
13	000000	6194700	337500	6194699.28	337482.57	3161.19	948	98.39	979700.547	979692.931	29.320	27.671	26.970	26.434
Base # 3						3162.930	952		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 13 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194900N FROM 337450E TO 337850E

Loop time :1.05 Drift rate : -.019 Gravimeter # 556 Operator : M.BURDORF

Loop drift :-.020 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3162.930	952		979702.310					
14	000000	6194900	337450	6194900.12	337436.06	3160.89	1000	99.98	979700.245	979692.780	29.519	27.843	27.131	26.586
14	000000	6194900	337475	6194899.69	337461.06	3161.21	1003	98.00	979700.570	979692.780	29.408	27.765	27.067	26.533
14	000000	6194900	337500	6194899.25	337486.06	3161.49	1006	96.49	979700.855	979692.780	29.360	27.742	27.055	26.529
14	000000	6194900	337525	6194898.81	337511.05	3161.80	1009	94.90	979701.170	979692.780	29.324	27.733	27.057	26.540
14	000000	6194900	337550	6194898.38	337536.05	3161.99	1012	94.03	979701.364	979692.780	29.326	27.750	27.080	26.567
14	000000	6194900	337575	6194897.94	337561.05	3162.14	1015	93.27	979701.517	979692.780	29.311	27.747	27.083	26.575
14	000000	6194900	337600	6194897.51	337586.04	3162.31	1017	92.29	979701.690	979692.780	29.268	27.721	27.063	26.560
14	000000	6194900	337625	6194897.07	337611.04	3162.59	1020	90.82	979701.974	979692.780	29.228	27.706	27.059	26.564
14	000000	6194900	337650	6194896.64	337636.03	3162.83	1023	89.69	979702.219	979692.780	29.224	27.720	27.081	26.592
14	000000	6194900	337675	6194896.20	337661.03	3163.10	1027	88.45	979702.493	979692.780	29.225	27.742	27.112	26.630
14	000000	6194900	337700	6194895.77	337686.03	3163.24	1030	87.72	979702.637	979692.780	29.207	27.736	27.111	26.633
14	000000	6194900	337750	6194894.90	337736.02	3163.46	1033	86.36	979702.860	979692.780	29.130	27.683	27.067	26.597
14	000000	6194900	337800	6194894.02	337786.01	3163.73	1036	84.97	979703.135	979692.780	29.099	27.674	27.069	26.606
14	000000	6194900	337850	6194893.15	337836.00	3163.81	1041	83.77	979703.218	979692.780	28.917	27.512	26.915	26.459
14	000000	6194900	337700	6194895.77	337686.03	3163.23	1052	87.72	979702.633	979692.780	29.203	27.733	27.108	26.630
Base # 3						3162.910	1055		979702.310					

15 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 14 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195100N FROM 337450E TO 337700E

Loop time : .83 Drift rate : .036 Gravimeter # 556 Operator : K.LEECH

Loop drift : .030 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.000	1144		979702.310					
15	000000	6195100	337450	6195100.09	337439.55	3162.03	1151	94.02	979701.322	979692.629	29.433	27.857	27.187	26.675
15	000000	6195100	337475	6195099.66	337464.54	3162.41	1155	92.03	979701.706	979692.629	29.378	27.835	27.179	26.678
15	000000	6195100	337500	6195099.22	337489.54	3162.71	1158	90.57	979702.008	979692.629	29.358	27.839	27.194	26.701
15	000000	6195100	337525	6195098.78	337514.54	3162.96	1201	89.23	979702.259	979692.629	29.314	27.818	27.182	26.696
15	000000	6195100	337550	6195098.35	337539.53	3163.10	1204	88.55	979702.399	979692.629	29.304	27.819	27.189	26.706
15	000000	6195100	337575	6195097.91	337564.53	3163.21	1207	87.92	979702.509	979692.629	29.274	27.801	27.174	26.695
15	000000	6195100	337600	6195097.48	337589.53	3163.31	1210	87.45	979702.609	979692.629	29.271	27.805	27.181	26.705
15	000000	6195100	337625	6195097.04	337614.52	3163.37	1213	87.11	979702.668	979692.629	29.255	27.794	27.174	26.699
15	000000	6195100	337650	6195096.61	337639.52	3163.23	1217	87.50	979702.523	979692.629	29.196	27.729	27.106	26.629
15	000000	6195100	337675	6195096.17	337664.51	3163.26	1221	87.02	979702.551	979692.629	29.118	27.659	27.039	26.565
15	000000	6195100	337700	6195095.74	337689.51	3163.58	1225	85.05	979702.873	979692.629	29.005	27.580	26.974	26.510
15	000000	6195100	337450	6195100.09	337439.55	3162.05	1230	94.02	979701.319	979692.629	29.430	27.854	27.184	26.672
Base # 3						3163.030	1234		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194900N FROM 337450E TO 336850E

SOLO GEOPHYSICS & Co.
****
** Loop No. 15 **
****

Loop time :1.57 Drift rate : .039 Gravimeter # 556 Operator : K.LEECH

Loop drift : .061 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.030	1234		979702.310					
14	000000	6194900	337450	6194900.12	337436.06	3161.00	1245	99.98	979700.246	979692.780	29.520	27.844	27.132	26.587
14	000000	6194900	337425	6194900.56	337411.07	3160.75	1248	101.67	979699.990	979692.780	29.638	27.933	27.209	26.655
14	000000	6194900	337400	6194900.99	337386.07	3160.44	1253	103.31	979699.673	979692.780	29.682	27.950	27.214	26.651
14	000000	6194900	337375	6194901.43	337361.08	3160.03	1257	105.76	979699.254	979692.780	29.804	28.031	27.277	26.701
14	000000	6194900	337350	6194901.86	337336.08	3159.73	1301	108.69	979698.948	979692.780	30.144	28.322	27.547	26.955
14	000000	6194900	337325	6194902.30	337311.08	3159.27	1304	111.96	979698.479	979692.780	30.397	28.520	27.722	27.112
14	000000	6194900	337300	6194902.73	337286.09	3158.67	1308	115.31	979697.869	979692.780	30.525	28.592	27.771	27.142
14	000000	6194900	337275	6194903.17	337261.09	3158.44	1312	116.51	979697.633	979692.780	30.554	28.601	27.771	27.136
14	000000	6194900	337250	6194903.61	337236.10	3158.62	1315	115.92	979697.814	979692.780	30.604	28.661	27.835	27.204
14	000000	6194900	337225	6194904.04	337211.10	3158.44	1319	117.18	979697.628	979692.780	30.697	28.733	27.898	27.259
14	000000	6194900	337200	6194904.48	337186.10	3158.29	1323	118.04	979697.474	979692.780	30.732	28.754	27.913	27.269
14	000000	6194900	337150	6194905.35	337136.11	3157.67	1327	121.41	979696.843	979692.780	30.845	28.809	27.944	27.283
14	000000	6194900	337100	6194906.22	337086.12	3156.88	1331	125.44	979696.040	979692.780	30.930	28.828	27.934	27.250
14	000000	6194900	337050	6194907.09	337036.13	3155.98	1336	129.85	979695.124	979692.780	30.987	28.811	27.885	27.178
14	000000	6194900	337000	6194907.96	336986.13	3155.10	1339	133.98	979694.230	979692.780	31.005	28.759	27.804	27.074
14	000000	6194900	336950	6194908.83	336936.14	3154.30	1344	138.00	979693.416	979692.780	31.077	28.764	27.781	27.029
14	000000	6194900	336900	6194909.70	336886.15	3153.60	1348	141.56	979692.704	979692.780	31.151	28.777	27.769	26.998
14	000000	6194900	336850	6194910.57	336836.16	3152.89	1353	145.07	979691.981	979692.780	31.202	28.770	27.736	26.946
14	000000	6194900	337325	6194902.30	337311.08	3159.29	1402	111.96	979698.462	979692.780	30.380	28.503	27.705	27.095
Base # 3						3163.090	1408		979702.310					

19 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 16 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195100N FROM 337450E TO 337200E

Loop time :1.02 Drift rate : .020 Gravimeter # 556 Operator : M.BURDORF

Loop drift : .020 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.090	1408		979702.310					
15	000000	6195100	337450	6195100.09	337439.55	3162.11	1422	94.02	979701.312	979692.629	29.423	27.847	27.177	26.665
15	000000	6195100	337425	6195100.53	337414.55	3161.87	1425	95.66	979701.068	979692.629	29.541	27.937	27.256	26.735
15	000000	6195100	337400	6195100.96	337389.56	3161.53	1428	97.28	979700.722	979692.629	29.552	27.921	27.228	26.698
15	000000	6195100	337375	6195101.40	337364.56	3161.17	1432	99.41	979700.356	979692.629	29.656	27.989	27.281	26.740
15	000000	6195100	337350	6195101.83	337339.56	3160.71	1436	102.47	979699.888	979692.629	29.863	28.145	27.415	26.857
15	000000	6195100	337325	6195102.27	337314.57	3160.38	1439	105.36	979699.553	979692.629	30.165	28.399	27.648	27.074
15	000000	6195100	337300	6195102.70	337289.57	3160.23	1442	106.66	979699.400	979692.629	30.299	28.511	27.751	27.170
15	000000	6195100	337275	6195103.14	337264.58	3159.93	1446	108.37	979699.095	979692.629	30.371	28.555	27.783	27.192
15	000000	6195100	337250	6195103.57	337239.58	3159.80	1449	108.94	979698.962	979692.629	30.364	28.538	27.761	27.168
15	000000	6195100	337225	6195104.01	337214.58	3159.55	1451	110.86	979698.708	979692.629	30.533	28.675	27.885	27.281
15	000000	6195100	337200	6195104.45	337189.59	3159.27	1454	112.54	979698.423	979692.629	30.619	28.733	27.931	27.318
15	000000	6195100	337400	6195100.96	337389.56	3161.56	1503	97.28	979700.741	979692.629	29.571	27.941	27.247	26.717
Base # 3						3163.110	1509		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 17 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195300N FROM 337450E TO 337700E

Loop time : .83 Drift rate : 0.000 Gravimeter # 556 Operator : M.BURDORF

Loop drift :0.000 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.110	1509		979702.310					
16	000000	6195300	337450	6195300.06	337443.03	3162.74	1515	89.99	979701.935	979692.477	29.309	27.800	27.159	26.669
16	000000	6195300	337475	6195299.63	337468.03	3162.94	1518	89.23	979702.138	979692.477	29.344	27.848	27.212	26.726
16	000000	6195300	337500	6195299.19	337493.02	3163.27	1523	87.70	979702.473	979692.477	29.341	27.871	27.246	26.768
16	000000	6195300	337525	6195298.75	337518.02	3163.65	1526	85.56	979702.857	979692.477	29.253	27.819	27.210	26.743
16	000000	6195300	337550	6195298.32	337543.02	3164.24	1529	82.85	979703.456	979692.477	29.254	27.865	27.275	26.824
16	000000	6195300	337575	6195297.88	337568.01	3164.76	1534	80.37	979703.982	979692.477	29.234	27.886	27.314	26.876
16	000000	6195300	337600	6195297.45	337593.01	3165.00	1536	79.51	979704.226	979692.477	29.288	27.955	27.388	26.955
16	000000	6195300	337625	6195297.01	337618.01	3165.05	1539	78.98	979704.276	979692.477	29.221	27.897	27.334	26.904
16	000000	6195300	337650	6195296.58	337643.00	3165.05	1541	78.78	979704.276	979692.477	29.177	27.856	27.295	26.866
16	000000	6195300	337675	6195296.14	337668.00	3165.12	1544	78.19	979704.348	979692.477	29.118	27.807	27.250	26.824
16	000000	6195300	337700	6195295.71	337692.99	3165.41	1546	76.62	979704.642	979692.477	29.066	27.782	27.236	26.818
16	000000	6195300	337500	6195299.19	337493.02	3163.27	1553	87.70	979702.473	979692.477	29.341	27.871	27.246	26.768
Base # 3						3163.110	1559		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6194900N FROM 337850E TO 338050E

SOLO GEOPHYSICS & Co.
****
** Loop No. 18 **
****

Loop time : .45 Drift rate : 0.000 Gravimeter # 556 Operator : K.LEECH

Loop drift :0.000 Time zone : 0.000 Calib. Factor :1.0136 Date : 220483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3163.110	1559		979702.310					
14	000000	6194900	337850	6194893.15	337836.00	3163.98	1605	83.77	979703.192	979692.780	28.891	27.487	26.890	26.434
14	000000	6194900	337900	6194892.28	337886.00	3163.89	1608	83.03	979703.101	979692.780	28.637	27.245	26.653	26.201
14	000000	6194900	337950	6194891.41	337935.99	3163.86	1611	82.10	979703.070	979692.780	28.401	27.024	26.439	25.992
14	000000	6194900	338000	6194890.54	337985.98	3163.93	1614	81.41	979703.142	979692.780	28.320	26.955	26.375	25.931
14	000000	6194900	338050	6194889.67	338035.97	3164.10	1617	80.49	979703.314	979692.780	28.289	26.940	26.366	25.928
14	000000	6194900	337850	6194893.15	337836.00	3163.97	1620	83.77	979703.182	979692.780	28.881	27.477	26.880	26.423
Base # 3						3163.110	1626		979702.310					

6 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195500N FROM 337425E TO 337200E

SOLO GEOPHYSICS & Co.
****
** Loop No. 19 **
****

Loop time : .77 Drift rate : .013 Gravimeter # 556 Operator : K.LEECH

Loop drift : .010 Time zone : 0.000 Calib. Factor :1.0136 Date : 230483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.630	926		979700.000					
17	000000	6195500	337425	6195500.47	337421.52	3162.68	930	89.61	979702.077	979692.326	29.518	28.016	27.377	26.889
17	000000	6195500	337400	6195500.90	337396.52	3162.47	933	90.43	979701.864	979692.326	29.486	27.970	27.325	26.833
17	000000	6195500	337375	6195501.34	337371.53	3162.16	936	92.61	979701.549	979692.326	29.651	28.099	27.439	26.935
17	000000	6195500	337350	6195501.77	337346.53	3162.37	941	91.92	979701.761	979692.326	29.711	28.170	27.515	27.014
17	000000	6195500	337325	6195502.21	337321.54	3164.09	945	82.83	979703.503	979692.326	29.448	28.060	27.469	27.018
17	000000	6195500	337300	6195502.64	337296.54	3164.58	950	79.87	979703.999	979692.326	29.291	27.952	27.383	26.948
17	000000	6195500	337275	6195503.08	337271.54	3164.53	953	80.21	979703.947	979692.326	29.314	27.970	27.398	26.961
17	000000	6195500	337250	6195503.51	337246.55	3164.30	957	81.29	979703.713	979692.326	29.319	27.956	27.377	26.934
17	000000	6195500	337225	6195503.95	337221.55	3164.17	1000	81.54	979703.581	979692.326	29.241	27.874	27.293	26.849
17	000000	6195500	337375	6195501.34	337371.53	3162.18	1007	92.61	979701.562	979692.326	29.665	28.112	27.452	26.948
Base # 2						3160.640	1012		979700.000					

10 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6195500N FROM 337425E TO 337700E

SOLO GEOPHYSICS & Co.
****
** Loop No. 20 **
****

Loop time : .93 Drift rate : .011 Gravimeter # 556 Operator : K.LEECH

Loop drift : .010 Time zone : 0.000 Calib. Factor : 1.0136 Date : 230483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.640	1012		979700.000					
17	000000	6195500	337425	6195500.47	337421.52	3162.68	1019	89.61	979702.067	979692.326	29.507	28.005	27.367	26.878
17	000000	6195500	337450	6195500.03	337446.52	3162.75	1023	89.31	979702.137	979692.326	29.511	28.014	27.378	26.891
17	000000	6195500	337475	6195499.59	337471.51	3163.33	1027	86.70	979702.724	979692.326	29.523	28.070	27.452	26.980
17	000000	6195500	337500	6195499.16	337496.51	3163.73	1030	84.67	979703.129	979692.326	29.480	28.061	27.457	26.996
17	000000	6195500	337525	6195498.72	337521.50	3163.93	1033	83.49	979703.331	979692.326	29.422	28.022	27.427	26.972
17	000000	6195500	337550	6195498.29	337546.50	3164.08	1037	82.17	979703.482	979692.326	29.282	27.904	27.319	26.871
17	000000	6195500	337575	6195497.85	337571.50	3164.00	1040	82.14	979703.401	979692.326	29.194	27.817	27.231	26.784
17	000000	6195500	337600	6195497.42	337596.49	3164.06	1043	81.52	979703.461	979692.326	29.117	27.751	27.170	26.726
17	000000	6195500	337625	6195496.98	337621.49	3164.17	1046	80.80	979703.572	979692.326	29.069	27.715	27.139	26.699
17	000000	6195500	337650	6195496.55	337646.49	3164.34	1048	79.68	979703.744	979692.326	28.994	27.658	27.091	26.657
17	000000	6195500	337675	6195496.11	337671.48	3164.32	1051	79.59	979703.723	979692.326	28.953	27.619	27.052	26.618
17	000000	6195500	337700	6195495.68	337696.48	3162.99	1057	84.68	979702.374	979692.326	28.727	27.308	26.704	26.243
17	000000	6195500	337475	6195499.59	337471.51	3163.34	1102	86.70	979702.728	979692.326	29.526	28.073	27.455	26.983
Base # 2						3160.650	1108		979700.000					

13 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

SOLO GEOPHYSICS & Co.
****
** Loop No. 21 **
****

Location : TRURO S.A.

Coverage : LINE 6195300N FROM 337450E TO 337200E

Loop time :1.12 Drift rate : .045 Gravimeter # 556 Operator : K.LEECH

Loop drift : .050 Time zone : 0.000 Calib. Factor :1.0136 Date : 230483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 3						3162.980	1217		979702.310					
16	000000	6195300	337450	6195300.06	337443.03	3162.61	1225	89.99	979701.929	979692.477	29.302	27.793	27.152	26.662
16	000000	6195300	337425	6195300.50	337418.04	3162.25	1228	91.18	979701.562	979692.477	29.197	27.669	27.019	26.522
16	000000	6195300	337400	6195300.93	337393.04	3162.11	1231	92.02	979701.417	979692.477	29.238	27.696	27.040	26.539
16	000000	6195300	337375	6195301.37	337368.04	3161.97	1235	93.12	979701.273	979692.477	29.337	27.776	27.112	26.605
16	000000	6195300	337350	6195301.80	337343.05	3161.98	1238	94.25	979701.281	979692.477	29.594	28.014	27.342	26.829
16	000000	6195300	337325	6195302.24	337318.05	3161.65	1242	97.11	979700.943	979692.477	29.887	28.259	27.567	27.038
16	000000	6195300	337300	6195302.67	337293.06	3161.63	1245	97.34	979700.920	979692.477	29.915	28.283	27.590	27.059
16	000000	6195300	337275	6195303.11	337268.06	3161.33	1249	98.97	979700.614	979692.477	29.968	28.309	27.604	27.064
16	000000	6195300	337250	6195303.54	337243.06	3161.10	1254	100.40	979700.376	979692.477	30.046	28.363	27.648	27.101
16	000000	6195300	337225	6195303.98	337218.07	3161.51	1259	98.21	979700.788	979692.477	29.975	28.328	27.629	27.094
16	000000	6195300	337200	6195304.42	337193.07	3161.36	1307	99.21	979700.630	979692.477	30.038	28.374	27.668	27.127
16	000000	6195300	337350	6195301.80	337343.05	3162.00	1316	94.25	979701.272	979692.477	29.585	28.005	27.334	26.820
Base # 3						3163.030	1324		979702.310					

12 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 22 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6196700 NFROM 337800E TO 337150E

Loop time :1.53 Drift rate : -.020 Gravimeter # 556 Operator : G.RAU

Loop drift :-.030 Time zone : 0.000 Calib. Factor :1.0136 Date : 290483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.730	953		979700.000					
23	000000	6196700	337800	6196693.75	337817.37	3161.40	1009	90.80	979700.684	979691.419	29.295	27.773	27.126	26.631
23	000000	6196700	337750	6196694.62	337767.37	3161.24	1012	92.04	979700.523	979691.419	29.407	27.864	27.218	26.707
23	000000	6196700	337700	6196695.49	337717.38	3161.00	1015	93.31	979700.281	979691.419	29.445	27.881	27.216	26.708
23	000000	6196700	337650	6196696.36	337667.39	3160.72	1018	94.38	979699.998	979691.419	29.398	27.816	27.144	26.630
23	000000	6196700	337625	6196696.80	337642.39	3160.61	1020	95.06	979699.887	979691.419	29.437	27.844	27.166	26.648
23	000000	6196700	337600	6196697.24	337617.40	3160.56	1023	95.95	979699.838	979691.419	29.584	27.975	27.292	26.769
23	000000	6196700	337575	6196697.67	337592.40	3160.53	1025	96.55	979699.807	979691.419	29.686	28.067	27.380	26.854
23	000000	6196700	337550	6196698.11	337567.40	3160.53	1027	97.09	979699.808	979691.419	29.806	28.178	27.486	26.957
23	000000	6196700	337525	6196698.54	337542.41	3160.42	1030	97.68	979699.698	979691.419	29.826	28.188	27.492	26.960
23	000000	6196700	337500	6196698.98	337517.41	3160.33	1032	98.32	979699.608	979691.419	29.877	28.228	27.528	26.992
23	000000	6196700	337475	6196699.41	337492.42	3160.21	1034	98.84	979699.486	979691.419	29.870	28.213	27.509	26.970
23	000000	6196700	337450	6196699.85	337467.42	3160.21	1037	99.12	979699.487	979691.419	29.933	28.271	27.565	27.025
23	000000	6196700	337425	6196700.28	337442.42	3160.08	1040	99.56	979699.357	979691.419	29.899	28.230	27.521	26.979
23	000000	6196700	337400	6196700.72	337417.43	3159.94	1043	100.21	979699.216	979691.419	29.902	28.222	27.508	26.962
23	000000	6196700	337375	6196701.15	337392.43	3159.91	1047	101.09	979699.187	979691.419	30.067	28.372	27.652	27.101
23	000000	6196700	337350	6196701.59	337367.43	3159.90	1053	102.44	979699.178	979691.419	30.356	28.639	27.909	27.351
23	000000	6196700	337325	6196702.03	337342.44	3159.79	1055	103.76	979699.068	979691.419	30.537	28.797	28.058	27.493
23	000000	6196700	337300	6196702.46	337317.44	3159.47	1058	105.13	979698.745	979691.419	30.516	28.753	28.004	27.432
23	000000	6196700	337275	6196702.90	337292.45	3159.25	1100	106.04	979698.522	979691.419	30.494	28.716	27.961	27.383
23	000000	6196700	337250	6196703.33	337267.45	3159.02	1102	106.74	979698.289	979691.419	30.416	28.626	27.866	27.284
23	000000	6196700	337225	6196703.77	337242.45	3158.67	1104	107.62	979697.935	979691.419	30.256	28.452	27.685	27.099
23	000000	6196700	337200	6196704.20	337217.46	3158.43	1107	108.51	979697.693	979691.419	30.210	28.391	27.618	27.027
23	000000	6196700	337175	6196704.64	337192.46	3158.34	1109	109.51	979697.602	979691.419	30.340	28.504	27.724	27.127
23	000000	6196700	337150	6196705.07	337167.46	3158.31	1112	110.79	979697.573	979691.419	30.593	28.735	27.946	27.342
Base # 2						3160.700	1125		979700.000					

24 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 23 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6196500 NFROM 337150E TO 337800E

Loop time :1.23 Drift rate : -.025 Gravimeter # 556 Operator : G.RAU

Loop drift :-.031 Time zone : 0.000 Calib. Factor :1.0136 Date : 290483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.700	1125		979700.000					
22	000000	6196500	337150	6196505.10	337163.98	3159.04	1147	107.69	979698.327	979691.570	30.511	28.706	27.939	27.352
22	000000	6196500	337175	6196504.67	337188.98	3159.20	1151	106.78	979698.490	979691.570	30.474	28.684	27.924	27.342
22	000000	6196500	337200	6196504.23	337213.97	3159.18	1153	106.47	979698.471	979691.570	30.387	28.602	27.843	27.263
22	000000	6196500	337225	6196503.80	337238.97	3159.27	1155	106.06	979698.563	979691.570	30.388	28.610	27.854	27.277
22	000000	6196500	337250	6196503.36	337263.97	3159.46	1157	106.02	979698.756	979691.570	30.573	28.796	28.040	27.463
22	000000	6196500	337275	6196502.93	337288.96	3159.50	1159	105.79	979698.798	979691.570	30.564	28.790	28.036	27.460
22	000000	6196500	337300	6196502.49	337313.96	3159.69	1201	104.94	979698.991	979691.570	30.569	28.810	28.062	27.491
22	000000	6196500	337325	6196502.06	337338.95	3159.95	1203	103.36	979699.256	979691.570	30.485	28.752	28.016	27.453
22	000000	6196500	337350	6196501.62	337363.95	3160.13	1204	101.94	979699.438	979691.570	30.355	28.646	27.919	27.364
22	000000	6196500	337375	6196501.19	337388.95	3160.16	1206	101.02	979699.470	979691.570	30.183	28.490	27.770	27.220
22	000000	6196500	337400	6196500.75	337413.94	3160.19	1207	100.27	979699.500	979691.570	30.048	28.367	27.653	27.107
22	000000	6196500	337425	6196500.31	337438.94	3160.28	1209	99.62	979699.592	979691.570	29.997	28.327	27.617	27.074
22	000000	6196500	337450	6196499.88	337463.94	3160.35	1211	98.99	979699.664	979691.570	29.930	28.270	27.565	27.026
22	000000	6196500	337475	6196499.44	337488.93	3160.30	1213	98.40	979699.614	979691.570	29.750	28.100	27.399	26.863
22	000000	6196500	337500	6196499.01	337513.93	3160.23	1215	97.84	979699.544	979691.570	29.556	27.916	27.219	26.686
22	000000	6196500	337525	6196498.57	337538.92	3160.15	1217	97.17	979699.464	979691.570	29.328	27.699	27.007	26.478
22	000000	6196500	337550	6196498.14	337563.92	3160.17	1219	96.53	979699.485	979691.570	29.208	27.590	26.902	26.376
22	000000	6196500	337575	6196497.70	337588.92	3160.27	1221	95.83	979699.587	979691.570	29.156	27.549	26.867	26.345
22	000000	6196500	337600	6196497.27	337613.91	3160.35	1223	95.16	979699.669	979691.570	29.090	27.495	26.817	26.298
22	000000	6196500	337625	6196496.83	337638.91	3160.37	1225	94.56	979699.690	979691.570	28.979	27.394	26.720	26.205
22	000000	6196500	337650	6196496.39	337663.90	3160.48	1227	94.05	979699.803	979691.570	28.979	27.402	26.732	26.219
22	000000	6196500	337700	6196495.52	337713.90	3160.83	1229	92.88	979700.158	979691.570	29.076	27.519	26.858	26.352
22	000000	6196500	337750	6196494.65	337763.89	3161.20	1232	91.91	979700.535	979691.570	29.239	27.698	27.043	26.542
22	000000	6196500	337800	6196493.78	337813.88	3161.55	1234	91.14	979700.890	979691.570	29.424	27.896	27.247	26.750
Base # 2						3160.670	1239		979700.000					

24 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.

****
** Loop No. 24 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6196300 N FROM 337100E TO 337800E

Loop time :1.48 Drift rate : -.007 Gravimeter # 556 Operator : G.RAU

Loop drift :-.011 Time zone : 0.000 Calib. Factor :1.0136 Date : 290483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.670	1239		979700.000					
21	000000	6196300	337100	6196306.01	337110.50	3158.04	1306	113.45	979697.337	979691.722	30.642	28.740	27.931	27.313
21	000000	6196300	337150	6196305.13	337160.50	3158.33	1308	111.81	979697.632	979691.722	30.574	28.700	27.903	27.294
21	000000	6196300	337175	6196304.70	337185.49	3158.43	1311	110.91	979697.733	979691.722	30.477	28.618	27.828	27.224
21	000000	6196300	337200	6196304.26	337210.49	3158.47	1313	110.07	979697.774	979691.722	30.333	28.488	27.703	27.104
21	000000	6196300	337225	6196303.83	337235.49	3158.70	1315	108.96	979698.007	979691.722	30.321	28.495	27.718	27.125
21	000000	6196300	337250	6196303.39	337260.48	3159.01	1318	107.59	979698.322	979691.722	30.333	28.530	27.763	27.177
21	000000	6196300	337275	6196302.96	337285.48	3159.22	1319	106.50	979698.535	979691.722	30.306	28.521	27.762	27.182
21	000000	6196300	337300	6196302.52	337310.47	3159.42	1321	105.29	979698.738	979691.722	30.242	28.477	27.727	27.153
21	000000	6196300	337325	6196302.09	337335.47	3159.58	1323	104.04	979698.900	979691.722	30.129	28.385	27.643	27.077
21	000000	6196300	337350	6196301.65	337360.47	3159.69	1325	102.82	979699.012	979691.722	29.971	28.248	27.515	26.955
21	000000	6196300	337375	6196301.22	337385.46	3159.70	1327	101.82	979699.022	979691.722	29.761	28.054	27.329	26.774
21	000000	6196300	337400	6196300.78	337410.46	3159.80	1329	100.75	979699.124	979691.722	29.626	27.937	27.220	26.671
21	000000	6196300	337425	6196300.34	337435.46	3159.97	1331	99.76	979699.297	979691.722	29.581	27.909	27.198	26.654
21	000000	6196300	337450	6196299.91	337460.45	3160.13	1334	98.87	979699.459	979691.722	29.547	27.889	27.185	26.646
21	000000	6196300	337475	6196299.47	337485.45	3160.27	1336	98.13	979699.601	979691.722	29.526	27.881	27.182	26.647
21	000000	6196300	337500	6196299.04	337510.44	3160.36	1338	97.45	979699.693	979691.722	29.467	27.834	27.139	26.608
21	000000	6196300	337525	6196298.60	337535.44	3160.43	1340	96.71	979699.764	979691.722	29.376	27.754	27.065	26.538
21	000000	6196300	337550	6196298.17	337560.44	3160.46	1343	96.21	979699.794	979691.722	29.295	27.683	26.997	26.473
21	000000	6196300	337575	6196297.73	337585.43	3160.47	1344	95.71	979699.805	979691.722	29.196	27.591	26.910	26.388
21	000000	6196300	337600	6196297.30	337610.43	3160.46	1346	95.32	979699.794	979691.722	29.099	27.501	26.822	26.303
21	000000	6196300	337625	6196296.86	337635.42	3160.47	1349	94.88	979699.806	979691.722	29.013	27.423	26.747	26.230
21	000000	6196300	337650	6196296.43	337660.42	3160.49	1350	94.41	979699.826	979691.722	28.930	27.347	26.675	26.160
21	000000	6196300	337700	6196295.55	337710.41	3160.67	1353	93.33	979700.008	979691.722	28.874	27.310	26.645	26.136
21	000000	6196300	337750	6196294.68	337760.41	3161.02	1355	92.40	979700.363	979691.722	29.024	27.475	26.817	26.313
21	000000	6196300	337800	6196293.81	337810.40	3161.38	1357	91.56	979700.728	979691.722	29.204	27.669	27.017	26.518
Base # 2						3160.660	1408		979700.000					

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25 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6196100 NFROM 337100E TO 337800E

SOLO GEOPHYSICS & Co.
****
** Loop No. 25 **
****

Loop time :1.52 Drift rate : .040 Gravimeter # 556 Operator : G.RAU

Loop drift : .061 Time zone : 0.000 Calib. Factor :1.0136 Date : 290483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.660	1408		979700.000					
20	000000	6196100	337100	6196106.04	337107.02	3157.52	1420	115.73	979696.809	979691.873	30.465	28.525	27.700	27.070
20	000000	6196100	337150	6196105.16	337157.01	3157.91	1423	112.93	979697.202	979691.873	30.241	28.348	27.543	26.928
20	000000	6196100	337175	6196104.73	337182.01	3158.17	1425	111.60	979697.465	979691.873	30.210	28.339	27.544	26.936
20	000000	6196100	337200	6196104.29	337207.01	3158.32	1427	110.47	979697.615	979691.873	30.111	28.259	27.472	26.870
20	000000	6196100	337225	6196103.86	337232.00	3158.51	1429	109.52	979697.806	979691.873	30.092	28.256	27.476	26.879
20	000000	6196100	337250	6196103.42	337257.00	3158.84	1431	108.50	979698.139	979691.873	30.201	28.382	27.609	27.017
20	000000	6196100	337275	6196102.99	337281.99	3159.08	1434	107.60	979698.381	979691.873	30.244	28.440	27.673	27.087
20	000000	6196100	337300	6196102.55	337306.99	3159.31	1436	106.56	979698.613	979691.873	30.246	28.459	27.700	27.120
20	000000	6196100	337325	6196102.12	337331.99	3159.40	1438	105.43	979698.703	979691.873	30.086	28.319	27.568	26.993
20	000000	6196100	337350	6196101.68	337356.98	3159.55	1440	104.37	979698.853	979691.873	30.003	28.254	27.510	26.941
20	000000	6196100	337375	6196101.25	337381.98	3159.70	1442	103.41	979699.004	979691.873	29.942	28.209	27.472	26.909
20	000000	6196100	337400	6196100.81	337406.98	3159.61	1444	102.41	979698.911	979691.873	29.629	27.912	27.183	26.625
20	000000	6196100	337425	6196100.37	337431.97	3159.65	1446	101.45	979698.951	979691.873	29.457	27.756	27.033	26.480
20	000000	6196100	337450	6196099.94	337456.97	3159.74	1448	100.74	979699.041	979691.873	29.390	27.701	26.983	26.435
20	000000	6196100	337475	6196099.50	337481.96	3159.89	1450	99.95	979699.192	979691.873	29.367	27.691	26.979	26.434
20	000000	6196100	337500	6196099.07	337506.96	3160.05	1452	99.10	979699.352	979691.873	29.339	27.678	26.972	26.432
20	000000	6196100	337525	6196098.63	337531.96	3160.18	1454	98.42	979699.483	979691.873	29.320	27.671	26.969	26.433
20	000000	6196100	337550	6196098.20	337556.95	3160.32	1456	97.80	979699.623	979691.873	29.324	27.684	26.988	26.455
20	000000	6196100	337575	6196097.76	337581.95	3160.42	1512	97.07	979699.713	979691.873	29.253	27.626	26.934	26.405
20	000000	6196100	337600	6196097.33	337606.94	3160.47	1515	96.60	979699.763	979691.873	29.199	27.579	26.891	26.365
20	000000	6196100	337625	6196096.89	337631.94	3160.55	1517	95.98	979699.842	979691.873	29.141	27.532	26.848	26.326
20	000000	6196100	337650	6196096.46	337656.94	3160.63	1519	95.36	979699.922	979691.873	29.084	27.486	26.806	26.287
20	000000	6196100	337700	6196095.58	337706.93	3160.78	1521	94.23	979700.072	979691.873	28.985	27.406	26.734	26.221
20	000000	6196100	337750	6196094.71	337756.92	3161.13	1525	93.22	979700.424	979691.873	29.115	27.552	26.888	26.380
20	000000	6196100	337800	6196093.84	337806.91	3161.32	1527	92.47	979700.615	979691.873	29.141	27.590	26.932	26.428
Base # 2						3160.720	1539		979700.000					

25 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 26 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : CHECK LOOP ACROSS LINES 6196100N 6196300N 6196500N 6196700N AT STATIONS 337500E

Loop time : .52 Drift rate : .039 Gravimeter # 556 Operator : G.RAU

Loop drift : .020 Time zone : 0.000 Calib. Factor :1.0136 Date : 290483

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 2						3160.720	1539		979700.000					
20	000000	6196100	337500	6196099.07	337506.96	3160.07	1546	99.10	979699.336	979691.873	29.324	27.663	26.957	26.417
21	000000	6196300	337500	6196299.04	337510.44	3160.40	1550	97.45	979699.668	979691.722	29.443	27.809	27.115	26.584
22	000000	6196500	337500	6196499.01	337513.93	3160.27	1554	97.84	979699.534	979691.570	29.546	27.906	27.209	26.675
23	000000	6196700	337500	6196698.98	337517.41	3160.33	1600	98.32	979699.591	979691.419	29.860	28.212	27.511	26.976
Base # 2						3160.740	1610		979700.000					

4 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 28 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6196900N FROM 337050E TO 337700E

Loop time :1.00 Drift rate : .020 Gravimeter # 556 Operator : G.RAU

Loop drift : .020 Time zone : 0.000 Calib. Factor :1.0136 Date : 050583

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 4						3160.320	1119		979699.580					
24	000000	6196900	337050	6196906.79	337070.96	3157.81	1124	112.93	979697.034	979691.268	30.677	28.784	27.980	27.364
24	000000	6196900	337100	6196905.91	337120.96	3158.27	1127	110.16	979697.499	979691.268	30.531	28.684	27.900	27.299
24	000000	6196900	337125	6196905.48	337145.95	3158.41	1130	109.34	979697.640	979691.268	30.491	28.658	27.879	27.284
24	000000	6196900	337150	6196905.04	337170.95	3158.62	1132	108.53	979697.853	979691.268	30.525	28.706	27.932	27.341
24	000000	6196900	337175	6196904.61	337195.94	3158.58	1134	108.08	979697.811	979691.268	30.384	28.573	27.803	27.214
24	000000	6196900	337200	6196904.17	337220.94	3158.57	1136	107.31	979697.800	979691.268	30.204	28.405	27.640	27.056
24	000000	6196900	337225	6196903.74	337245.94	3158.69	1138	106.49	979697.921	979691.268	30.144	28.359	27.600	27.020
24	000000	6196900	337250	6196903.30	337270.93	3158.96	1140	105.54	979698.195	979691.268	30.207	28.438	27.686	27.111
24	000000	6196900	337275	6196902.87	337295.93	3159.25	1142	104.81	979698.488	979691.268	30.340	28.583	27.836	27.265
24	000000	6196900	337300	6196902.43	337320.93	3159.50	1144	103.88	979698.741	979691.268	30.387	28.646	27.906	27.340
24	000000	6196900	337325	6196902.00	337345.92	3159.58	1146	102.68	979698.821	979691.268	30.203	28.482	27.750	27.191
24	000000	6196900	337350	6196901.56	337370.92	3159.32	1149	102.12	979698.556	979691.268	29.815	28.103	27.375	26.819
24	000000	6196900	337375	6196901.12	337395.91	3159.41	1151	100.64	979698.647	979691.268	29.579	27.892	27.175	26.626
24	000000	6196900	337400	6196900.69	337420.91	3159.32	1153	100.72	979698.555	979691.268	29.505	27.816	27.099	26.550
24	000000	6196900	337425	6196900.25	337445.91	3159.39	1155	100.35	979698.626	979691.268	29.494	27.811	27.096	26.550
24	000000	6196900	337450	6196899.82	337470.90	3159.61	1157	99.66	979698.848	979691.268	29.563	27.893	27.183	26.640
24	000000	6196900	337475	6196899.38	337495.90	3159.66	1200	99.35	979698.897	979691.268	29.545	27.879	27.171	26.630
24	000000	6196900	337500	6196898.95	337520.90	3159.85	1202	98.58	979699.089	979691.268	29.567	27.914	27.212	26.675
24	000000	6196900	337525	6196898.51	337545.89	3159.97	1204	98.07	979699.210	979691.268	29.576	27.932	27.233	26.698
24	000000	6196900	337550	6196898.08	337570.89	3160.10	1206	97.56	979699.341	979691.268	29.594	27.958	27.263	26.732
24	000000	6196900	337575	6196897.64	337595.88	3160.16	1208	97.01	979699.402	979691.268	29.533	27.907	27.215	26.687
24	000000	6196900	337600	6196897.21	337620.88	3160.23	1210	96.52	979699.472	979691.268	29.495	27.877	27.189	26.663
24	000000	6196900	337650	6196896.33	337670.87	3160.57	1212	95.08	979699.816	979691.268	29.521	27.927	27.250	26.732
24	000000	6196900	337700	6196895.46	337720.86	3160.77	1213	94.20	979700.018	979691.268	29.529	27.950	27.279	26.766
Base # 4						3160.340	1219		979699.580					

24 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6197100N FROM 337000E TO 337600E

SOLO GEOPHYSICS & Co.
****
** Loop No. 29 **
****

Loop time :1.08 Drift rate : .019 Gravimeter # 556 Operator : G.RAU

Loop drift : .021 Time zone : 0.000 Calib. Factor :1.0136 Date : 050583

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 4						3160.340	1219		979699.580					
24	000000	6196900	337325	6196902.00	337345.92	3159.59	1224	102.68	979698.818	979691.268	30.200	28.479	27.747	27.188
25	000000	6197100	337000	6197107.63	337024.45	3157.73	1229	112.77	979696.931	979691.117	30.690	28.800	27.996	27.382
25	000000	6197100	337050	6197106.76	337074.45	3157.76	1232	112.22	979696.961	979691.117	30.598	28.717	27.917	27.306
25	000000	6197100	337100	6197105.88	337124.44	3157.56	1234	111.90	979696.758	979691.117	30.325	28.449	27.652	27.042
25	000000	6197100	337125	6197105.45	337149.44	3157.59	1236	111.64	979696.787	979691.117	30.297	28.425	27.630	27.021
25	000000	6197100	337150	6197105.01	337174.43	3157.66	1238	111.43	979696.858	979691.117	30.321	28.453	27.659	27.052
25	000000	6197100	337175	6197104.58	337199.43	3157.75	1239	110.72	979696.949	979691.117	30.255	28.399	27.610	27.007
25	000000	6197100	337200	6197104.14	337224.42	3157.87	1240	109.41	979697.070	979691.117	30.088	28.254	27.474	26.878
25	000000	6197100	337225	6197103.71	337249.42	3157.97	1242	108.34	979697.171	979691.117	29.953	28.136	27.364	26.774
25	000000	6197100	337250	6197103.27	337274.42	3158.09	1244	107.69	979697.291	979691.117	29.930	28.124	27.357	26.770
25	000000	6197100	337275	6197102.84	337299.41	3158.29	1246	106.62	979697.494	979691.117	29.896	28.109	27.349	26.768
25	000000	6197100	337300	6197102.40	337324.41	3158.30	1248	105.71	979697.503	979691.117	29.705	27.932	27.179	26.603
25	000000	6197100	337325	6197101.96	337349.41	3158.32	1249	104.70	979697.523	979691.117	29.502	27.747	27.001	26.430
25	000000	6197100	337350	6197101.53	337374.40	3158.31	1253	103.65	979697.512	979691.117	29.259	27.521	26.783	26.218
25	000000	6197100	337375	6197101.09	337399.40	3158.41	1254	102.73	979697.613	979691.117	29.157	27.435	26.703	26.143
25	000000	6197100	337400	6197100.66	337424.39	3158.56	1256	101.91	979697.764	979691.117	29.127	27.419	26.693	26.138
25	000000	6197100	337425	6197100.22	337449.39	3158.80	1258	101.10	979698.007	979691.117	29.191	27.496	26.776	26.225
25	000000	6197100	337450	6197099.79	337474.39	3159.08	1300	100.21	979698.290	979691.117	29.279	27.599	26.885	26.339
25	000000	6197100	337475	6197099.35	337499.38	3159.33	1303	99.43	979698.543	979691.117	29.359	27.692	26.984	26.442
25	000000	6197100	337500	6197098.92	337524.38	3159.49	1305	98.75	979698.704	979691.117	29.370	27.715	27.011	26.473
25	000000	6197100	337525	6197098.48	337549.38	3159.62	1307	98.07	979698.835	979691.117	29.352	27.708	27.009	26.475
25	000000	6197100	337550	6197098.05	337574.37	3159.71	1309	97.55	979698.926	979691.117	29.328	27.692	26.997	26.466
25	000000	6197100	337575	6197097.61	337599.37	3159.83	1311	96.88	979699.047	979691.117	29.301	27.677	26.986	26.459
25	000000	6197100	337600	6197097.17	337624.36	3159.95	1312	96.43	979699.168	979691.117	29.323	27.706	27.019	26.494
0	000000	6197230	337600	6197227.16	337626.63	3159.81	1316	96.79	979699.025	979691.019	29.357	27.734	27.045	26.518
Base # 4						3160.360	1324		979699.580					

25 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

SOLO GEOPHYSICS & Co.
****
** Loop No. 30 **
****

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

Coverage : LINE 6197300N FROM 337600E TO 337000E

Loop time :1.73 Drift rate : .006 Gravimeter # 556 Operator : G.RAU

Loop drift : .010 Time zone : 0.000 Calib. Factor :1.0136 Date : 050583

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 4						3160.360	1324		979699.580					
25	000000	6197100	337300	6197102.40	337324.41	3158.33	1333	105.71	979697.521	979691.117	29.723	27.951	27.198	26.622
0	000000	6197230	337600	6197227.16	337626.63	3159.81	1336	96.79	979699.021	979691.019	29.353	27.731	27.041	26.514
26	000000	6197300	337600	6197297.14	337627.85	3159.79	1340	96.19	979699.001	979690.966	29.253	27.641	26.956	26.432
26	000000	6197300	337575	6197297.58	337602.85	3159.61	1344	96.91	979698.818	979690.966	29.229	27.605	26.914	26.386
26	000000	6197300	337550	6197298.02	337577.86	3159.35	1345	97.89	979698.554	979690.966	29.182	27.541	26.843	26.310
26	000000	6197300	337525	6197298.45	337552.86	3159.14	1346	98.97	979698.342	979690.966	29.207	27.548	26.843	26.304
26	000000	6197300	337500	6197298.89	337527.86	3158.94	1348	99.73	979698.138	979690.966	29.172	27.500	26.789	26.246
26	000000	6197300	337475	6197299.32	337502.87	3158.75	1352	100.84	979697.945	979690.966	29.224	27.533	26.815	26.265
26	000000	6197300	337450	6197299.76	337477.87	3158.59	1355	101.71	979697.783	979690.966	29.253	27.548	26.823	26.269
26	000000	6197300	337425	6197300.19	337452.87	3158.50	1358	102.73	979697.691	979690.966	29.387	27.665	26.933	26.373
26	000000	6197300	337400	6197300.63	337427.88	3158.29	1400	104.02	979697.478	979690.966	29.458	27.714	26.973	26.407
26	000000	6197300	337375	6197301.06	337402.88	3158.04	1408	105.30	979697.224	979690.966	29.486	27.721	26.971	26.397
26	000000	6197300	337350	6197301.50	337377.89	3157.91	1411	106.15	979697.092	979690.966	29.542	27.762	27.006	26.428
26	000000	6197300	337325	6197301.93	337352.89	3157.85	1413	107.46	979697.031	979690.966	29.770	27.968	27.203	26.617
26	000000	6197300	337300	6197302.37	337327.89	3157.85	1415	109.01	979697.031	979690.966	30.112	28.284	27.508	26.914
26	000000	6197300	337275	6197302.81	337302.90	3157.79	1419	110.13	979696.970	979690.966	30.297	28.451	27.666	27.066
26	000000	6197300	337250	6197303.24	337277.90	3157.61	1421	111.38	979696.787	979690.966	30.390	28.523	27.729	27.123
26	000000	6197300	337225	6197303.68	337252.90	3157.42	1423	112.41	979696.594	979690.966	30.425	28.540	27.740	27.127
26	000000	6197300	337200	6197304.11	337227.91	3157.28	1425	112.49	979696.452	979690.966	30.300	28.414	27.613	27.000
26	000000	6197300	337175	6197304.55	337202.91	3157.03	1427	113.56	979696.198	979690.966	30.283	28.379	27.570	26.951
26	000000	6197300	337150	6197304.98	337177.92	3157.04	1430	114.32	979696.208	979690.966	30.460	28.544	27.729	27.106
26	000000	6197300	337125	6197305.42	337152.92	3157.02	1434	115.28	979696.187	979690.966	30.651	28.719	27.897	27.269
26	000000	6197300	337100	6197305.85	337127.92	3156.91	1437	116.18	979696.076	979690.966	30.738	28.790	27.963	27.330
26	000000	6197300	337050	6197306.72	337077.93	3156.66	1442	117.84	979695.822	979690.966	30.850	28.875	28.035	27.393
26	000000	6197300	337000	6197307.60	337027.94	3156.31	1445	119.59	979695.467	979690.966	30.882	28.877	28.025	27.373
0	000000	6197230	337600	6197227.16	337626.63	3159.82	1458	105.71	979699.023	979691.019	31.323	29.551	28.798	28.222
Base # 4						3160.370	1508		979699.580					

26 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Processed for : CRA EXPLORATION PTY. LTD.

Location : TRURO S.A.

SOLO GEOPHYSICS & Co.
****
** Loop No. 31 **
****

Coverage : LINE 6197700N FROM 336900E TO 337500E

Loop time :1.07 Drift rate : .028 Gravimeter # 556 Operator : G.RAU

Loop drift : .030 Time zone : 0.000 Calib. Factor :1.0136 Date : 070583

LINE ID	STAT. ID	GRID NORTH	GRID EAST	MERC. NORTH	MERC. EAST	METER READ.	TIME	ELEVAT. (METERS)	OBSERV. GRAV.	THEORET. GRAVITY	BOUGUER GRAVITY 2.10	2.50	2.67	2.80
Base # 5						3159.790	1213		979699.020					
28	000000	6197700	336900	6197709.28	336934.92	3157.11	1218	113.66	979696.301	979690.663	30.710	28.804	27.994	27.375
28	000000	6197700	336950	6197708.41	336984.91	3157.48	1222	112.01	979696.674	979690.663	30.719	28.841	28.043	27.433
28	000000	6197700	337000	6197707.54	337034.91	3157.71	1225	111.18	979696.906	979690.663	30.768	28.904	28.112	27.506
28	000000	6197700	337025	6197707.10	337059.90	3157.98	1227	109.80	979697.178	979690.663	30.736	28.895	28.113	27.514
28	000000	6197700	337050	6197706.66	337084.90	3158.08	1230	109.19	979697.279	979690.663	30.701	28.871	28.093	27.498
28	000000	6197700	337075	6197706.23	337109.89	3158.10	1232	108.96	979697.298	979690.663	30.670	28.843	28.067	27.473
28	000000	6197700	337100	6197705.79	337134.89	3157.98	1234	109.02	979697.175	979690.663	30.560	28.733	27.956	27.362
28	000000	6197700	337125	6197705.36	337159.89	3157.98	1236	108.69	979697.174	979690.663	30.487	28.664	27.890	27.298
28	000000	6197700	337150	6197704.92	337184.88	3158.22	1238	107.40	979697.417	979690.663	30.445	28.644	27.879	27.294
28	000000	6197700	337175	6197704.49	337209.88	3158.44	1240	106.22	979697.639	979690.663	30.406	28.625	27.869	27.290
28	000000	6197700	337200	6197704.05	337234.88	3158.50	1242	105.15	979697.699	979690.663	30.230	28.467	27.718	27.145
28	000000	6197700	337225	6197703.62	337259.87	3158.56	1245	104.15	979697.758	979690.663	30.069	28.323	27.581	27.013
28	000000	6197700	337250	6197703.18	337284.87	3158.54	1247	103.26	979697.737	979690.663	29.851	28.120	27.385	26.822
28	000000	6197700	337275	6197702.74	337309.86	3158.58	1249	102.81	979697.776	979690.663	29.792	28.068	27.336	26.776
28	000000	6197700	337300	6197702.31	337334.86	3158.74	1251	102.23	979697.938	979690.663	29.825	28.111	27.383	26.826
28	000000	6197700	337325	6197701.87	337359.86	3158.90	1254	101.91	979698.098	979690.663	29.915	28.207	27.481	26.925
28	000000	6197700	337350	6197701.44	337384.85	3159.87	1257	97.46	979699.080	979690.663	29.915	28.282	27.587	27.056
28	000000	6197700	337400	6197700.57	337434.85	3159.05	1300	101.51	979698.247	979690.663	29.976	28.274	27.551	26.998
28	000000	6197700	337425	6197700.13	337459.84	3159.03	1302	101.63	979698.226	979690.663	29.981	28.278	27.553	27.000
28	000000	6197700	337450	6197699.70	337484.84	3158.93	1305	102.12	979698.124	979690.663	29.987	28.275	27.547	26.991
28	000000	6197700	337475	6197699.26	337509.83	3158.77	1307	103.06	979697.960	979690.663	30.031	28.303	27.569	27.007
28	000000	6197700	337500	6197698.83	337534.83	3158.56	1310	104.20	979697.746	979690.663	30.068	28.321	27.579	27.011
Base # 5						3159.820	1317		979699.020					

22 points printed Computed on 8:15 AM TUE., 1 DEC., 1981 Revision : 0

Total points printed for current selection - 454

CUMMULATIVE BASE INFORMATION

BASE	DATE	NORTHING	EASTING	STATION ID	TIE	COMMENTS
2	220483	6195700	337500		0	RELATIVE BASE VALUE
3	220483	6194710	337700		2	LOCATED BY A FENCE POST

TIE INFORMATION

Base	Gravity	Time
2	3160.75	1339
3	3163.04	1346
2	3160.77	1352
3	3163.06	1402
2	3160.78	1410

4	50583	6196700	337500		2	Tied to base No.2 (A-B-A-B tie)

TIE INFORMATION

Base	Gravity	Time
2	3160.73	1057
4	3160.32	1104
2	3160.73	1111
4	3160.32	1119

5	50583	6197230	337600		2	Drifted base only (Loop No.30)

STONEFIELD 6km

STONEFIELD 5km

BLANCHETOWN 34km

SUTHERLANDS 12km

SUTHERLANDS 13km

EUDUNDA 11km

SCHNEIDER GOSSAN
Sample Nos. 219890
91

BLACK SHALE GOSSAN
Sample Nos. 219887
88
89

TRURO IRONSTONE
Sample Nos. 219846
79
80
81
82
86

EUDUNDA

LOBTY

RANGES

TRURO

Frankton

Dutton East

Dutton

Oaklands

Amaroo

Narcoona

Leakes

Overland Range

Hill Farm

Valley Farm

Debbies

Waterfall

Water Res

Creek

Ruin

Shed

Ford

Yards

Stony

Reserve

ACCOMODATION HILL

HIGHWAY

SCHOOL BUS ROAD

WATCHBOX

Lookout

Trig

Spring

Waterhole

Stockyard

Orchard

Quarry

Pine

Eucalypts

Orchard

Cairn

Cutting

Fence

Gate

Tank

Windmill

Power Line

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Contour

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Fault

Bore

Spring

Mine

Prospect

Old Workings

Tailings

Dump

Adit

Shaft

Open Cut

Trench

Pit

Drill Hole

Outcrop

Float

Soil Sample

Rock Sample

Stream Sediment Sample

Heavy Mineral Sample

Geochemical Sample

Geophysical Survey

Grid Line

Grid Reference

Tenement Boundary

Licence Boundary

Lease Boundary

Claim Boundary

Mineral Claim

Mineral Lease

Mineral Licence

Mineral Tenement

Mineral Deposit

Mineral Occurrence

Mineral Resource

Mineral Reserve

Mineral Inventory

Mineral Potential

Mineral Exploration

Mineral Development

Mineral Production

Mineral Processing

Mineral Beneficiation

Mineral Smelting

Mineral Refining

Mineral Marketing

Mineral Economics

Mineral Geology

Mineral Geochemistry

Mineral Geophysics

Mineral Geostatistics

Mineral Geomodelling

Mineral Geotechnics

Mineral Hydrogeology

Mineral Environmental Geology

Mineral Engineering Geology

Mineral Petrology

Mineral Mineralogy

Mineral Structural Geology

Mineral Stratigraphy

Mineral Sedimentology

Mineral Volcanology

Mineral Metamorphism

Mineral Igneous Petrology

Mineral Sedimentary Petrology

Mineral Metamorphic Petrology

Mineral Economic Geology

Mineral Exploration Geology

Mineral Mining Geology

Mineral Processing Geology

Mineral Extractive Geology

Mineral Industrial Geology

Mineral Applied Geology

Mineral Geology

SCALE 1:50000

0 1 2 3 4 5 KILOMETRES

METRES 1000 0

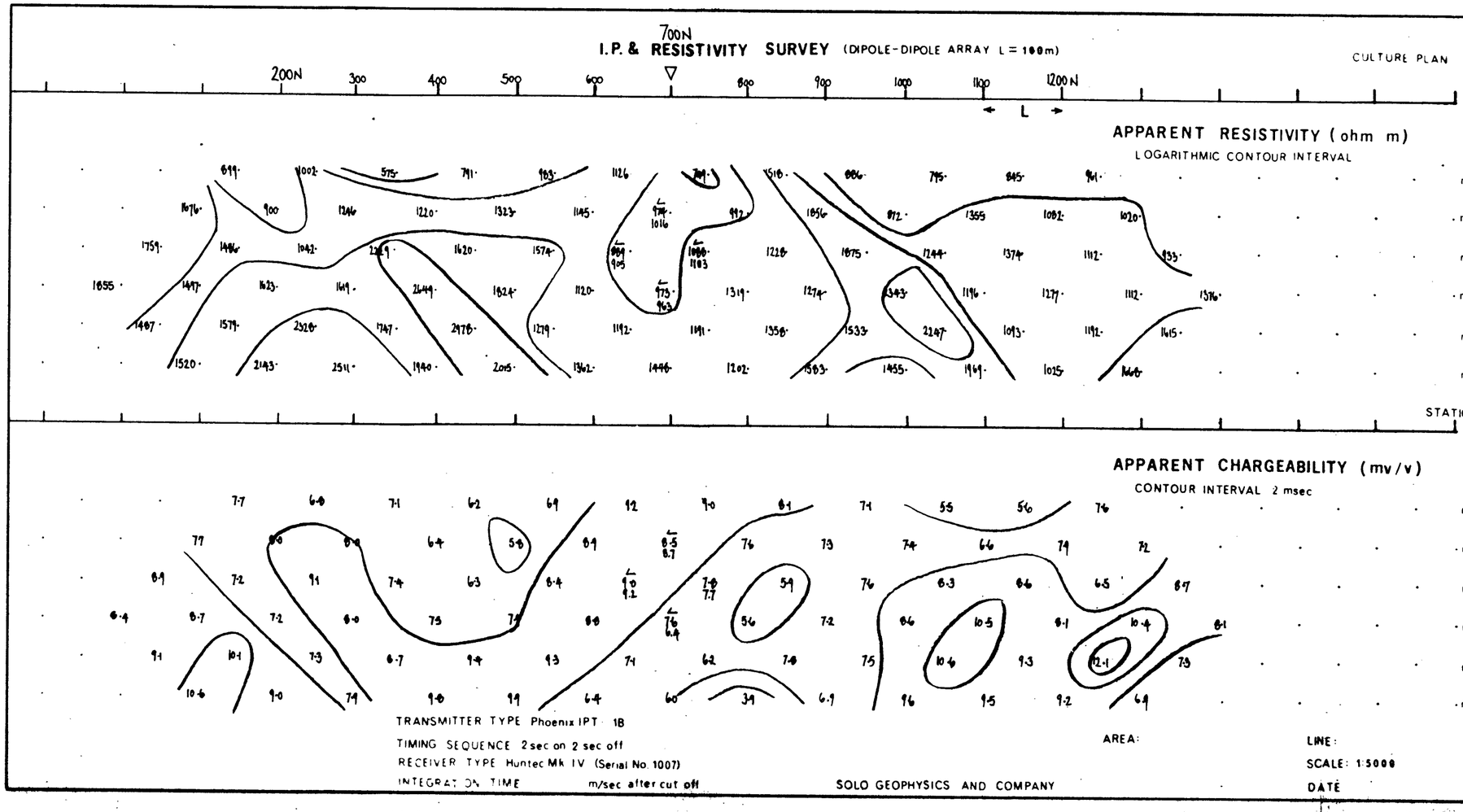
CRA EXPLORATION PTY. LIMITED

MT. KARINYA – E.L. 947
LOCATION MAP
SCHNEIDER GOSSAN AND TRURO IRONSTONE

Ref.	ADELAIDE SI 54-9		
Scale	1 : 50000		
Author	G. Bubner .	Report No.	12253
Date	Aug. 1982	Plan No.	SAa 1832

4596(11)-1

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)



C.R.A. EXPLORATION PTY. LTD.
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: 300 E

Scale : 1 : 5000

Date : 30-04-83

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) ~~Phoenix IPT - 1B 3 Okw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 150 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

4596(11)-2

Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No. 12253
CRAE Plan No. SAe 2153

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)

CULTURE PLAN

700N

200N 300 400 500 600 800 900 1000 1100 1200N

L

APPARENT RESISTIVITY (ohm m)

LOGARITHMIC CONTOUR INTERVAL

n=1 n=2 n=3 n=4 n=5 n=6

STATION

APPARENT CHARGEABILITY (mv/v)

CONTOUR INTERVAL 2 msec

n=1 n=2 n=3 n=4 n=5 n=6

TRANSMITTER TYPE Phoenix IPT - 1B

TIMING SEQUENCE 2 sec on 2 sec off

RECEIVER TYPE Huntec Mk IV (Serial No. 1007)

INTEGRATION TIME m/sec after cut off

SOLO GEOPHYSICS AND COMPANY

AREA

LINE

SCALE 1:5000

DATE

C.R.A. EXPLORATION PTY LTD
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: 500E

Scale : 1 : 5000

Date : 29-04-83

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) ~~Phoenix IPT - 1B 3.0kw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9
msec.

Integration Time Plotted : Channels
msec.

Delay Time, TD : 150 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m)
logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v)
contour interval 2 msec.

4596(11)-3

Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No. 12253
CRAE Plan No. SAa 2154

500E

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)

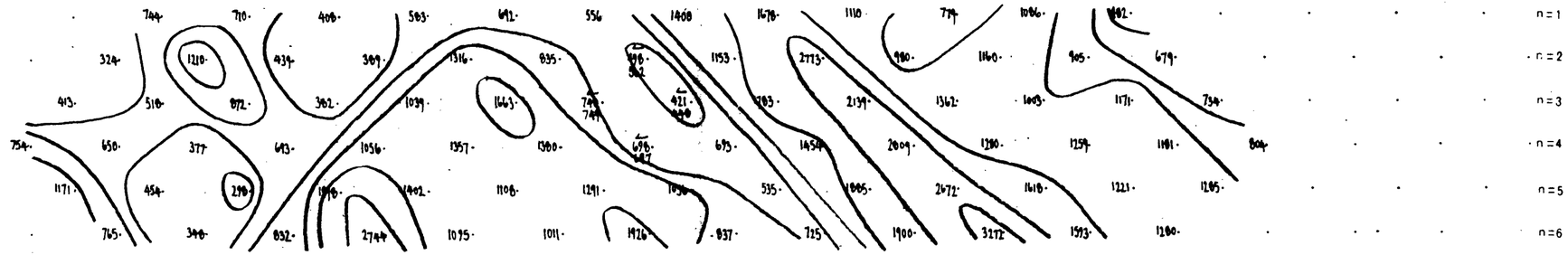
CULTURE PLAN

00 100 200 300 400 ▽ 600 700 800 900 1000 E

← L →

APPARENT RESISTIVITY (ohm m)

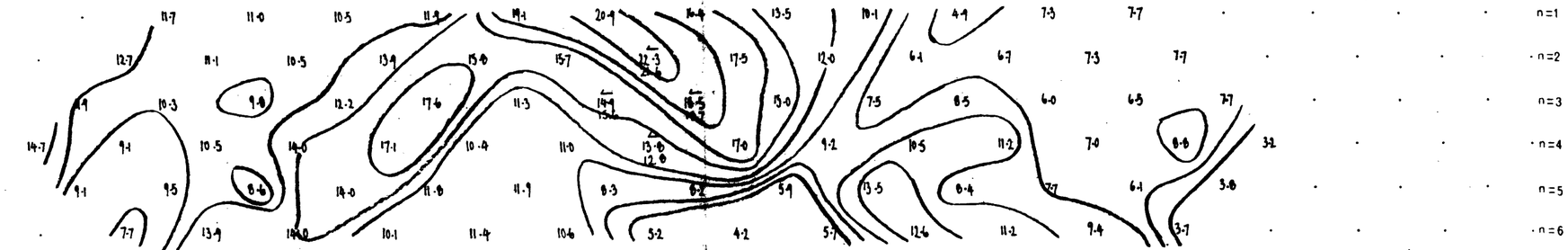
LOGARITHMIC CONTOUR INTERVAL



STATION

APPARENT CHARGEABILITY (mv/v)

CONTOUR INTERVAL 2 msec



TRANSMITTER TYPE Phoenix IPT - 1B

TIMING SEQUENCE 2 sec on 2 sec off

RECEIVER TYPE Huntec MK IV (Serial No 1007)

INTEGRATION TIME m/sec after cut off

SOLO GEOPHYSICS AND COMPANY

AREA:

LINE:

SCALE: 1:5000

DATE:

C.R.A. EXPLORATION PTY. LTD.
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: E-W REGIONAL

Scale : 1 : 5000

Date : 06 MAY 1983

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : ~~a) Phoenix IPT - 1B 3·0kw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 50 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

4596(11)-4

Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No. 12253
CRAE Plan No SAa 2164

700N

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)

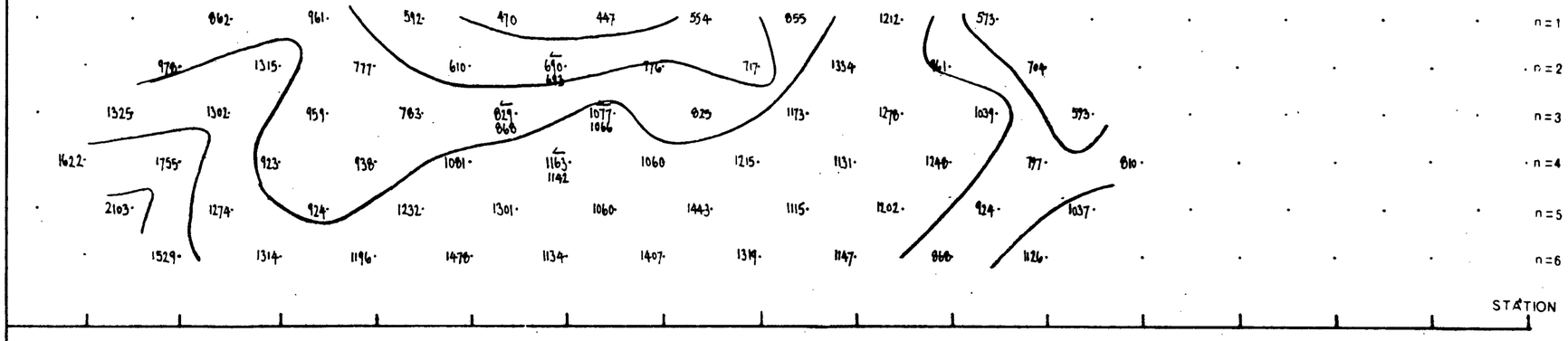
CULTURE PLAN

400N 500 600 700N 800 900 1000 1100N

L

APPARENT RESISTIVITY (ohm m)

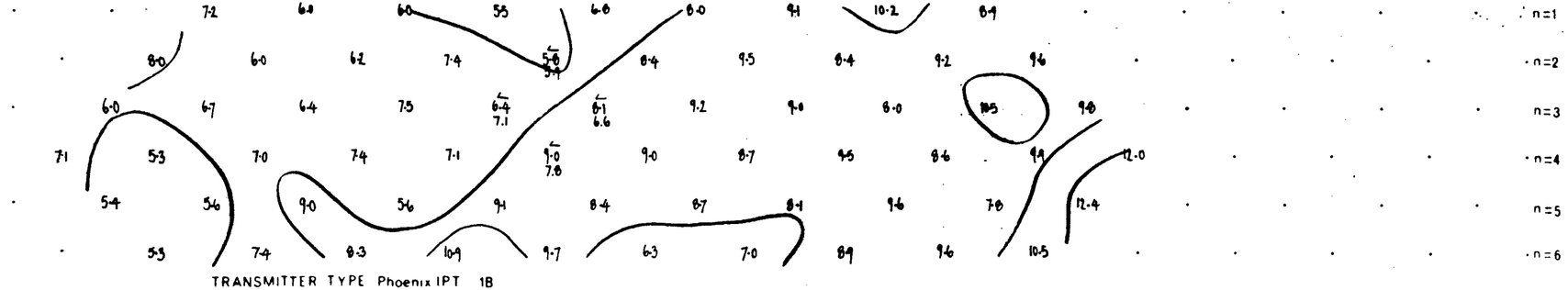
LOGARITHMIC CONTOUR INTERVAL



STATION

APPARENT CHARGEABILITY (mv/v)

CONTOUR INTERVAL 2 msec



TRANSMITTER TYPE Phoenix IPT 1B

TIMING SEQUENCE 2 sec on 2 sec off

RECEIVER TYPE Huntec Mk IV (Serial No 1007)

INTEGRATION TIME m/sec after cut off

SOLO GEOPHYSICS AND COMPANY

AREA:

LINE:

SCALE: 1:5000

DATE:

C.R.A. EXPLORATION PTY. LTD.
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: 100 E

Scale : 1 : 5000

Date : 02 MAY 1983

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) ~~Phoenix IPT 1B 3·0kw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 150 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

4596(11)-5

Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No. 12253
CRAE Plan No. SAa 2165

800N

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)

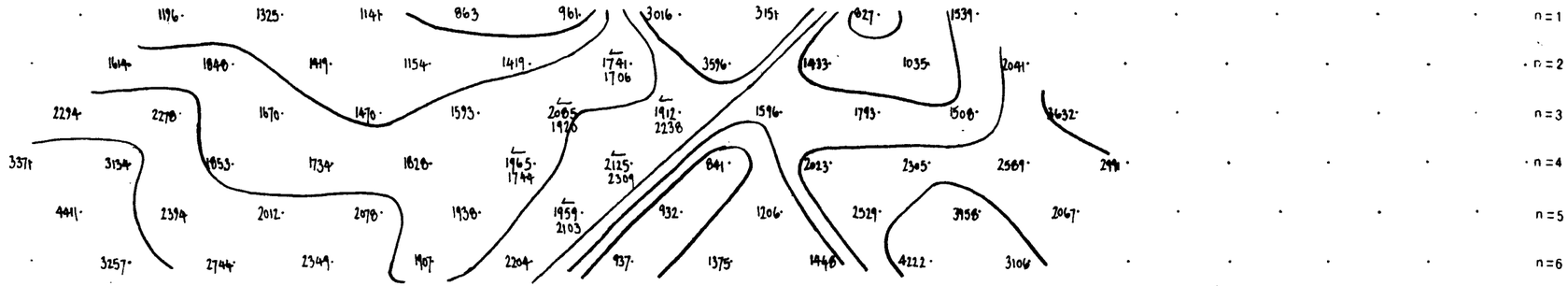
CULTURE PLAN

400N 500 600 700 900 1000 1100N

L

APPARENT RESISTIVITY (ohm m)

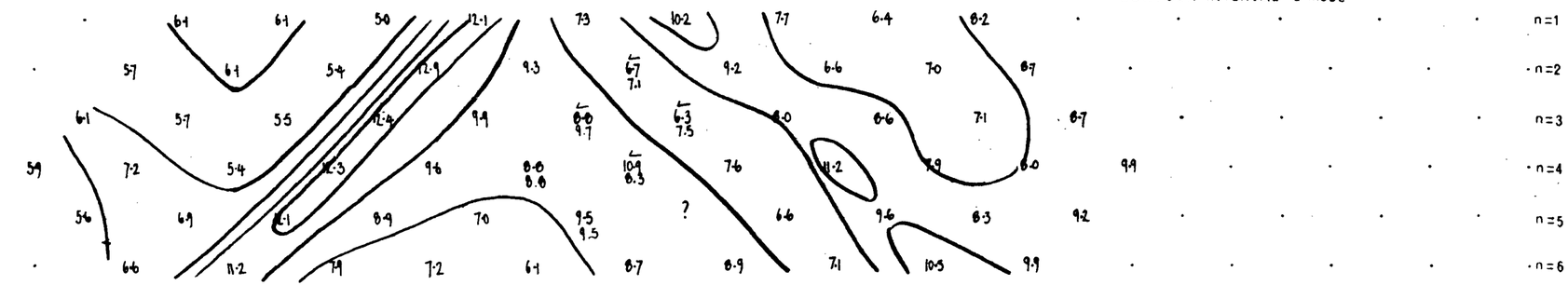
LOGARITHMIC CONTOUR INTERVAL



STATION

APPARENT CHARGEABILITY (mv/v)

CONTOUR INTERVAL 2 msec



TRANSMITTER TYPE Phoenix IPT 1B

TIMING SEQUENCE 2 sec on 2 sec off

RECEIVER TYPE Huntec Mk IV (Serial No. 1007)

INTEGRATION TIME m/sec after cut off

SOLO GEOPHYSICS AND COMPANY

AREA:

LINE:

SCALE 1:5000

DATE:

C.R.A. EXPLORATION PTY. LTD.
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: 700 E

Scale : 1 : 5000

Date : 02 & 03 May 1983

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) ~~Phoenix IPT - 1B 3·0kw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / Hz Hi / Hz Lo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 150 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

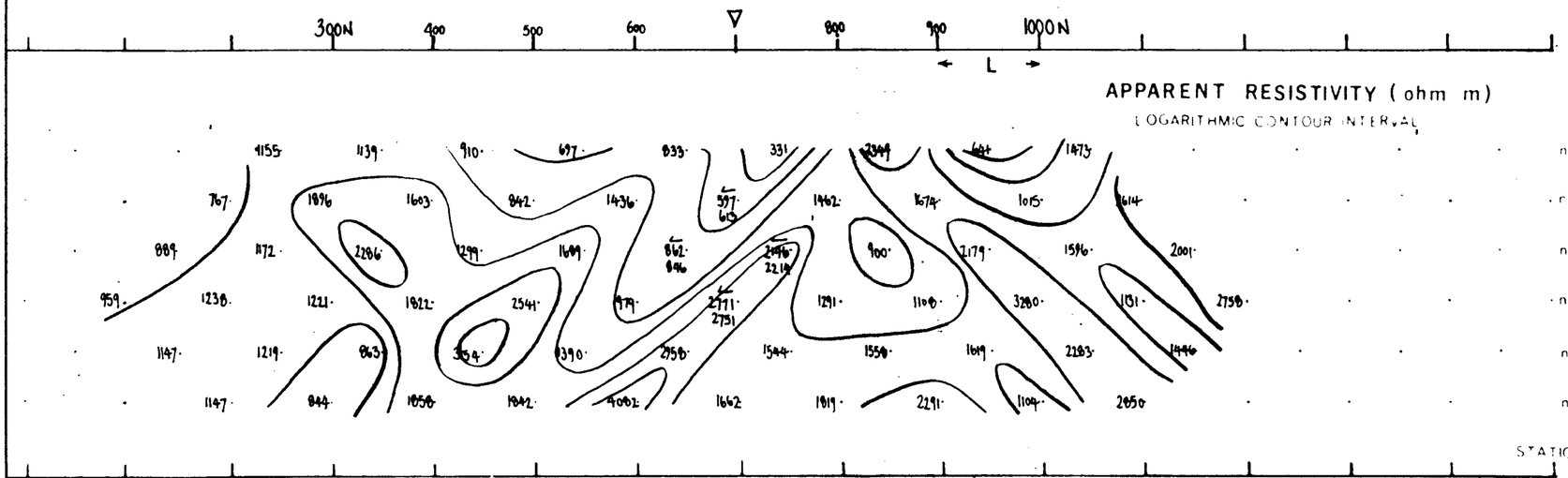
4596(11)-6

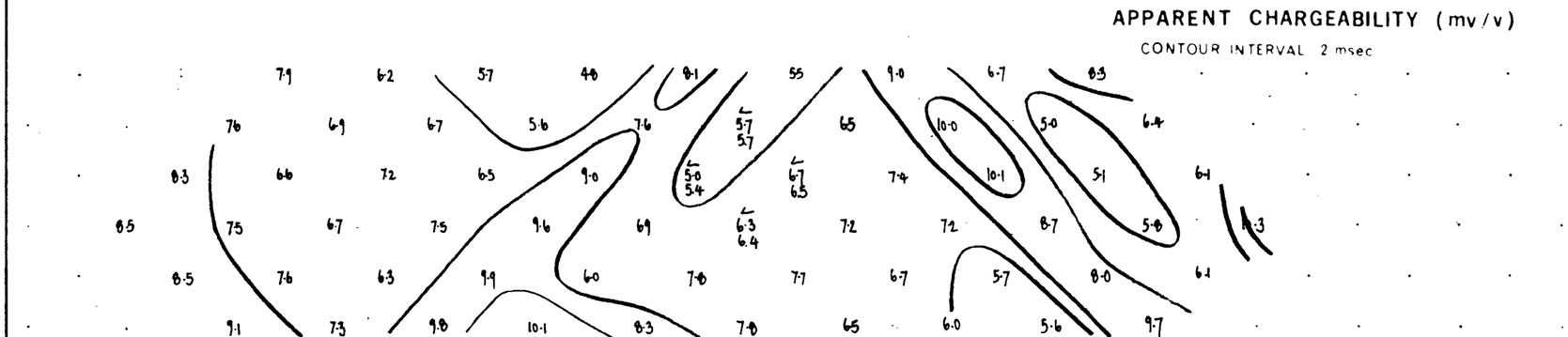
Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No. 12253
CRAE Plan No. SAa 2166

700N

I.P. & RESISTIVITY SURVEY (DIPOLE-DIPOLE ARRAY L = 100m)





TRANSMITTER TYPE Phoenix IPT 1B

TIMING SEQUENCE 2sec on 2 sec off

RECEIVER TYPE Huntec Mk IV (Serial No 1032)

INTEGRATION TIME msec after cut off

SOLO GEOPHYSICS AND COMPANY

AREA

LINE

SCALE 1:5000

DATE

C R A EXPLORATION PTY LTD
Area Office: ADELAIDE

Area : CAMBRAI

Grid : PAINT MINE

Line N°: 900E

Scale : 1 : 5000

Date : 03 & 04 MAY 1983

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) ~~Phoenix IPT - 1B 3 Okw~~
b) Huntec Mk IV 7·5 kw

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN : / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 150 msec. after cut off

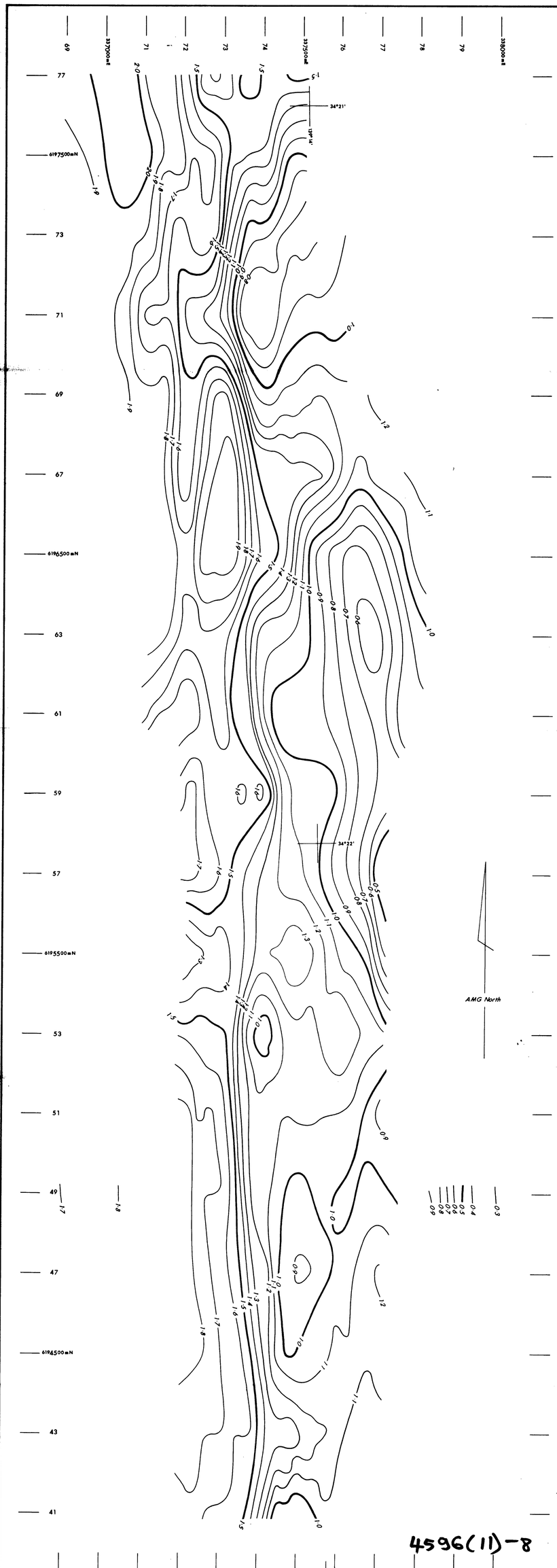
SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

4596(11)-7

Surveyed by SOLO GEOPHYSICS AND COMPANY

Report No 12253
CRAE Plan No. SAa 2167



4596(11)-8

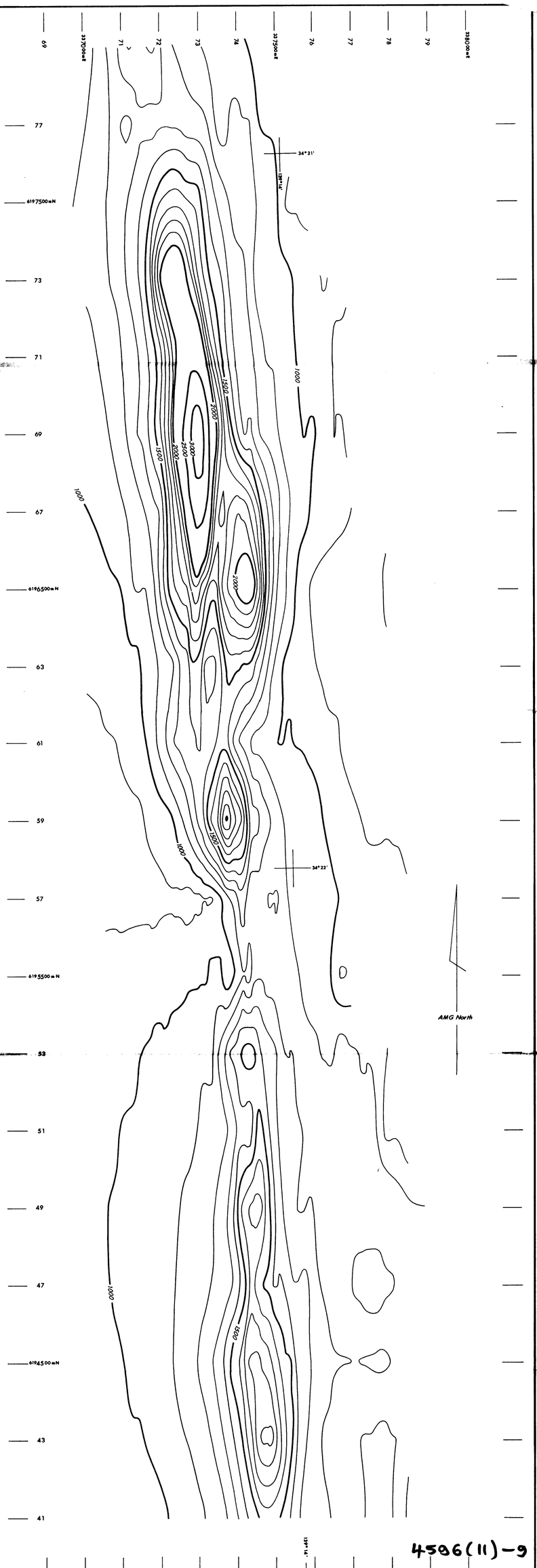
Contour Interval : 0·1 Mgal.
Bouguer Density : 2·67 g/cc.
Data Acquisition : Solo Geophysics & Co. 19th April – 7th May.

0 100 200 300 400 500 metres

CRA EXPLORATION PTY. LIMITED.

MT. KARINYA E.L.947 – S.A.
BOUGUER GRAVITY CONTOURS
SCHNEIDER'S GOSSAN PROSPECT

Ref. :	ADELAIDE SI 54-9	
Scale.	1 : 5 000	
Author	G. J. B.	Report No. 12253
Date.	May 1983	Plan No. SAa 2201



4506(11)-9

CONTOUR INTERVAL : 100 nT.

DATA ACQUISITION
Magnetometer : GEM GSM-8
Reading interval : 5, 10 metres

DATA PROCESSING
Diurnal correction
50 nT spike filter
3 point averaging filter weighted ·25 - ·5 - ·25

0 100 200 300 400 500 metres

C.R.A. EXPLORATION PTY. LIMITED

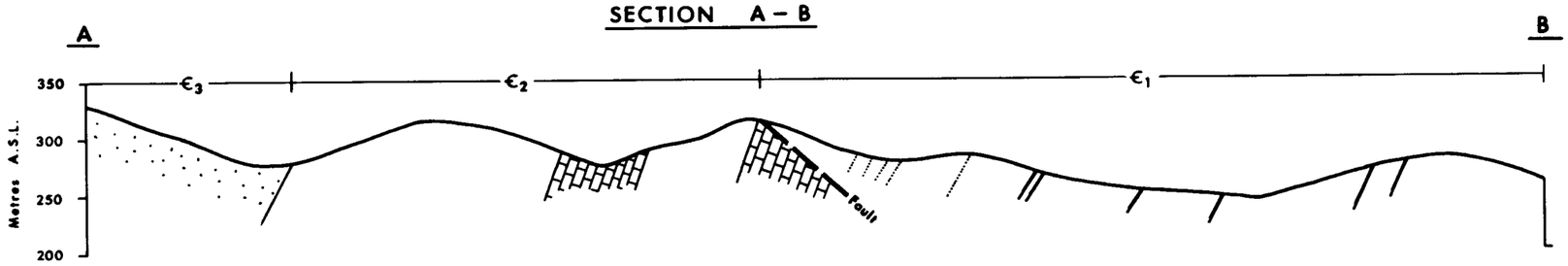
MT. KARINYA E.L. 947 — S.A.

RESIDUAL TOTAL FIELD
GROUND MAGNETIC CONTOURS

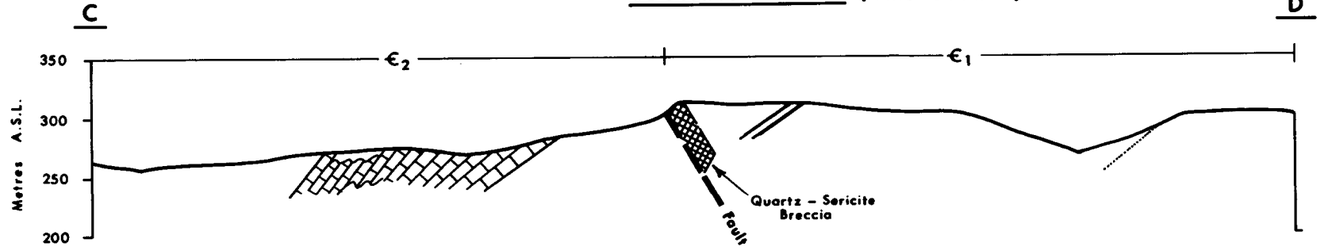
SCHNEIDERS GOSSAN PROSPECT

Ref. : ADELAIDE SI 54-9	
Scale. 1 : 5000	
Author. G.J.B.	Report No. 12253
Date. June 1983	Plan No. SAa 2217

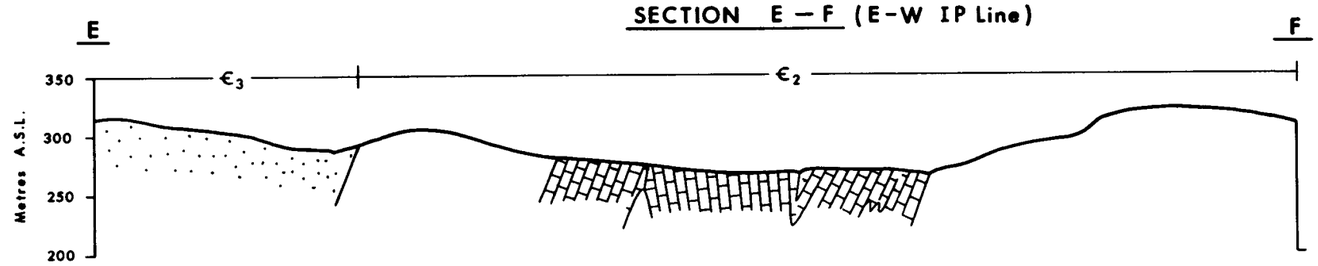
SECTION A – B

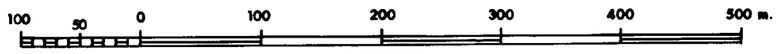


SECTION C – D (Line 500mE)



SECTION E – F (E-W IP Line)





LOWER TO MIDDLE CAMBRIAN

ϵ_3 UNIT 3 – Orange-brown quartzo-feldspathic sandstone, quartzite and minor sandy schists.

ϵ_2 UNIT 2 – Grey siliceous quartz-biotite schists, calcareous siltstones, sandy biotite schists with impure marble member.

ϵ_1 UNIT 1 – Grey-brown sandy schists, andalusite schist with calcsilicate lenses.

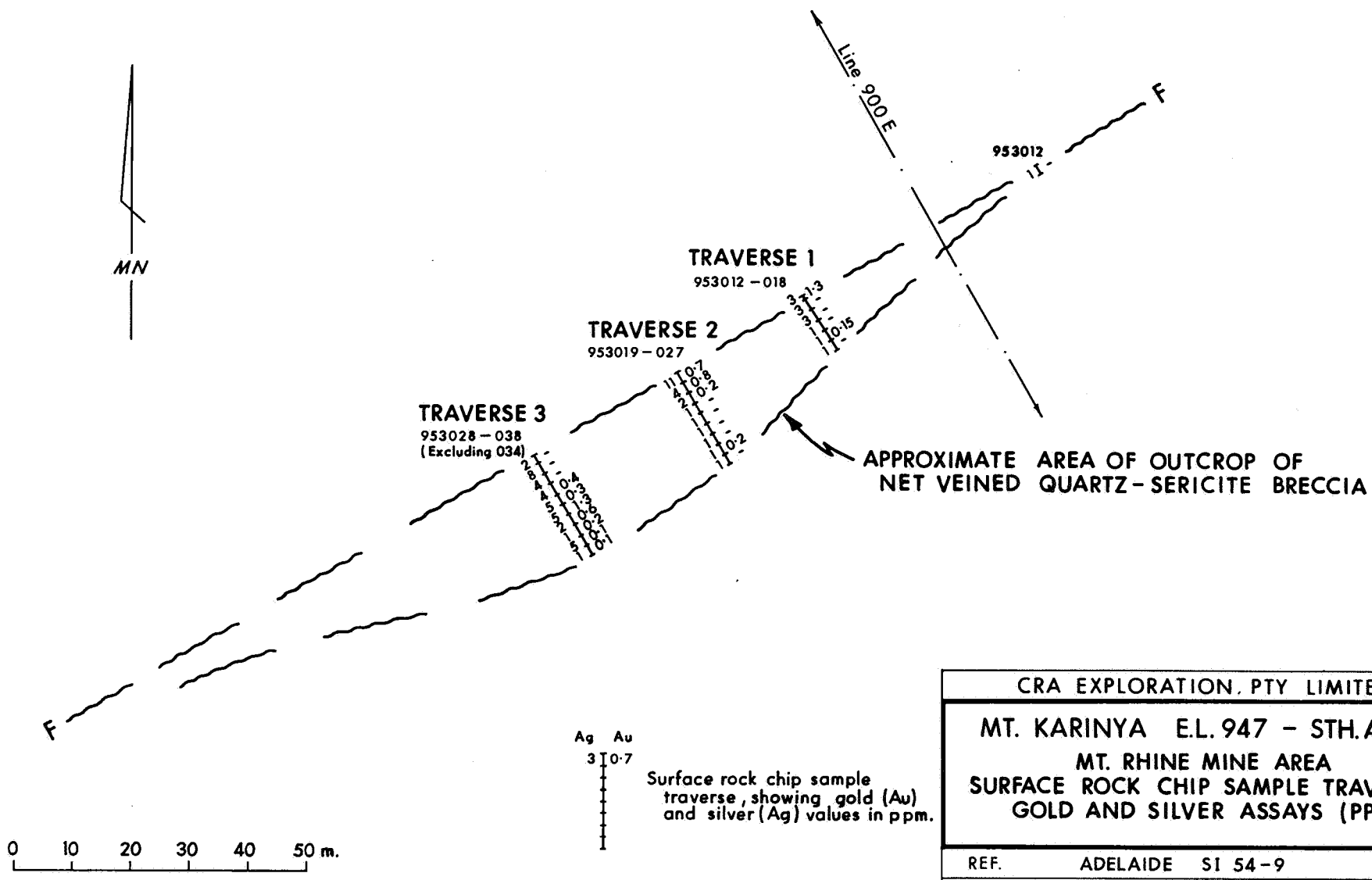
CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947 – STH.AUST.

MT. RHINE MINE
GEOLOGICAL SECTION

REF.	ADELAIDE SI 54-9		
SCALE	1 : 5000 V/H 1:1		
AUTHOR	P. L.	REPORT	12253
DATE	July 1983	PLAN No	SAa 2224

4596(11)-10



CRA EXPLORATION, PTY LIMITED

MT. KARINYA E.L. 947 – STH. AUST.

MT. RHINE MINE AREA
SURFACE ROCK CHIP SAMPLE TRAVERSES
GOLD AND SILVER ASSAYS (PPM)

REF.	ADELAIDE SI 54-9		
SCALE	1:1000		
AUTHOR	P. L.	REPORT	12253
DATE	July 1983	PLAN No	SAa 2225

TN

MN

7.5%

139°13'

34°38'

34°39'

83MRNP1

953045

953034

953039 - 044

953013 - 18

953013 - 27

953028 - 038 (exc. 34)

953001 - 003

953004

953006

953009

953012

953511

888954

888955

888956

888965

888966

888967

888968

888951

888952

888953

Ag, Pb, Au

Boundary of ML 5109

100E

300E

500E

700E

900E

LEGEND

- Geological Boundary - observed
- Geological Boundary - inferred
- Fault - observed
- Fault - inferred
- Breccia
- Fold - anticline
- Fold - syncline
- Bedding - inclined
- Bedding - vertical
- Ag, Pb, Au Mine
- Quartz veining
- T Tourmaline
- Track
- Creek
- 300E I.P Traverse
- 888954 / 953004 Rock chip sample site
- 83MRNP1 ⊙ 1983 CRAE Drill Hole

LOWER TO MIDDLE CAMBRIAN

- €3 INMAN HILL FORMATION — UNIT 3 : Orange - brown Quartzofeldspathic sandstones, quartzites and minor sandy schists
- €2m / €2 STRANGWAY HILL FORMATION — UNIT 2 : Grey siliceous quartz - biotite schists, calcareous siltstones, sandy biotite schists with impure marble member (Mulendella Limestone Member)
- €1 — UNIT 1 : Grey - brown sandy schists, andalusite schists with calc - silicate lenses, pods of amphibole - feldspar rocks

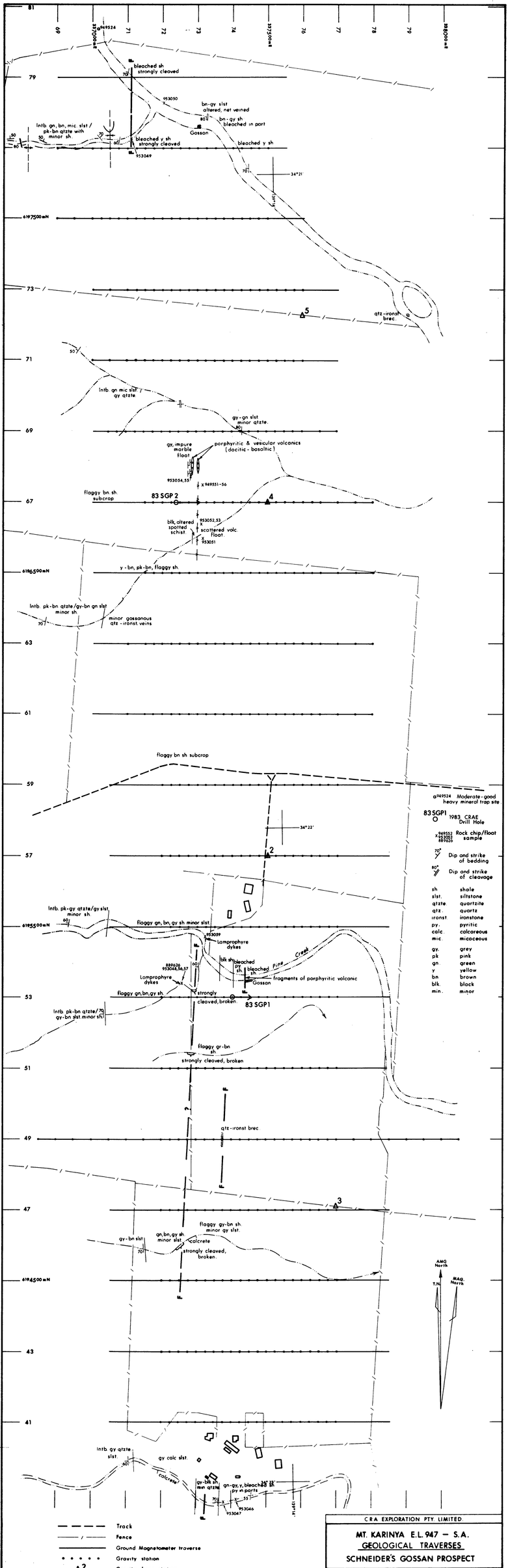
0 100 200 300 400 500 METRES

4596(II)-11

CRA EXPLORATION PTY. LTD.

MT. KARINYA E.L. 947
MT. RHINE MINE
GEOLOGICAL PLAN

Ref.: ADELAIDE SI54-9	
Author : P.L.	Scale . 1:5000
Drawn . J C.R.	Report No 12362
Date July 1983	Plan No : SAa 2226



C.R.A. EXPLORATION PTY. LIMITED

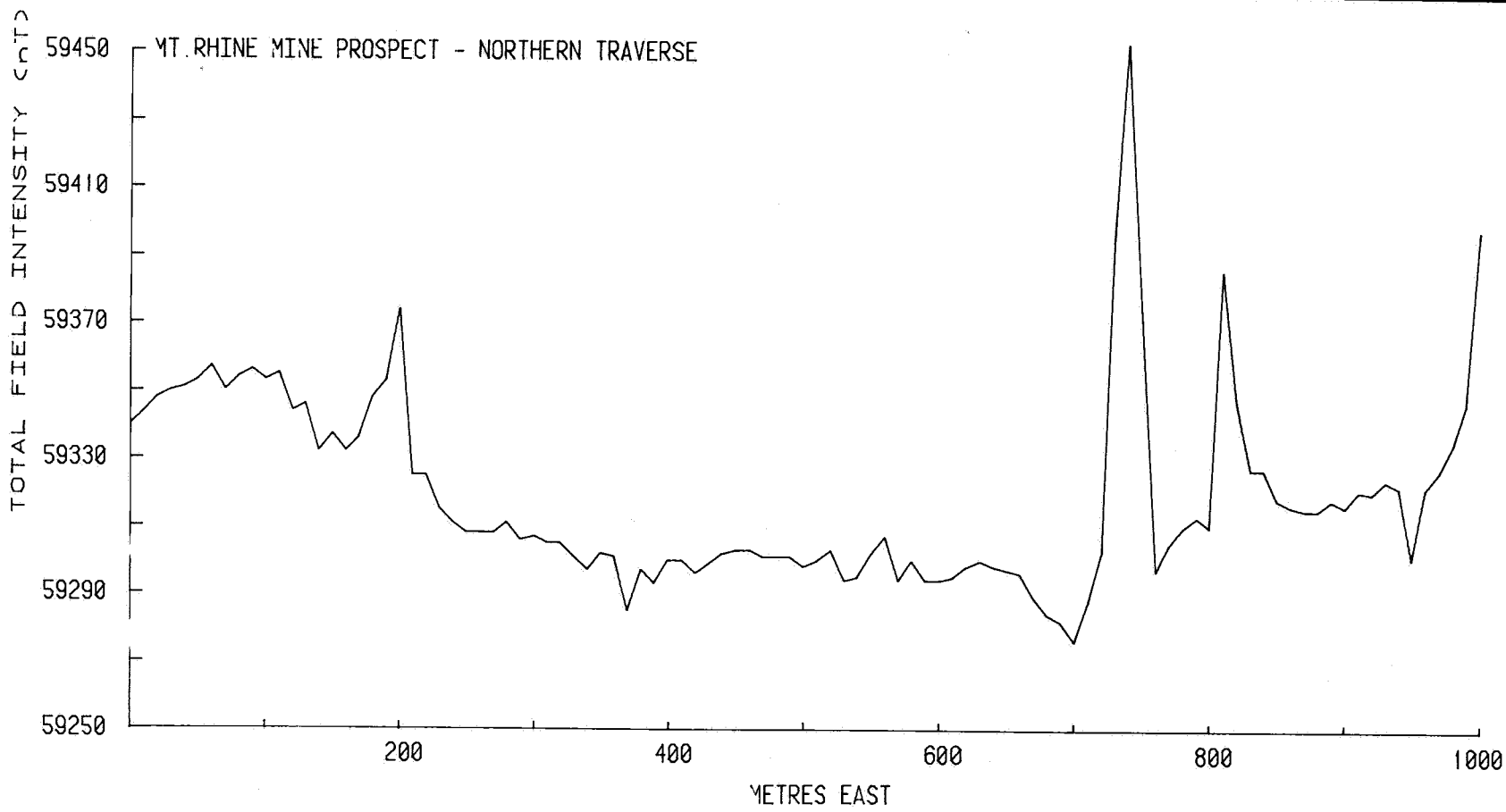
MT. KARINYA E.L. 947 — S.A.

GEOLOGICAL TRAVERSES

SCHNEIDER'S GOSSAN PROSPECT

Ref.	ADELAIDE SI 54-9		
Scale	1 5 000		
Author	[illegible]	Report No.	12362
Date	[illegible] 1983	Plan No.	SAa 2227

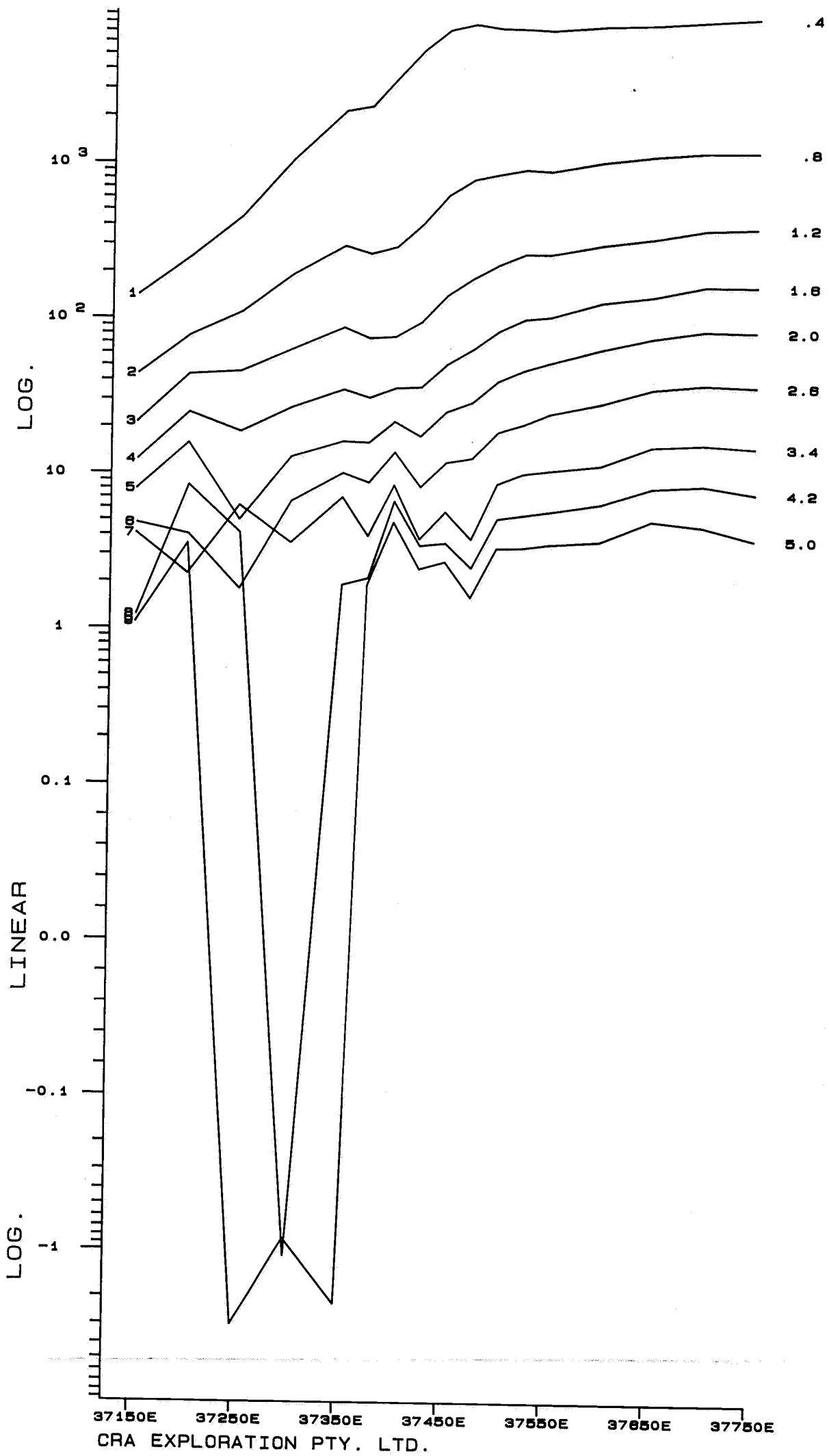
A596(11)-12



READING INTERVAL : 10 METRES

DATE : 25-JUL-83

C. R. A. EXPLORATION PTY. LIMITED		
MOUNT KARINYA E.L.947 GROUND MAGNETICS PROFILE NORTHERN TRAVERSE MT. RHINE MINE		
Ref.	ADELAIDE SI 54-9	
Scale	1 : 5000	Drawn
Author	G.J.B.	Report No. 12253
Date	JUL 1983	Plan No. SAa 2234



CRA EXPLORATION PTY. LTD.

TRURO S.A.

SCHNEIDERS GOSSAN

Scale 1 : 5000 Values plotted in microVolts/Amper

SIROTEM Survey - Reading interval 25 m

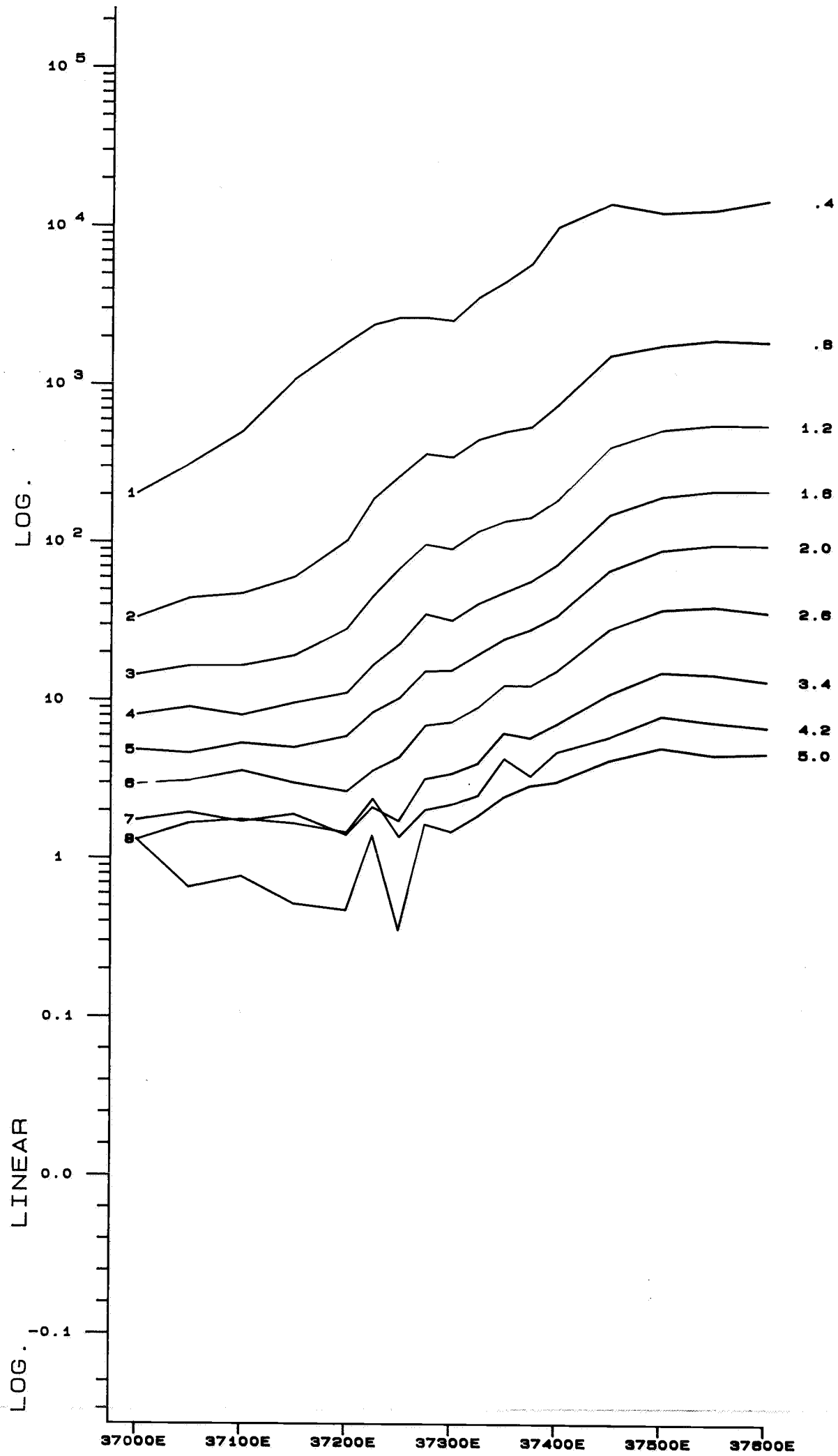
Loop configuration : Displaced loops

Line : 5250 NORTH Plotted using average values

Surveyed by SOLO Geophysics & Co.

Plotted on 9: 35 AM TUE., 26 JULY, 1983 by SOLO Geophysic

MT. KARINYA E.L. 947 Ref.: ADELAIDE SI 54-9 CRAE Report No. 12253 Plan No. SAa 2236



CRA EXPLORATION PTY. LTD.

TRURO S.A.

SCHNEIDERS GOSSAN

Scale 1 : 5000 Values plotted in microVolts/Amper

SIROTEM Survey - Reading interval 25 m

Loop configuration : Displaced loops

Line : 6650 NORTH Plotted using average values

Surveyed by SOLO Geophysics & Co.

Plotted on 9: 31 AM TUE., 26 JULY, 1983 by SOLO Geophysics

MT. KARINYA E.L. 947 Ref.: ADELAIDE SI 54-9 CRAE Report No. 12253 Plan No. SAg 2237

CRA EXPLORATION PTY. LTD.

TRURO S.A. **MT. KARINYA E.L.947**

SCHNEIDERS GOSSAN

Scale 1 : 5000 Resistivities plotted in ohm-metres

SIROTEM Survey - Reading interval 25 m

Loop configuration : Displaced loops

Line : 5250 NORTH Average values calculated

Surveyed by SOLO Geophysics & Co.

Plotted on 9: 48 AM TUE., 26 JULY, 1983 by SOLO Geophysics & Co.

Channel No	Mean Delay	37150E	37250E	37350E	37450E	37550E	37650E	37750E
1	.4	23	18 11	5·9	3·7 3·6 2·7 2·0 1·7 1·6 1·6 1·6 1·6 1·7	1·6	1·6	1·5 1·4
2	.8	18	11 8·8	5·9	4·4 4·8 4·5 3·6 2·7 2·3 2·2 2·1 2·1	1·9	1·8	1·7 1·7
3	1.2	13	8·2 7·8	6·3	5·1 5·6 5·5 4·6 3·6 3·2 2·7 2·4 2·4	2·2	2·0	1·9 1·6
4	1.6	12	7·3 8·8	6·9	5·6 6·3 5·7 5·6 4·4 3·6 3·2 2·6 2·6	2·4	2·2	2·0 2·0
5	2.0	11	6·8 15	7·6	6·6 6·7 5·4 6·3 4·9 4·5 3·6 3·2 3·0	2·6	2·3	2·2 2·2
6	2.6	9·7	11 19	7·6	5·9 6·4 4·6 6·7 5·2 5·0 3·9 3·6 3·2	2·9	2·5	2·4 2·4
7	3.4	6·9	10 5·2	7·5	4·6 7·0 4·2 7·2 5·5 7·2 4·1 3·7 3·6	3·4	2·6	2·7 2·6
8	4.2	11	3·0 4·6		6·0 7·5 3·5 5·4 5·3 6·7 4·1 3·9 3·6	3·5	2·9	2·9 3·1
9	5.0	6·7	4·0		5·9 3·2 5·1 4·7 6·7 4·1 4·2 3·9	3·6	3·2	3·3 3·7
10	5.6	2·9	14	3·6	5·3 6·2 2·4 5·9 4·6 9·2 3·6 3·6 4·0	3·9	3·2	3·9 3·6
11	7.0	7·6	3·2		5·5 1·5 2·7 4·0 4·3 7·4 3·0 3·3 3·7	3·6	3·1	3·6 5·4
12	8.6	12	6·2	4·6	2·0 2·9 2·1 4·5 2·9 1·0 2·7 3·4 2·6	3·4	2·7	3·3 3·6
13	10.2	6·4	3·6		4·4 1·9 2·3 2·9 1·6 2·4 2·7 2·9	3·9	3·2	3·4 6·3
14	11.6			3·3	7·2 1·6 2·6 7·2 1·7 4·0 2·2 3·4 2·4	3·6	2·7	2·9 3·7
15	13.4		1·1 1·3		1·6 2·2 2·6 3·1 2·2 2·3 2·7	4·4	1·9	2·2
16	15.6			2·1	3·5 3·3 1·9 6·7 2·2 1·9 2·5 2·7 2·1	5·1	2·5	1·7 4·2
17	19.0			1·3	2·9 2·2 5·7 1·6 1·2 2·9 1·7 1·9	2·9	1·9	1·9 4·5
18	22.2	0·9	5·6	12	2·3 2·5 5·5 1·5 5·1 2·1 1·4 1·6 2·5	1·6	1·3	2·7 2·3

Ref.: ADELAIDE SI 54-9
Report No. 12253
CRAE Plan No. SAa 2238

CRA EXPLORATION PTY. LTD. 234

TRURO S.A. **MT. KARINYA E.L.947**

SCHNEIDERS GOSSAN

Scale 1 : 5000 Resistivities plotted in ohm-metres

SIROTEM Survey - Reading interval 25 m

Loop configuration : Displaced loops

Line : 6650 NORTH Average values calculated

Surveyed by SOLO Geophysics & Co.

Plotted on 9: 43 AM TUE., 26 JULY, 1983 by SOLO Geophysics & Co.

Channel No	Mean Delay	37000E	37100E	37200E	37300E	37400E	37500E	37600E
1	.4	18 14	9·8 5·8	4·1 3·5 3·3 3·3 3·4 2·7 2·3 1·8 1·3		1·1	1·2	1·1 1·0
2	.8	19 16	15 13	8·8 5·8 4·8 3·8 3·8 3·3 3·2 2·8 2·4		1·5	1·3	1·3 1·3
3	1.2	17 16	15 14	11 7·8 5·8 4·7 4·8 4·2 3·8 3·6 3·2		1·8	1·5	1·5 1·5
4	1.8	15 14	15 14	12 9·4 7·7 5·8 6·1 5·2 4·7 4·2 3·5		2·2	1·8	1·7 1·7
5	2.0	15 15	14 15	13 10 8·0 6·8 6·8 5·8 5·1 4·6 4·0		2·6	2·1	2·0 2·0
6	2.8	13 13	12 13	14 12 10 7·6 7·3 6·4 5·1 5·1 4·5		2·8	2·4	2·4 2·5
7	3.4	12 11	12 11	14 11 12 8·1 7·7 7·0 5·2 5·4 4·8		3·6	2·8	2·8 3·1
8	4.2	10 8·8	8·5 8·8	9·8 8·8 10 7·7 7·3 6·7 4·7 5·5 4·4		3·8	3·2	3·3 3·4
9	5.0	7·8 12	11 14	15 7·4 19 8·8 7·2 6·1 5·1 4·8 4·4		3·6	3·1	3·4 3·3
10	5.8	10 17	4·7 9·1	10 8·8 8·8 9·2 5·2 4·8 5·4 4·8 3·8		3·8	2·8	2·8 3·4
11	7.0	8·8 8·8	12 18	8·8 6·4 7·7 7·3 4·7 3·8 3·8 4·2 3·2		3·4	2·7	2·7 2·8
12	8.8	8·2 6·4	8·3 8·0	8·5 4·2 4·7 3·8 3·4 3·4 3·2 2·8 2·7		2·5	2·3	2·4 2·5
13	10.2	8·8 7·0	8·1	4·2 7·2 8·8 12 3·2 3·2 3·2 2·4 2·2		2·3	2·3	2·2 2·5
14	11.8	3·5 5·4	3·8	3·8 4·8 3·8 5·5 2·3 2·5 2·3 2·0 1·8		1·7	1·8	2·4 2·3
15	13.4	2·8	10 3·7	4·8 5·1 2·8 2·7 1·8 2·8 2·8 1·8 1·8		1·8	2·8	2·3 2·8
16	15.8	8·8 3·8	4·7	13 2·5 2·8 3·3 2·8 2·5 1·8 1·8		1·5	1·8	1·5 2·8
17	19.0	10	4·8 5·8	4·8 2·2 1·3 8·0 1·7 1·8 2·3		1·1	1·1	0·8 1·8
18	22.2	4·8	1·8 2·3	3·0 1·5 1·8 4·2 1·3 3·5 1·2		1·3	0·7	0·7 0·8
19	25.4	1·5	3·8	1·1 8·2 2·7 1·5				
20	28.8	7·4 1·3		3·5 1·8 0·8 4·8				
21	33.4	3·1 1·7		2·5 1·4 3·8				
22	38.8			0·8				

Ref.: ADELAIDE SI 54-9
Report No. 12253
CRAE Plan No. SAa 2239

ZONE OF ANOMALOUS SIROTEM RESPONSE

337300 m | 337350 m | 337400 m | 337450 m | 337500 m

R.L. (METRES)
110
100
90
80
70
60
50
40
30
20
10
0

83 SGP 1

Surface

Bleached
pyritic
shale

Gossan outcrop in creek
projected 50metres south.

DIP OF POSSIBLE MINERALISED BODY
INTERPRETED FROM GROUND MAGNETICS DATA.

B.O.H. 100 metres.

0 10 20 30 40 50 60 70 80 90 100 m.

PROPOSED DRILLHOLE 83 SGP1

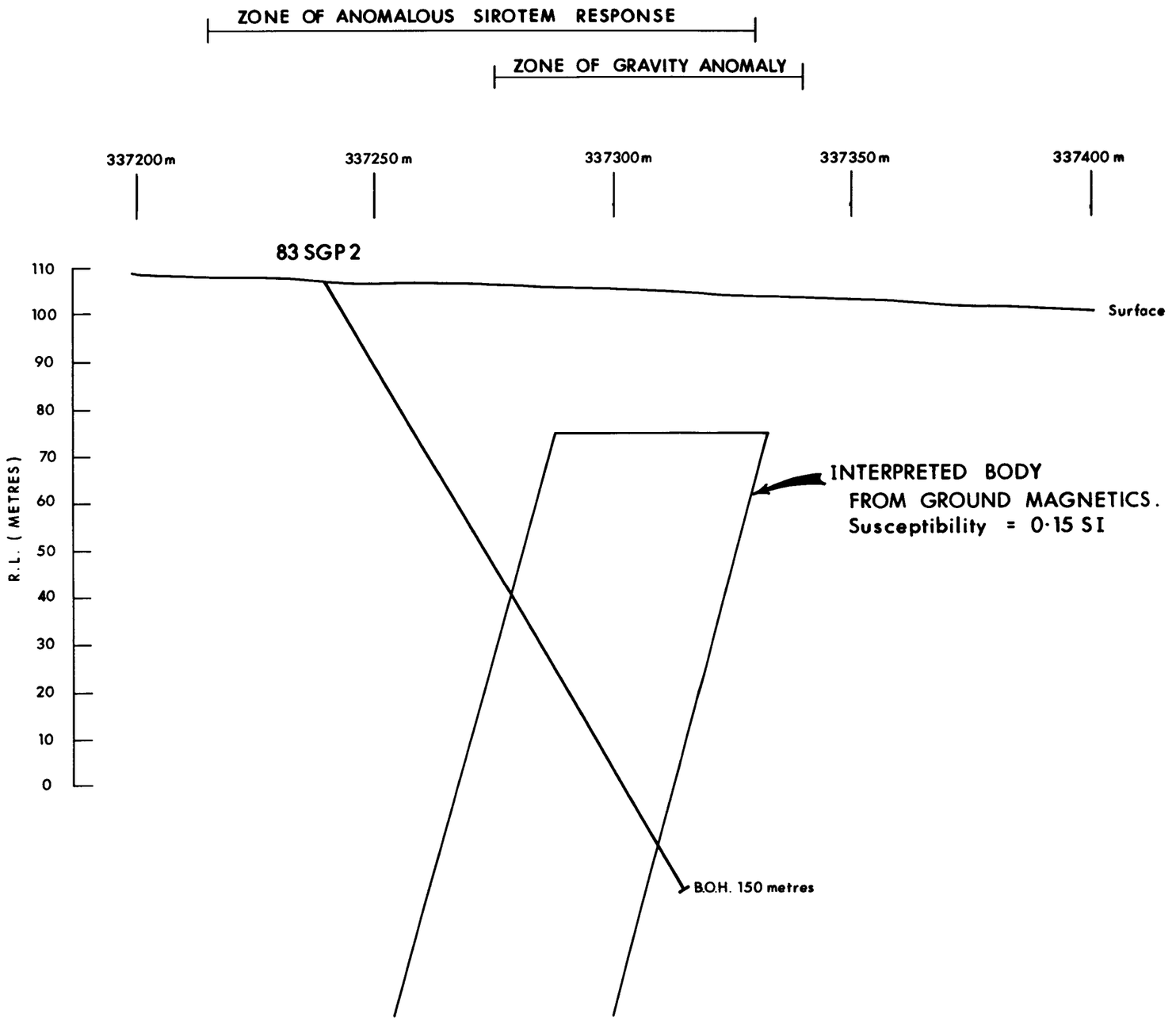
Location. 6195300mN, 337400mE (AMG)
Lat. 34°22'15", Long. 139°13'54"
Depth. 100 metres.
Azimuth. 090° AMG
Declination. − 60°

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947 − S. AUST.
PROPOSED DRILLHOLE 83 SGP 1
SCHNEIDERS GOSSAN PROSPECT.

REF	ADELAIDE SI 54-9		
SCALE	1:1000		
AUTHOR	G.J.B.	REPORT	12253
DATE	July 1983	PLAN No	SAa 2240

4596(11)-13



PROPOSED DRILLHOLE 83 SGP 2

Location : 6196700mN, 337240mE (AMG)
Lat. 34°21'30", Long. 139°13'49"

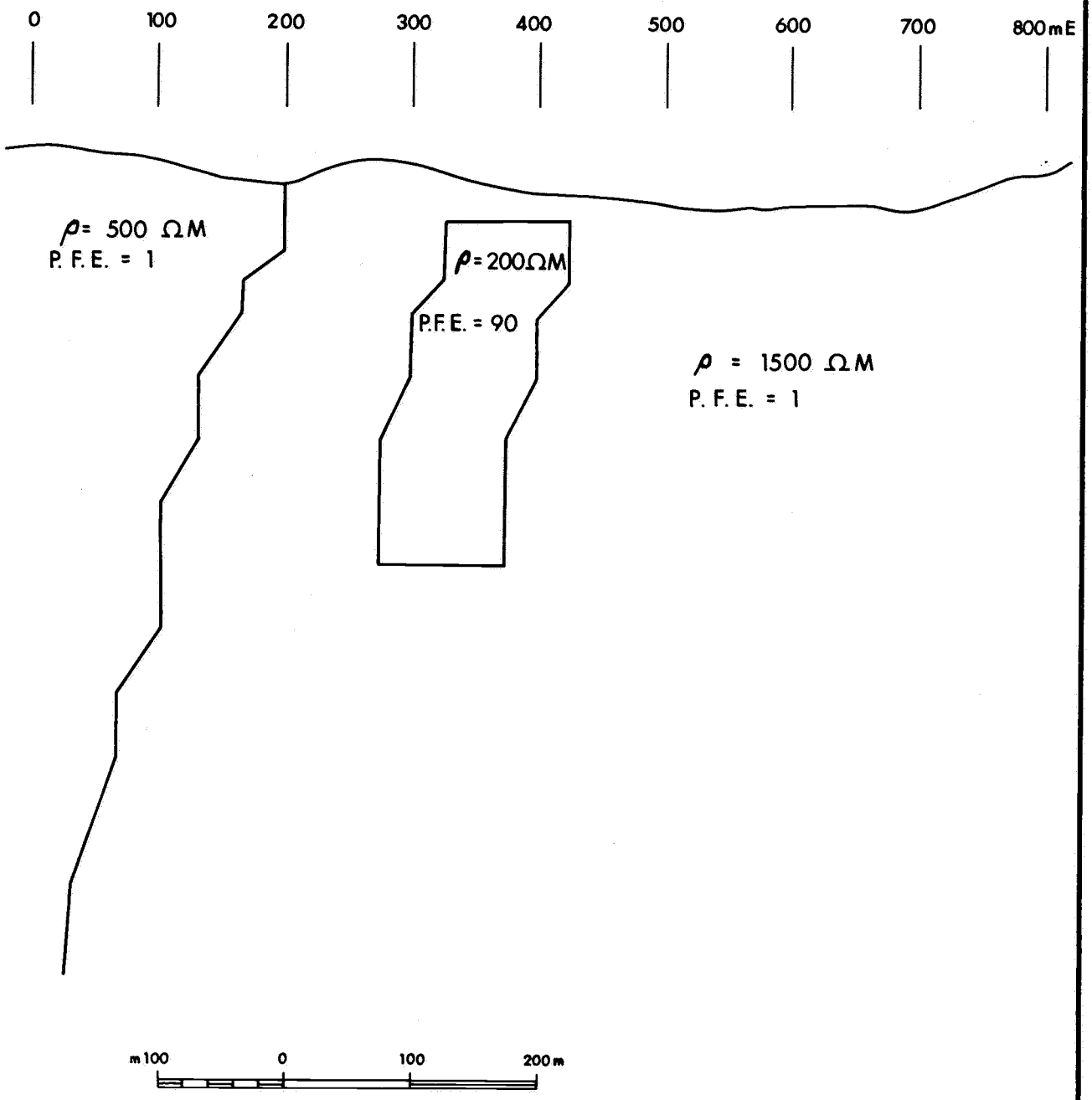
Depth. : 150 metres

Azimuth : 090° AMG

Declination : −60°

CRA EXPLORATION PTY LIMITED		
MT. KARINYA E.L. 947 − S.AUST. PROPOSED DRILLHOLE 83 SGP 2 SCHNEIDERS GOSSAN PROSPECT.		
REF	ADELAIDE SI 54-9	
SCALE	1 : 1000	
AUTHOR	G.J.B.	REPORT 12253
DATE	July 1983	PLAN No SAa 2241

4596(11)-14



CRA EXPLORATION PTY LIMITED	
MT. KARINYA E.L. 947 - S. AUST. INTERPRETATION OF I. P. DATA NORTHERN TRAVERSE MT. RHINE MINE PROSPECT	
REF. ADELAIDE SI 54-9	
SCALE 1:5000 $\frac{V}{H}=1$	
AUTHOR G. J. B.	REPORT 12253
DATE July 1983	PLAN No SAa 2242

200m 250m 300m 350m 400m 450m 500mE

R.L. (METRES)
120
110
100
90
80
70
60
50
40
30
20
10
0

83 MRNP 1

Surface

Schists , siltstones.

INTERPRETED POLARIZABLE BODY PRODUCING I.P. ANOMALY.

—: possible sulphide mineralisation associated with contact.

Impure marble carrying rare clusters of coarse galena crystals.

B.O.H. 150 metres

Mapped geological contact.

PROPOSED DRILLHOLE 83 MRNP 1

Location.: 6166287mN., 336864mE. (AMG)
Lat. 34° 37'56", Long. 139°13'13"

Depth. 150 metres.

Azimuth. 090° AMG

Declination. −60°

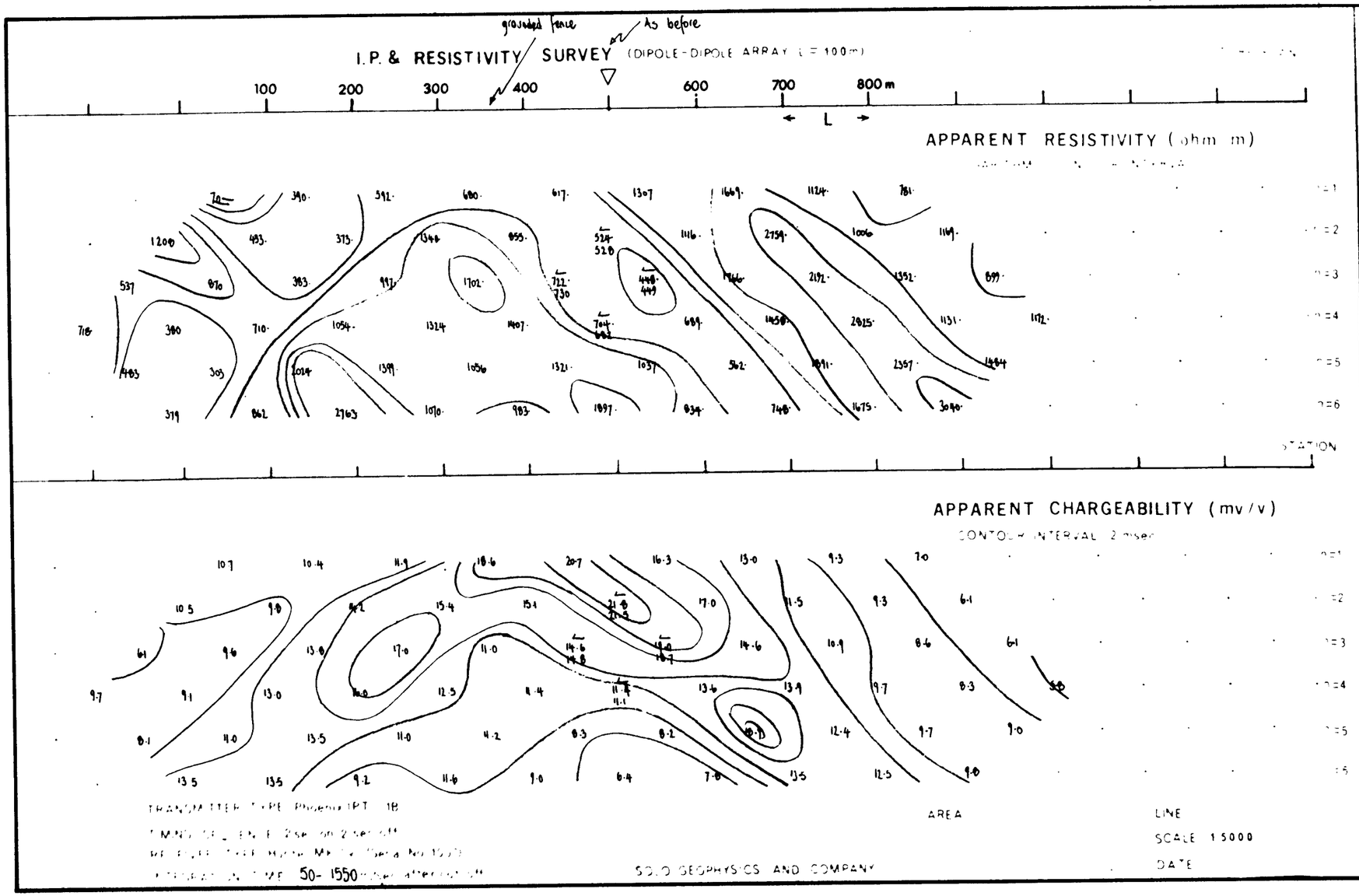
0 10 20 30 40 50 60 70 80 90 100 m.

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947 — S. AUST.
PROPOSED DRILLHOLE 83MRNP1
MT. RHINE NORTH PROSPECT.

REF	ADELAIDE SI 54-9		
SCALE	1 : 1000		
AUTHOR	G. J. B.	REPORT	12253
DATE	July 1983	PLAN No	SAa 2243

4596(11)-15



CRA EXPLORATION PTY LTD
Area Office ADELAIDE

Area : CAMBRAI MT. KARINYA E.L. 947.

Grid : PAINT MINE

Line N°: EAST-WEST (Repeat.)

Scale : 1 : 5000

Date : 09 JUNE 1983

INSTRUMENTATION USED

Rx Type : Huntec Mk IV Sn 1032

Tx Type : a) Phoenix IPT-1B 3·0kw
b) Huntec Mk IV 7·5 kw ✓

METHOD : Dipole, Dipole Array L = 100 m

FREQUENCY DOMAIN / HzHi / HzLo

TIME DOMAIN

Timing Sequence: 2 sec.on 2 sec.off

Integration Time Recorded : Channels 0-9 msec.

Integration Time Plotted : Channels 3-9 msec.

Delay Time, TD : 50 msec. after cut off

SECTION A : Apparent Resistivity (ohm/m) logarithmic contour interval

SECTION B : Apparent Chargeability (mv/v) contour interval 2 msec.

Ref.: ADELAIDE SI 54-9 Report No. 12253
CRAE Plan No. SAa 2244

Surveyed by SOLO GEOPHYSICS AND COMPANY

4596(11)-16

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CRA EXPLORATION PTY. LIMITED

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SEVENTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH SEPTEMBER, 1983.

AUTHOR: P. LEWIS

COPIES TO: CRAE LIBRARY
S.A.D.M.E.

DATE: 27TH OCTOBER, 1983

SUBMITTED BY: Paul Lewis

ACCEPTED BY:

12362

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1. SUMMARY

Geophysical anomalies at the Schneider's Gossan and Mount Rhine North prospects were drill tested during the quarter.

a. Schneider's Gossan - Two inclined drill holes were completed to test the gossan at depth and a semi-coincident gravity and magnetic anomaly north of the gossan. Both drill holes intersected altered, flow textured basalts. Assay results generally reflect the basement lithologies.

b. Mount Rhine North - Drill testing of an apparent resistivity and chargeability anomaly was completed. The drill hole intersected a grey calcareous schist containing 1-3% disseminated, fine grained sulphides. No significant base or precious metal assays were returned.

Rock chip and stream sediment samples from the Schneider's Gossan area did not return any kimberlitic indicator minerals.

2. INTRODUCTION

Mount Karinya E.L. 947 covers an area of 1 150 square kilometres centred approximately 75 kilometres north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981, for a period of twelve months and was renewed for a further twelve month period on the 11th December, 1982.

This report describes the work carried out during the quarter ending the 10th of September, 1983.

3. CONCLUSIONS AND RECOMMENDATIONS

a. Schneider's Gossan - The results of the drilling indicate the magnetic anomalies are due to ?Lower Cambrian basalt flows along the Palmer Fault zone. Alteration and brecciation of the basalts occurred during later movement along the fault zone. The 0.5 milligal gravity anomaly to the north of the gossan is probably related to a less altered, basalt flow. No further work is warranted on this anomaly. Drill hole 83SGP1 sited 50 metres south of the main gossan intersected siliceous limonitic chert veining from 34-42 metres, but failed to intersect the gossan at depth. Further investigation of the gossan is warranted.

b. Mount Rhine North - The I.P. anomaly is due to disseminated fine grained pyrite and pyrrhotite mineralisation in a calcareous schist. No further work is warranted on this anomaly.

4. WORK DONE

4.1 Drilling

Geophysical anomalies at the Schneider's Gossan and Mount Rhine North prospects were drill tested during the quarter by John Nitschke Drilling, using an Ingersol Rand T4 drill rig. Drill hole locations are shown on Plans SAa 2227 & SAa 2226.

4.1.1 Schneider's Gossan

Two inclined (-60°) drill holes were completed to test the primary zone below the gossan (83SGP1) and a semi-coincident gravity and magnetic anomaly north of the gossan (83SGP2). Both drill holes intersected altered flow textured basalts.

Drill hole 83SGP1 (sited approximately 50 metres south of the gossan) was completed at 102 metres in a light coloured, fine grained, phyllite. The drill hole intersected a fine to medium grained, schistose, chloritic mafic rock (Petrology - altered basalt) from 42-92 metres (magnetic susceptibility 200-1250 x 10^{-5} SI). Siliceous limonitic chert veins were intersected from 34-42 metres and 82-84 metres. Limonite staining is common throughout the basement rocks. Only trace sulphide (pyrite) was intersected in the hole. The summary log is presented below.

83SGP1 (Plan SAa 2363)

0 - 12 m	SILT: dark brown, minor sand, grit and gravel.
12 - 42 m	PHYLLITE & SCHIST: yellow-grey, black, fine grained, siliceous limonitic chert veins 34-42 metres.
42 - 92 m	MAFIC SCHIST: greenish-white, pinkish-grey, fine-medium grained, chloritic mafic, foliated, limonite staining common, minor red oxide, trace pyrite.
92 - 102 m	PHYLLITE & SCHIST: yellow-grey, white, fine grained, silty, trace magnetite.

Drill hole 83SGP2 (sited approximately 1 km north of the gossan) was abandoned at 142 metres after circulation was lost at 132 metres. The hole intersected a dense, fine to medium grained mafic from 14 metres to the end of the hole (magnetic susceptibility 80-10 000 x 10^{-5} SI). The summary log is presented below.

83SGP2 (Plan SAa 2364)

0 - 4 m	CLAY: red-brown, sandy, minor shale fragments.
4 - 14 m	CLAY: yellow-brown, white, ferruginous shale fragments.
14 - 132 m	MAFIC: greenish-grey, black, fine-medium grained, calcite-feldspar-chlorite rock, variable composition, porphyritic in part, minor red oxide, trace pyrite.

The drill holes were sampled over two metre intervals and submitted for copper, lead, zinc, silver and gold analyses. Selected samples were also analysed for nickel, cobalt, chromium, arsenic, molybdenum, uranium, tungsten, tantalum, cerium and yttrium. Detailed drill logs and assay results are presented in Appendix I. Petrological descriptions occur in Appendix II. Downhole copper, lead and zinc geochemical profiles are presented on plan SAa 2365. Assay results generally reflect the black shale-basalt lithologies. Slightly elevated zinc assays (maximum 440 ppm and 600 ppm) were returned from the basalts intersected in 83SGP1 and 83SGP2. All gold and silver assays were at or below the detection limits.

4.1.2 Mount Rhine North

Drill hole 83MRNP1 (sited to test an apparent resistivity and chargeability anomaly) was drilled vertically, 50 metres east of the proposed site after heavy rains made the initial site inaccessible (Plan SAa 2226). The hole was completed at 120 metres in a grey, fine grained, calcareous schist. Trace to >10% (average 1-3%) disseminated, very fine grained sulphides (pyrite-pyrrhotite-trace chalcopyrite) were intersected from 54 metres to the end of the hole. The summary log is presented below.

83MRNP1 (Plan SAa 2362)

0 - 24 m	SCHIST: dark grey, black, fine grained, micaceous, siliceous in part.
24 - 50 m	LIMESTONE: yellow-brown, grey-white, sandy, banded, gossanous limonitic bands to top.
50 - 120 m	SCHIST: grey-white, fine-medium grained, very calcareous, micaceous, trace->10% very fine grained sulphides.

Samples were taken over two metre intervals and submitted for assay. Full assay results and the detailed drill log are presented in Appendix I. No significant assays were returned, maximum values being 60 ppm copper, 60 ppm lead and 290 ppm zinc. No further work is warranted on this anomaly.

4.2 Downhole Geophysical Logging

Attempts were made to geophysically log all holes using the portable SIE logger. Poor ground conditions were encountered in drill hole 83SGP1 and the hole collapsed below the water table when the drill rods were removed. The hole was blocked at 38 metres and only the gamma log was run (Fig. 1). PVC casing was run to 26 metres in the top of 83SGP2. A gamma log was obtained for the total depth of the hole before it caved in at 46 metres (Fig. 2). Gamma, density, magnetic susceptibility, resistivity and S.P. logs were obtained for 83MRNP1 (Fig. 3). Downhole geophysical logs are presented in Appendix III.

4.3 Stream Sediment Sampling

A 27 kilogram stream sediment sample was collected from the northern creek in the Schneider's Gossan area (Plan SAa 2227) and submitted for mineralogical observation. No kimberlitic indicator minerals were observed. The results are summarised in Table 1.

Mineralogical results from the rock chip samples collected from the lamprophyre west of the main gossan were negative. The results are summarised in Table 1.

TABLE 1 MINERALOGICAL RESULTS

Sample No.	Amphibole	Apatite	Epidote	Garnet	Ilmenite	Limonite	Mica	Monazite	Quartz	Rutile	Staurolite	Tourmaline	Zircon
889626	F	C	R	-	T	P	R	-	-	-	-	-	-
949524	-	-	R	R	R	P	-	F	R	F	R	R	T

P Prevalent R Rare C Common T Trace F Few

P. LEWIS

PL/pw

EXPENDITURE

Expenditure for the period ended 31st August, 1983, the nearest accounting period, amounted to $20 301.00, comprising:-

	$
Drilling	7 679
Salaries and Wages	4 905
General Supplies	841
Vehicles	529
Travel and Accommodation	781
Property & Rent	556
Contractors	290
Assaying	1 607
General Overheads	3 113
	$20 301

LOCATION

Adelaide SI 54-9

KEYWORDS

Assays-drill, Geophys-borehole, Drill-percuss., Petrography, Black-shale, Basalt, Copper, Lead, Zinc, Gold, Indicators-Min.

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	Mt. Karinya E.L. 947 - Locality Plan	1:250 000
SAa 2226	Mt. Rhine Mine Geological Plan	1: 5 000
SAa 2227	Schneider's Gossan Geological Plan	1: 5 000
SAa 2362	Drill Hole Section 83MRNP1 Mt. Rhine North Prospect	1: 1 000
SAa 2363	Drill Hole Section 83SGP1 Schneider's Gossan Prospect	1: 1 000
SAa 2364	Drill Hole Section 83SGP2 Schneider's Gossan Prospect	1: 1 000
SAa 2365	Downhole Cu, Pb, Zn Profiles 83SGP1 & 83SGP2 Schneider's Gossan Prospect	1: 500

LIST OF APPENDICES

Appendix I Detailed Drill Logs and Assay Results.
Appendix II Petrographic Reports.
Appendix III Downhole Geophysical Logs.

APPENDIX I

DETAILED DRILL LOGS AND ASSAY RESULTS

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Central Laboratory
305 SOUTH ROAD,
MILE END SOUTH
STH. AUST. 5031
TEL.: (08) 43 5722
TELEX: AA89323

NATA REGISTERED No. 1526

OUR REF.: COM 831982

YOUR REF.: DPO B 0743

Mr. P. Lewis,
CRA Exploration Pty Ltd,
P.O. Box 254,
NORWOOD SA 5067,

23.9.83

Dear Paul,

RE: JOB COM 831982

Enclosed are the assays for the samples delivered to our laboratory on the 13th September 1983.

Yours sincerely,
COMLABS PTY LTD

per :

P R Harvey

c.c.: NORWOOD

Queensland Preparation Laboratory: 172 Lavarack Ave., Eagle Farm, Queensland. 4007 Tel.: (07) 268 4748
Western Australia Preparation Laboratory: 52 Fairbrother St., Belmont, W.A. 6104 Tel.: (09) 47 81336
Northern Territory Preparation Laboratory: 3 Bishop Street, Darwin, N.T. 5790 Tel.: (089) 81 3961

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953061	34	12	290	<1	<0.05
953062	30	6	100	<1	<0.05
953063	30	8	90	<1	<0.05
953064	30	12	95	<1	<0.05
953065	50	42	110	<1	<0.05
953066	36	60	90	<1	<0.05
953067	24	16	110	<1	<0.05
953068	18	10	100	<1	<0.05
953069	24	6	220	<1	<0.05
953070	32	10	120	<1	<0.05
953071	36	16	75	<1	<0.05
953072	24	12	70	<1	<0.05
953073	44	18	95	<1	<0.05
953074	34	14	60	<1	<0.05
953075	14	10	28	<1	<0.05
953076	12	8	16	<1	<0.05
953077	8	6	18	<1	<0.05
953078	8	8	24	<1	<0.05
953079	20	8	28	<1	<0.05
953080	50	12	100	<1	<0.05
953081	60	14	80	<1	<0.05
953082	50	12	80	<1	<0.05
953083	34	8	70	<1	<0.05
953084	22	6	90	<1	<0.05
953085	30	12	110	<1	<0.05

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953086	24	8	80	<1	<0.05
953087	12	10	55	<1	<0.05
953088	12	10	70	<1	<0.05
953089	14	10	60	<1	<0.05
953090	10	8	34	<1	<0.05
953091	14	10	48	<1	<0.05
953092	10	8	42	<1	<0.05
953093	12	8	40	<1	<0.05
953094	12	8	42	<1	<0.05
953095	16	8	46	<1	<0.05
953096	18	14	70	<1	<0.05
953097	20	10	80	<1	<0.05
953098	38	6	100	<1	<0.05
953099	20	8	70	<1	<0.05
953100	22	8	110	<1	<0.05
953718	22	6	65	<1	<0.05
953719	22	4	65	<1	<0.05
953720	26	8	65	<1	<0.05
953721	16	8	70	<1	<0.05
953722	16	6	60	<1	<0.05
953723	10	6	26	<1	<0.05
953724	14	6	44	<1	<0.05
953725	14	8	65	<1	<0.05
953726	20	8	75	<1	<0.05
953727	16	6	60	<1	<0.05

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ANALYTICAL REPORT

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953728	16	4	34	<1	<0.05
953729	12	8	32	<1	<0.05
953730	10	6	26	<1	<0.05
953731	10	6	32	<1	<0.05
953732	14	6	28	<1	<0.05
953733	40	16	180	<1	<0.05
953734	24	10	55	<1	<0.05
953735	8	6	34	<1	<0.05
953736	8	6	32	<1	<0.05
953601	40	12	95	<1	<0.05
953602	20	14	46	<1	<0.05
953603	18	12	42	<1	<0.05
953604	20	14	60	<1	<0.05
953605	22	16	55	<1	<0.05
953606	20	14	55	<1	<0.05
953607	260	340	330	<1	<0.05
953608	360	500	190	<1	<0.05
953609	85	730	85	<1	<0.05
953610	30	120	90	<1	<0.05
953611	50	100	250	<1	<0.05
953612	85	75	340	<1	<0.05
953613	95	110	440	<1	<0.05
953614	85	110	290	<1	<0.05
953615	55	95	240	<1	<0.05
953616	50	70	180	<1	<0.05

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953617	130	85	300	<1	<0.05
953618	250	130	560	<1	<0.05
953619	260	260	620	1	<0.05
953620	170	220	430	1	<0.05
953621	120	120	370	1	<0.05
953622	80	55	300	<1	<0.05
953623	60	36	260	<1	<0.05
953624	60	34	350	<1	<0.05
953625	90	26	230	<1	<0.05
953626	75	30	250	<1	<0.05
953627	75	32	230	<1	<0.05
953628	75	44	440	<1	<0.05
953629	46	18	140	<1	<0.05
953630	44	26	180	<1	<0.05
953631	42	22	220	<1	<0.05
953632	38	20	240	<1	<0.05
953633	30	18	200	<1	<0.05
953634	40	34	240	<1	<0.05
953635	36	18	230	<1	<0.05
953636	60	36	420	<1	<0.05
953637	60	40	240	<1	<0.05
953638	50	20	240	<1	<0.05
953639	48	26	270	<1	<0.05
953640	40	28	280	<1	<0.05
953641	50	22	230	<1	<0.05

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953642	70	65	270	<1	<0.05
953643	48	26	240	<1	<0.05
953644	55	130	230	<1	<0.05
953645	60	55	260	<1	<0.05
953646	70	100	270	<1	<0.05
953647	70	50	260	<1	<0.05
953648	100	140	320	<1	<0.05
953649	65	85	280	<1	<0.05
953650	80	60	280	<1	<0.05
953551	65	65	240	<1	<0.05
953552	22	16	65	<1	<0.05
953553	70	24	190	<1	<0.05
953554	190	100	280	<1	<0.05
953555	160	34	220	<1	<0.05
953556	280	24	160	<1	<0.05
953557	310	120	340	<1	<0.05
953558	170	75	510	<1	<0.05
953559	60	42	390	<1	<0.05
953560	50	36	290	<1	<0.05
953561	55	55	430	<1	<0.05
953562	28	26	590	<1	<0.05
953563	36	20	420	<1	<0.05
953564	48	14	600	<1	<0.05
953565	120	16	370	<1	<0.05
953566	80	38	470	<1	<0.05

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953567	60	22	370	<1	<0.05
953568	70	20	390	<1	<0.05
953569	44	16	360	<1	<0.05
953570	38	14	380	<1	<0.05
953571	60	20	350	<1	<0.05
953572	60	14	290	<1	<0.05
953573	80	10	250	<1	<0.05
953574	75	10	220	<1	<0.05
953575	120	75	270	<1	<0.05
953576	140	95	210	<1	<0.05
953577	60	36	160	<1	<0.05
953578	42	26	120	<1	<0.05
953579	48	42	510	<1	<0.05
953580	24	16	260	<1	<0.05
953581	18	10	130	<1	<0.05
953582	100	6	240	<1	<0.05
953583	22	10	280	<1	<0.05
953584	16	6	65	<1	<0.05
953585	8	12	85	<1	<0.05
953586	20	8	95	<1	<0.05
953587	26	20	170	<1	<0.05
953588	20	6	200	<1	<0.05
953589	30	12	190	<1	<0.05
953590	14	12	150	<1	<0.05
953591	14	6	145	<1	<0.05

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953592	28	12	210	<1	<0.05
953593	22	12	110	<1	<0.05
953594	14	8	160	<1	<0.05
953595	28	10	180	<1	<0.05
953596	34	8	170	<1	<0.05
953597	18	6	150	<1	<0.05
953598	34	6	230	<1	<0.05
953599	75	18	320	<1	<0.05
953600	32	10	150	<1	<0.05
953701	14	6	140	<1	<0.05
953702	38	24	460	<1	<0.05
953703	60	34	250	<1	<0.05
953704	40	12	120	<1	<0.05
953705	22	14	95	<1	<0.05
953706	14	8	95	<1	<0.05
953707	40	30	160	<1	<0.05
953708	30	12	100	<1	<0.05
953709	65	<4	100	<1	<0.05
953710	70	<4	100	<1	<0.05
953711	80	12	150	<1	<0.05
953712	70	8	100	<1	<0.05
953713	75	10	90	<1	<0.05
953714	70	4	90	<1	<0.05
953715	85	46	140	<1	<0.05
953716	85	38	110	<1	<0.05

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ANALYTICAL REPORT

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Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	Au
953717	70	12	80	<1	<0.05

Method of Analysis : Cu Pb Zn : AAS1
Ag : AAS3
Au : AAS5A

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Results in ppm

SAMPLE	W	As	Ce	U	Ta	Y
953601	<10	10	60	<4	<10	22
953606	10	18	60	4	<10	24
953607	<10	80	90	<4	<10	32
953611	<10	24	50	<4	<10	20
953616	<10	20	60	<4	<10	24
953617	<10	34	80	<4	<10	26
953618	<10	28	90	4	<10	28
953619	10	38	90	8	<10	24
953620	<10	32	70	8	<10	20
953621	<10	16	60	<4	10	18
953622	<10	28	60	4	<10	20
953629	<10	10	100	<4	10	28
953636	<10	20	90	6	<10	28
953641	<10	16	80	<4	<10	24
953642	10	24	100	<4	10	28
953647	<10	12	100	6	10	22
953558	<10	42	50	<4	<10	20
953559	10	5	80	<4	<10	50
953567	15	12	60	<4	<10	20
953568	<10	8	40	<4	<10	16
953574	<10	5	40	6	<10	18
953582	15	2	40	<4	<10	18
953583	15	6	50	<4	<10	20
953589	<10	10	80	<4	<10	22
953597	<10	6	90	<4	<10	32

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COMPUTERISED ANALYTICAL LABORATORIES

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	W	As	Ce	U	Ta	Y
953704	<10	6	80	<4	<10	28
953712	<10	<2	70	<4	<10	20
953717	<10	4	70	<4	<10	24
953072	<10	3	60	<4	<10	14
953073	<10	14	70	4	<10	28
953074	<10	7	40	<4	<10	8
953081	<10	8	20	<4	<10	5
953085	20	<2	30	<4	<10	7
953086	<10	2	30	<4	<10	3
953091	10	2	20	<4	15	<2
953096	<10	<2	50	4	<10	<2
953097	10	<2	50	<4	<10	2
953720	20	9	60	<4	<10	2
953728	<10	3	30	<4	<10	2
953733	<10	<2	80	<4	<10	5

Method of Analysis : XRF1

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	Ni	Co	Cr	Mo
953601	34	14	10	<4
953606	24	10	14	<4
953607	26	12	14	<4
953611	28	14	10	<4
953616	14	6	6	<4
953617	20	10	12	<4
953618	24	12	10	<4
953619	28	14	20	<4
953620	26	18	14	<4
953621	28	20	16	<4
953622	34	34	10	<4
953629	18	26	6	<4
953636	18	20	12	<4
953641	18	26	10	<4
953642	20	26	8	<4
953647	24	28	8	<4
953558	75	70	16	<4
953559	50	48	14	<4
953567	34	30	12	<4
953568	28	28	12	<4
953574	30	34	16	<4
953582	26	30	14	<4
953583	20	32	10	<4
953589	14	34	6	<4
953597	8	34	6	<4

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	Ni	Co	Cr	Mo
953704	12	30	8	<4
953712	40	34	10	<4
953717	36	30	8	<4
953072	24	10	34	<4
953073	180	20	42	<4
953074	34	12	22	<4
953081	55	36	18	<4
953085	34	18	16	<4
953086	32	16	12	<4
953091	16	6	12	<4
953096	30	8	16	<4
953097	44	12	36	<4
953720	34	10	16	<4
953728	24	8	10	<4
953733	28	8	12	<4

Method of Analysis : Ni Co : AAS1
Cr : AAS2
Mo : AAS3

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COMPUTERISED ANALYTICAL LABORATORIES

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ANALYTICAL REPORT

JOB COM831982 O/N : B 0743

Results in ppm

SAMPLE	Hg
953096	<0.05
953097	<0.05

Method of Analysis : Hg : AAS7

CRA EXPLORATION PTY LIMITED

PROJECT KANMANTOO TROUGH

PERCUSSION DRILL CORE LOG

CO-ORDINATES 34° 37' 56" 139° 13' 18" / 6166250mN 336950mE | AZIMUTH | DRILLERS JOHN NITSCHKE | COMMENCED 6-9-83 | DEPTH 120m | HOLE No. 83MRNP1

RL COLLAR 285m MSL | INCLINATION -90° | DRILL TYPE INGERSOL RAND T4 | COMPLETED 7-9-83 | CASING LEFT — | DPO No(s) 743, 744

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	As	U
0	24		35		SCHIST: DARK GREY, BLACK, FINE GRAINED, MICACEOUS, (BIOTITE-SERICITE		953061	0	2		34	12	290					
			15		SILICEOUS, SLIGHTLY CALCAREOUS		062	2	4		30	6	100					
			10		SCHIST: BROWN-GREY, FINE GRAINED, WEATHERED (SOFT), MICACEOUS		063	4	6		30	8	90					
			15		MINOR VEIN QUARTZ, SOME HARD BLACK SCHIST BANDS AS ABOVE	MINOR LIMONITE COATINGS ALONG JOINTS	064	6	8		30	12	95					
10			15		AS ABOVE: FINE TO MEDIUM GRAINED	AND CLEAVAGES.	065	8	10		50	42	110					
			5				066	10	12		36	60	90					
			10				067	12	14		24	16	110					
			15				068	14	16		18	10	100					
			15		SCHIST: AS ABOVE, MINOR COARSE SERICITE FLAKES		069	16	18		24	6	220					
20			15				070	18	20		32	10	120					
			5				071	20	22		36	16	75					
			5				072	22	24		24	12	70	24	10	24	9	—
24	50		10		LIMESTONE: YELLOW-BROWN, SANDY, MEDIUM GRAINED, SOFT, WEAKLY		073	24	26		44	18	95	180	20	42	14	4
			10		DEVELOPED FOLIATION	FRAGMENTS OF COLLOFORM LIMONITIC	074	26	28		34	14	60	34	12	22	7	—
30			10		LIMESTONE: YELLOW-WHITE-GREY, MEDIUM GRAINED, BANDED, FINELY	ROCK, WITH WEAK FOLIATION	075	28	30		14	10	28					
			5		LAMINATED IN PARTS TO BASE, SOME FRAGMENTS OF		076	30	32		12	8	16					
			10		MICROFOLDED LIMESTONE, AND SOME ROD STRUCTURES.		077	32	34		8	6	18					
			5		MINOR FERRUGINOUS VEINS (VUGGY) TO BASE, FOLIATED		078	34	36		8	8	29					
			5				079	36	38		20	8	28					
40			15			—— WATER TABLE ——	080	38	40		60	12	100					
			25			VUGGY (LIMONITE) FERRUGINOUS VEINING	081	40	42		60	14	80	55	36	18	8	—
			10			AND LIMONITIC STAINING.	082	42	44		50	12	80					
			25				083	44	46		34	8	70					
			50		LIMESTONE: AS ABOVE, MINOR 'SCHISTOSE' MICACEOUS LIMESTONE,	VUGGY LIMONITE VEINS AND STAINING	084	46	48		22	6	90					
50			50		MINOR COARSE SERICITE/MUSCOVITE FLAKES, MINOR VEIN QUARTZ	AS ABOVE	085	48	50		30	12	110	34	18	16	—	—
50	108		35		SCHIST: SILVER-GREY, FINE TO MEDIUM GRAINED, MICACEOUS,	TRACE TO >1% VERY FINE GRAINED	086	50	52		24	8	80	42	16	12	2	—
			15		CALCAREOUS, SERICITIC, WITH VERY FINE GRAINED	SULPHIDES DISSEMINATED, ALONG	087	52	54		12	10	85					
			15		SULPHIDES (PYRITE-PYRRHOTITE-?), SOME FRAGMENTS	CLEAVAGE AND INFILLING FRACTURES	088	54	56		12	10	70					
			15		CONTAIN >> 10% VISUAL SULPHIDES	ALSO HAVE A VERY FINE BLACK	089	56	58		14	10	60					
60			50		SAMPLE IS MAINLY GREY WHITE SILT, CALCAREOUS	POWDER WHICH FLOATS OFF SAMPLE	090	58	60		10	8	34					
			25			WHEN WASHED.	091	60	62		14	10	48	16	6	12	2	—
			20				092	62	64		10	8	62					
			20				093	64	66		12	8	40					
			25				094	66	68		12	8	92					
70			30				095	68	70		16	8	46					
			45		SCHIST: AS ABOVE, GREY-WHITE, MINOR YELLOW-BROWN-WHITE	TRACE SOFT MALEABLE SILVER-GREY	096	70	72		18	14	70	30	8	16	—	4
			40		LIMESTONE TO BASE	SHINY 'MINT', PLUS SULPHIDES	097	72	74		20	10	80	44	12	36	—	—
			50			AS ABOVE	098	74	76		38	6	100					
			40				099	76	78		20	8	70					
80			85				100	78	80		22	8	110					
			65				* 953 718	80	82		22	6	65					
			30				719	82	84		22	4	65					
			75				720	84	86		26	8	65	34	10	16	9	—
			25				721	86	88		16	8	90					
90			25				722	88	90		16	6	60					
			120				723	90	92		10	6	86					
			25			—— WEAK AQUIFER ——	724	92	94		14	6	44					

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 7-9-83

SHEET 1 OF 2

C R A EXPLORATION PTY LIMITED

PERCUSSION DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 6166250mN 336950mE AZIMUTH — DRILLERS JOHN NITSCHKE COMMENCED 6-9-83 DEPTH 120m HOLE No. 83 MRNP1

RL COLLAR 285 m MSL INCLINATION -90° DRILL TYPE INGERSOL RAND T4 COMPLETED 7-9-83 CASING LEFT — OPO No(s) 743, 744

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	As	U
50	108		50		SCHIST : AS ABOVE	TRACE TO >1% SULPHIDES.	953725	94	96		14	8	65					
			130				726	96	98		20	8	75					
			50				727	98	100		16	6	60					
			35				728	100	101		16	4	34	24	8	10	3	—
			30				729	102	104		12	8	32					
			10				730	104	106		10	6	26					
			20				731	106	108		10	6	32					
108	118		15		SCHIST : AS ABOVE, PLUS SCHIST : BLACK, FINE GRAINED, SILICEOUS,	TRACE TO MINOR SULPHIDES, SOME	732	108	110		14	6	28					
			75		WITH COARSE PYRITE (2mm)	COARSE GRAINED PYRITE	733	110	112		40	16	180	28	8	12	—	—
			40		SCHIST : MAINLY GREY-WHITE, FINE TO MEDIUM GRAINED, CALCAREOUS		734	112	114		24	10	55					
			15		AS ABOVE.		735	114	116		8	6	34					
			20				736	116	118		8	6	32					
					E.O.H. 120m DRILL DEPTH : SAMPLED DEPTH 118m — ONE													
					INTERVAL NOT SAMPLED BY DRILLERS — POSSIBLY AT 40-50m													
					INTERVAL WHERE 6" STEEL CASING RUN BUT UNKNOWN		METHOD				AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF
							DETECTION	LIMIT			(2)	(4)	(2)	(4)	(4)	(4)	(2)	(4)
					ALL SAMPLES WERE ANALYSED FOR Ag AND Au. ALL ASSAY													
					RESULTS WERE BELOW THE DETECTION LIMIT.													
					SELECTED SAMPLES WERE ANALYSED FOR W, Ce, Ta & Y													
					BY XRF AND Mo BY AAS. ALL Mo ASSAYS WERE BELOW													
					THE DETECTION LIMIT. MAXIMUM W, Ce, Ta & Y ASSAYS													
					WERE 20, 80, 15 AND 28 ppm RESPECTIVELY.													
					SAMPLES 953096, 953097 WERE ALSO ANALYSED FOR Hg ASSAY													
					RESULTS WERE BELOW 0.05 ppm.													
					* PETROLOGY													

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 7-9-83

SHEET 2 OF 2

C R A EXPLORATION PTY LIMITED

PERCUSSION DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 36° 21' 30" 139° 13' 49" / 6196700mN 337240mE AZIMUTH 090° DRILLERS JOHN NITSCHKE COMMENCED 31-8-82 DEPTH 142m HOLE No. 83 SGP2

RL COLLAR 185m AHD INCLINATION -60° DRILL TYPE INGERSOL RAND T4 COMPLETED 31-8-82 CASING LEFT 30m DPO No(s)

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC.	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	As	U
0	4		800		CLAY: ORANGE, RED-BROWN, SILTY TO SANDY, QUARTZ, MAGNETITE, SMALL		953552	0	2		72	16	65					
			500		GRIT, FRAGS OF QUARTZ-FELDSPAR-MICA SCHIST, MINOR CALCRETE.		553	2	4		70	24	190					
4	14		35		CLAY: YELLOW BROWN, ABUNDANT IRONSTONE FRAGMENTS, RARE SCHIST FRAGS.		554	4	6		190	100	280					
			30		MICACEOUS, CALCAREOUS, WEATHERED BASEMENT, WEAK FOLIATION		555	6	8		160	34	220					
			25		IN SOME FRAGMENTS		556	8	10		280	24	160					
			15				557	10	12		310	120	390					
			20				558	12	14		170	75	510	75	70	16	68	—
14	20		200		SCHIST: YELLOWISH GREEN, WHITE, FINE TO MEDIUM GRAINED, MICA SCHIST	LIMONITE STAINING	559	14	16		60	42	390	50	40	14	5	—
			200		MINOR CALCITE AND VEIN QUARTZ, ABUNDANT FINE GRAINED		560	16	18		50	36	290					
			100		GARNETS, LIMONITE STAINING.		561	18	20		85	55	430					
20	62		750		MAFIC SCHIST: GREEN-GREY, BLACK, WHITE, FINE GRAINED, WEAKLY FOLIATED,	LIMONITIC, FINE GRAINED MAGNETITE	562	20	22		38	26	590					
			325		PORPHYRITIC IN PART, (PORPHYROBLASTS SOFT, CHALKY, FLOURRY		563	22	24		36	20	430					
			500		CALCAREOUS) FINE GRAINED YELLOW BROWN SPOTTING AND LIMONITE		564	24	26		48	14	600					
			600		STAINING, TRACE TO MINOR RED OXIDES		565	26	28		120	16	870					
			300				566	28	30		80	38	470					
			400				567	30	32		60	22	370	34	30	12	12	—
			300		AS ABOVE, PLUS MEDIUM GRAINED, GREENISH WHITE ENERGITIC	——— WATER TABLE ———	568	32	34		70	20	390	28	28	12	8	—
			1500		SCHIST, FELDSPAR-MICA (CHLORITE)-AMPHIBOLE-CALCITE ROCK	FINE GRAINED MAGNETITE.	569	34	36		44	14	360					
			2000		MINOR CALCITE VEINING, ABUNDANT GARNETS FINE GRAINED,		570	36	38		38	14	280					
			4000		LIMONITE STAINED		571	38	40		60	20	350					
			2500				572	40	42		60	14	290					
			1500				573	42	44		80	10	250					
			2000				574	44	46		75	10	220	30	34	16	5	6
			250				575	46	48		120	75	870					
			80				576	48	50		140	95	210					
			125				577	50	52		60	36	160					
			200				578	52	54		62	26	120					
			250				579	54	56		48	42	510					
			850		AS ABOVE, MINOR EPIDOTE ALTERATION, MINOR LIMONITE STAINING		580	56	58		24	16	260					
			350		TRACE RED OXIDES		581	58	60		18	10	130					
			2000				582	60	62		100	6	240	26	30	14	2	—
62	90		1500		MAFIC SCHIST: GREEN-GREY BLACK, FINE GRAINED, PINKISH GREY	FINE GRAINED MAGNETITE	583	62	64		22	10	280	20	32	10	6	—
			750		FINE GRAINED MATRIX WITH FELTED LATH CRYSTALS, MINOR		584	64	66		16	6	65					
			700		CALCITE VEINING AND CRYSTALS, WEAKLY FOLIATED, TRACE		585	66	68		8	12	85					
			9000		RED OXIDES, MINOR GNEISSIC SCHIST BANDS?, TRACE		586	68	70		20	8	95					
			10000		RED OXIDES		587	70	72		26	20	170					
			9000				588	72	74		20	6	200					
			10000				589	74	76		30	12	190	14	34	6	10	—
			5000				590	76	78		14	12	150					
			6000				591	78	80		14	6	185					
			6500				592	80	82		28	12	210					
			8500				593	82	84		22	12	110					
			7500				594	84	86		14	8	160					
			5000				595	86	88		28	10	180					
			4000				596	88	90		34	8	170					
90	130		8000		MAFIC SCHIST: GREEN-GREY BLACK, FINE GRAINED, CHLORITIC, WEAKLY		597	90	92		18	6	150	8	34	6	6	—
			7500		FOLIATED, MINOR CALCITE VEINING, AND ROCKS ARRIVE.		953598	92	94		34	6	230					

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P LEWIS DATE 21-8-83

SHEET 1 OF 2

C R A EXPLORATION PTY LIMITED

PERCUSSION DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 6196700mN 337240mE AZIMUTH 090° DRILLERS JOHN NITSCHKE COMMENCED 31-8-83 DEPTH 142m HOLE No. 83 SG P2

RL COLLAR 185m AHD INCLINATION -60° DRILL TYPE INGERSOL RAND T4 COMPLETED 31-8-83 CASING LEFT — OPO No(s) 743, 744

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	As	U
90	130		4000		MAFIC SCHIST: GREENISH GREY, BLACK, FINE GRAINED, FOLIATED, CHLORITIC	FINE GRAINED MAGNETITE.	953599	94	96		75	18	320					
			6000		MINOR GNEISSIC BANDS, CALCITE VEINING, MINOR SPOTTING		600	96	98		32	10	150					
			8000		(FINE GRAINED) IN PARTS, TRACE RED OXIDES, MINOR SCHISTS		953701	98	100		14	6	140					
			4000		AS ABOVE		702	100	102		38	24	460					
			5500				703	102	106		60	34	350					
			8500				704	104	106		40	12	120	12	30	8	6	—
			8500				705	106	108		22	14	95					
			4500				706	108	110		14	8	95					
			2750				707	110	112		40	30	160					
			3000				708	112	114		30	12	100					
			3000				709	114	116		65	—	100					
			2000				710	116	118		30	—	100					
			1500				711	118	120		80	12	150					
			1000				712	120	122		30	8	100	40	34	18	—	—
			700				713	122	124		75	10	90					
			1000				714	124	126		70	4	90					
			1000				715	126	128		85	44	140					
			1000				716	128	130		85	38	110					
130	132		1000		SCHIST: GREENISH WHITE, FINE GRAINED, CHLORITIC, SOFT, SILTY		953717	130	132		70	12	80	36	30	8	4	—
					LOST CIRCULATION: NO SAMPLE.													
							METHOD				AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF
							DETECTION	LIMIT			(2)	(4)	6)	(4)	(4)	(4)	(2)	(4)
					EOH 132m													
					ALL SAMPLES WERE ANALYSED FOR SILVER AND GOLD. AND ASSAYS WERE BELOW THE DETECTION LIMITS. SELECTED SAMPLES WERE ANALYSED FOR W, Cu, Ta & Y BY XRF AND Mo BY AAS. ALL Ta & Mo ASSAYS WERE BELOW THE DETECTION LIMITS. MAXIMUM Cu, Y AND W ASSAYS WERE 90, 32 AND 15 ppm RESPECTIVELY													
					* PETROLOGY													

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P LEWIS DATE 31-8-83

SHEET 2 OF 2

C R A EXPLORATION PTY LIMITED

PERCUSSION DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 34° 22' 15" 139° 13' 54" / 6195300mN 337400mE AZIMUTH 090° DRILLERS JOHN NITSCHKE COMMENCED 30-8-83 DEPTH 102m HOLE No. 83 SGP1

RL COLLAR 175m AHD INCLINATION -60° DRILL TYPE INGERSOL RAND T4 COMPLETED 30-8-83 CASING LEFT — DPO No(s) 743, 744

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	As	U
0	12		500		SILT: DARK CHOCOLATE BROWN, FINE GRAINED, SUBANGULAR, MINOR		953601	0	2		40	12	95	34	14	10	10	—
			400		SUBANGULAR TO ROUNDED FERRUGINOUS SHALE, SANDSTONE,		602	2	4		20	14	44					
			500		IRONSTONE GRAVEL BANDS, MINOR VEIN QUARTZ. (SHALE FRAGS		603	4	6		18	12	42					
			500		MAGNETIC) SLIGHTLY CLAYEY, MICACEOUS		604	6	8		20	14	60					
10			550				605	8	10		22	16	85					
			850				606	10	12		20	14	55	24	10	14	18	4
12	20		500		PHYLLITE / SHALE: YELLOWISH WHITE, GREY-BLACK, FINE GRAINED		607	12	14		260	340	330	26	12	14	80	—
			40		MICACEOUS, WEAK FOLIATION, TRACE OPAQUES, MINOR VEIN		608	14	16		360	500	190					
			10		QUARTZ		609	16	18		85	730	85					
			10				610	18	20		30	120	90					
20	32		70		SCHIST: GREY-WHITE, YELLOW-BROWN, FINE TO MEDIUM GRAINED,	LIMONITE STAINING	611	20	22		50	100	250	28	14	10	28	—
			50		MICA-QUARTZ-FELDSPAR ROCK, CHLORITIC IN PART, FOLIATED		612	22	24		85	75	340					
			40		GNEISSIC TEXTURE, MINOR LIMONITIC SPOTTING TO BASE, MAG		613	24	26		95	110	440					
			30		RED OXIDES		614	26	28		85	110	290					
30			30				615	28	30		55	95	240					
			10				616	30	32		50	70	180	14	6	6	20	—
32	42		20		SCHIST: AS ABOVE, PLUS FEW FRAGMENTS OF MEDIUM GRAINED		617	32	34		130	85	300	20	10	12	34	—
			20		MICA-FELDSPAR ROCK (? LAMAROPHYRE), LIMONITIC YELLOW-		618	34	36		250	130	560	24	12	10	28	4
			20		BROWN SILICEOUS FINE GRAINED VEINING, AND VEIN QUARTZ		619	36	38		260	260	620	28	14	20	38	8
40			40				620	38	40		170	220	480	24	18	14	32	8
			300				621	40	42		120	120	370	28	20	16	16	—
42	92		200		SCHIST: DARK GREEN-GREY, PINKISH-GREY IN PARTS, FINE GRAINED	MODERATELY FRESH ROCK, YELLOW BROWN	622	42	44		80	55	300	34	34	10	28	4
			750		CHLORITIC, WEAKLY FOLIATED, MINOR RED OXIDE STREAKING,	FINE LIMONITIC SPOTTING AND STAINING	623	44	46		60	36	260					
			295		HAVE A WHITE SOFT SUGARY TEXTURED MINERAL (NOT CALCITE	ON JOINT FRACTURES AND ALONG	624	46	48		60	38	350					
60			1000		? EX PYROXENE), VARIABLE TEXTURED ROCK	CLEAVAGE	625	48	50		90	26	230					
			1000				626	50	52		75	30	260					
			1250				627	52	54		75	32	220					
			850				628	54	56		75	44	440					
			400				629	56	58		46	18	140	18	26	6	10	—
60			475				630	58	60		44	26	180					
			275				631	60	62		42	32	220					
			450				632	62	64		38	20	240					
			600				633	64	66		30	18	200					
			350				634	66	68		40	34	240					
70			800		SCHIST: AS ABOVE, VARIABLE TEXTURES, FINE TO MEDIUM GRAINED	ABUNDANT LIMONITIC STAINING IN	635	68	70		36	18	230					
			475		GREENISH-WHITE, CHLORITIC, GNEISSIC, ? DOLOMITIC, PLUS	PARTS, TRACE PYRITE	636	70	72		60	36	420	18	20	12	20	6
			500		FINE GRAINED, GREENISH-PINK SCHISTS, MINOR RED OXIDES		637	72	74		60	40	240					
			400				638	74	76		50	30	240					
			300				639	76	78		48	26	270					
80			300				640	78	80		40	28	280					
			200				641	80	82		50	22	230	18	26	10	16	—
			300			ABUNDANT LIMONITIC FRAGMENTS	642	82	84		70	65	290	20	26	8	24	—
			200				643	84	86		48	26	240					
			450				644	86	88		65	130	230					
90			400				645	88	90		60	55	260					
			450				646	90	92		70	100	270					
92	102		450		PHYLLITE / SCHIST: WHITE, PINKISH, FINE TO MEDIUM GRAINED		953647	92	94		70	50	260	24	28	8	12	6

CRAE 117
PLAN No M 414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 30-8-83

SHEET 1 OF 2

C R A EXPLORATION PTY LIMITED

PERCUSSION DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 6193300 m N 337400 m E AZIMUTH 090° DRILLERS JOHN NITSCHKE COMMENCED 30-8-83 DEPTH 102 m HOLE No. 83 SGP1

RL COLLAR 175 m AHD INCLINATION −60° DRILL TYPE INGERSOL RAND T4 COMPLETED 30-8-83 CASING LEFT — DPO No(s) 743, 744

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	MAGN SUSC	GRAPHIC LOG	CORE DESCRIPTION	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Ni	Co	Cr	Ba	U
92	102		350		FELDSPAR – QUARTZ MICA ROCK, MINOR VEIN QUARTZ, TRACE MAGNETITE		953 648	94	96		100	140	320					
			250		VEINS		649	96	98		65	85	280					
100			250				650	98	100		80	60	280					
			250				953 551	100	102		65	65	240					
					EOH 102 m													
							METHOD				AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF
							DETECTION	LIMIT			(2)	(4)	(2)	(4)	(4)	(4)	(2)	(6)
					ALL SAMPLES WERE ANALYSED FOR SILVER & GOLD. ALL GOLD ASSAYS WERE BELOW 0.05 ppm. SILVER ASSAYS OF 1 ppm WERE RETURNED FOR SAMPLES 953 619, 20, 21, ALL REMAINING ASSAYS WERE BELOW THE DETECTION LIMIT. SELECTED SAMPLES WERE ALSO ANALYSED FOR W, Co, Ta & Y BY XRF, AND Mo BY AAS. ALL Mo, W & Ta ASSAYS WERE AT OR BELOW THE DETECTION LIMITS OF 4, 10 & 10 ppm RESPECTIVELY. MAXIMUM Co & Y ASSAYS WERE 100 & 32 ppm RESPECTIVELY.												
					* PETROLOGY													

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 30-8-83

SHEET 2 OF 2

APPENDIX II

PETROGRAPHIC REPORTS

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4129

27th September, 1983

TO: Mr. P. Lewis,
CRA Exploration Pty. Ltd.,
PO Box 254
NORWOOD S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
PO Box 254
NORWOOD S.A. 5067

YOUR REFERENCE: Order No. B0744

MATERIAL: Percussion chip samples

IDENTIFICATION: 953596
953623
953718

WORK REQUESTED: Section preparation and microscopic description.

SAMPLES & SECTIONS: Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

953623 : altered basalt with abundant chlorite, ? sericite and albite.

The chips in this sample represent a porphyritic basalt variously altered to chlorite, albite and sericite. Phenocrysts are common and up to 4 mm in size, most are altered to sericite, but some are altered to porous aggregates of albite laths. It is probable that they were all plagioclase but this is not entirely clear.

The groundmass consists of albitised, flow textured plagioclase laths with interstitial chlorite, accessory dispersed magnetite and leucoxene. Small patches of clear decussate chlorite about 0.5 mm in diameter may be small vesicles.

One of the chips is of a much more highly deformed rock than the others, with very little textural preservation but a similar bulk mineralogy of chlorite, sericite and leucoxene.

953596 : altered, massive, flow textured, and brecciated basalt, with chlorite, leucoxene, albite and carbonate.

The chips in this sample are similar to, but more highly varied than those in 953623. Most of them are characterised by diffuse leucoxene (after titanium-bearing glass) rather than discrete leucoxene after titanomagnetite grains. This suggests that the basalt flow(s) in this sample were more glassy than those in 953623, which is also consistent with the breccia of basalt fragments in one chip, in a quartz-carbonate matrix.

Most of the chips have poorly to strongly oriented albitised felspar laths in a chlorite-leucoxene matrix, but a very few have discrete opaque oxide grains.

Veins, consisting variously of carbonate, albite and quartz, cut some of the chips and some chips consist of quartz and albite (veins).

The separate chip sectioned is a more holocrystalline basalt with discrete opaque oxide crystals and weakly flow-textured felspar laths. It is cut by a carbonate vein which has minor albite as fibrous to granular masses, and lenses of brown clay.

Several separate small chips were checked individually under binocular microscope, and were identified as being essentially the same as the chips described in the composite thin section.

953718 : very fine granular and schistose felspar-biotite-carbonate-rock;
(probably a pelitic, felspathic and/or silty limestone metamorphosed to very impure marble);
accessory pyrite and trace chalcopyrite.

The chips in this sample consist of micro-granular, to finely schistose aggregates of carbonate, felspar and biotite in various proportions. The grain size ranges from 0.02 - 0.05 mm in the most felspathic chips to 0.2 mm in the most carbonate rich chips.

Most of the chips show a single planar schistosity defined by biotite flakes, but in one chip the schistosity is folded on a microscopic scale.

Granular pyrite occurs in some chips, and in the most sulphide-rich chip, most of the pyrite is after pyrrhotite.

Minor filamentous pyrite occurs along intergranular contacts; trace extremely fine chalcopyrite occurs locally in loose association with pyrite.

APPENDIX III

DOWNHOLE GEOPHYSICAL LOGS

4596 (11)-17

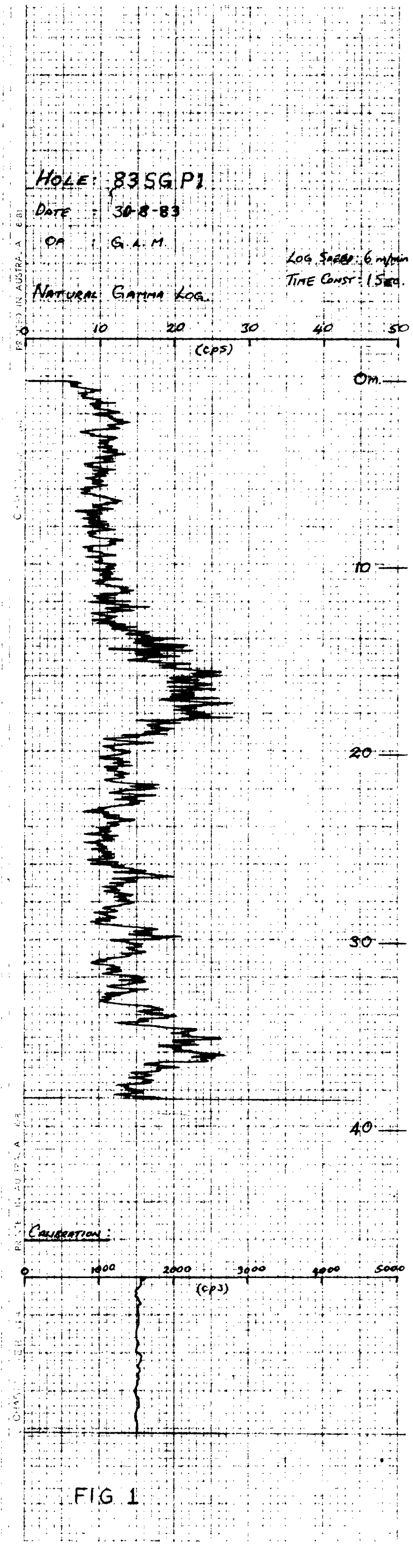


FIG 1

4596(11)-18

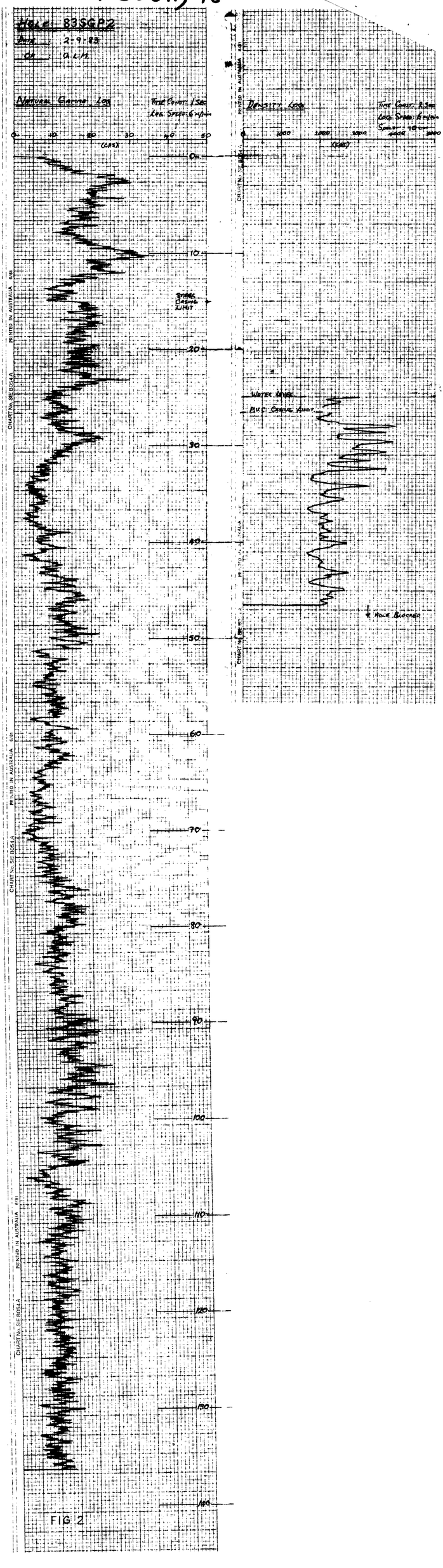
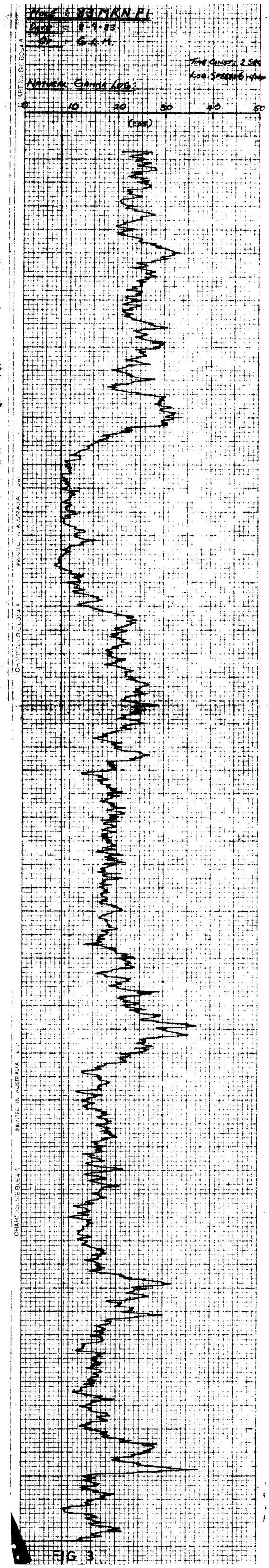


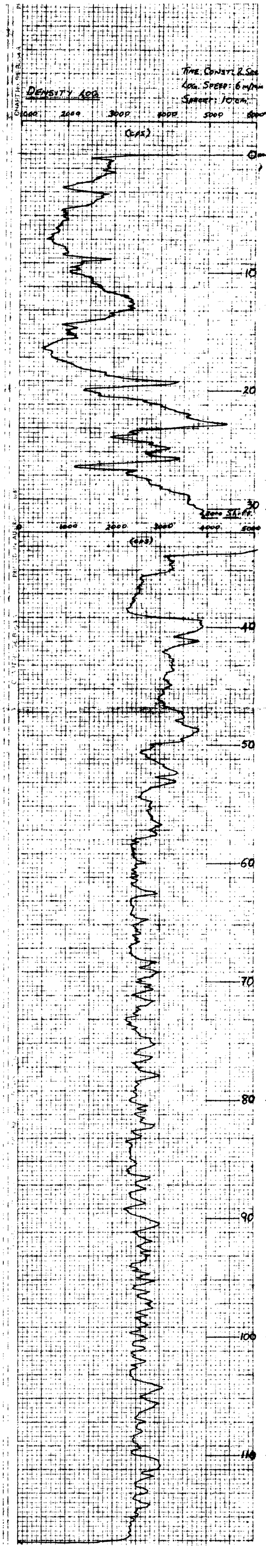
FIG 2

Hole: 83MRN.P1
Date: 8-9-83
Op: G.S.M.

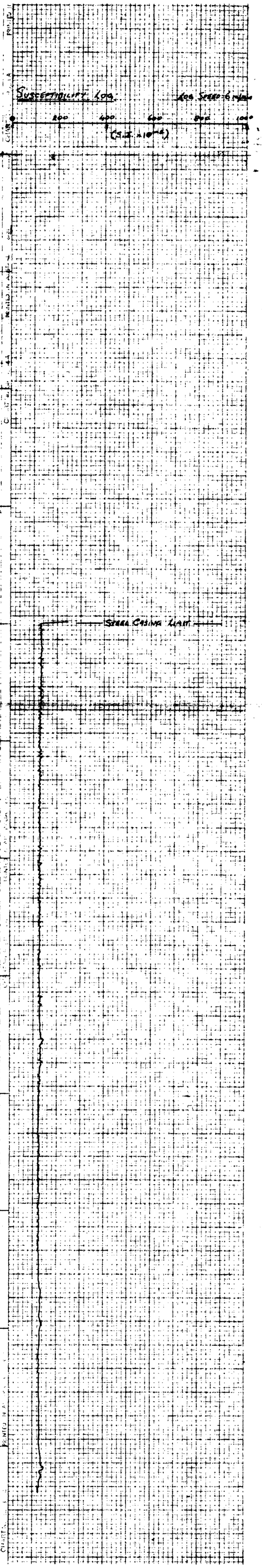
Natural Gamma Log:
Time Const: 2.5s
Log Speed: 6 m/min



Density Log
Time Const: 2.5s
Log Speed: 6 m/min
Surface: 10 cm.



Susceptibility Log
Log Speed: 6 m/min



4596(11)-19

Resistivity / S.P. Log
Log Speed: 10 m/min

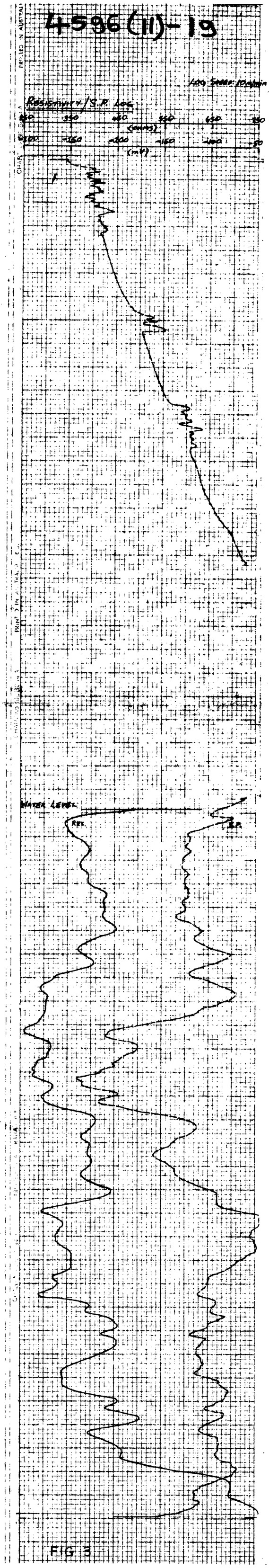
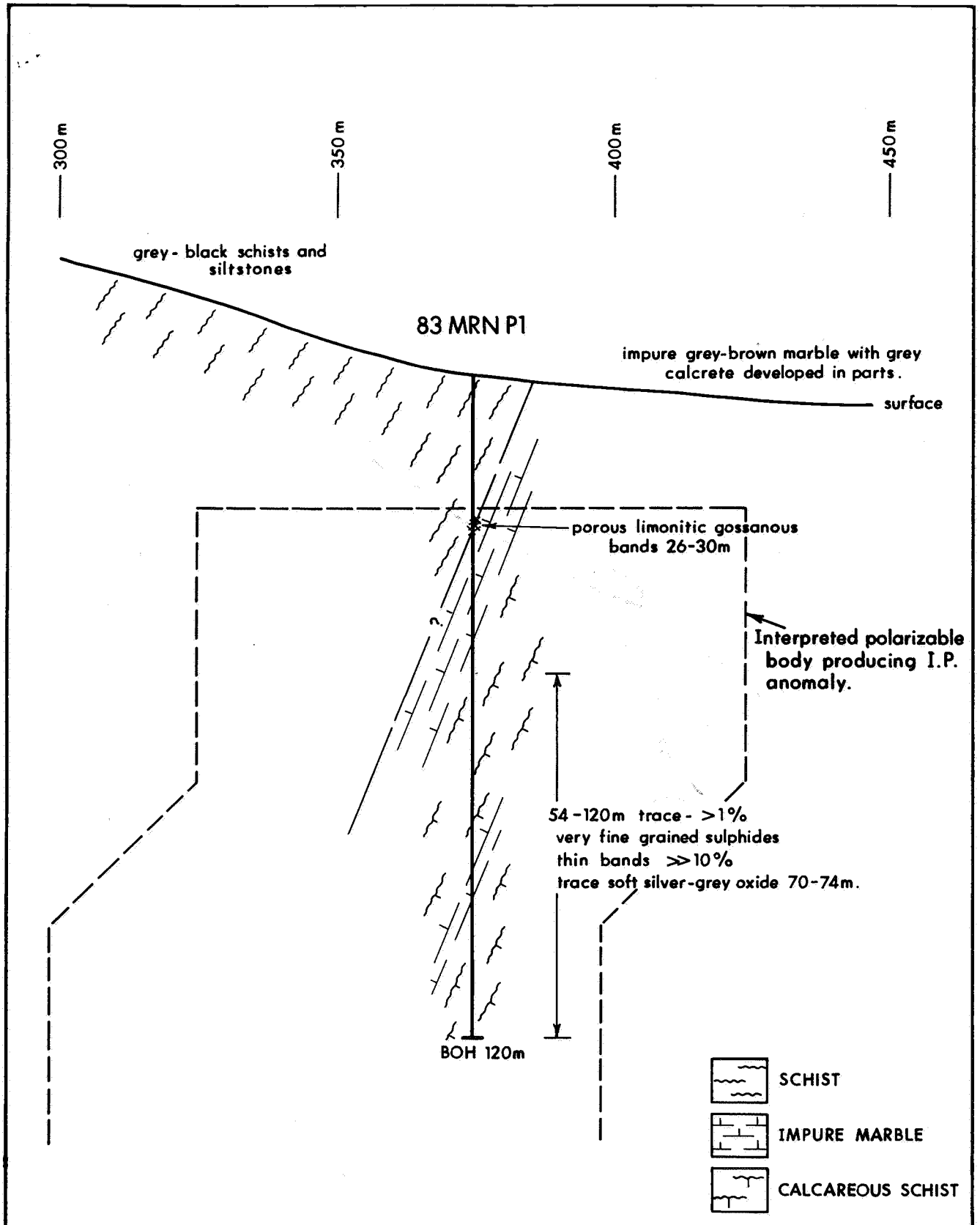


FIG 3

FIG 3



Drill Hole 83 MRN P1

6166250mN ; 336950mE
34° 37' 56" ; 139° 13' 18"

0 10 20 30 40 50m.

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L.947 – S.A.

DRILL HOLE SECTION 83MRN P1
MT. RHINE NORTH PROSPECT

REFERENCE	ADELAIDE SI 54-9		
SCALE	1 : 1000		
AUTHOR	P. L.	REPORT	12362
DATE	Sept. 1983	PLAN No	SAa 2362

83 SGP 1

0 metres

Silt & gravel

Phyllite/ shale

Schist

Limonitic veining

Mafic schist

Phyllite/ schist

BOH 102m

0 100 200 300 400 500 600 700 800

ASSAY RESULTS (ppm)

Pb

Cu

Zn

83 SGP 2

Clay

Clay

Schist

Mafic schist

Bottom sample 132m

0 100 200 300 400 500 600

ASSAY RESULTS (ppm)

Pb

Cu

Zn

Pb

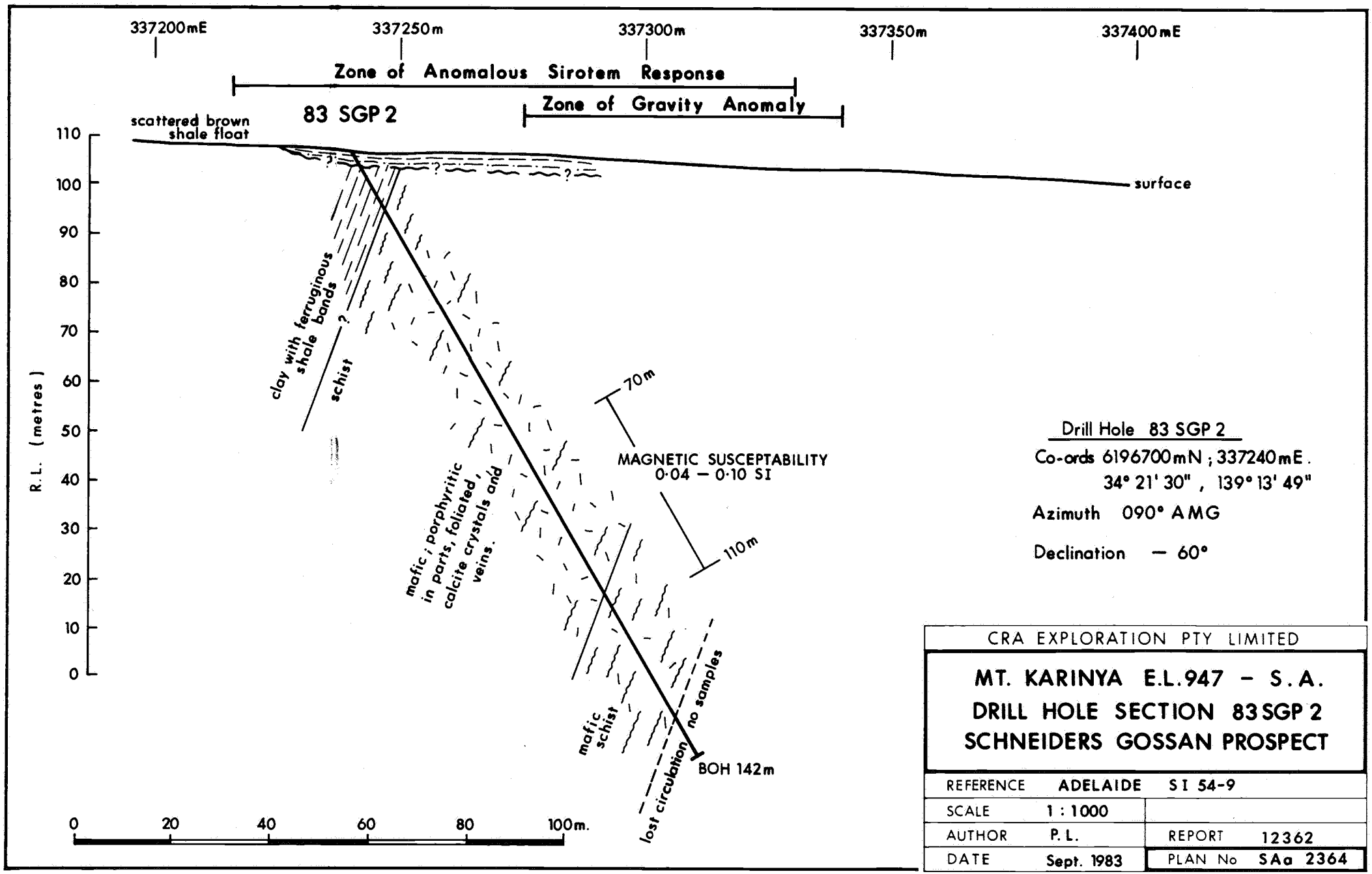
Zn

Cu

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L.947 – S.A.
DOWN HOLE Cu, Pb, Zn PROFILES
83 SGP 1 & 83 SGP 2
SCHNEIDERS GOSSAN PROSPECT

REF.	ADELAIDE SI 54-9		
SCALE	1 : 500		
AUTHOR	P. L.	REPORT	12362
DATE	Sept. 1983	PLAN No	SAa 2365



Drill Hole 83 SGP 2

Co-ords 6196700mN ; 337240mE.
34° 21' 30" , 139° 13' 49"

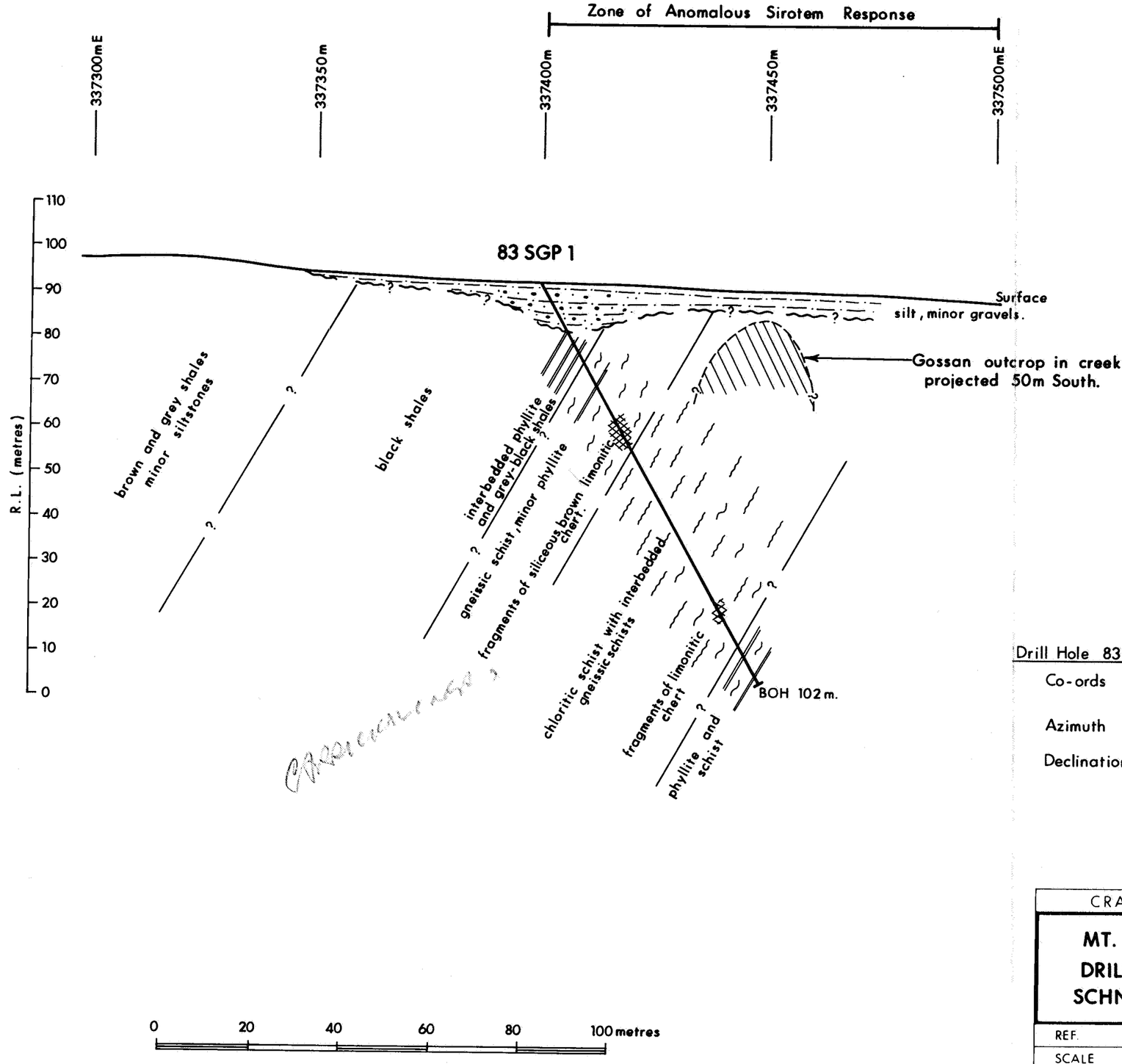
Azimuth 090° AMG

Declination — 60°

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L.947 - S.A.
DRILL HOLE SECTION 83SGP 2
SCHNEIDERS GOSSAN PROSPECT

REFERENCE	ADELAIDE S I 54-9		
SCALE	1 : 1000		
AUTHOR	P. L.	REPORT	12362
DATE	Sept. 1983	PLAN No	SAa 2364



Drill Hole 83 SGP 1

Co-ords 6195300mN.; 337400mE.
34° 22' 15" ; 139° 13' 54"

Azimuth 090° AMG

Declination −60°

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L. 947 – S.A.
DRILL HOLE SECTION 83SGP 1
SCHNEIDERS GOSSAN PROSPECT

REF.	ADELAIDE SI 54-9		
SCALE	1 : 1000		
AUTHOR	P.L.	REPORT	12362
DATE	Sept. 1983	PLAN No	SAa 2363

II

275

CRA EXPLORATION PTY. LIMITED

The contents of this report remain the property of C.R.A. Exploration Pty. Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

EIGHTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH DECEMBER, 1983.

AUTHOR: P. LEWIS

COPIES TO: CRAE LIBRARY
SADME

DATE: 9TH JANUARY, 1984

SUBMITTED BY: Paul Lewis

ACCEPTED BY:

12448

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1. SUMMARY AND CONCLUSIONS

UV traverses along Kanappa Creek detected scheelite mineralisation in coarse grained tremolite-carbonate skarn rocks downstream from the Kanappa Copper Mine. Scheelite grains were also detected on the crushed ore dump material from the mine. Anomalous tungsten assays (max. 1.16%) were returned from grab samples.

Two aeromagnetic anomalies which occur coincident with the Kanappa and Kanappa South mines have been selected for ground follow up.

UV lamping of two positive drainages west of Cambrai failed to detect any scheelite. Elevated tungsten assays (max. 75 ppm) were returned from rock chip samples of coarse grained calc-silicates.

Six rock chip samples of a net veined quartz sericite schist were collected from a cross cutting fault zone south of Saunders Creek. Assay results were low and no further work is warranted.

2. INTRODUCTION

Mt. Karinya E.L. 947 covers an area of 1 150 square kilometres centred approximately 75 kilometres north east of Adelaide (Plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981, for a period of twelve months. The term of the licence was extended to thirty six months on the 11th of December, 1983.

This report describes the work carried out during the quarter ending the 10th of December, 1983.

3. RECOMMENDATIONS

1. Detailed mapping and sampling of the carbonate units be undertaken around the Kanappa and Kanappa South mines.

2. A ground magnetic survey be undertaken to define the aeromagnetic anomalies coincident with the Kanappa and Kanappa South mines.

3. Assessment of the aeromagnetic data be made for any further anomalies which coincide with the carbonate units.

4. WORK DONE

4.1 Cambrai Scheelite Prospect

Further UV lamping was undertaken to locate the source of the scheelite grains identified in the panned concentrates of the 1982 stream sediment samples (Lewis, 1983a). The two creeks from which positive drainage samples 219849 and 219854 were taken were lamped without success (Plan SAa 1800). Six rock chip grab samples of coarse grained calc-silicates collected from the creeks returned elevated tungsten assays (15-75 ppm). Full assay results are presented in Appendix I.

4.1.1 Kanappa Copper Mine

Kanappa Creek and the underground workings at the Kanappa Copper Mine were lamped following a recommendation made by David Andrews (pers. comm.) who had recently visited the Cantung Tungsten Mine in Canada, and had noted the similar geological settings of the Selwyn Basin and the Kanmantoo Trough. Scheelite was detected in a coarse grained tremolite-carbonate skarn which outcrops on the south bank of the Kanappa Creek east of the Kanappa Mine. Free scheelite grains occur in the creek gravels and on the crushed ore dump material from the mine. UV lamping of the adit and several of the drives in the mine only detected trace scheelite. Fifteen rock chip grab samples were submitted for assay. Highly anomalous tungsten assays (1350 ppm - 1.16%) were returned from four samples. Anomalous tungsten assay (10-960 ppm) were returned from the remaining samples. A grab sample from the dump material assayed 8.3% copper. Elevated tin assays (16-22 ppm) were returned from five samples. Minor sulphide (pyrite) occurs in pegmatitic quartz veins near the mine. Full assay results and sample ledgers are presented in Appendix I. Further sampling and detailed mapping of this area is warranted.

Two discrete aeromagnetic anomalies which occur coincident with the Kanappa and Kanappa South mines warrant further investigation for possible pyrrhotite-skarn bodies. A ground magnetic survey is planned to recover these anomalies.

4.2 Sampling

Six rock chip samples were collected from a cross-cutting fault zone south of Saunders Creek (Plan SAa 1800). Net veined fine grained, quartz-sericite schists similar to those

at the Mount Rhine mine occur within the fault zone. Rare coarse gossanous limonitic veins are present. The width and extent of veining varies along the fault zone. The samples were analysed for copper, lead, zinc, silver, gold and tungsten. Elevated copper (185 ppm) was returned from one sample (background 6-28 ppm). All gold assays were below the detection limit. Full assay results are presented in Appendix I. No further work is warranted on this zone.

Paul Lewis

P. LEWIS

PL/pw

EXPENDITURE

Expenditure for the period ended 30th November, 1983, the nearest accounting period, amounted to $20 600.00, comprising:-

	$
Drilling	7 880
Salaries and Wages	2 788
General Supplies	1 488
Vehicles	831
Travel and Accommodation	380
Property and Rent	671
Contractors	1 759
Tenement Payments	350
Assaying	2 550
General Overheads	1 903
	$20 600

REFERENCE

Lewis, P. 1983a — Fifth Quarterly Report for Mount Karinya E.L. 947, South Australia, for the period ending 10th March, 1983.

LOCATION

Adelaide SI 54-9 1:250 000

KEYWORDS

Assays-surf.(rock), Geochem.-rock, Gold, Tungsten, Calc-silicates, Geophys.-other (UV lamping), Copper.

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	Mt. Karinya E.L. 947 Location Plan	1:250 000
SAa 1800	Cambrai Scheelite Prospect, Geological Mapping	1: 25 000

APPENDICES

Appendix I Assay Results and Sample Ledgers

APPENDIX I

ASSAY RESULTS AND SAMPLE LEDGERS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

CAMBRAI SCHEELITE PROSPECT

Area: Mt KARINYA | Collected: P. LEWIS | Analysed by COMLABS
Map ref: ANGASTON | Date collected OCTOBER 83 | Date anal. rec. 1-11-83
Photo ~~name~~ 6728-IV | Date to lab: 25-10-83 | Plan no: SAA 1800
Run No: | D.P.O. No: 902 | Report no:

Sample Types: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate. 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/~~Long./Lat./Local~~ EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (equal)	No. CHIPS	TEST		Cu	Pb	Zn	Ag	Au	W
								ANALYSIS METHOD	AAS	AAS	AAS	AAS	AAS	XRF
								DETECTION LIMIT (ppm)	(2)	(4)	(2)	(1)	(0.05)	(10)
949565	338850	6163600	1				1	CALC-SILICATE, COARSE GRAINED, QUARTZ-AMPHIBOLE-CARBONATE, MINOR LIMONITE STAINING	26	6	10	1	–	20
566	338200	6163750	1				1	SCAPOLITE-HORBLENDE-TREMOLITE-ROCK, COARSE GRAINED CALC-SILICATE	16	20	26	1	–	15
567	337900	6163700	1				1	QUARTZ-FELDSPAR-MUSCOVITE (SERICITE) PEGMATITE VEIN IN COARSE GRAINED CALC-SILICATE.	8	6	–	–	–	30
568	338350	6163750	1				1	GOSSANOUS CALC-SILICATE, SILICEOUS, EARTHY BOXWORKS, GEOTHITE AND LIMONITE.	1200	12	34	1	–	75
569	338500	6164750	1				1	SCAPOLITE-AMPHIBOLE CALC-SILICATE MEDIUM-COARSE GRAINED TRACE LIMONITE.	10	18	4	1	–	40
570	338100	6164700	1				1	QUARTZ-FELDSPAR-HEMATITE-TOURMALINE-ROCK GOSSANOUS, MINOR SERICITE, LIMONITE.	16	6	4	–	–	20
571	337800	6167300	1				1	QUARTZ-HEMATITE-BRECCIA, GOSSANOUS, MINOR RED OXIDES (CUPRITE)	2100	30	90	2	–	15
572	337800	6167350	1				1	QUARTZ-HEMATITE-TREMOLITE GOSSANOUS ROCK LIMONITE STAINING.	1800	18	80	2	–	30
573	333250	6153600	1				1	NET VEINED QUARTZ-SERICITE-SCHIST, FINE GRAINED, HEMATITE-LIMONITE VEINING, STAINED	12	12	12	1	–	15
574	334050	6153750	1				1	NET VEINED QUARTZ-SERICITE SCHIST A.A.	6	10	8	–	–	20
575	333950	6153750	1				1	A.A. LIGHT COLOURED, MINOR GOSSANOUS VEINS.	18	10	2	–	–	10
576	333900	6153750	1				1	A.A. WITH COARSE VEINING TO 3mm, MINOR GOSSANOUS TEXTURES.	185	10	16	1	–	–
577	333850	6153800	1				1	QUARTZ-SERICITE-SCHIST FINE GRAINED, LIMONITE STAINING, MINOR NET VEINING	10	10	8	1	–	20
578	333750	6153300	1				1	QUARTZ-SERICITE-SCHIST AA, MINOR VUGS AND QUARTZ VEINING.	28	12	12	1	–	15

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

KANAPPA CREEK, MINE

284

Area: MT KARINYA Collected: D. ANDREWS P. LEWIS Analysed by COMLABS
Map ref: ANGASTON Date collected 24-10-83 Date anal. rec. 1-11-83
~~Photo name~~ 6728-IV Date to lab: 25-10-83 Plan no: SAa 1800
Run No: D.P.O. No: 903 Report no:

Sample type: 1. Chip 2. Float 3. Channel 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Mo	Ag	Sn	W	U	As	Au
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	XRF	AAS
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(4)	(4)	(1)	(4)	(10)	(4)	(2)	(0.05)
949579	KANAPPA	CREEK	2				1	CARBONATE-TREMOLITE ROCK, MINOR SCAPOLITE, SCHEELITE, TRACE LIMONITE, M-C GRAINED.	55	14	16	8	6	4	1	4	960	-	3	-
580			2				1	TREMOLITE - CARBONATE ROCK AA	140	14	34	8	10	4	1	8	1350	-	-	-
581			2				1	TREMOLITE - CARBONATE ROCK, MINOR IRON AND MANGANESE OXIDES, MINOR SCHEELITE	220	14	16	10	12	10	1	6	1.16%	-	2	-
582			2				1	QUARTZ VEIN WITH GOSSANOUS LIMONITE MINOR YELLOW CLAY, SCHEELITE	150	4	2	6	4	12	-	-	8700	-	-	-
583			2				1	HORBLENDE - ROCK, DARK, COARSE GRAINED MINOR LIMONITE AND CARBONATE.	200	18	48	14	30	-	1	22	60	4	-	-
584			2				1	QUARTZ-AMPHIBOLE-SULPHIDE ROCK, PEGMATITIC VEIN; LIMONITE STAINING	3200	10	38	6	16	-	1	16	40	-	-	-
585			2				1	CALC-SILICATE, MEDIUM GRAINED, SUGARY, BANDED, MINOR GOSSANOUS BLEBS	26	20	6	14	16	-	1	-	20	-	8	-
586			2				1	CALC-SILICATE, COARSE GRAINED, BANDED, MINOR LIMONITE STAINING	290	32	42	20	12	4	1	-	20	-	5	-
587			2				1	TREMOLITE - CARBONATE ROCK, MEDIUM - COARSE GRAINED, TRACE LIMONITE	680	12	12	10	10	-	1	-	20	-	4	-
588			2				1	GRANITIC QUARTZ-FELDSPAR-BIOTITE-AMPHIBOLE ROCK MEDIUM - COARSE GRAINED	20	4	-	-	-	-	-	6	15	-	5	-
589			2				1	TREMOLITE-CARBONATE ROCK ALTERED, AZURITE-MALACHITE-LIMONITE COMMON.	8.3%	8	36	28	42	10	3	22	70	-	8	0.70
590			2				1	TREMOLITE-CARBONATE-QUARTZ ROCK, COARSE - MEDIUM GRAINED, MINOR SCHEELITE.	370	18	24	4	14	10	1	20	7550	-	44	-
591			2				1	QUARTZ-FELDSPAR-BIOTITE-TREMOLITE SCHIST FINE - MEDIUM GRAINED, TRACE LIMONITE.	2300	12	12	6	10	6	1	-	290	-	2	-
592			2				1	CALC-SILICATE, MEDIUM-COARSE GRAINED, HORNBLENDE RICH, TRACE LIMONITE, SCHEELITE	120	20	60	12	28	-	1	16	340	-	2	-

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

KANAPPA MINE, CREEK

285

Area: MT KARINYA
Map ref: ANCASTON
~~Photo name~~ 6728-IV
Run No:

Collected: D.L.A., P.L
Date collected 24-10-83
Date to lab: 25-10-83
D.P.O. No: 903

Analysed by COMLABS
Date anal. rec. 1-11-83
Plan no: SAa 1800
Report no:

Sample Type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Mo	Ag	Sn	W	U	As	Au
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	XRF	XRF	AAS
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(4)	(4)	(1)	(4)	(10)	(4)	(2)	(0.05)
999593	KANAPPA	CREEK	2				1	CALC-SILICATE, DIRTY MARBLE, MEDIUM GRAINED, CRYSTALLINE	38	22	6	12	16	6	1	4	10	-	3	-

III

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CRA EXPLORATION PTY. LIMITED

NINTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH MARCH, 1984

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AUTHOR: P. LEWIS

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SADME

DATE: 14TH MAY, 1984

SUBMITTED BY: Paul Lewis

ACCEPTED BY: Ian D Tuckwell

12637

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1. SUMMARY AND CONCLUSIONS

Follow-up rock-chip sampling and mapping around the Kanappa Copper Mine disclosed narrow zones of hornblende, garnet and skarn alteration within, and along, the contact of the Milendella Limestone Member. Anomalous tungsten (max. 4700 p.p.m.) is associated with some of these alteration zones, however, the extent of the alteration is very limited. Anomalous gold (max. 16 p.p.m.) assays were returned from grab samples taken from shallow workings south east of Kanappa South. 16.8 kilometres of ground magnetic data were acquired over two discrete aeromagnetic anomalies adjacent to the Kanappa and Kanappa South workings. Modelling of the data over a broad anomaly at Kanappa South indicates a discordant tabular body 250 metres by 200 metres by 40 metres at approximately 100 metres depth. A 200 metre diamond drill hole is proposed to test this body for scheelite-pyrrhotite mineralisation.

Twelve rock chip samples of limonite-hematite-carbonate ± chlorite skarn and quartz-sericite alteration zone material associated with the Milendella Limestone Member on the western limb of the Karinya Syncline, returned only low base metal and precious metal assays. No further work is required.

2. INTRODUCTION

Mt. Karinya E.L. 947 covers an area of 1,150 square kilometres centred approximately 75 kilometres north east of Adelaide (Plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th December, 1981, for a period of twelve months. The term of the licence was extended to thirty six months on the 11th December, 1983.

This report describes the work carried out during the quarter ending the 10th of March, 1984.

3. RECOMMENDATIONS

1. The broad magnetic anomaly adjacent to the Kanappa South workings be drill tested.

2. Follow-up sampling of the shallow workings south east of Kanappa South be undertaken.

4. SUMMARY OF PREVIOUS WORK

Previous work undertaken by CRA Exploration on the tenement is summarized below.

Geochemistry	-	68	-10# + 20# stream sediment samples analysed for Cu, Pb, Zn, Sn, W,; some Co, Ni, Ag and Au.
	-	32	-80# stream sediment analysed for W.
	-	12	pan concentrate samples submitted for heavy mineral identification.
	-	174	rock chip samples analysed for Cu, Pb, Zn, Au; some for Ag, Sn, W, Mn, As, Hg, Co, and Ni, 18 samples submitted for petrology.
	-	176	samples of drill cuttings analysed for Cu, Pb, Zn, Ag, Au, some for Ni, Co, Cr, As, U, Mo, Ta, W, Ce, and Y. 3 samples submitted for petrology.
Geophysics	-		aeromagnetic/radiometric survey; 300 metre line spacing flown E-W, at 80 metre mean terrain clearance.
	-		51.2 line kilometres of ground magnetics.
	-		11.4 line kilometres of gravity.
	-		1.2 line kilometres of ground E.M.
	-		5.1 line kilometres of I.P.
	-		one geophysical review, report by K. Jones.
Drilling	-		3 percussion drill holes for a total of 364 metres.
Geology	-		geological mapping at 1:5,000, 1:10,000 or 1:25,000 scale of the Mt. Rhine, Schneiders Gossan, Cambrai Scheelite, Murray Creek and Malabena Prospects.
	-		one geological review, report by D. Ransom.

5. CURRENT EXPLORATION

Work carried out during the quarter involved follow-up rock-chip sampling, mapping and ground magnetics at the Kanappa Prospect and reconnaissance rock-chip sampling of skarn alteration in the Milendella Limestone Member.

5.1. Kanappa Prospect

5.1.1. Geology

The Kanappa Prospect occurs at the southern end of Karinya Syncline. The area is underlain by a sequence of tightly folded and faulted metasediments of the Lower Cambrian Stangway Hill Formation. The dominant lithologies in the area comprise fine-to medium-grained quartz-feldspar-biotite-sericite schists (porphyroblastic in part), sandy calcareous schists and impure medium-coarse grained marbles, with minor, thin, medium-grained garnet-biotite schists, coarse-grained (? retrograde) tremolite schists, medium-grained hornblende schists and medium to coarse grained calc-silicates. Numerous small Ordovician granites and thin aplitic to pegmatitic dykes intrude the sequence. The surface geology of the Kanappa Prospect shown on plan SAa 2642 is based on the detailed mapping by Mills (1964) and work by the author.

5.1.2. Sampling

Fifty seven rock chip/channel samples were collected from the host lithologies and alteration zones within the area and analysed for copper, lead, zinc, tin, tungsten, bismuth, phophorous and gold. Sample ledgers and assay results are presented in Appendix 1, and petrological descriptions in Appendix 2. Sample locations are shown on Plan SAa 2642. Eleven channel samples (sample no's. 1157415-425) were taken across the outcrop of scheelite-bearing skarn (petrology-epidote-clinopyroxene calc-silicate) in the south bank of Kanappa Creek which previously returned 1.16% tungsten in grab samples. Anomalous tungsten (max. 4700 p.p.m.) assays were returned from two narrow zones (<30cm) of skarn alteration. The extent of alteration is very limited.

Elevated tungsten (max. 130 p.p.m.) assays were returned from narrow zones of dark green hornblende alteration along the contact of the Milendella Limestone Member. Thirty one samples of the host sandy marble, calc-silicate and diopside marble lithologies of this unit returned only low tungsten assays (max. 45 p.p.m.).

Anomalous gold (max. 16 p.p.m.) assays were returned from samples of an earthy limonite gossan and siliceous sideritic marble collected from the spoil heaps of shallow workings south-east of Kanappa South. Follow-up sampling of these workings is warranted.

5.1.3. Ground Magnetics

Two discrete, low amplitude (<50nT) aeromagnetic anomalies (A and B), occur within a zone of steep magnetic gradient near the Kanappa and Kanappa South workings (Plan SAa 2695). The peak of the southern anomaly was ground located and an area 2000 metres by 800 metres covering the anomalies, was gridded (Plan SAa 2642). Ground magnetic data was acquired over the gridded areas. Specifications of the survey are as follows:

Magnetometer	:	GEM GSM-8
Sensitivity	:	± 1.0nT
Line orientation	:	083° magnetic
Line spacing	:	100 metres
Station spacing	:	10 metres
Gridding	:	Compass and topofil

The ground magnetic data was diurnally corrected by reference to a GEM GSM-8. The ground magnetic profiles are shown on Plan SAa 2641 and the diurnally corrected data is listed in Appendix 3.

High magnetic susceptibility readings were recorded from a sheared, coarse-grained marble (up to 1000 x 10^{-5} SI) which outcrops at 10100E on line 10100N and from a stressed granodiorite (200-600 x 10^{-5} SI) at 9850E on line 10200N. Only background susceptibilities (20-50 x 10^{-5} SI) were recorded from outcrops over the peak of the southern anomaly.

5.1.3.1. Magnetic Interpretation

Several linear magnetic trends and two equidimensional features are discernable from the magnetic profiles. The magnetic data over the broad magnetic anomaly adjacent to the Kanappa South workings were modelled using the MAGMOD inversion programme for a dipping prism. The results indicate a discordant tabular body 250 metres by 200 metres by 40 metres centred at 10,000E, 10,080N (Plan SAa 2699). Depth to the top of the magnetic source is estimated to be 100 metres. A 200 metre inclined diamond drill hole is planned to test this feature for scheelite-pyrrhotite mineralisation.

A small 250^{+}nT dipolar anomaly occurs coincident with the Kanappa Mine. Qualititive interpretation of the data indicates a magnetic source at approximately 50 metres depth with maximum dimensions of 50 metres E-W and 100 metres N-S. More closely spaced magnetic data would be required before modelling of the anomaly could be undertaken. Further work on this anomaly will depend on the results of the drilling at Kanappa South.

5.1.4. Aeromagnetic Anomalies

A further two weak aeromagnetic anomalies (C and D) associated with the Milendella Limestone Member, occur to the north and north-east of the Kanappa Mine (Plan SAa 2695). Anomaly C is a poorly defined, elognate feature which occurs coincident with a folded albitised granitic core within the Milendella Limestone Member. Geological traverses along the contact revealed only minor narrow zones of hornblende alteration. Only low tungsten assays (max. 20 p.p.m.) were returned from rock chip samples. Anomaly D is a weak, discrete anomaly adjacent to the Milendella Limestone Member approximately two kilometres north of the Kanappa Mine. Minor garnet and hornblende alteration occurs within the calc-silicate unit. A lens of grey, siliceous, pyritic chert (petrology-albitised fine volcanic/metasediment) occurs within the adjacent meta-sediments. Elevated copper (max. 270p.p.m.) and tungsten (max. 100p.p.m.) assays were returned from two panel samples of the albitised rock. Anomalous tungsten (1500p.p.m.) was returned from a sample of the garnet alteration zone. Further work on this anomaly will depend on the results of the drilling at Kanappa South.

5.2. Rock Chip Sampling

17 total - 5 outside E.L.

Twelve rock chip samples were collected from limonite-hematite-carbonate ± chlorite skarns and quartz-sericite alteration zones described by Mills (1964) within or adjacent to, the Milendella Limestone Member on the western limb of the Karinya Syncline (Plan SAa 1800). The samples were analysed for copper, lead, zinc, nickel, cobalt, bismuth, tin, tungsten, silver and gold. Assay results and sample ledgers are presented in Appendix 1. Base metal assays were low, maximum non-coincident values being 230p.p.m. copper, 14p.p.m. lead and 430p.p.m. zinc. All gold and silver assays were below the detection limits of 0.05p.p.m. and 1p.p.m. respectively. No further work is warranted on these skarns.

Dan Lewis

P. LEWIS

PL/dkf

EXPENDITURE

Expenditure for the period ended 29th February, 1984, the nearest accounting period was $13,556.00, as listed below.

Payroll	$ 6459
Supplies	417
Vehicle	558
Travel	15
Property	914
Tenements	1960
Contractors	80
Overheads	3153
TOTAL	$ 13,556

REFERENCE

Mills, K.J. (1964), "The structural petrology of an area east of Springton South Australia". University of Adelaide Ph. D. Thesis (unpublished).

LOCATION

Adelaide SI 54-9 1:250 000

KEYWORDS

Assays-surf (rock), Geochem-rock, Geophys-mag, Copper, Gold, Tungsten, Pyrrhotite, Calc-silicates, Schists, Granite, Cambrian.

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	Mt. Karinya E.L. 947 Location Plan	1:250 000
SAa1800	Cambrai Scheelite Prospect, Geological Mapping	1:25 000
SAa2642	Mt. Karinya E.L. 947, Kanappa Prospect-Surface Geology showing Ground Magnetic Grid and Sample Locations	1:5 000
SAa2641	Mt. Karinya E.L. 947 Kanappa Grid Ground Magnetic Profiles	1:5 000
SAa2695	Mt. Karinya E.L. 947, Kanappa Project, Grid and Proposed Drilling	1:50 000
SAa2699	Mt. Karinya E.L. 947 Kanappa Prospect Geological Section and Proposed Drill Hole - Line 1080N	1:2 000

APPENDICES

Appendix 1 Assay Results and Sample Ledgers

Appendix 2 Petrological Description

Appendix 3 Diurnally Corrected Ground Magnetic Data

APPENDIX 1

ASSAY RESULTS AND SAMPLE LEDGERS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

KANAPPA PROSPECT 1/4

Area: MT KARINYA
Map ref: ANGASTON
~~Photo name~~ 6728-IV
Run No :

Collected: P. L.
Date collected JANUARY 1984
Date to lab : 23-1-84
D.P.O. No: 914

Analysed by COMLABS
Date anal. rec. 27-1-84
Plan no: SAa 2642
Report no:

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Bi	Au	P %	Sn	W
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	COL	XRF	XRF
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(0.05)		(4)	(10)
1157401			3	.5			1	SHEARED GRANITE, LIMONITIC VEINING IN SHEAR ZONE, MALACHITE AND AZURITE STAINING	4.7%	12	330	-	0.10	0.17	6	-
402			1	3		15	1	SHEARED GRANITE, MINOR VEINING, HANGING WALL BLOCK	3700	4	8	-	-	0.11	-	30
403			1				1	MARBLE, GREY-WHITE, COARSE GRAINED RECRYSTALLISED, LAYERED.	60	20	6	-	-	0.08	-	-
404			1				1	MARBLE, DIRTY GREY-BLACK, MEDIUM GRAINED SANDY TEXTURE, CONTACT WITH GRANITE ABOVE	660	12	48	10	-	0.10	8	-
405			3	.5			1	LIMONITE-QUARTZ VEINING IN MARBLE ADJACENT MAFIC DYKE	3100	8	60	-	-	0.12	4	20
406			1				1/3	MAFIC DYKE - FINE GRAINED, DARK PETROLOGY - ALTERED BASALT.	125	8	70	-	-	0.12	4	15
407			1				1	MARBLE, FINE GRAINED, GREEN, MASSIVE ? DIOPSIDIC	16	8	10	-	-	0.11	4	-
408			1				1	MARBLE, GREY-WHITE, MEDIUM GRAINED, MINOR DIOPSIDE, HEMATITIC SPOTTING	20	18	8	-	-	0.09	-	-
409			1				1	GRANITIC DYKE, FINE GRAINED, QUARTZ-FELD-BIOTITE-MUSC ROCK ACCESSORY TOURMALINE.	16	6	10	-	-	0.11	-	-
410			1				1	GRANITE MEDIUM-COARSE GRAINED, PINK-ORANGE DYKE	14	6	4	-	-	0.11	-	10
411			1				1	MARBLE, GREY-WHITE RECRYSTALLISED IN CONTACT WITH GRANITE DYKE ABOVE.	6	20	6	-	-	0.08	-	-
412			1				1	CALC-SILICATE, MINOR DARK AMPHIBOLE ALTERATION.	14	-	8	-	-	0.13	22	-
413			1				1	SCHIST, YELLOW BROWN, COARSE GRAINED TREMOLITE, SUGARY TEXTURED	135	-	10	-	-	0.16	-	10
414			1			10	1	LIMONITE-QUARTZ-HEMATITE VEINING, AS ACC SAMPLE 405	9100	8	30	-	-	0.30	14	-

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

Area: MT KARINYA Collected: P.L. Analysed by COMLABS KANAPPA PROSPECT 2/4
Map ref: ANGASTON Date collected JANUARY 1984 Date anal. rec. 27-1-84
~~Photo name~~ 6728 -IV Date to lab: 23-1-84 Plan no: SAa 2642
Run No: D.P.O. No: 9/4 Report no:

Sample TYPE: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Bi	Au	P %	Sn	W
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	COL	XRF	XRF
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(0.05)		(4)	(10)
1157415			3	.3			1	MARBLE, GREY-WHITE, MEDIUM GRAINED, SANDY MORG AKIN TO LIMESTONE/CARBONATE	75	16	8	–	–	0.13	–	10
416			3	.3			1	MARBLE, GREY-WHITE-GREEN, MEDIUM GRAINED FINE GRAINED ?HORNBLENDE AND MINOR ? GARNET	75	16	8	–	–	0.11	–	20
417			3	.1			1	LIMESTONE, YELLOW-BROWN-WHITE, ROTTEN SOIL	430	16	6	–	–	0.10	–	45
418			3	.1			1	MARBLE, GREY-WHITE, HARD, MEDIUM GRAINED RARE ORANGE-BROWN ? GARNETS	190	16	10	–	–	0.10	–	20
419			3	.1			1	CALC-SILICATE - SKARN, COARSE GRAINED, MINOR TREMOLITE, LIMONITE VEINING, MALACHITE STNG.	4300	4	26	–	–	0.24	10	165
420			3	.05			1	CALC-SILICATE - SKARN, AS ABOVE NO VISIBLE MALACHITE STAINING.	2400	6	8	–	–	0.17	–	1550
421			3	.5			1	MARBLE, GREY-WHITE, VERY SANDY, MEDIUM GRAINED, WEAKLY FOLIATED	160	14	8	–	–	0.11	4	25
422			3	.2			1	AMPHIBOLE - SKARN, DARK, MEDIUM GRAINED MINOR LIMONITE - MALACHITE STAINING	1900	–	22	–	–	0.14	10	50
423			3	.2			1	SCHIST, DARK GREY-BROWN, FOLIATED SERICITIC MINOR MANGANESE STAINING	230	–	28	–	–	0.13	10	–
424			3	.2			1	SCHIST - MARBLE CONTACT, MINOR HORNBLENDE ALTERATION	240	6	22	–	–	0.12	16	15
425			3	.2			1	SKARN, GREEN, MEDIUM - COARSE GRAINED EPIDOTE - AMAHIBOLE ALTERATION, MINOR BLK OXIDES	110	–	6	–	–	0.12	4	4700
426			3	.5			1	HORNBLENDE - SKARN, DARK BLACK, MEDIUM GRAINED, ALONG CONTACT OF MARBLE	120	6	20	–	–	0.17	22	120
427			1				1	GOSSAN, YELLOW-BROWN, EARTHY, CRUMBLY POSSIBLY AFTER CARBONATE.	3900	–	10	–	2.8	0.93	–	40
428			1				1	CARBONATE, FINE GRAINED MEDIUM GRAINED SCAPOLITE PORPHYROBLASTS	260	16	6	–	3.1	0.13	4	10

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

Area: MT KARINYA Collected: P.L. Analysed by COMLABS
Map ref: ANGASTON Date collected JANUARY 1984 Date anal. rec. 27-1-84 KANAPPA PROSPECT 3/4
Photo name 6728-IV Date to lab: 23-1-84 Plan no: SA0 2642
Run No: D.P.O. No: 914 Report no:

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		ANALYSIS METHOD	AAS	AAS	AAS	AAS	AAS	COL	XRF	XRF
									DETECTION LIMIT (ppm)	(2)	(4)	(2)	(4)	(0.05)		(4)	(10)
										Cu	Pb	Zn	Bi	Au	P %	Sn	W
1157429			1				1	GOSSAN, YELLOW-BROWN, EARTHY, SIMILAR		5300	–	16	–	16.0	0.38	–	–
								TO 427									
430			1				1	CARBONATE, SILICEOUS QUARTZ-SIDERITE		1.1%	16	48	320	14.0	0.13	14	10
								ROCK, FRAGMENTAL, MINOR MALACHITE STAINING.									
431			1				1/3	CARBONATE, YELLOW-BROWN-CREAM, THIN		870	14	12	95	–	0.13	4	–
								LAYERING MINOR LIMONITE VEINING.									
432			1				1	MARBLE, COARSE GRAINED, LAYERED, SIDERITE		3500	12	18	12	1.10	0.16	18	–
								MINOR MALACHITE, LIMONITE & RED OXIDE									
433			1				1	SCHIST, BLEACHED, FINE GRAINED, FIBROUS		4300	–	8	–	–	0.12	6	15
								TREMOLITE DEVELOPED, MINOR LIMONITE & MALACHITE									
434			1				1/3	META-SANDSTONE, PINK-ORANGE, FINE-MEDIUM		14	–	2	–	–	0.09	6	20
								GRAINED, QUTZ-FELD-BIOT. PET – META MICROGRANITE									
435			1				1	CALC-SILICATE, COARSE GRAINED, MOTTLED		40	8	18	–	–	0.15	8	15
								GREEN-WHITE.									
436			1				1	CALC-SILICATE, COARSE GRAINED, SUGARY,		30	16	16	–	–	0.13	8	15
								MINOR DIOPSIDE									
437			1				1	CALCRETE - HORNBLENDE ALTERATION OF MARBLE		40	10	10	–	–	0.13	–	–
								COARSE BANDING.									
438			1				1	SCHIST, FINE TO MEDIUM GRAINED, WITH		24	–	8	–	–	0.16	4	10
								PORPHYROBLASTIC TREMOLITE, SUGARY TEXTURED									
439			1				1	MARBLE, GREY, RECRYSTALLISED, GOSSANOUS		6	14	8	–	–	0.14	18	–
								LIMONITE COATING ON MARBLE, EX CARBONATE									
440			1				1	MARBLE, GREY-WHITE, COARSELY CRYSTALLINE		10	8	8	–	–	0.09	6	–
								IN PARTS - ? INTRAFORMATIONAL FAULT									
441			3	.4			1	LIMONITE ALTERATION IN MARBLE AT GRANITE		3300	12	44	–	–	0.14	4	20
								CONTACT FOOTWALL OF 401									
442			1				1	CALC-SILICATE MEDIUM TO COARSE GRAINED		710	6	10	–	–	0.14	4	30
								LAYERED, MINOR MALACHITE STAINING.									

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

Area: Mt KARINYA
Map ref: ANGASTON
~~Photo name~~ 6728
Run No:

Collected: P.L.
Date collected JANUARY 1984
Date to lab: 23-1-84
D.P.O. No: 914

Analysed by COMLABS
Date anal. rec. 27-1-84
Plan no: SAa 2642
Report no:

KANAPPA PROSPECT 4/4

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Bi	Au	P%	Sn	W	
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	COL	XRF	XRF	
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(0.05)		(4)	(10)	
1157443			3	1.5			1	MARBLE, GREY BLACK, MEDIUM GRAINED MINOR DIOPSIDE, MOTTLED	30	8	8	-	-	0.13	-	10	
444			3	1.5			1/3	HORNBLENDE SKARN, MEDIUM GRAINED, BLACK PET - HORNBLENDE SCHIST.	370	6	20	-	-	0.16	12	130	
445			3	4.0			1/3	MARBLE, GREY-WHITE-BROWN, FINE-MEDIUM GRAINED, MINOR FINE GND ?HORNBLENDE	46	510	1050	-	-	0.11	-	-	
446			3	6.0			1	MARBLE/CARBONATE, MEDIUM GRAINED, BROWN SANDY, CALCRETE DEVELOPED ON SURFACE	40	36	34	-	-	0.11	-	-	
447			3	1.0			1	MARBLE, GREY, MEDIUM GRAINED, CRYSTALLINE FINE GRAINED ?HORNBLENDE.	18	26	18	-	-	0.13	-	-	
448			4		8		1	CARBONATE, RED-YELLOW-BROWN, SLIGHTLY SILICEOUS, SOME VOIDS - ?TERTIARY WEATHERING CAP	18	10	8	-	-	0.17	-	30	
449			3	3			1	CARBONATE, AS ABOVE	26	6	8	-	-	0.16	10	25	
450			1				1	CARBONATE, AS ABOVE WITH MINOR COSSANOUS TEXTURES	22	-	14	-	-	0.12	-	35	
451			1				1	MARBLE, YELLOW-WHITE-BROWN, LAYERED MINOR SIDERITE ALTERATION, SOME VOIDS	24	8	6	-	-	0.13	4	40	
452			2				1	GRANITE-PEGMATITE COARSE GRAINED, QTZ FELDSPAR-BIOTITE, MINOR VEIN QTZ, ACC TOURM	6	6	2	-	-	0.09	4	15	
453			1				1/3	HORNBLENDE-SKARN, FINE GRAINED, GREEN PET - ALTERED BASALT	18	28	24	-	-	0.13	6	20	
454			1				1	HORNBLENDE-SKARN ALTERATION, MEDIUM GRAINED	290	8	26	-	-	0.20	14	10	
455			1				1	MARBLE - FELSIC INTRUSIVE CONTACT, COARSE GRAINED, FELDSPAR RICH	22	18	12	-	-	0.13	-	15	
456			1				1/3	SKARN, COARSE GRAINED, TREMOLITE ROCK PET - EPIDOTE-CLINOPYROXENE ROCK.	26	-	6	-	-	0.13	10	9050	* VISIBLE SCHEELITE

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA SHEET.

Area: MT KARINYA Collected: P.L. Analysed by COMLABS, PONTIFEX & ASSOCIATES · CAMBRAI SCHEELITE PROSPECT
Map ref: 6728-IV Date collected FEBRUARY 84 Date anal. rec. 1-3-84
Photo name Date to lab: 21-2-84 Plan no:
Run No: D.P.O. No: 917, 921 Report no:

Less than detection limit [-]

Sample type: 1. Chip. 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Metal Content (ppm) Cu	Pb	Zn	Ni	Co	Bi	Sn	W	Ag	Au	As
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	AAS	XRF	XRF	AAS	AAS	XRF
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(4)	(4)	(4)	(10)	(1)	(0.05)	(2)
1157457			1	5		30	1	HEMATITE - LIMONITE - MANGANESE ALTERATION	60	-	210	135	70	-	-	-	-	-	N/A
								OF MEDIUM GRAINED MARBLE											
458			1	5		30	1	AS ABOVE	36	6	50	75	50	-	-	-	-	-	N/A
459			1	3		20	1	MARBLE, YELLOW-GREY-BROWN, MEDIUM GRAINED,	22	4	14	20	10	-	-	15	-	-	N/A
								SANDY.											
1157460			1				1	MARBLE, MEDIUM GRAINED, GREY, SILICEOUS IN	22	6	20	10	12	-	4	10	-	-	N/A
								PARTS, MINOR LIMONITE STAINING.											
461			1				1	LIMONITE - HEMATITE ALTERATION, MINOR VERY	32	-	80	50	46	-	-	20	-	-	N/A
								FINE BOXWORKS.											
462			1				1	QUARTZ-SERICITE - SILTSTONE, BRECCIATED IN	14	-	12	14	12	-	10	30	-	-	N/A
								PARTS, MINOR LIMONITE RICH BANDS.											
463			1				1	BUCK QUARTZ VEIN MINOR LIMONITE STAINING	10	-	8	10	-	-	-	35	-	-	N/A
464			1				1	QUARTZ-SERICITE - SILTSTONE, MINOR LIMONITE	12	-	8	12	6	-	-	20	-	-	N/A
465			1				1	DOLERITE, MEDIUM GRAINED, PLAGIOCLASE -	36	-	14	34	10	-	-	-	-	-	N/A
								HORNBLENDE ROCK, DECUSSATE TEXTURE											
466			1	3		20	1	EARTHY HEMATITE - LIMONITE - SERICITE	230	8	145	125	160	-	16	-	-	-	N/A
								ALTERATION IN CARBONATE, MINOR BOXWORKS											
467			1	3		20	1	MARBLE, SIDERITE-LIMONITE - HEMATITE -	38	6	18	16	32	-	4	-	-	-	N/A
								CHLORITE ALTERATION											
468			1		9	30	1	EARTHY HEMATITE - LIMONITE IRONSTONE,	34	14	450	110	140	-	-	-	-	-	N/A
								MINOR BOXWORKS, SOME SERICITE, BRECCIATED.											
469			1		30	30	1	GREY, RED-BROWN, SILICEOUS SULPHIDIC CHERT	270	-	8	14	8	-	-	25	-	-	-
470			1		30	30	1	AS ABOVE *PETROLOGY — SAMPLE 1157495	130	-	8	-	6	-	6	100	-	-	-
471			1				1	RED BROWN SILICEOUS ? GARNET VEIN /	1350	-	24	10	20	-	10	1500	-	-	N/A
								JASPER ROCK											
472			1				1	AMPHIBOLE ROCK, MEDIUM GRAINED, HORNBLENDE	60	-	12	6	10	-	10	-	-	-	N/A
								ROCK IN MARBLE											
495			1				3	MICROCRYSTALLINE ALBITE ROCK - EX VOLCANIC?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX 2

PETROLOGICAL DESCRIPTIONS

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4231

15th February, 1984

TO: Mr. Paul Lewis,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

The Manager,
MGR - Information Services,
CRA Exploration Pty. Ltd.,
P.O. Box 656,
FYSHWICK, ACT 2069

YOUR REFERENCE: Your Order No. B0915

MATERIAL: Rock samples : EL 947 South Aust.
Mt Karina, Cambrai area

IDENTIFICATION: 1157406, 431, 434, 444, 445,
453, 456

WORK REQUESTED: Thin section preparation,
petrographic description

SAMPLES & SECTIONS: Returned to you
with this report

PONTIFEX & ASSOCIATES PTY. LTD.

COMMENTS

All samples are described individually in thin section. They are given a rock name generally with comments on likely genesis, also with comparisons within the suite where appropriate.

The schistose (clinopyroxene) phlogopite/biotite, scapolite hornblende rocks with accessory sphene ± apatite, nos. 1157406, 1157453 are interpreted as metabasalt.

The hornblende schist 1157444, with accessory felspar, epidote, biotite, apatite may be a metamafic rock, however it lacks the normally characteristic titaniferous phases. Given that this rock occurs in the vicinity of the impure micritic limestone 1157431, and the impure marble 1157445 (but relationships unknown), it may indeed be a meta-Fe-rich dolomitic facies.

The coarse, metamorphic-granular, epidote-clinopyroxene rock 1157456 contains trace scheelite. This is more calcic than the hornblende-bearing rocks and seems most likely to be an impure (?pelitic) limestone; it may be a variant of the hornblende rock 1157444, but may not be genetically related to 1157406 and 1157453.

A detailed search was made in all rocks for scheelite, but this mineral was found only in 1157456.

***

1157406 : rather massive (clinopyroxene)-hornblende-phlogopite-scapolite schist with minor sphene (metamorphosed and/or metasomatised altered basalt ?)

This is a homogeneous, fine crystalline moderately schistose potassic calc-silicate rock. Phlogopite/biotite (25%) and hornblende (30%) are the main ferromagnesian minerals, together with minor clinopyroxene. The mica is moderately to strongly aligned to form a schistosity.

Poikiloblastic scapolite is abundant (40%) as weakly polygonised grains to 8 mm in diameter, enclosing the other components. Sphene is the main accessory mineral together with very minor apatite, and the presence and abundance of these minerals is consistent with a basic igneous origin for this rock, probably a metamorphosed (and/or metasomatised) basalt.

1157431 : microfolded, micritic limestone or marble, incorporating minor clastic grains and apparent altered intraclastic detritus, random limonite veins

At least 70% of this rock consists of fairly massive very fine grained (micritic) calcite, incorporating minor anomalously coarse single crystal calcite grains, apparently intraclasts, about 1 mm in size, and randomly scattered.

A vague microfolded and somewhat contorted layering is poorly defined by limonite staining, through this matrix. Minor fine clastic grains of quartz (5%), K-spar (3%), and sericite or talc pseudomorphs (7 - 10%) respectively, after ?plagioclase or an Mg-silicate, or possible lithic detritus, are scattered also, vaguely along the folded layering.

Random veins of limonite cut the rock.

1157434 : biotite-quartz-felspar microgranular and weakly schistose gneiss with secondary muscovite (?metamorphosed rhyodacite? or "microgranite")

The bulk of this rock consists of a homogeneous, micro-granuloblastic (metamorphic) aggregate, grain size of 0.05 to 0.5 mm, of essential quartz, plagioclase and subordinate K-spar. Minor biotite (7%) and secondary muscovite (5%) are present.

The biotite defines a strong foliation throughout the rock; the muscovite is unoriented and locally can be seen to have replaced plagioclase. The plagioclase in this rock is uniformly clouded by clays, apparently due to weathering. The microcline is clear. Accessory small opaque oxide grains are disseminated.

Minor lenses of clear granular quartz, slightly coarser than the bulk of the rock, are scattered through the rock, and may represent recrystallised phenocrysts?. If this is the case, then the rock may have been a rhyodacite, or indeed, it may have been a weakly porphyritic "microgranitic" dyke rock.

1157444 : hornblende schist,
minor/accessory felspar, epidote, biotite,
apatite; ?metamafic basalt or pyroxenite,
or impure metadolomite

At least 85% of this rock consists of similarly oriented ragged prisms of hornblende in an essentially nematoblastic aggregate; average grain size is about 1 mm.

Minor much finer plagioclase and K-spar (each about 3%) are scattered as inclusions in, and between the interlocking hornblende crystals. Accessory very fine (0.1 mm) inclusions in the hornblende have radioactive haloes, some of these are zircon, others appear to be metamict.

Trace epidote, apatite and weathered phlogopite is locally intergranular. Accessory very small clusters of clino-pyroxene grains are in vaguely defined layers, some of these are limonitised.

Objectively the genesis is difficult to determine but it seems most likely to be a metabasalt (although it lacks the commonly characteristic titanium phases), or it may be a meta-pyroxenite.

1157445 : marble, incorporating minor variably continuous layers of clinopyroxene plagioclase hornblende and biotite

At least 85% of this rock consists of a coarse granuloblastic aggregate of calcite crystals which are commonly deformed and finely twinned. Grain size is about 2 mm.

Silicate grains constitute 5 - 10% of this marble; they are irregularly layered, and consist in order of increasing abundance, of clinopyroxene, hornblende and biotite, with accessory scattered grains of plagioclase and opaque oxides.

These silicate grains vary in size from 0.1 mm to 2 mm, the largest grains being of clinopyroxene, the smallest of felspar. Rare limonite pseudomorphs of ?pyrite are also present.

This rock appears to be a metamorphosed impure (?pelitic) limestone.

1157453 : weakly schistose scapolite-hornblende rock; minor disseminated and scattered plagioclase (metamorphosed altered basalt ?)

The main constituent of this rock is green hornblende (65%), as similarly oriented, loosely interlocked grains and prisms to 2 mm in length. Minor scapolite (30%), and lesser plagioclase (5%) are randomly scattered and more or less interstitial. The hornblende has abundant minute inclusions of sphene, which are fairly evenly dispersed throughout, and their mode of occurrence suggests that the rock may have been originally a higher-grade amphibolite with more titaniferous amphibole. Rare coarser grains of sphene are probably of primary origin.

Thin veins cutting the rock are filled by fine grained felspar and/or ?opal, and trace biotite is scattered.

This rock was possibly derived from an altered basic igneous rock such as a basalt.

1157456 : coarse grained epidote-clinopyroxene rock;
minor actinolite and sphene, and
trace scheelite

Field note : contains visible scheelite

The main constituents in this rock, which form a coarse, heterogeneous, metamorphic-granular aggregate, are clinopyroxene and epidote in subequal amounts, with grain sizes of 1 - 8 mm.

Accessory sphene grains to 10 mm long, and small patches of actinolite are randomly scattered. Some 5 to 6 small grains of scheelite, about 0.2 - 0.6 mm in size, are randomly disposed through the thin section, variably enclosed in pyroxene and epidote.

This rock is a calc-silicate of unknown origin, possibly derived from an impure limestone, conceivably with a volcanogenic component. It is notably more calcic than the other (hornblende-rich) calc-silicate rocks in the suite.

1157473 : clinopyroxene garnet rock with patches of epidote and/or calcite;
accessory sphene, hornblende and allanite;
contact metamorphosed impure limestone.

At least 50% of this rock is composed of fine grained calcium garnet, with subordinate interstitial calcite; patches and scattered grains of clinopyroxene. The pyroxene grains are mostly 0.2 - 3 mm in size and prismatic to poikilitic in habit. Larger grains, to 6 mm across occur locally.

Lenses of coarse calcite to 6 mm diameter, with coarse prismatic clinopyroxene, also patches of coarse epidote, as poikilitic grains enclosing clinopyroxene and quartz are also scattered.

Accessory minerals include dark green hornblende (?hastingsite) sphene and pale orange allanite.

Two varieties of garnet are present, a deeper salmon coloured variety, possibly gralspite (grossular-almandine-spessartite), and a paler variety, possibly grossular-andradite solid solution. It is possible that the two garnet assemblage is of prograde origin, and the epidote and hastingsite are of retrograde origin (grossular + gralspite + albite = water hastingsite + epidote + quartz).

The rock appears to be a contact-metamorphosed limestone, and may be correlated with 1157456 previously described, albeit of slightly higher metamorphic grade. There is no evidence of scheelite in this rock however.

1157495 : weakly layered, microcrystalline albite-rock;
minor quartz mostly in discontinuous more orless parallel stringers;
minor pyrite in the stringers and independently scattered;
(?albitised fine volcanic)

This hand specimen consists of vaguely thin layered, to massive, microcrystalline, grey, apparent quartz, somewhat "cherty", with minor small grains of pyrite scattered throughout, and poorly-defined, discontinuous stringers of quartz along the layering. The yellow staining on the weathered surface is derived from sulphide.

In thin section, at least 85% of the rock is in fact seen to consist of an extremely fine (0.08 mm) micromosaic of predominantly albite, with apparently only minor quartz. (The albite is mostly untwinned, thus difficult to optically, positively distinguish from quartz).

This compact micromosaic incorporates discontinuous stringers and veins of coarser (0.3 mm) quartz with minor albite, commonly carrying pyrite, and locally jarosite. These are mostly parallel forming the layering, but some cut across this direction. (Rare single albite crystals to 1 mm may be relict phenocrysts).

Small pyrite crystals are also scattered, with a vaguely layered distribution through the albite rock outside of the veins. Patches of very fine filamentous pyrite occur locally.

The origin of this rock is uncertain, but similar rocks from other areas known to the author are variably interpreted as:

1. soda-metasomatised (albitised) fine sediment
2. albitised acid volcanics (including fine tuffs)

APPENDIX 3

DIURNALLY CORRECTED GROUND MAGNETIC DATA

KANAPPA GOLD M.I LINE 9500 N 26/1/84

Number of stations = 81 File No. : 57

No.	---X---	---Y---
1	9600.00	59527.00
2	9610.00	59531.00
3	9620.00	59552.00
4	9630.00	59404.00
5	9640.00	59536.00
6	9650.00	59533.00
7	9660.00	59532.00
8	9670.00	59535.00
9	9680.00	59548.00
10	9690.00	59534.00
11	9700.00	59532.00
12	9710.00	59534.00
13	9720.00	59516.00
14	9730.00	59534.00
15	9740.00	59537.00
16	9750.00	59535.00
17	9760.00	59539.00
18	9770.00	59539.00
19	9780.00	59538.00
20	9790.00	59537.00
21	9800.00	59540.00
22	9810.00	59544.00
23	9820.00	59531.00
24	9830.00	59545.00
25	9840.00	59548.00
26	9850.00	59544.00
27	9860.00	59543.00
28	9870.00	59554.00
29	9880.00	59558.00
30	9890.00	59560.00
31	9900.00	59560.00
32	9910.00	59564.00
33	9920.00	59567.00
34	9930.00	59568.00
35	9940.00	59564.00
36	9950.00	59572.00
37	9960.00	59581.00
38	9970.00	59577.00
39	9980.00	59580.00
40	9990.00	59577.00
41	10000.00	59586.00
42	10010.00	59585.00
43	10020.00	59594.00
44	10030.00	59599.00
45	10040.00	59597.00
46	10050.00	59598.00
47	10060.00	59601.00
48	10070.00	59588.00
49	10080.00	59538.00
50	10090.00	60000.00
51	10100.00	59322.00
52	10110.00	59555.00
53	10120.00	59585.00
54	10130.00	59598.00
55	10140.00	59600.00
56	10150.00	59597.00
57	10160.00	59599.00
58	10170.00	59590.00
59	10180.00	59612.00
60	10190.00	59600.00
61	10200.00	59595.00
62	10210.00	59525.00
63	10220.00	59613.00
64	10230.00	59573.00
65	10240.00	59595.00
66	10250.00	59606.00
67	10260.00	59609.00
68	10270.00	59599.00
69	10280.00	59602.00
70	10290.00	59621.00
71	10300.00	59632.00
72	10310.00	59627.00
73	10320.00	59608.00
74	10330.00	59613.00
75	10340.00	59612.00
76	10350.00	59624.00
77	10360.00	59613.00
78	10370.00	59620.00
79	10380.00	59630.00
80	10390.00	59626.00
81	10400.00	59611.00

KANAPPA GRD MAG LINE 9600 N 26/1/84

Number of stations = 81 File No. : 58

No.	---X---	---Y---
1	9600.00	59523.00
2	9610.00	59516.00
3	9620.00	59518.00
4	9630.00	59515.00
5	9640.00	59519.00
6	9650.00	59523.00
7	9660.00	59529.00
8	9670.00	59529.00
9	9680.00	59527.00
10	9690.00	59529.00
11	9700.00	59532.00
12	9710.00	59531.00
13	9720.00	59536.00
14	9730.00	59542.00
15	9740.00	59562.00
16	9750.00	59530.00
17	9760.00	59530.00
18	9770.00	59526.00
19	9780.00	59528.00
20	9790.00	59535.00
21	9800.00	59536.00
22	9810.00	59539.00
23	9820.00	59538.00
24	9830.00	59542.00
25	9840.00	59543.00
26	9850.00	59548.00
27	9860.00	59545.00
28	9870.00	59549.00
29	9880.00	59552.00
30	9890.00	59557.00
31	9900.00	59560.00
32	9910.00	59561.00
33	9920.00	59559.00
34	9930.00	59562.00
35	9940.00	59566.00
36	9950.00	59570.00
37	9960.00	59570.00
38	9970.00	59578.00
39	9980.00	59587.00
40	9990.00	59593.00
41	10000.00	59607.00
42	10010.00	59624.00
43	10020.00	59653.00
44	10030.00	59690.00
45	10040.00	59612.00
46	10050.00	59659.00
47	10060.00	59661.00
48	10070.00	59655.00
49	10080.00	59647.00
50	10090.00	59645.00
51	10100.00	59629.00
52	10110.00	59610.00
53	10120.00	59604.00
54	10130.00	59600.00
55	10140.00	59593.00
56	10150.00	59590.00
57	10160.00	59586.00
58	10170.00	59588.00
59	10180.00	59582.00
60	10190.00	59582.00
61	10200.00	59564.00
62	10210.00	59556.00
63	10220.00	59566.00
64	10230.00	59470.00
65	10240.00	59607.00
66	10250.00	59624.00
67	10260.00	59587.00
68	10270.00	59585.00
69	10280.00	59610.00
70	10290.00	59602.00
71	10300.00	59596.00
72	10310.00	59602.00
73	10320.00	59614.00
74	10330.00	59610.00
75	10340.00	59625.00
76	10350.00	59622.00
77	10360.00	59630.00
78	10370.00	59611.00
79	10380.00	59630.00
80	10390.00	59624.00
81	10400.00	59623.00

GEOTA E&D MAG LINE 9700 N 26/1/84

Number of stations = 81 File No. : 59

No.	---X---	---Y---
1	9600.00	59506.00
2	9610.00	59509.00
3	9620.00	59509.00
4	9630.00	59507.00
5	9640.00	59517.00
6	9650.00	59517.00
7	9660.00	59517.00
8	9670.00	59517.00
9	9680.00	59523.00
10	9690.00	59519.00
11	9700.00	59529.00
12	9710.00	59525.00
13	9720.00	59521.00
14	9730.00	59527.00
15	9740.00	59526.00
16	9750.00	59526.00
17	9760.00	59535.00
18	9770.00	59537.00
19	9780.00	59528.00
20	9790.00	59526.00
21	9800.00	59525.00
22	9810.00	59524.00
23	9820.00	59531.00
24	9830.00	59529.00
25	9840.00	59532.00
26	9850.00	59525.00
27	9860.00	59533.00
28	9870.00	59530.00
29	9880.00	59529.00
30	9890.00	59535.00
31	9900.00	59535.00
32	9910.00	59541.00
33	9920.00	59542.00
34	9930.00	59540.00
35	9940.00	59543.00
36	9950.00	59544.00
37	9960.00	59550.00
38	9970.00	59555.00
39	9980.00	59550.00
40	9990.00	59552.00
41	10000.00	59561.00
42	10010.00	59557.00
43	10020.00	59567.00
44	10030.00	59568.00
45	10040.00	59558.00
46	10050.00	59580.00
47	10060.00	59551.00
48	10070.00	59565.00
49	10080.00	59576.00
50	10090.00	59561.00
51	10100.00	59564.00
52	10110.00	59569.00
53	10120.00	59564.00
54	10130.00	59565.00
55	10140.00	59569.00
56	10150.00	59569.00
57	10160.00	59571.00
58	10170.00	59573.00
59	10180.00	59572.00
60	10190.00	59570.00
61	10200.00	59576.00
62	10210.00	59597.00
63	10220.00	59617.00
64	10230.00	59657.00
65	10240.00	59609.00
66	10250.00	59611.00
67	10260.00	59598.00
68	10270.00	59611.00
69	10280.00	59610.00
70	10290.00	59617.00
71	10300.00	59620.00
72	10310.00	59611.00
73	10320.00	59616.00
74	10330.00	59624.00
75	10340.00	59619.00
76	10350.00	59632.00
77	10360.00	59645.00
78	10370.00	59635.00
79	10380.00	59628.00
80	10390.00	59638.00
81	10400.00	59635.00

PANAFFA 2ND MAG LINE 9800 N 26/1/84

Number of stations = 81 File No. : 60

No.	---X---	---Y---
1	9600.00	59503.00
2	9610.00	59501.00
3	9620.00	59513.00
4	9630.00	59510.00
5	9640.00	59506.00
6	9650.00	59520.00
7	9660.00	59512.00
8	9670.00	59508.00
9	9680.00	59511.00
10	9690.00	59509.00
11	9700.00	59514.00
12	9710.00	59490.00
13	9720.00	59476.00
14	9730.00	59648.00
15	9740.00	59506.00
16	9750.00	59501.00
17	9760.00	59499.00
18	9770.00	59501.00
19	9780.00	59505.00
20	9790.00	59493.00
21	9800.00	59501.00
22	9810.00	59498.00
23	9820.00	59498.00
24	9830.00	59499.00
25	9840.00	59492.00
26	9850.00	59487.00
27	9860.00	59500.00
28	9870.00	59501.00
29	9880.00	59504.00
30	9890.00	59506.00
31	9900.00	59512.00
32	9910.00	59511.00
33	9920.00	59523.00
34	9930.00	59516.00
35	9940.00	59515.00
36	9950.00	59507.00
37	9960.00	59506.00
38	9970.00	59509.00
39	9980.00	59506.00
40	9990.00	59497.00
41	10000.00	59515.00
42	10010.00	59510.00
43	10020.00	59525.00
44	10030.00	59566.00
45	10040.00	59609.00
46	10050.00	59688.00
47	10060.00	59538.00
48	10070.00	59546.00
49	10080.00	59464.00
50	10090.00	59501.00
51	10100.00	59512.00
52	10110.00	59524.00
53	10120.00	59532.00
54	10130.00	59524.00
55	10140.00	59520.00
56	10150.00	59528.00
57	10160.00	59553.00
58	10170.00	59543.00
59	10180.00	59527.00
60	10190.00	59533.00
61	10200.00	59541.00
62	10210.00	59598.00
63	10220.00	59609.00
64	10230.00	59625.00
65	10240.00	59606.00
66	10250.00	59594.00
67	10260.00	59607.00
68	10270.00	59603.00
69	10280.00	59601.00
70	10290.00	59600.00
71	10300.00	59602.00
72	10310.00	59613.00
73	10320.00	59609.00
74	10330.00	59602.00
75	10340.00	59611.00
76	10350.00	59608.00
77	10360.00	59608.00
78	10370.00	59610.00
79	10380.00	59600.00
80	10390.00	59610.00
81	10400.00	59613.00

KANAPPA SID MAG LINE 9900 N 26/1/84

Number of stations = 81 File No. : 61

No.	---X---	---Y---
1	9600.00	59508.50
2	9610.00	59515.53
3	9620.00	59514.56
4	9630.00	59512.59
5	9640.00	59508.63
6	9650.00	59511.66
7	9660.00	59506.69
8	9670.00	59507.72
9	9680.00	59508.75
10	9690.00	59505.78
11	9700.00	59510.81
12	9710.00	59508.84
13	9720.00	59506.88
14	9730.00	59500.91
15	9740.00	59499.94
16	9750.00	59499.97
17	9760.00	59497.00
18	9770.00	59502.03
19	9780.00	59496.06
20	9790.00	59490.09
21	9800.00	59486.13
22	9810.00	59476.16
23	9820.00	59470.19
24	9830.00	59476.22
25	9840.00	59482.25
26	9850.00	59490.28
27	9860.00	59459.31
28	9870.00	59417.34
29	9880.00	59440.38
30	9890.00	59449.41
31	9900.00	59453.44
32	9910.00	59464.47
33	9920.00	59457.50
34	9930.00	59461.53
35	9940.00	59468.56
36	9950.00	59486.59
37	9960.00	59502.63
38	9970.00	59521.66
39	9980.00	59557.69
40	9990.00	59616.72
41	10000.00	59868.75
42	10010.00	59614.78
43	10020.00	59768.81
44	10030.00	59847.84
45	10040.00	59873.88
46	10050.00	59808.91
47	10060.00	59751.94
48	10070.00	59642.97
49	10080.00	59618.00
50	10090.00	59578.03
51	10100.00	59538.06
52	10110.00	59535.09
53	10120.00	59526.13
54	10130.00	59520.16
55	10140.00	59529.19
56	10150.00	59517.22
57	10160.00	59504.25
58	10170.00	59510.28
59	10180.00	59506.31
60	10190.00	59521.34
61	10200.00	59578.38
62	10210.00	59601.41
63	10220.00	59583.44
64	10230.00	59588.47
65	10240.00	59594.50
66	10250.00	59584.53
67	10260.00	59604.56
68	10270.00	59590.59
69	10280.00	59586.63
70	10290.00	59593.66
71	10300.00	59595.69
72	10310.00	59587.72
73	10320.00	59586.75
74	10330.00	59593.78
75	10340.00	59584.81
76	10350.00	59592.84
77	10360.00	59560.88
78	10370.00	59587.91
79	10380.00	59615.94
80	10390.00	59621.97
81	10400.00	59621.00

NAFFA GND MAG LINE 10000 N 26/1/84

Number of stations = 81 File No. : 62

No:	---X---	---Y---
1	9600.00	59501.50
2	9610.00	59515.47
3	9620.00	59507.44
4	9630.00	59498.41
5	9640.00	59503.38
6	9650.00	59498.34
7	9660.00	59504.31
8	9670.00	59504.28
9	9680.00	59504.25
10	9690.00	59506.22
11	9700.00	59514.19
12	9710.00	59511.16
13	9720.00	59510.13
14	9730.00	59516.09
15	9740.00	59506.06
16	9750.00	59508.03
17	9760.00	59511.00
18	9770.00	59514.97
19	9780.00	59515.94
20	9790.00	59518.91
21	9800.00	59519.88
22	9810.00	59521.84
23	9820.00	59523.81
24	9830.00	59529.78
25	9840.00	59537.75
26	9850.00	59546.72
27	9860.00	59545.69
28	9870.00	59558.66
29	9880.00	59567.63
30	9890.00	59556.59
31	9900.00	59507.56
32	9910.00	59609.53
33	9920.00	59646.50
34	9930.00	59676.47
35	9940.00	59723.44
36	9950.00	59775.41
37	9960.00	59833.38
38	9970.00	59903.34
39	9980.00	59960.31
40	9990.00	60007.28
41	10000.00	60082.25
42	10010.00	60003.22
43	10020.00	59937.19
44	10030.00	59849.16
45	10040.00	59802.13
46	10050.00	59772.09
47	10060.00	59733.06
48	10070.00	59464.03
49	10080.00	59880.00
50	10090.00	59460.97
51	10100.00	59483.94
52	10110.00	59508.91
53	10120.00	59509.88
54	10130.00	59499.84
55	10140.00	59494.81
56	10150.00	59483.78
57	10160.00	59473.75
58	10170.00	59495.72
59	10180.00	59525.69
60	10190.00	59565.66
61	10200.00	59566.63
62	10210.00	59536.59
63	10220.00	59561.56
64	10230.00	59545.53
65	10240.00	59538.50
66	10250.00	59543.47
67	10260.00	59546.44
68	10270.00	59546.41
69	10280.00	59551.38
70	10290.00	59621.34
71	10300.00	59588.31
72	10310.00	59589.28
73	10320.00	59585.25
74	10330.00	59582.22
75	10340.00	59591.19
76	10350.00	59601.16
77	10360.00	59595.13
78	10370.00	59594.09
79	10380.00	59607.06
80	10390.00	59612.03
81	10400.00	59605.00

KANAPPA GND MAG LINE 10100 N 26/1/84

Number of stations = 81 File No. : 63

No.	---X---	---Y---
1	9600.00	59494.50
2	9610.00	59509.53
3	9620.00	59496.56
4	9630.00	59504.59
5	9640.00	59506.63
6	9650.00	59507.66
7	9660.00	59506.69
8	9670.00	59507.72
9	9680.00	59509.75
10	9690.00	59516.78
11	9700.00	59511.81
12	9710.00	59513.84
13	9720.00	59522.88
14	9730.00	59531.91
15	9740.00	59540.94
16	9750.00	59543.97
17	9760.00	59560.00
18	9770.00	59565.03
19	9780.00	59577.06
20	9790.00	59578.09
21	9800.00	59588.13
22	9810.00	59602.16
23	9820.00	59614.19
24	9830.00	59628.22
25	9840.00	59647.25
26	9850.00	59670.28
27	9860.00	59750.31
28	9870.00	59661.34
29	9880.00	59674.38
30	9890.00	59689.41
31	9900.00	59700.44
32	9910.00	59716.47
33	9920.00	59731.50
34	9930.00	59745.53
35	9940.00	59762.56
36	9950.00	59784.59
37	9960.00	59795.63
38	9970.00	59809.66
39	9980.00	59815.69
40	9990.00	59836.72
41	10000.00	59837.75
42	10010.00	59847.78
43	10020.00	59861.81
44	10030.00	59875.84
45	10040.00	59896.88
46	10050.00	59937.91
47	10060.00	59982.94
48	10070.00	60036.97
49	10080.00	60060.00
50	10090.00	60030.03
51	10100.00	59958.06
52	10110.00	59826.09
53	10120.00	59767.13
54	10130.00	59713.16
55	10140.00	59665.19
56	10150.00	59623.22
57	10160.00	59612.25
58	10170.00	59601.28
59	10180.00	59587.31
60	10190.00	59576.34
61	10200.00	59573.38
62	10210.00	59568.41
63	10220.00	59566.44
64	10230.00	59576.47
65	10240.00	59569.50
66	10250.00	59573.53
67	10260.00	59572.56
68	10270.00	59573.59
69	10280.00	59577.63
70	10290.00	59640.66
71	10300.00	59572.69
72	10310.00	59578.72
73	10320.00	59601.75
74	10330.00	59608.78
75	10340.00	59624.81
76	10350.00	59603.84
77	10360.00	59580.88
78	10370.00	59563.91
79	10380.00	59572.94
80	10390.00	59557.97
81	10400.00	59581.00

TANAFIA END MAG LINE 10100 N 26/1/84

Number of stations = 81 File No. : 64

No.	---X---	---Y---
1	9600.00	59509.50
2	9610.00	59505.47
3	9620.00	59506.44
4	9630.00	59507.41
5	9640.00	59510.38
6	9650.00	59512.34
7	9660.00	59514.31
8	9670.00	59520.28
9	9680.00	59524.25
10	9690.00	59529.22
11	9700.00	59531.19
12	9710.00	59533.16
13	9720.00	59534.13
14	9730.00	59533.09
15	9740.00	59530.06
16	9750.00	59537.03
17	9760.00	59532.00
18	9770.00	59551.97
19	9780.00	59574.94
20	9790.00	59608.91
21	9800.00	59640.88
22	9810.00	59687.84
23	9820.00	59742.81
24	9830.00	59800.78
25	9840.00	59854.75
26	9850.00	59862.72
27	9860.00	59753.69
28	9870.00	59709.66
29	9880.00	59690.63
30	9890.00	59692.59
31	9900.00	59697.56
32	9910.00	59707.53
33	9920.00	59715.50
34	9930.00	59725.47
35	9940.00	59735.44
36	9950.00	59750.41
37	9960.00	59754.38
38	9970.00	59742.34
39	9980.00	59763.31
40	9990.00	59769.28
41	10000.00	59768.25
42	10010.00	59774.22
43	10020.00	59764.19
44	10030.00	59768.16
45	10040.00	59755.13
46	10050.00	59741.09
47	10060.00	59731.06
48	10070.00	59726.03
49	10080.00	59724.00
50	10090.00	59710.97
51	10100.00	59712.94
52	10110.00	59666.91
53	10120.00	59640.88
54	10130.00	59605.84
55	10140.00	59587.81
56	10150.00	59705.78
57	10160.00	59577.75
58	10170.00	59591.72
59	10180.00	59597.69
60	10190.00	59586.66
61	10200.00	59567.63
62	10210.00	59543.59
63	10220.00	59503.56
64	10230.00	59529.53
65	10240.00	59541.50
66	10250.00	59545.47
67	10260.00	59547.44
68	10270.00	59553.41
69	10280.00	59556.38
70	10290.00	59542.34
71	10300.00	59567.31
72	10310.00	59574.28
73	10320.00	59531.25
74	10330.00	59555.22
75	10340.00	59603.19
76	10350.00	59611.16
77	10360.00	59616.13
78	10370.00	59587.09
79	10380.00	59591.06
80	10390.00	59599.03
81	10400.00	59606.00

MANAFFA END MAG LINE 10300 N 31/1/84

Number of stations = 81 File No. : 65

No.	---X---	---Y---
1	9600.00	59497.00
2	9610.00	59493.00
3	9620.00	59486.00
4	9630.00	59505.00
5	9640.00	59497.00
6	9650.00	59498.00
7	9660.00	59506.00
8	9670.00	59502.00
9	9680.00	59499.00
10	9690.00	59508.00
11	9700.00	59493.00
12	9710.00	59516.00
13	9720.00	59511.00
14	9730.00	59518.00
15	9740.00	59533.00
16	9750.00	59536.00
17	9760.00	59545.00
18	9770.00	59569.00
19	9780.00	59590.00
20	9790.00	59615.00
21	9800.00	59663.00
22	9810.00	59785.00
23	9820.00	60044.00
24	9830.00	60185.00
25	9840.00	60241.00
26	9850.00	60129.00
27	9860.00	59920.00
28	9870.00	59644.00
29	9880.00	59593.00
30	9890.00	59572.00
31	9900.00	59571.00
32	9910.00	59619.00
33	9920.00	59615.00
34	9930.00	59620.00
35	9940.00	59630.00
36	9950.00	59634.00
37	9960.00	59641.00
38	9970.00	59650.00
39	9980.00	59639.00
40	9990.00	59657.00
41	10000.00	59654.00
42	10010.00	59645.00
43	10020.00	59649.00
44	10030.00	59638.00
45	10040.00	59639.00
46	10050.00	59640.00
47	10060.00	59629.00
48	10070.00	59631.00
49	10080.00	59629.00
50	10090.00	59627.00
51	10100.00	59625.00
52	10110.00	59624.00
53	10120.00	59631.00
54	10130.00	59614.00
55	10140.00	59604.00
56	10150.00	59649.00
57	10160.00	59614.00
58	10170.00	59677.00
59	10180.00	59564.00
60	10190.00	59546.00
61	10200.00	59563.00
62	10210.00	59633.00
63	10220.00	59563.00
64	10230.00	59574.00
65	10240.00	59568.00
66	10250.00	59578.00
67	10260.00	59587.00
68	10270.00	59604.00
69	10280.00	59582.00
70	10290.00	59564.00
71	10300.00	59579.00
72	10310.00	59569.00
73	10320.00	59569.00
74	10330.00	59572.00
75	10340.00	59602.00
76	10350.00	59687.00
77	10360.00	59575.00
78	10370.00	59580.00
79	10380.00	59595.00
80	10390.00	59584.00
81	10400.00	59579.00

KANAFRA GRID MAG LINE 10400 N 31/1/84

Number of stations = 81 File No. : 66

No.	---X---	---Y---
1	9600.00	59503.00
2	9610.00	59499.00
3	9620.00	59509.00
4	9630.00	59516.00
5	9640.00	59516.00
6	9650.00	59520.00
7	9660.00	59522.00
8	9670.00	59530.00
9	9680.00	59464.00
10	9690.00	59735.00
11	9700.00	59542.00
12	9710.00	59550.00
13	9720.00	59555.00
14	9730.00	59565.00
15	9740.00	59569.00
16	9750.00	59563.00
17	9760.00	59585.00
18	9770.00	59588.00
19	9780.00	59596.00
20	9790.00	59606.00
21	9800.00	59614.00
22	9810.00	59617.00
23	9820.00	59629.00
24	9830.00	59633.00
25	9840.00	59644.00
26	9850.00	59663.00
27	9860.00	59649.00
28	9870.00	59637.00
29	9880.00	59631.00
30	9890.00	59623.00
31	9900.00	59622.00
32	9910.00	54960.00
33	9920.00	59613.00
34	9930.00	59614.00
35	9940.00	59610.00
36	9950.00	59619.00
37	9960.00	59610.00
38	9970.00	59600.00
39	9980.00	59611.00
40	9990.00	59614.00
41	10000.00	59602.00
42	10010.00	59605.00
43	10020.00	59613.00
44	10030.00	59612.00
45	10040.00	59610.00
46	10050.00	59609.00
47	10060.00	59615.00
48	10070.00	59620.00
49	10080.00	59623.00
50	10090.00	59622.00
51	10100.00	59633.00
52	10110.00	59649.00
53	10120.00	59669.00
54	10130.00	59676.00
55	10140.00	59694.00
56	10150.00	59694.00
57	10160.00	59690.00
58	10170.00	59669.00
59	10180.00	59623.00
60	10190.00	59613.00
61	10200.00	59625.00
62	10210.00	59626.00
63	10220.00	59609.00
64	10230.00	59600.00
65	10240.00	59598.00
66	10250.00	59583.00
67	10260.00	59592.00
68	10270.00	59592.00
69	10280.00	59595.00
70	10290.00	59590.00
71	10300.00	59589.00
72	10310.00	59578.00
73	10320.00	59589.00
74	10330.00	59583.00
75	10340.00	59582.00
76	10350.00	59584.00
77	10360.00	59575.00
78	10370.00	59639.00
79	10380.00	59612.00
80	10390.00	59602.00
81	10400.00	59601.00

ANAFEA GRID MAG LINE 10300 N 31/1/84

Number of stations = 81 File No. : 67

No.	---X---	---Y---
1	9600.00	59498.00
2	9610.00	59500.00
3	9620.00	59500.00
4	9630.00	59492.00
5	9640.00	59511.00
6	9650.00	59517.00
7	9660.00	59503.00
8	9670.00	59515.00
9	9680.00	59514.00
10	9690.00	59525.00
11	9700.00	59520.00
12	9710.00	59530.00
13	9720.00	59524.00
14	9730.00	59530.00
15	9740.00	59535.00
16	9750.00	59534.00
17	9760.00	59529.00
18	9770.00	59543.00
19	9780.00	59530.00
20	9790.00	59531.00
21	9800.00	59546.00
22	9810.00	59549.00
23	9820.00	59566.00
24	9830.00	59588.00
25	9840.00	59651.00
26	9850.00	59858.00
27	9860.00	58642.00
28	9870.00	59164.00
29	9880.00	59480.00
30	9890.00	59533.00
31	9900.00	59533.00
32	9910.00	59559.00
33	9920.00	59564.00
34	9930.00	59569.00
35	9940.00	59573.00
36	9950.00	59570.00
37	9960.00	59573.00
38	9970.00	59584.00
39	9980.00	59581.00
40	9990.00	59590.00
41	10000.00	59601.00
42	10010.00	59588.00
43	10020.00	59582.00
44	10030.00	59592.00
45	10040.00	59605.00
46	10050.00	59651.00
47	10060.00	59697.00
48	10070.00	59731.00
49	10080.00	59757.00
50	10090.00	59724.00
51	10100.00	59623.00
52	10110.00	59595.00
53	10120.00	59591.00
54	10130.00	59558.00
55	10140.00	59567.00
56	10150.00	59584.00
57	10160.00	59616.00
58	10170.00	59596.00
59	10180.00	59593.00
60	10190.00	59582.00
61	10200.00	59590.00
62	10210.00	59590.00
63	10220.00	59603.00
64	10230.00	59604.00
65	10240.00	59557.00
66	10250.00	59570.00
67	10260.00	59577.00
68	10270.00	59564.00
69	10280.00	59591.00
70	10290.00	59587.00
71	10300.00	59573.00
72	10310.00	59571.00
73	10320.00	59559.00
74	10330.00	59562.00
75	10340.00	59548.00
76	10350.00	59552.00
77	10360.00	59562.00
78	10370.00	59545.00
79	10380.00	59554.00
80	10390.00	59567.00
81	10400.00	59548.00

KANAPPA GND MAG LINE 10600 N 31/1/84

Number of stations = 81 File No. : 68

No.	---X---	---Y---
1	9600.00	59486.00
2	9610.00	59497.00
3	9620.00	59497.00
4	9630.00	59501.00
5	9640.00	59496.00
6	9650.00	59497.00
7	9660.00	59506.00
8	9670.00	59500.00
9	9680.00	59505.00
10	9690.00	59510.00
11	9700.00	59516.00
12	9710.00	59513.00
13	9720.00	59509.00
14	9730.00	59512.00
15	9740.00	59516.00
16	9750.00	59517.00
17	9760.00	59533.00
18	9770.00	59519.00
19	9780.00	59532.00
20	9790.00	59521.00
21	9800.00	59521.00
22	9810.00	59516.00
23	9820.00	59525.00
24	9830.00	59529.00
25	9840.00	59531.00
26	9850.00	59530.00
27	9860.00	59532.00
28	9870.00	59544.00
29	9880.00	59538.00
30	9890.00	59526.00
31	9900.00	59531.00
32	9910.00	59536.00
33	9920.00	59543.00
34	9930.00	59541.00
35	9940.00	59536.00
36	9950.00	59549.00
37	9960.00	59562.00
38	9970.00	59558.00
39	9980.00	59569.00
40	9990.00	59573.00
41	10000.00	59578.00
42	10010.00	59593.00
43	10020.00	59597.00
44	10030.00	59593.00
45	10040.00	59600.00
46	10050.00	59607.00
47	10060.00	59591.00
48	10070.00	59595.00
49	10080.00	59569.00
50	10090.00	59922.00
51	10100.00	59551.00
52	10110.00	59565.00
53	10120.00	59567.00
54	10130.00	59568.00
55	10140.00	59570.00
56	10150.00	59571.00
57	10160.00	59589.00
58	10170.00	59572.00
59	10180.00	59580.00
60	10190.00	59575.00
61	10200.00	59579.00
62	10210.00	59581.00
63	10220.00	59584.00
64	10230.00	59559.00
65	10240.00	59566.00
66	10250.00	59565.00
67	10260.00	59565.00
68	10270.00	59566.00
69	10280.00	59565.00
70	10290.00	59548.00
71	10300.00	59562.00
72	10310.00	59564.00
73	10320.00	59567.00
74	10330.00	59569.00
75	10340.00	59570.00
76	10350.00	59578.00
77	10360.00	59567.00
78	10370.00	59562.00
79	10380.00	59569.00
80	10390.00	59579.00
81	10400.00	59587.00

KANAPPA GND MAG LINE 10700 N 31/1/84

Number of stations = 81 File No. : 69

No.	---X---	---Y---
1	9600.00	59491.00
2	9610.00	59488.00
3	9620.00	59491.00
4	9630.00	59489.00
5	9640.00	59485.00
6	9650.00	59499.00
7	9660.00	59489.00
8	9670.00	59497.00
9	9680.00	59502.00
10	9690.00	59505.00
11	9700.00	59495.00
12	9710.00	59496.00
13	9720.00	59471.00
14	9730.00	59487.00
15	9740.00	59516.00
16	9750.00	59511.00
17	9760.00	59514.00
18	9770.00	59497.00
19	9780.00	59514.00
20	9790.00	59517.00
21	9800.00	59514.00
22	9810.00	59515.00
23	9820.00	59510.00
24	9830.00	59516.00
25	9840.00	59518.00
26	9850.00	59516.00
27	9860.00	59520.00
28	9870.00	59517.00
29	9880.00	59513.00
30	9890.00	59505.00
31	9900.00	59509.00
32	9910.00	59502.00
33	9920.00	59496.00
34	9930.00	59485.00
35	9940.00	59508.00
36	9950.00	59092.00
37	9960.00	59522.00
38	9970.00	59530.00
39	9980.00	59532.00
40	9990.00	59537.00
41	10000.00	59532.00
42	10010.00	59541.00
43	10020.00	59542.00
44	10030.00	59544.00
45	10040.00	59544.00
46	10050.00	59554.00
47	10060.00	59548.00
48	10070.00	59552.00
49	10080.00	59549.00
50	10090.00	59550.00
51	10100.00	59560.00
52	10110.00	59536.00
53	10120.00	59541.00
54	10130.00	59546.00
55	10140.00	59540.00
56	10150.00	59534.00
57	10160.00	59542.00
58	10170.00	59536.00
59	10180.00	59548.00
60	10190.00	59565.00
61	10200.00	59562.00
62	10210.00	59557.00
63	10220.00	59545.00
64	10230.00	59567.00
65	10240.00	59556.00
66	10250.00	59535.00
67	10260.00	59548.00
68	10270.00	59552.00
69	10280.00	59548.00
70	10290.00	59551.00
71	10300.00	59552.00
72	10310.00	59552.00
73	10320.00	59553.00
74	10330.00	59544.00
75	10340.00	59570.00
76	10350.00	59576.00
77	10360.00	59559.00
78	10370.00	59554.00
79	10380.00	59548.00
80	10390.00	59545.00
81	10400.00	59549.00

MANAPPA GRID MAG LINE 10800 N 31/1/84

Number of stations = 58 File No. : 70

No.	---X---	---Y---
1	9600.00	59481.00
2	9610.00	59486.00
3	9620.00	59494.00
4	9630.00	59487.00
5	9640.00	59480.00
6	9650.00	59475.00
7	9660.00	59488.00
8	9670.00	59495.00
9	9680.00	59495.00
10	9690.00	59494.00
11	9700.00	59491.00
12	9710.00	59501.00
13	9720.00	59503.00
14	9730.00	59510.00
15	9740.00	59512.00
16	9750.00	59509.00
17	9760.00	59514.00
18	9770.00	59514.00
19	9780.00	59514.00
20	9790.00	59514.00
21	9800.00	59510.00
22	9810.00	59515.00
23	9820.00	59514.00
24	9830.00	59524.00
25	9840.00	59518.00
26	9850.00	59530.00
27	9860.00	59529.00
28	9870.00	59731.00
29	9880.00	59538.00
30	9890.00	59573.00
31	9900.00	59616.00
32	9910.00	59766.00
33	9920.00	59701.00
34	9930.00	59561.00
35	9940.00	59524.00
36	9950.00	59525.00
37	9960.00	59533.00
38	9970.00	59531.00
39	9980.00	59530.00
40	9990.00	59534.00
41	10000.00	59535.00
42	10010.00	59537.00
43	10020.00	59535.00
44	10030.00	59531.00
45	10040.00	59538.00
46	10050.00	59534.00
47	10060.00	59535.00
48	10070.00	59540.00
49	10080.00	59539.00
50	10090.00	59536.00
51	10100.00	59549.00
52	10110.00	59571.00
53	10120.00	59595.00
54	10130.00	59640.00
55	10140.00	59703.00
56	10150.00	59832.00
57	10160.00	60002.00
58	10170.00	60275.00

KANAFRA GRID MAG LINE 10900 N 2/2/84

Number of stations = 81 File No. : 71

No.	---X---	---Y---
1	9600.00	59478.00
2	9610.00	59473.00
3	9620.00	59476.00
4	9630.00	59479.00
5	9640.00	59474.00
6	9650.00	59471.00
7	9660.00	59476.00
8	9670.00	59486.00
9	9680.00	59482.00
10	9690.00	59485.00
11	9700.00	59486.00
12	9710.00	59480.00
13	9720.00	59484.00
14	9730.00	59490.00
15	9740.00	59490.00
16	9750.00	59493.00
17	9760.00	59495.00
18	9770.00	59492.00
19	9780.00	59508.00
20	9790.00	59493.00
21	9800.00	59491.00
22	9810.00	59497.00
23	9820.00	59495.00
24	9830.00	59501.00
25	9840.00	59502.00
26	9850.00	59495.00
27	9860.00	59484.00
28	9870.00	59501.00
29	9880.00	59494.00
30	9890.00	59491.00
31	9900.00	59513.00
32	9910.00	59506.00
33	9920.00	59519.00
34	9930.00	59545.00
35	9940.00	59536.00
36	9950.00	59509.00
37	9960.00	59640.00
38	9970.00	59617.00
39	9980.00	59578.00
40	9990.00	59514.00
41	10000.00	59514.00
42	10010.00	59490.00
43	10020.00	59539.00
44	10030.00	59564.00
45	10040.00	59469.00
46	10050.00	58952.00
47	10060.00	59454.00
48	10070.00	59359.00
49	10080.00	59631.00
50	10090.00	59513.00
51	10100.00	59538.00
52	10110.00	59578.00
53	10120.00	59543.00
54	10130.00	59531.00
55	10140.00	59587.00
56	10150.00	59926.00
57	10160.00	59475.00
58	10170.00	59484.00
59	10180.00	59510.00
60	10190.00	59535.00
61	10200.00	59567.00
62	10210.00	59537.00
63	10220.00	59529.00
64	10230.00	59528.00
65	10240.00	59532.00
66	10250.00	59529.00
67	10260.00	59543.00
68	10270.00	59542.00
69	10280.00	59534.00
70	10290.00	59545.00
71	10300.00	59536.00
72	10310.00	59534.00
73	10320.00	59542.00
74	10330.00	59542.00
75	10340.00	59543.00
76	10350.00	59544.00
77	10360.00	59546.00
78	10370.00	59585.00
79	10380.00	59549.00
80	10390.00	59547.00
81	10400.00	59560.00

LANAFFA GND MAG LINE 11000 N 2/2/84

Number of stations = 81 File No. : 72

No.	---X---	---Y---
1	9600.00	59476.00
2	9610.00	59473.00
3	9620.00	59473.00
4	9630.00	59473.00
5	9640.00	59467.00
6	9650.00	59478.00
7	9660.00	59470.00
8	9670.00	59459.00
9	9680.00	59480.00
10	9690.00	59479.00
11	9700.00	59488.00
12	9710.00	59485.00
13	9720.00	59491.00
14	9730.00	59484.00
15	9740.00	59490.00
16	9750.00	59488.00
17	9760.00	59518.00
18	9770.00	59487.00
19	9780.00	59487.00
20	9790.00	59492.00
21	9800.00	59493.00
22	9810.00	59490.00
23	9820.00	59490.00
24	9830.00	59509.00
25	9840.00	59496.00
26	9850.00	59520.00
27	9860.00	59514.00
28	9870.00	59498.00
29	9880.00	59498.00
30	9890.00	59598.00
31	9900.00	59539.00
32	9910.00	59743.00
33	9920.00	59557.00
34	9930.00	59445.00
35	9940.00	59383.00
36	9950.00	59342.00
37	9960.00	59314.00
38	9970.00	59305.00
39	9980.00	59314.00
40	9990.00	59356.00
41	10000.00	59402.00
42	10010.00	59427.00
43	10020.00	59363.00
44	10030.00	59628.00
45	10040.00	59531.00
46	10050.00	59473.00
47	10060.00	59493.00
48	10070.00	59462.00
49	10080.00	59505.00
50	10090.00	59515.00
51	10100.00	59504.00
52	10110.00	59527.00
53	10120.00	59540.00
54	10130.00	59549.00
55	10140.00	59559.00
56	10150.00	59549.00
57	10160.00	59544.00
58	10170.00	59546.00
59	10180.00	59546.00
60	10190.00	59550.00
61	10200.00	59551.00
62	10210.00	59546.00
63	10220.00	59548.00
64	10230.00	59552.00
65	10240.00	59568.00
66	10250.00	59552.00
67	10260.00	59550.00
68	10270.00	59556.00
69	10280.00	59549.00
70	10290.00	59553.00
71	10300.00	59540.00
72	10310.00	59541.00
73	10320.00	59536.00
74	10330.00	59535.00
75	10340.00	59551.00
76	10350.00	59546.00
77	10360.00	59552.00
78	10370.00	59556.00
79	10380.00	59554.00
80	10390.00	59559.00
81	10400.00	59562.00

TANAFFA GRID MAG LINE 11100 N 2/2/84

Number of stations = 81 File No. : 73

No.	---X---	---Y---
1	9600.00	59467.00
2	9610.00	59478.00
3	9620.00	59472.00
4	9630.00	59478.00
5	9640.00	59475.00
6	9650.00	59469.00
7	9660.00	59482.00
8	9670.00	59490.00
9	9680.00	59475.00
10	9690.00	59484.00
11	9700.00	59484.00
12	9710.00	59484.00
13	9720.00	59489.00
14	9730.00	59491.00
15	9740.00	59490.00
16	9750.00	59491.00
17	9760.00	59495.00
18	9770.00	59499.00
19	9780.00	59506.00
20	9790.00	59504.00
21	9800.00	59502.00
22	9810.00	59517.00
23	9820.00	59498.00
24	9830.00	59519.00
25	9840.00	59514.00
26	9850.00	59522.00
27	9860.00	59527.00
28	9870.00	59530.00
29	9880.00	59530.00
30	9890.00	59541.00
31	9900.00	59540.00
32	9910.00	59544.00
33	9920.00	59562.00
34	9930.00	59564.00
35	9940.00	59587.00
36	9950.00	59618.00
37	9960.00	59636.00
38	9970.00	59669.00
39	9980.00	59715.00
40	9990.00	59764.00
41	10000.00	59768.00
42	10010.00	59759.00
43	10020.00	59733.00
44	10030.00	59697.00
45	10040.00	59667.00
46	10050.00	59644.00
47	10060.00	59641.00
48	10070.00	59635.00
49	10080.00	59567.00
50	10090.00	59692.00
51	10100.00	59750.00
52	10110.00	59642.00
53	10120.00	59609.00
54	10130.00	59615.00
55	10140.00	59559.00
56	10150.00	59550.00
57	10160.00	59551.00
58	10170.00	59556.00
59	10180.00	59557.00
60	10190.00	59565.00
61	10200.00	59561.00
62	10210.00	59569.00
63	10220.00	59571.00
64	10230.00	59582.00
65	10240.00	59565.00
66	10250.00	59564.00
67	10260.00	59570.00
68	10270.00	59569.00
69	10280.00	59571.00
70	10290.00	59572.00
71	10300.00	59571.00
72	10310.00	59558.00
73	10320.00	59566.00
74	10330.00	59592.00
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KANAFTA GND MAG LINE 11300 N 2/2.84

Number of stations = 81 File No. : 75

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17	9760.00	59495.00
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22	9810.00	59504.00
23	9820.00	59499.00
24	9830.00	59504.00
25	9840.00	59506.00
26	9850.00	59506.00
27	9860.00	59510.00
28	9870.00	59509.00
29	9880.00	59516.00
30	9890.00	59514.00
31	9900.00	59523.00
32	9910.00	59517.00
33	9920.00	59527.00
34	9930.00	59527.00
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36	9950.00	59526.00
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60	10190.00	59551.00
61	10200.00	59549.00
62	10210.00	59548.00
63	10220.00	59542.00
64	10230.00	59549.00
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66	10250.00	59549.00
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KANAPPA GND MAG LINE 11400 N 2/2/84

Number of stations = 81 File No. : 76

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KANAFFA GRID MAG LINE 11500 N 2/2/84

Number of stations = 81 File No. : 77

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10	9690.00	59476.00
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12	9710.00	59472.00
13	9720.00	59476.00
14	9730.00	59478.00
15	9740.00	59484.00
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26	9850.00	59496.00
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29	9880.00	59497.00
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31	9900.00	59501.00
32	9910.00	59506.00
33	9920.00	59506.00
34	9930.00	59510.00
35	9940.00	59507.00
36	9950.00	59511.00
37	9960.00	59508.00
38	9970.00	59515.00
39	9980.00	59510.00
40	9990.00	59508.00
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77	10360.00	59550.00
78	10370.00	59551.00
79	10380.00	59540.00
80	10390.00	59552.00
81	10400.00	59521.00

336000mE

337000mE

139° 13'

34° 43'

6157000mN

6156000mN

11500mN

11000mN

10500mN

10000mN

9500mN

9000mE

10000mE

10400mE

KANAPPA MINE

KANAPPA SOUTH MINE

DD84 MK1

Cambrai

Kanappa Ck

3 CHAIN ROAD

Qph

€ks

€km

c/s

0 100 200 300 400 500 600 700 800 900 1000 metres

QUATERNARY

ORDOVICIAN

LOWER CAMBRIAN

Qph BLANCHETOWN CLAY

Aplite, Aplopegmatite Dykes

Granodiorite, Granite Intrusives

Biotite – Quartz – Feldspar Gneiss – Metamorphosed 'Microgranitic' Rock. (Quartz – Albite Replacive Rock of K.J.Mills.)

€ks STRANGWAY HILL FORMATION. Fine-medium grained Quartz-Feldspar-Biotite Schists, Calcareous Schists, minor Tremolite Schists, Calc-Silicates and Porphyroblastic Schists.

€km MILENDELLA LIMESTONE MEMBER. Medium-coarse grained impure Marble, Diopside Calc-Silicates and Hornblende Schists.

Calc-Silicates.

Geology after K.J.Mills (1964)

ALTERATION

g garnet
b biotite
h hornblende
s siderite

Mine

Shallow Workings

x423 Rock Chip Sample (all numbers prefixed by 1157)

DD84MK1 Drillhole Location

Ground Magnetometer Traverse

Road

60° Dip of Bedding

10° Plunge of Fold Axis

4596(111)-1

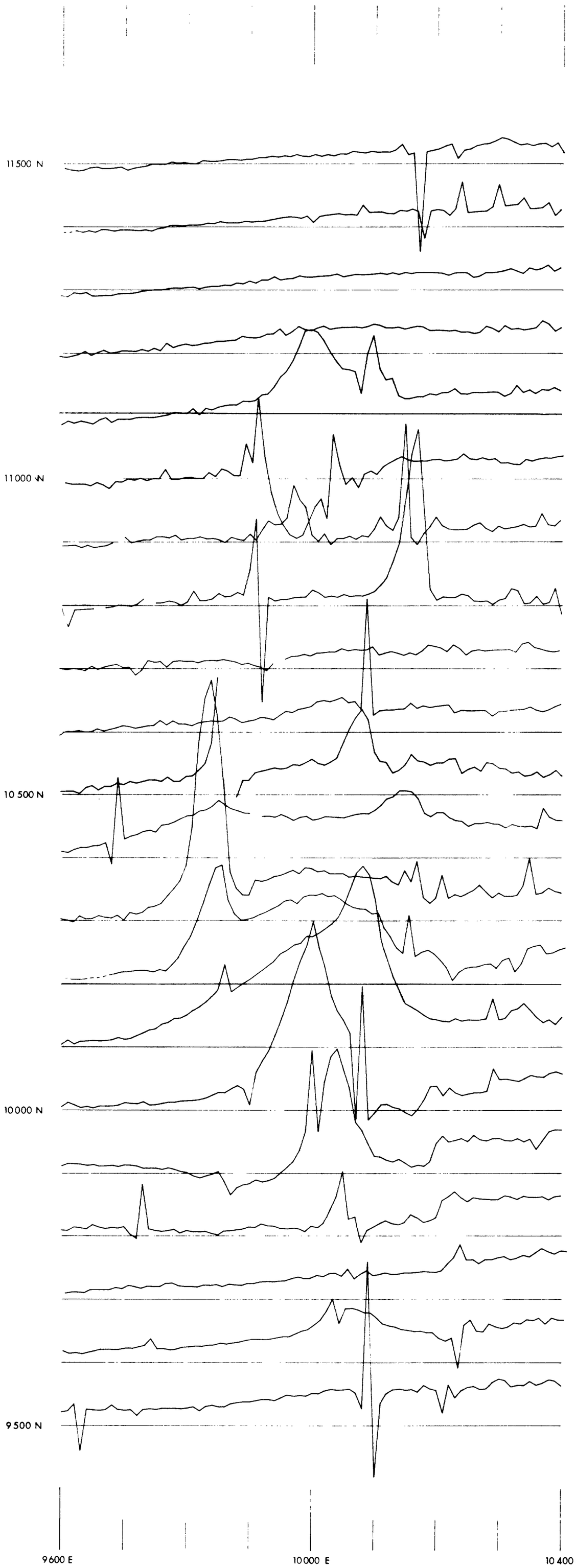
CRA EXPLORATION PTY. LIMITED.

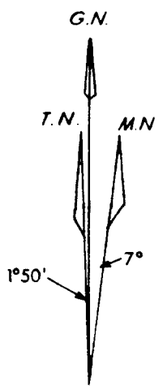
MT. KARINYA E.L. 947 – S.A.

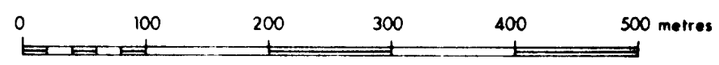
KANAPPA PROSPECT

SURFACE GEOLOGY SHOWING GROUND MAGNETIC GRID AND SAMPLE LOCATIONS

Ref.:	ADELAIDE SI 54-9		
Scale	1 : 5000		
Author	P. L.	Report No.	12827
Date	June 1984	Plan No.	SAa 2642







Station interval 10m.

Vertical scale 1 cm = 100nT

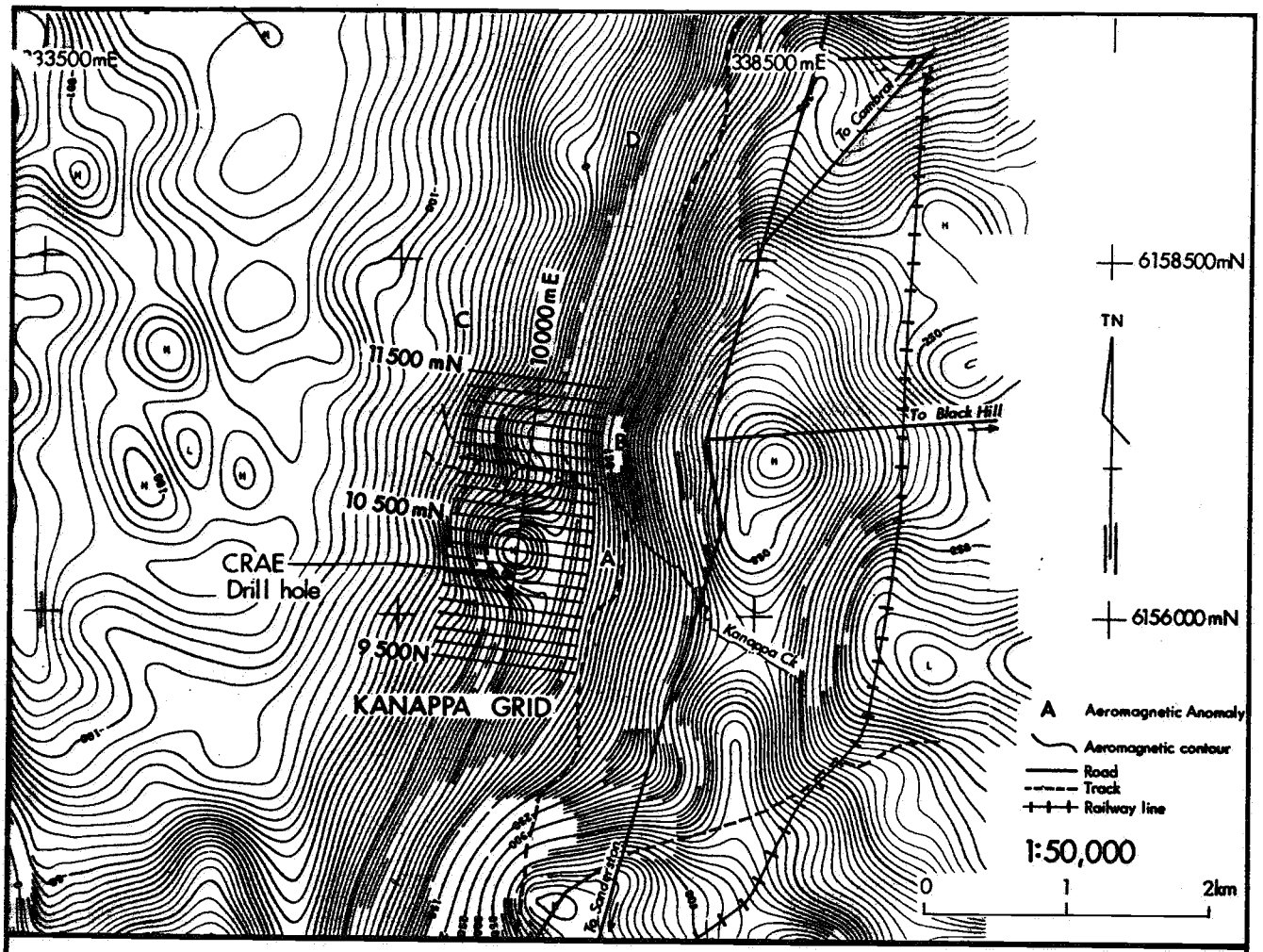
Profiles plotted with a base level of 59500 nT.

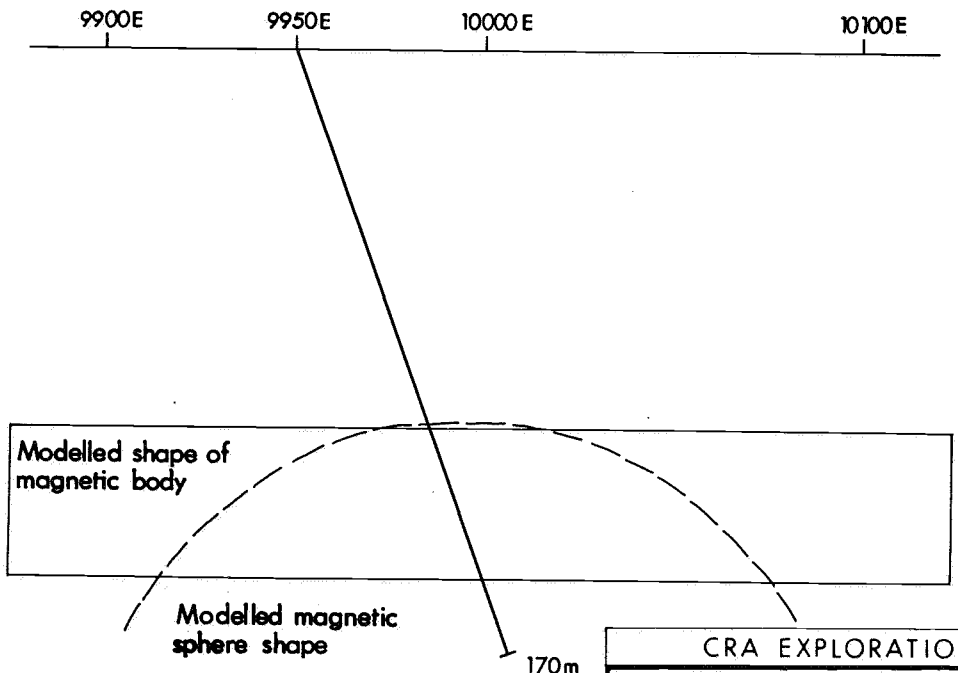
4596(111)-2

CRA EXPLORATION PTY. LIMITED

MT. KARINYA E.L. 947 — S.A.
KANAPPA GRID
GROUND MAGNETIC PROFILES

Ref	ADELAIDE SI 54-9		
Scale	1 : 5 000		
Author	R. J. L. L.	Report No.	12637
Date	Feb. 1984	Plan No.	SAa 2641





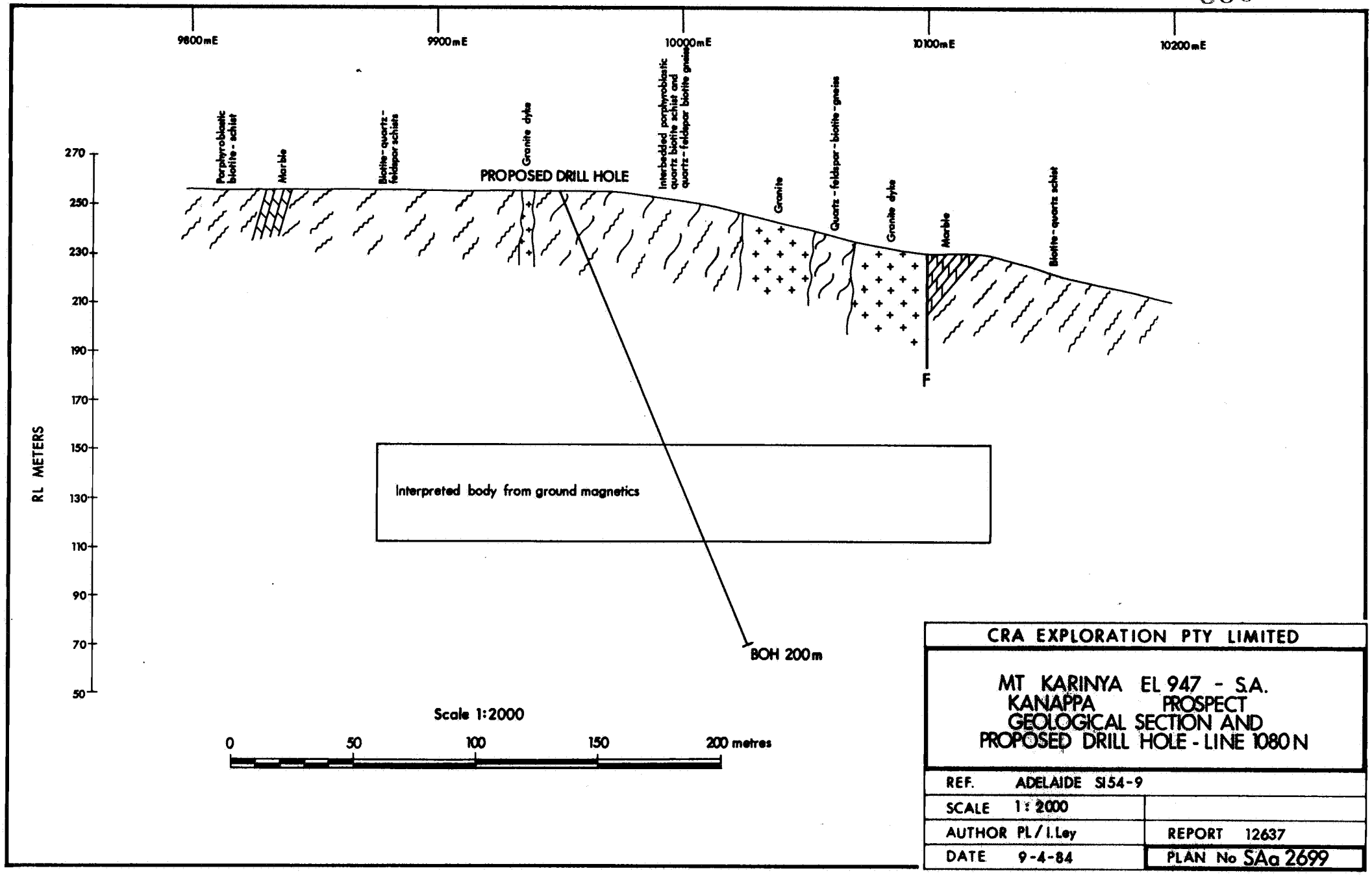
1:2,000

0 50 100 m

CRA EXPLORATION PTY LIMITED

MT KARINYA EL 947 - S.A.
KANAPPA PROJECT
GRID AND DRILLHOLE DD84 MK1

REFERENCE ADELAIDE SI 54-9	
SCALE 1:50 000	
AUTHOR KDT	REPORT 12827
DATE June 84	PLAN No SAa 2695



CRA EXPLORATION PTY LIMITED

MT KARINYA EL 947 - S.A.
KANAPPA PROSPECT
GEOLOGICAL SECTION AND
PROPOSED DRILL HOLE - LINE 1080 N

REF. ADELAIDE SI54-9	
SCALE 1:2000	
AUTHOR PL/I.Ley	REPORT 12637
DATE 9-4-84	PLAN No SAa 2699

III

337

CRA EXPLORATION PTY. LIMITED

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TENTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH JUNE, 1984.

AUTHOR: P. LEWIS

COPIES TO: CIS CANBERRA
SADME

DATE: 29TH AUGUST, 1984

SUBMITTED BY: Paul Lewis

ACCEPTED BY: Alan D Tuthill

12827

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1. SUMMARY

The broad magnetic anomaly adjacent to the Kanappa South workings was drill tested during the quarter. Drill hole DD84MK1 was completed at 170.1 metres after intersecting a sequence of quartz-feldspar-biotite±chlorite schists with interbedded thin, impure iron-rich calc-silicate units. Major sulphide/magnetite calc-silicate alteration zones are present between 105 and 145 metres. No scheelite mineralisation was present within the skarn alteration zones. Anomalous copper (max. 2800 ppm), bismuth (max. 710 ppm) and elevated gold (0.5 ppm) were returned from narrow sulphidic intervals within this zone. The drill hole adequately tested the magnetic anomaly. The absence of scheelite mineralisation within the sulphide-magnetite skarn downgrades the potential of the area for Cantung-style pyrrhotite-scheelite mineralisation. Infill ground magnetics to define the size and altitude of the dipolar anomaly at the Kanappa Mine is warranted.

Follow up rock chip/channel sampling of shallow workings south east of Kanappa South returned elevated gold (max 0.5 ppm) from brecciated calc-silicate, schist and granite lithologies. The gold appears to be enriched in limonitic gossans at the surface of a carbonate unit. No further work is warranted.

A detailed review of past exploration by CRAE in the Kanmantoo Trough was completed. Further exploration of four limited-strike-length magnetic features and a zone of disturbed magnetics was recommended.

2. INTRODUCTION

Mt. Karinya E.L. 947 covers an area of 1150 square kilometres centred approximately 75 kilometres north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th of December, 1981, for a period of twelve months. The term of the licence was extended to thirty six months on the 11th of December, 1983.

This report describes the work carried out during the quarter ending 10th June, 1984.

3. RECOMMENDATIONS

1. Infill ground magnetics be completed over the small dipolar magnetic anomaly at the Kanappa Mine.

2. Further exploration be undertaken over the three remaining short strike length features and the zone of disturbed magnetics highlighted by J.V. Main.

4. SUMMARY OF PREVIOUS WORK

Previous work undertaken by CRA Exploration on the tenement is summarised below.

Geochemistry
- 68 -10#+20# stream sediment samples analysed for Cu, Pb, Zn, Sn, W; some Co, Ni, Ag and Au.
- 32 -80# stream sediment analysed for W.
- 12 pan concentrate samples submitted for heavy mineral identification.
- 246 rock chip samples analysed for Cu, Pb, Zn, Au; some for Ag, Sn, W, Mn, As, Hg, Co and Ni; 27 samples submitted for petrology.
- 176 samples of drill cuttings analysed for Cu, Pb, Zn, Ag, Au, some for Ni, Co, Cr, As, U, Mo, Ta, W, Ce and Y. 3 samples submitted for petrology.

Geophysics
- aeromagnetic/radiometric survey; 300 metre line spacing flown E-W, at 80 metre mean terrain clearance.
- 68.0 line kilometres of ground magnetics.
- 11.4 line kilometres of gravity.
- 1.2 line kilometres of ground E.M.
- 5.1 line kilometres of I.P.
- one geophysical review, report by K. Jones.

Drilling
- 3 percussion drill holes for a total of 364 metres.

Geology
- geological mapping at 1:5000, 1:10 000 or 1:25 000 scale of the Mt. Rhine, Schneider's Gossan, Cambrai Scheelite, Murray Creek and Malabena Prospects.
- one geological review, report by D.M. Ransom.

5. CURRENT EXPLORATION

5.1 Kanappa Prospect

5.1.1 Drilling

The broad magnetic anomaly adjacent to the Kanappa South workings was drill tested during May, 1984, by Longyear Aust. Pty. Limited using a Longyear 38 drill rig. Drill hole DD84MK1 was sited at 9935E, 10080N (local) and inclined -70° towards 083° magnetic. The drill hole was completed at 170.1 metres after intersecting a sequence of quartz-feldspar-biotite±chlorite±garnet schists with interbedded impure iron-rich calc-silicate units (meta-dolomites composed of amphibole±pyroxene±quartz±feldspar±biotite±calcite±garnet. Major sulphide/magnetite (10-50%) calc-silicate skarn alteration is present between 105.8-106.6 metres, 130.0-131.7 metres, 134.0-138.2 metres and 142.0-144.4 metres. The mineralisation grades from pyrite-pyrrhotite-(chalcopyrite) at the top, to pyrrhotite-magnetite-(chalcopyrite) to magnetite-(pyrrhotite) at the base and occurs as irregular lenses, veins and discrete grains. Trace to minor pyrite is present to the end of the hole. No scheelite mineralisation was present in the sulphide/magnetite skarn intervals. Garnet schists occur above and below the mineralised sequence.

Half core samples of all the sulphide/magnetite zones and selected intervals of the host lithologies were analysed for copper, lead, zinc, bismuth, silver, molybdenum and gold by AAS and tin and tungsten by XRF techniques. Anomalous copper assays were returned over the following intervals 105.8-106.8 metres (2600 ppm), 129.8-131.8 (1525 ppm, max 1650 ppm) and 134.0-137.0 metres (1830 ppm, max 2800 ppm). Anomalous bismuth (710 ppm) and elevated gold (0.5 ppm) assays were returned over the interval 134.0-135.0 metres. All other gold and all silver assays were below the detection limits of 0.05 ppm and 1 ppm respectively. Maximum tungsten assay was 25 ppm. The detailed drill log and full assay results are presented in Appendix I and petrological descriptions occur in Appendix II.

The results of the drilling has shown the anomaly to be due to pyrrhotite-magnetite skarn alteration within the Milendella Limestone Member. The absence of scheelite mineralisation within this skarn has downgraded this area for Cantung-style pyrrhotite-scheelite mineralisation.

5.1.2 Magnetic Interpretation

The average magnetic susceptibility of the core, recorded over one metre intervals, are plotted on the downhole section (plan SAa 2737). Very high susceptibilities (up to 100 000 x 10^{-5} SI) were recorded over the sulphide/magnetite calc-silicate skarn intersected between 134 metres and 145 metres. The observed susceptibility-thickness product of

this interval is lower than, but comparable with, the modelled susceptibility products and hence the drill hole adequately tested this feature.

Several linear magnetic trends apparent in the stacked profiles of the ground magnetic data and coincident with the mapped position of the Milendella Limestone Member, are interpreted as zones of magnetite-pyrrhotite skarn development (plan SAa 2835). A narrow short strike length linear trend is associated with the outcropping calc-silicate skarn which returned anomalous tungsten (4700 ppm) in rock chip samples (Lewis, 1984). However, the size of this linear feature is too small to warrant further work.

The results of the drilling at Kanappa South have downgraded the potential of the small dipolar magnetic feature at the Kanappa Mine for Cantung-style pyrrhotite-scheelite mineralisation. However, this anomaly occurs at the upper contact of the Milendella Limestone Member in close proximity to the known copper (-trace gold) mineralisation at Kanappa (plan SAa 2835). Infill ground magnetics should be acquired over this feature to define the size and attitude of the anomaly.

5.1.3 Rock Chip Sampling

Fourteen rock chip/channel samples were collected from a series of shallow pits and shafts south-east of Kanappa South (plan SAa 2642). Grab samples of dump material from these pits previously returned anomalous gold assays (max. 16 ppm). The workings are developed within a fault zone and on adjacent carbonate unit (Milendella Limestone Member). A thinly-bedded iron-rich unit (1.5 metres thick) occurs within the carbonate. Earthy limonite gossan (?ex iron rich carbonate) is developed at the surface. The carbonate is cut by later quartz-siderite-limonite veins. Thin granitic dykes and zones of calc-silicate skarn alteration occur locally. The samples were analysed for copper, lead, zinc, silver, gold, tin and tungsten. Elevated gold assays (max. 0.5 ppm) were returned from brecciated calc-silicate, schist and granite lithologies within the fault zone. The sample ledgers and assay results are presented in Appendix III, and petrological descriptions in Appendix II. The gold appears to be enriched in limonite gossans developed on the surface of the carbonate. No further work is warranted.

5.2 Exploration Review

A detailed review of previous work undertaken by CRA Exploration with the Kanmantoo Trough was made by J.V. Main (CRAE) and L. Farrar (Consultant). Follow up of four limited-strike magnetic features (anomalies 1 to 4) and a zone of disturbed magnetics within the Mt. Karinya E.L. 947 was recommended (plans SAa 2695 and SAa 2915). Magnetic anomalies 1 to 4 are described by Main (1984) as follows:

> "Anomaly 1 is a well formed dipolar feature located stratigraphically above the Karinya shale and within a fold closure.
>
> Anomaly 2 is a negative feature within a long linear magnetically positive feature and as such may represent a localised facies change or sulphide species change.
>
> Anomaly 3 is a localised magnetically positive feature occurring just below the Tungkillo Marble Member. It appears to be in a structurally complex area and can be interpreted to represent a thickening of a magnetic unit.
>
> Anomaly 4 is in fact two small 'bullseye' features developed within the steep magnetic gradient near the Kanappa Mine."

Ground magnetic definition and drill testing of this feature has been completed (refer Lewis, 1984, and this report).

A zone of disturbed magnetics occurs in the core of the Karinya Syncline stratigraphically above the Karinya shale. Follow up of discrete magnetic anomalies for discordant base metal and gold mineralisation is recommended.

P. LEWIS

PL/pw

EXPENDITURE

Expenditure for the period ended 31st May, 1984, the nearest accounting period was $27 032.00, as listed below.

	$
Drilling	12 794
Payroll	5 379
Supplies	1 531
Vehicle	1 133
Travel	692
Property	834
Tenements	161
Contractors	236
Laboratory	2 107
Overheads	2 165
Total	$27 032

APPENDIX I

DETAILED DRILL LOG AND ASSAY RESULTS DD84MK1

C R A EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE LOCAL AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170·1m HOLE No DD 84 MK 1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN. SUSC. (SI x 10⁻⁶)	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No	FROM (M)	TO (M)	REC (M)	ASSAY VALUES
0	3·5	60%	HQ		QUARTZ - FELDSPAR - BIOTITE SCHIST; GREY, MEDIUM GRAINED, GNEISSIC, PORPHYROBLASTIC (ELONGATE ALTERED - SERICITE SOME COARSE GRAINED BIOTITE RICH LAYERS. QUARTZ VEINS AT 2.0m AND 2.5 - 2.7m	5	LIMONITE COMMON ALONG JOINTS AND FRACTURES, RED HEMATITIC STAINING AROUND BIOTITE AND ON CLEAVAGE. CORE TO LAYERING 60°					
		60%				10						
		60%				10						
		60%										
		60%				10						
		60%										
3·5	4·0				QUARTZ - FELDSPAR - BIOTITE GRANITE DYKE, FOLIATED, MEDIUM GRAINED	10						
4·0	11·5				QUARTZ - FELDSPAR - BIOTITE SCHIST; PINK - GREY, GNEISSIC, AS ABOVE	20	LIMONITE COMMON ON JOINTS AND FRACTURES, HEMATITIC STAINING AROUND MICAS AS ABOVE, CORE TO LAYERING 60°					
					THIN QUARTZ - BIOTITE SCHIST; GREY, FINE TO MEDIUM GRAINED, SILICEOUS FROM 9·0 - 9·2 m. GRANITIC DYKES 9·9 - 10·5m, 11·3 - 11·5m	10						
						10						
						15						
						15						
						10						
						5						
						5						
11·5	11·7				QUARTZ - BIOTITE SCHIST; FINE GRAINED, SILICEOUS, PORPHYROBLASTIC		ALTERED ANDALUSITE (CHIASTOLITE) CORE TO LAYERING 60°					
11·7	15·3				QUARTZ - FELDSPAR - BIOTITE - (SERICITE) SCHIST; MEDIUM TO COARSE GRAINED, GNEISSIC, PORPHYROBLASTIC (ELONGATE ALTERED - SERICITE)	20						
					MINOR THIN (< 2cm) PEGMATITIC DYKES, PEGMATITIC VEIN	20						
					QUARTZ WITH PYRITE AND LIMONITE 11·7 - 12·0 m							
						10						
15·3	19·5				QUARTZ - FELDSPAR - BIOTITE SCHIST; GREY, FINE GRAINED, SILICEOUS BROKEN, INTERBEDDED WITH MICA SCHIST; MEDIUM TO COARSE GRAINED, PORPHYROBLASTIC (ALTERED), THIN (2cm) GRANITIC DYKE AT 19·1m, ALSO FROM 19·2 - 19·5m	10	LIMONITE COMMON ON JOINTS AND FRACTURES MINOR HEMATITIC STAINING					
						10	ON CLEAVAGE, CORE TO LAYERING 70° JOINTS 50° ~ ⊥° TO LAYERING					
						20						
						20	CORE TO LAYERING 50°					
						20						
19·5	21·7				QUARTZ - FELDSPAR - BIOTITE SCHIST; MEDIUM TO COARSE GRAINED, SOME PORPHYROBLASTS AT THE TOP, MIGMATITIC AT THE TOP, QUARTZ - LIMONITE VEIN AT 20·5 m		LIMONITE ON JOINTS AND FRACTURES					
						20	HEMATITIC STAINING ON CLEAVAGE, CORE LAYERING 60°					
						20						
21·7	26·5	60%			QUARTZ - FELDSPAR - BIOTITE SCHIST; MEDIUM TO COARSE GRAINED, MICACEOUS, MINOR PTYGMATIC FOLDING, MINOR SERICITE		LIMONITE COMMON ON JOINTS AND					
		60%				20	FRACTURES, CORE TO LAYERING 60°, JOINTS 50° ⊥° TO LAYERING					
		15%			PORPHYROBLASTS							
		15%	HQ			25						

CRAE 117
PLAN No M 414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

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CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE LOCAL AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170.1m HOLE No DD84MK1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN. SUSC. SI x 10^{-3}	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No	FROM (M)	TO (M)	REC (M)	ASSAY VALUES
21.7	26.5	15½	HQ		QUARTZ-FELDSPAR-BIOTITE SCHIST; AS ABOVE	25						
						25						
						25						
26.5	28.4				GRANITIC DYKE; LEUCOCRATIC, MEDIUM GRAINED, QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE ROCK, WEAKLY FOLIATED, CORE BROKEN 27.0-27.6m	10	JOINTED, ONE SET PARALLEL TO FOLIATION, ONE SET PERPENDICULAR TO FOLIATION 30° TO CORE AXIS, LIMONITE					
28.4	28.5				QUARTZ-FELDSPAR-BIOTITE SCHIST; AS ABOVE	10	STAINING ON JOINTS, CORE TO LAYERING 70°					
28.5	32.8				QUARTZ-FELDSPAR-BIOTITE SCHIST; FINE GRAINED, WELL DEVELOPED COMPOSITIONAL LAYERING, THIN BIOTITE RICH LAYERS, THIN GRANITIC DYKES 30.0-30.1m, 31.1-31.2m, MINOR SPOTTING (MUSCOVITE) IN PART. CORE BROKEN 30.1m, 30.3-31.1m, SLIGHTLY SILICIFIED TO BASE.	15	LIMONITE STAINING ON JOINTS AND FRACTURES, MINOR BLACK OXIDES (?MANG) FRACTURES AT LOW ANGLE TO CORE AXIS					
						25	CORE TO LAYERING 65°					
						25						
32.8	37.4				FELDSPAR-QUARTZ-BIOTITE-(SERICITE) SCHIST; FINE TO MEDIUM GRAINED FOLIATED, PORPHYROBLASTIC (ALTERED-SERICITE, EX ANDALUSITE IN PART) THIN GRANITIC DYKES AT 34.2m (2cm), PEGMATITE DYKE 35.5-35.6m, CLAY BAND AT 36.2m. (SERICITE YELLOW-BROWN PHLOGOPITIC MICA). MINOR MESOSCOPIC KINK FOLDS. QUARTZ-LIMONITE-HEMATITE POD AT 37.3m.	25	RED-BROWN HEMATITIC CLAY AND SERICITE -PHLOGOPITE ON CLEAVAGE PLANES, LIMONITE AND BLACK OXIDE ON FRACTURES LOW ANGLE TO CORE AXIS, CORE TO LAYERING 65°					
						20						
						20						
						20						
37.4	37.8				QUARTZITE; FINE GRAINED, BIOTITIC IN PART, EN ECHELON ALTERATION (BLEACHING) STREAKING PARALLEL TO JOINTING	20						
37.8	44.2				FELDSPAR-QUARTZ-BIOTITE-(SERICITE) SCHIST; AS ABOVE, THIN GRANITIC DYKES 40.0m, 40.8m, PEGMATITIC, MINOR LIMONITE STAINING, AMG PORPHYROBLASTIC LAYERS, SOME THIN <2cm GNEISSIC LAYERS. CONTORTED GRANITIC DYKE 42.8m - 43.0m.	15	ONLY MINOR JOINTING CORE BROKEN MAINLY ALONG CLEAVAGE, JOINTS 60° TO CORE AXIS ± TO LAYERING CORE TO LAYERING 65°					
						15						
						15	IRREGULAR LOW ANGLE FRACTURES, LIMONITIC MINOR COSSAROUS VOIDS, CORE BROKEN					
						15	43.8-44m					
						15						
							HAMLINE FRACTURES AS ABOVE ONLY					
44.2	44.8				QUARTZITE; FINE GRAINED, MICACEOUS, EN ECHELON ALTERATION CASHES, DISRUPTED LAYERING 44.4-44.6m	15	MINOR JOINTS, HEMATITE-LIMONITE AND OPAQUE OXIDE ON FRACTURES, CORE					
44.8	45.6				SCHIST; AS ABOVE	15	BROKEN 44.9-45.0, 45.3-45.4m					
45.6	46.6				SCHIST; FINE TO MEDIUM GRAINED, SOME COARSER GRAINED TREMOLITIC LAYERS, MINOR PALE PINK GARNETS, SILICEOUS, CALC-SILICATE	20	LOW ANGLE LIMONITE-HEMATITE STAINED FRACTURES					
46.6	54.8		HQ		CALC-SILICATE; SEE OVER							

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SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

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CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE LOCAL AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170.1m HOLE No DD84MK1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m PVC DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN SUSC. SI x10⁻³	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Bi	Au	Sn	W	Ag/Mo
46.6	54.8		HQ		CALC-SILICATE, FINE GRAINED, QUARTZ-BIOTITE-TREMOLITE-CHLORITE GARNET ROCK. GARNETS, SMALL (TO 3mm), PINK, THIN MICA RICH BANDS ALSO HAVE A FLAKEY ALTERATION OF ELONGATE CRYSTAL. CORE BROKEN 49.1 - 49.5m, SOME QUARTZ LENSES. 1 cm QUARTZ-FELDSPAR VEIN AT 47.6m, THIN (4cm) GRANITIC DYKE AT 54.4m, CORE BROKEN 54.0 - 54.8m	20	CORE TO LAYERING 70°, LOW ANGLE FRACTURES (HAIRLINE CRACKS) 10° TO CORE AXIS, COATED WITH LIMONITE-HEMATITE AND BLACK OXIDE, MINOR CLAYS										
						20													
						20	SOME FRACTURES 70° TO CORE AXIS												
							JOINTS 50° TO CORE AXIS MAIN SET												
						10	SOME JOINTS 10° TO CORE AXIS												
							MINOR EPIDOTE TO BASE												
						10													
						10		1157321	52.0	53.0	1.0	38	10	4	-	-	24	-	-
						10													
						15													
54.8	58.0				QUARTZ-FELDSPAR-BIOTITE-SERICITE SCHIST, FINE TO MEDIUM GRAINED, THIN BIOTITE RICH BANDS, INTERBEDDED WITH THIN (TO 15 cm) BANDS OF QUARTZITIC SCHIST. PEGMATITIC QUARTZ FELDSPAR DYKE 57.1 - 57.3 m. CORE BROKEN 57.4 - 57.7m		MINOR LOW ANGLE HAIRLINE FRACTURE COATED WITH LIMONITE. RED HEMATITIC STAINING AROUND MICAS, CORE TO LAYERING 70°										
						20													
						10													
						10													
58.0	64.8				QUARTZ-FELDSPAR-BIOTITE-CHLORITE SCHIST, FINE GRAINED, GREENISH GREY, MINOR MESOSCOPIC KINK FOLDS, HAVE BLOTCHY GRN ALTERATION ⊥ TO LAYERING IN DIRECTION OF FOLD AXIS, BECOMES GREY-BROWN OXIDISED TO BASE, MEDIUM GRAINED QUARTZ-PYRITE-LIMONITE VEIN 58.4 - 58.6m, COARSE PHLOGOPITIC MICA ON CONTACT, QUARTZ-LIMONITE VEIN (8cm) AT 62.3m CORE BROKEN 61.6 - 62.6m	20	MINOR JOINTING 40° TO CORE AXIS, AND 0° TO CORE AXIS CORE TO LAYERING 70°. MINOR DISSEMINATED PYRITE ALONG CLEAVAGE 58.6 - 59.5m.										
						20													
						20													
					SCHIST; AS ABOVE, MICACEOUS, CORE CONTORTED IN PART, QUARTZ-FELDSPAR-CHLORITE-PHLOGOPITE VEINS AT 63.7 m AND 64.3m, MINOR THIN (TO 10cm) QUARTZITIC SCHIST INTERBEDS AT 63.1m AND 64.3m, MINOR DISSEMINATED PYRITE AT 64.3m.	20	MINOR LOW ANGLE FRACTURES. TRACE PYRITE AT 64.3m, BLOTCHY ALTERATION ASSOCIATED WITH SULPHIDES. CORE TO FOLIATION 70°										
						23													
						25													
64.8	70.4				CALC-SILICATE, FINE TO MEDIUM GRAINED, LENSOIDAL TEXTURE QUARTZ-FELDSPAR-TREMOLITE-ACTINOLITE-GARNET ROCK, MINOR KNOTTY BANDS, SKELETAL LIMONITE DEVELOPED ON AMPHIBOLE CLEAVAGES, CORE BROKEN 65.3 - 65.5m, SHATTERED 66.4 - 69.1m, 68.5 - 69.2m	25	MINOR LOW ANGLE FRACTURES WITH LIMONITE-HEMATITE COATINGS. MINOR JOINTS 30° TO CORE AXIS ⊥ TO LAYERING 70° TO CORE AXIS.										
						25													
						15													
						15													
						15													
70						15													
			HQ			15													

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SUMMARY AND SPECIAL COMMENTS

LOGGED BY P.LEWIS DATE 5-5-84

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CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO-ORDINATES 10080 mN 9935 mE | AZIMUTH 083° MAGNETIC | DRILLERS LONGYEAR | COMMENCED 1-5-84 | DEPTH 170.1m | HOLE No DD84MK1

RL COLLAR | INCLINATION -70° | DRILL TYPE LONGYEAR 38 | COMPLETED 5-5-84 | CASING LEFT 3m PVC | DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	MAGNETIC SUSC SI x10⁻³	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Bi	Au	Sn	W	Ag g/t
70.4	72.8		HQ		QUARTZ-FELDSPAR-BIOTITE-SERICITE SCHIST; FINE TO MEDIUM GRAINED THIN MICA RICH LAYERS, PHLOGOPITIC MICA ALONG CLEAVAGE PLANES 10 cm QUARTZ VEIN WITH SERICITE AND AMPHIBOLE (TREMOLITE) AT 72.1-72.2m, THIN VEINS 72.3m AND 72.6m	15 15 15	MINOR HAIRLINE FRACTURES AND 30° JOINTS, LIMONITE COMMON ALONG FRACTURES, AND CLEAVAGE.											
72.8	75.4				QUARTZ-FELDSPAR-BIOTITE-CHLORITE SCHIST; FINE GRAINED, COMPETENT, MINOR BIOTONY ALTERATION, THIN (2cm) GRANITIC DYKE AT 74.0m, INTERBEDDED WITH SCHIST ABOVE TO BASE CORE BROKEN 74.1-75.4m.	15 20 20	CORE TO LAYERING 70°, JOINTS 30° MINOR FRACTURES LOW ANGLE, MINOR LIMONITE STAINING ALONG FRACTURES AND CLEAVAGE											
75.4	77.0				QUARTZ-FELDSPAR-BIOTITE GNEISS, COARSE GRAINED, MICACEOUS, LAYERING PTYGMATIC, DISRUPTED, SERICITE ALTERATION OF FELDSPARS. CORE SHATTERED 75.0-76.3m, 76.9-77.0m. GRANITIC DYKES 75.4-75.8m, 76.2-76.4m, 76.9-77.0m.	20 20	POSSIBLE SHEAR ZONE, LIMONITE STAINING COMMON ON FRACTURES.											
77.0	79.7				GRANITIC DYKE; QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE ROCK, FINE TO MEDIUM GRAINED, SOME PEGMATITIC VEINS, COARSE GRAINED BIOTITE SCHIST BAND 78.7-79.3 ? XENOLITH	15 15	JOINTED PARALLEL TO FOLIATION 60° TO CORE AXIS	1167322	77.0	78.0	1.0	16	-	18	-	-	14	-	-
79.7	86.8				QUARTZ-FELDSPAR-BIOTITE-CHLORITE SCHIST; MEDIUM GRAINED, MICACEOUS, PTYGMATIC QUARTZ-FELDSPAR LENSES, 5cm PEGMATITIC QUARTZ-TREMOLITE VEIN AT 82.9m, THIN CALC-SILICATE BAND FROM 83.3-83.7m, BECOMES CALC-SILICATE TO BASE WITH RARE GARNETS, LENSOIDAL TEXTURE.	15 15 20 20 20 20 20 20 25	CORE TO LAYERING 60°, SOME LOW ANGLE FRACTURES, 0-10° TO CORE AXIS, SOME JOINTS 60° TO CORE AXIS 'b' TO LAYERING. LIMONITE AND HEMATITE ON FRACTURES. MINOR DISSEMINATED PYRITE ALONG CLEAVAGE IN "CALC-SILICATE" BANDS. CORE TO LAYERING 60° CORE TO LAYERING 65° CORE TO LAYERING 50°											
86.8	88.8		HQ NQ		CALC-SILICATE; FINE GRAINED LENSOIDAL, INTERBEDDED WITH MAFIC SCHIST; DARK GREY, SILICEOUS, GRANITIC DYKE 88.8-89.0m	20 20											
89.0	89.1				QUARTZ VEIN SHATTERED	15											
89.1	89.6				GRANITE DYKE; QUARTZ-FELDSPAR-BIOTITE-SERICITE ROCK, CORE BROKEN		LOW ANGLE FRACTURES											
89.6	92.2				QUARTZ-FELDSPAR-BIOTITE-SERICITE SCHIST; MICACEOUS, MEDIUM GRAINED GRADATIONAL INTO CALC-SILICATE, FINE TO MEDIUM GRAINED, SMALL PINK GARNETS INCREASE TO BASE.	30 30	CORE SHATTERED 89.9-90.0m, CORE TO LAYERING 40° AT 89.6m, 20° AT 90.2m, LIMONITE STAINING ON FRACTURES AND CLEAVAGE, CORE SHATTERED 91.8-92.2m.											
92.2	105.2		NQ		CALC-SILICATE; FINE TO MEDIUM GRAINED, QUARTZ-BIOTITE-AMPHIBOLE (-DIOPSIDE)-GARNET-CALCITE ROCK, LENSOIDAL TEXTURE, THIN (<30cm) MICA RICH BANDS, SOME GARNETIFEROUS LAYERS, MINOR PYRITE ALONG CLEAVAGE	10 10	CORE TO LAYERING 60°, JOINTS 90°, 40°, MINOR LIMONITE ON JOINTS, MINOR PYRITE AT 94.6m, 96.2-96.6m											

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

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C R A EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170.1m HOLE No. DD84MK1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m PVC DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN SUSC SI x10⁻⁶	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Bi	Au	Sn	W	Ag/Mo
92.2	105.2				CALC-SILICATE; AS ABOVE, SCHISTOSE.	10													
						15													
						15													
					CALC-SILICATE; FINE GRAINED, HARD, LENSOIDAL TEXTURE AS ABOVE, QUARTZ-	25	MINOR PYRITE ALONG CLEAVAGE, CORE												
					PYROXENE - AMPHIBOLE - BIOTITE - CHLORITE ROCK, RARE GARNETS AT TOP		TO LAYERING 60°, MINOR JOINTS 80°												
					CORE BROKEN 97.3 - 97.9m, 102.0 - 102.9m, 103.8 - 103.1m	25	AND 80° TO CORE AXIS.												
						20													
						20													
						25		1157323	101.0	102.0	0.95	8	-	8	-	-	14	-	-
						20													
						25													
						20													
								1157324	104.8	105.8	1.0	60	-	18	-	-	14	15	-
105.2	105.8				QUARTZ - FELDSPAR - BIOTITE - CHLORITE - GARNET - SCHIST; FINE GRAINED,	60	MINOR PYRITE ALONG CLEAVAGE												
					MAFIC, HARD			1157325	105.8	106.8	0.95	2600	-	50	-	-	36	20	-
105.8	106.6	86%			CALC-SILICATE; AMPHIBOLE - PYROXENE - FELDSPAR (? ALBITE) - GARNET - MICA-	600	SULPHIDIC (TO 30% IN PART) PYRRHOTITE												
					SULPHIDE ROCK, FINE GRAINED, YELLOW-DARK GREEN		-PYRITE - TRACE CHALCOPYRITE	1157326	106.8	107.8	0.90	38	-	22	-	-	10	-	-
106.6	107.8				QUARTZ - BIOTITE - CHLORITE SCHIST, FINE GRAINED, STRONGLY CLEAVED	25	TRACE - MINOR SULPHIDE CORE TO LAYERING												
					WITH COARSE GARNETS 106.6 - 107m		60°	1157327	107.8	108.8	0.95	55	-	6	-	-	16	-	-
107.8	110.9				CALC-SILICATE; FINE GRAINED, LENSOIDAL TEXTURE, GRANETIFEROUS (UP	25	CORE TO LAYERING 60° MINOR PYRITE												
					TO 20%) MINOR PYRITE ALONG CLEAVAGE AND SMALL LENSES														
						30													
						30													
110.9	118.6				QUARTZ - FELDSPAR - BIOTITE - CHLORITE SCHIST; FINE GRAINED, DARK,	30	CORE TO LAYERING 50 - 60°, LOW												
					SOME BIOTITE RICH LAYERS, SMALL LENSES OF SULPHIDE, MINOR		ANGLE IRREGULAR FRACTURES, MINOR												
					DISSEMINATED SULPHIDE, THIN CALC-SILICATE INTERBEDS (3cm AT	15	SULPHIDES, CORE BROKEN 111.2 - 111.9,												
					112.1m, 113.8 - 113.9m, 114.2 - 114.3m, 114.8 - 115.3m, 116.1 - 116.3m,		114.5 - 117.0m, 118.8 - 119.1m, 119.8; 119.9m												
					4cm AT 117.1m) QUARTZ - FELDSPAR - AMPHIBOLE ROCK, MINOR	15	MINOR JOINTS 60° TO CORE AXIS	1157328	113.1	114.1	0.95	20	-	12	-	-	18	-	-
					SULPHIDE BLEBS AND DISSEMINATED ALONG CLEAVAGE, FINE TO COARSE			1157329	114.1	115.1	0.90	8	-	70	-	-	20	-	-
					GRAINED	25													
						20	CORE TO LAYERING 60°												
						25													
						20													

CRAE 117
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SUMMARY AND SPECIAL COMMENTS

LOGGED BY R. LEWIS DATE 5-5-84

SHEET 5 OF 8

CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE LOCAL AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170.1m HOLE No DD84MK1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m PVC DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN SUSC SI x10⁻³	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Bi	Au	Sn	W	Ag/Mo
110.9	118.6				SCHIST; AS ABOVE														
						20													
118.6	120.9				CALC-SILICATE; FINE TO MEDIUM GRAINED, DARK GREEN-GREY,		CORE TO FOLIATION 40-60°												
					LENSOIDAL TEXTURE, SOME PINK ?FELDSPAR	40		1157330	118.9	119.9	0.90	60	-	40	-	-	12	-	-
120																			
						40													
120.9	121.6				MAFIC SCHIST; AS ABOVE, FINE GRAINED	40	TRACE SULPHIDE ON FRACTURES												
121.6	122.0				CALC-SILICATE, FINE-MEDIUM GRAINED, LENSOIDAL TEXTURE		RARE SULPHIDE ON FRACTURES												
122.0	126.7				QUARTZ-FELDSPAR-BIOTITE-CHLORITE SCHIST; FINE-MEDIUM GRAINED,	60	MINOR SULPHIDE LENSES AND COATINGS												
					GRADATIONAL TO CALC-SILICATE IN PART, MINOR SMALL LENSES OF		ALONG CLEAVAGE. CORE TO LAYERING 40°												
					FINE GRAINED SULPHIDES, COATINGS ALONG CLEAVAGE	25	MINOR LOW ANGLE FRACTURES AND JOINTS												
							85° TO CORE AXIS.												
						40													
125																			
						40													
125.7	128				CALC-SILICATE; FINE-COARSE GRAINED, AMPHIBOLE-PYROXENE-QUARTZ-		1-3% DISSEMINATED PYRRHOTITE 126.0-	1157331	126.0	127.0	1.00	330	-	44	-	-	32	-	-
					FELDSPAR-CALCITE-CHLORITE ROCK, SOME HORNBLENDE RICH LAYERS	90	126.5m, MINOR SULPHIDES DISSEMINATED												
					FINE GRAINED TO BASE, MINOR <3% SULPHIDES, COMPETANT ROCK.		AND IN LENSES, CORE TO LAYERING 85°	1157332	127.0	128.0	1.00	70	8	22	-	-	22	-	-
						90													
128	129.8				QUARTZ-FELDSPAR-BIOTITE-CHLORITE SCHIST; FINE GRAINED, SILICEOUS,	30	CORE TO LAYERING 60°												
					MINOR GREEN ?HORNBLENDE PORPHYROBLASTS, TRACE SULPHIDE, CORE														
					BROKEN 128.0-129.0m	30		1157333	128.8	129.8	0.90	6	-	14	-	-	8	-	-
129.8	130.0				SHEAR ZONE, DARK SAND SULPHIDE.														
130.0	131.7				CALC-SILICATE; COARSE GRAINED, SULPHIDIC TO 30% IN PART,	120	30% PYRRHOTITE-PYRITE-TRACE	1157334	129.8	130.8	0.90	1900	-	110	19	-	22	15	-
					PYRRHOTITE-PYRITE TRACE CHALCOPYRITE, CORE BROKEN 131.3-131.5m		CHALCOPYRITE IN PART, JOINTS 80°												
						120	60°, LOW ANGLE FRACTURES, CORE TO	1157335	130.8	131.8	0.95	1650	-	90	12	-	20	28	-
131.7	134.0				QUARTZ-BIOTITE-CHLORITE SCHIST; FINE GRAINED, SILICEOUS, MINOR		LAYERING 35-40°.												
					GREEN PORPHYROBLASTS, TRACE SULPHIDE ON FRACTURES AND JOINTS	25													
						60													
134.0	138.3				AMPHIBOLITE/CALC-SILICATE; MEDIUM-COARSE GRAINED, SULPHIDIC,	300	SULPHIDE AVERAGE 10% (UP TO	1157336	134.0	135.0	0.95	2800	6	130	710	0.50	20	-	-
135					(PYRRHOTITE-MINOR PYRITE-CHALCOPYRITE AS MASSIVE WISPY	(460)	80% 135.30-135.35m) MANY												
					LENSES ALONG CLEAVAGE, DISSEMINATED GRAINS AND IN VEINS	1250	PYRRHOTITE-MINOR PYRITE, CHALCOPYRITE	1157337	135.0	136.0	0.95	1900	-	70	280	-	22	-	-
					ESSENTIALLY AN AMPHIBOLE-SULPHIDE ROCK. NONE THIN <1cm	(2000)	AT TOP GRADES INTO MAGNETITE-												
					CROSS CUTTING BRECCIA DYKES. BECOMES VERY MAGNETIC TO	6000	PYRRHOTITE AT BASE. CORE TO	1157338	136.0	137.0	0.95	1900	-	50	105	-	40	-	-
					BASE WITH UP TO 10% MAGNETITE. MINOR WHITE ALTERATION	(10,000)	LAYERING 50°, JOINTS 60° AND 80°												
					MINERAL AND EPIDOTE TO BASE. SLIGHTLY CALCAREOUS.	10,000	CORE COMPETANT MASSIVE	1157339	137.0	138.0	0.95	390	-	60	22	-	14	-	-
						(10,000)													
						50	CORE TO LAYERING 45°	1157340	138.0	139.0	0.85	55	-	24	14	-	22	-	-
138.3	142.0				CALC-SILICATE; MEDIUM TO COARSE GRAINED, GNEISSIC, CALCITE-	(15,000)													
					AUGITE-BIOTITE-CHLORITE-ROCK, SANDY, MINOR DISSEMINATED	30	10-50% MAGNETITE-PYRRHOTITE-PYRITE	1157341	139.0	140.0	0.65	32	-	8	18	-	6	-	-
140		60%			SULPHIDE GRAINS, LAYERING INCONSTANT TO BASE, MINOR		TRACE CHALCOPYRITE 140.7-141.6m												
		60%			SOLUTION VOIDS, GRITTY TEXTURE.	10000	COARSE TO LAYERING 30-60°, JOINTS	1157342	140.0	141.0	0.90	310	-	28	12	-	22	-	-
						(30,000)	50° AND LOW ANGLE FRACTURES												

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

SHEET 6 OF 8

CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080mN 9935mE | AZIMUTH 083° MAGNETIC | DRILLERS LONGYEAR | COMMENCED 1-5-84 | DEPTH 170.1m | HOLE No. DD84MK1

RL COLLAR | INCLINATION -70° | DRILL TYPE LONGYEAR 38 | COMPLETED 5-5-84 | CASING LEFT 3m PVC | DPO No(s) 927, 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN SUSC SI x 10^{-3}	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES Cu	Pb	Zn	Bi	Au	Sn	W	Ag/Mo
138.3	142.0				CALC-SILICATE; AS ABOVE	10000		1157343	141.0	142.0	0.85	85	4	95	8	-	12	-	-
						(80000)														
142.0	144.4				CALC-SILICATE SKARN; FINE TO COARSE GRAINED, AMPHIBOLE - CALCITE -	80	CORE TO LAYERING 60°, JOINTS 80°	1157344	142.0	143.0	0.90	26	-	26	-	-	20	-	-
					EPIDOTE - GARNET - MAGNETITE - SULPHIDE ROCK, GARNET VEIN 142.3 - 142.4m		MAGNETITE - PYRRHOTITE - PYRITE												
					GARNET RICH 144.3m, UP TO 50% MAGNETITE - PYRITE - PYRRHOTITE	80,000		1157345	143.0	144.0	0.90	100	-	50	-	-	16	-	-
					FROM 143.4 - 144.4m, MINOR SULPHIDES AS DISSEMINATED GRAINS	(>100000)													
					AND THIN VEINLETS. WEAK INDISTINCT LAYERING TO BASE.	1,000		1157346	144.0	145.0	0.85	190	-	32	-	-	6	-	-
144.4 PM	145.6				CALC-SILICATE; FINE TO MEDIUM GRAINED, SCHISTOSE, QUARTZ -	(80,000)	MINOR SULPHIDES, CORE BROKEN 144.4												
					FELDSPAR - CHLORITE - AMPHIBOLE ROCK, MINOR GARNETS.	20	- 144.5m, 144.6 - 144.7m	1157347	145.0	146.0	0.95	130	-	12	-	-	6	20	-
145.6	158.1				QUARTZ - FELDSPAR - BIOTITE - CHLORITE ± GARNET SCHIST; FINE		CORE TO LAYERING 50°, JOINTS 60° AND												
					GRAINED, SILICEOUS, COMPETENT, THIN CALC-SILICATE BANDS TO 148.9m	15	80° SOME LOW ANGLE FRACTURES												
					TRACE TO MINOR SULPHIDE (PR/PE) MAINLY ALONG CLEAVAGE MINOR														
					BLOTCHY ALTERATION IN JOINT DIRECTION. CORE BROKEN 148.6 - 148.9m	15													
					152.4 - 152.6m, 153.9 - 154.2m, 156.0 - 156.5m, 157.9 158.1m														
						13													
						13													
						15													
						20													
						20													
						20													
						35													
						35		1157348	155.0	156.0	1.0	6	-	8	-	-	10	15	-
						35													
						40													
158.1	160.0				SCHIST; AS ABOVE, INTERBEDDED WITH CALC-SILICATE; FINE TO	40	CORE TO LAYERING 55°, JOINTS 80°,												
					MEDIUM GRAINED, QUARTZ - AMPHIBOLE - PYROXENE - MICA ROCK, MINOR		60° AND LOW ANGLE FRACTURES												
					PYRITE LENSES AND DISSEMINATED GRAINS, CHLORITIC, CORE BROKEN	20													
					158.6 - 159.2m.														
160.0	163.8				CALC-SILICATE; FINE GRAINED, HARD, QUARTZ - AMPHIBOLE - PYROXENE -	20	CORE TO LAYERING 50 - 60°, JOINTS												
					CALCITE - CHLORITE ROCK, LAYERED, MINOR DISSEMINATED PYRITE		80° AND 60°, SOME 30°, LOW ANGLE												
					AND COATINGS ON CLEAVAGE AND FRACTURES, SOME MICACEOUS BANDS	20	FRACTURES	1157349	161.0	162.0	1.0	28	-	10	-	-	18	-	-
					AND KINK FOLDS CORE BROKEN 160.2 - 160.6m, 163.3 - 163.8m														
						15		METHOD				AAS	AAS	AAS	AAS	AAS	XRF	XRF	AAS
								DETECTION LIMIT				(2)	(4)	(2)	(4)	(0.05)	(4)	(10)	(1)(8)
						15													
163.8	166.6				CALC-SILICATE AS ABOVE INTERBEDDED WITH SCHIST; SEE ABOVE	15	CORE TO LAYERING 60°.												

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

SHEET 7 OF 8

CRA EXPLORATION PTY LIMITED

DIAMOND DRILL CORE LOG

PROJECT KANMANTOO TROUGH

CO ORDINATES 10080 mN 9935 mE LOCAL AZIMUTH 083° MAGNETIC DRILLERS LONGYEAR COMMENCED 1-5-84 DEPTH 170·1 HOLE No. DD 84 MK 1

RL COLLAR INCLINATION -70° DRILL TYPE LONGYEAR 38 COMPLETED 5-5-84 CASING LEFT 3m PVC DPO No(s) 927 929

DEPTH FROM(M)	DEPTH TO(M)	CORE REC (M)	CORE SIZE	GRAPHIC LOG	CORE DESCRIPTION	AVERAGE MAGN SUSC. SI X10⁻⁶	SPECIAL FEATURES WEATH., ALTERATION, FRACTURING VEINING, MINERALIZATION	SAMPLE No.	FROM (M)	TO (M)	REC (M)	ASSAY VALUES
163.8 us	166.6				CALC-SILICATE / SCHIST; FINE GRAINED QUARTZ-BIOTITE-CHLORITE, SILICEOUS		CORE TO LAYERING 60°, JOINTS 80°					
					TO 169.9m, MICACEOUS 165.2 - 166.6 m, MINOR SULPHIDE LENSES	20	AND 60°, LOW ANGLE FRACTURES.					
					TRACE SULPHIDE ALONG CLEAVAGE.		2mm PYRITE BED/LAYER AT 165.7m.					
						15						
166.6	170·1				CALC-SILICATE / QUARTZITIC SCHIST; FINE GRAINED, TRACE - MINOR		CORE TO LAYERING 60°, JOINTS 80° AND					
					SULPHIDE ALONG CLEAVAGE AND FRACTURES, CORE BROKEN 168·0-169·9m	15	60° LOW ANGLE FRACTURES.					
					168·2 - 169·0 m. 3cm WELDED BRECCIA WITH MINOR PYRITE							
					AT 168.2 m.	15						
						15						
					B.O.H. 170·1 m							

CRAE 117
PLAN No M414

SUMMARY AND SPECIAL COMMENTS

LOGGED BY P. LEWIS DATE 5-5-84

SHEET 8 OF 8

APPENDIX II

PETROLOGICAL REPORTS DD84MK1

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4275

12th April, 1984

TO: Mr. Paul Lewis,
CRA Exploration Pty. Ltd.,
PO Box 254
NORWOOD S.A. 5067

COPY TO: The Administrative Officer,
CRA Exploration Pty. Ltd.
PO Box 254
NORWOOD S.A. 5067

The Manager,
Information Services
CRA Exploration Pty. Ltd.,
PO Box 656
FYSHWICK ACT 2069

YOUR REFERENCE: Order No. B0921

MATERIAL: Rock samples, Mt. Karinya, EL947 Cambrai Area.

WORK REQUESTED: Thin section and description.

SAMPLES & SECTIONS: Returned to P. Lewis with this report..

PONTIFEX & ASSOCIATES PTY. LTD.

1157477 : weathered, partly retrogressed coarse calc-silicate, with a primary assemblage of clinopyroxene-epidote-garnet, extensively retrograded to tremolite, areas of fine-grained carbonate, quartz and clays.
minor oxidised pyrite.

This is a coarse, heterogeneous calc-silicate rock which is dominated in different areas by clinopyroxene, tremolite, fine turbid carbonate after clinopyroxene, epidote, and minor garnet. Some of the epidote is veined and partly replaced by carbonate, accessory, small irregular grains of quartz are scattered.

The grain size is variable throughout froml to 4 mm.

Part of the sample is composed of extremely fine grained carbonate, with or without fine quartz and clays. These appear to be of retrograde origin,(an advanced example of that noted above). Minor fine oxidised pyrite occurs in this carbonate particularly in vein like areas of clays and carbonate. Minor black filamentous oxides (?manganese) occur locally, rarely accompanied by biotite.

1157478 : impure marble, crowded with abundant small crystals of scapolite, clinopyroxene rare hornblende, and biotite (foliae).

At least 65% of this rock consists of microcrystalline calcite, the remaining 35% consists of scattered silicate crystals, about 0.2 - 0.4 mm in size.

Most of these crystals are either diopside or scapolite, but minor crystals of green hoernblende, and pale (magnesian) biotite are also present. Some of the clinopyroxene and biotite are altered to vermiculite-like clays. Accessories include sphene and opaque grains.

Most of these silicate grains occur separately or in small clusters, but there are rare poikilitic hornblende grains to 2 mm in size, and the biotite tends to be concentrated into layers with a moderate schistosity.

1157491 : layered, almost certain ?metasedimentary amphibolite;
incorporating minor calcite, scapolite and clinopyroxene.

This rock is dominantly amphibolitic, composed of a layered, microgranuloblastic aggregate of olive green hornblende and weakly zoned plagioclase, in sub-equal amounts, also with minor to subordinate calcite.

The calcite is concentrated into diffuse discontinuous layers up to 5 mm thick, usually together with minor clinopyroxene. Scapolite also occurs in diffuse lenses to 6 mm thick with very minor calcite, traces of clinopyroxene and sphene.

The layering is manifest mainly by the banded distribution of hornblende on a scale of 0.5 - 15 mm, and by an elongation of some of the hornblende and scapolite grains, with their C-axes in the plane of the layers.

1157495 : weakly layered, microcrystalline albite-rock;
minor quartz mostly in discontinuous more orless parallel stringers;
minor pyrite in the stringers and independently scattered;
(?albitised fine volcanic)

This hand specimen consists of vaguely thin layered, to massive, microcrystalline, grey, apparent quartz, somewhat "cherty", with minor small grains of pyrite scattered throughout, and poorly-defined, discontinuous stringers of quartz along the layering. The yellow staining on the weathered surface is derived from sulphide.

In thin section, at least 85% of the rock is in fact seen to consist of an extremely fine (0.08 mm) micromosaic of predominantly albite, with apparently only minor quartz. (The albite is mostly untwinned, thus difficult to optically, positively distinguish from quartz).

This compact micromosaic incorporates discontinuous stringers and veins of coarser (0.3 mm) quartz with minor albite, commonly carrying pyrite, and locally jarosite. These are mostly parallel forming the layering, but some cut across this direction. (Rare single albite crystals to 1 mm may be relict phenocrysts).

Small pyrite crystals are also scattered, with a vaguely layered distribution through the albite rock outside of the veins. Patches of very fine filamentous pyrite occur locally.

The origin of this rock is uncertain, but similar rocks from other areas known to the author are variably interpreted as:

1. soda-metasomatised (albitised) fine sediment
2. albitised acid volcanics (including fine tuffs)

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4299

31st May, 1984

TO: Mr. P. Lewis
CRA Exploration pty. Ltd.,
PO Box 254
NORWOOD S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
PO Box 254
NORWOOD S.A. 5067

The Manager,
Information Services Pty. Ltd.,
CRA Exploration Pty. Ltd.,
PO Box 656
FYSHWICK ACT 2069

YOUR REFERENCE: Order No. B0929

MATERIAL: Drill core (Cambrai)

IDENTIFICATION: 1157350 to 353

WORK REQUESTED: Thin section, petrographic description, polished section of opaque-rich samples

SAMPLES & SECTIONS: Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

1157350 / 101.5 m : biotite cordierite anthophyllite albite schist; an amphibolite facies metamorphosed, Fe-Mg-rich (i.e. chloritic) quartzose-pelitic sediment

About 50% of this rock consists of a metamorphically microgranular aggregate of albite (untwinned or poorly twinned), subordinate cordierite and rare quartz. The cordierite tends to occur in thin variably continuous layers, and is generally extensively altered to near-isotropic clays.

The other 50% of the rock consists of dark coloured mafic minerals, mainly long slender prisms of anthophyllite commonly in clusters and sprays along a weak cleavage, but also in relatively more squat crystals oriented across the cleavage.

Minor, generally much finer green and brown biotite occurs sporadically along the schistosity noted above. Accessory minute grains of black opaque oxide are fairly evenly scattered along the vague layering, coincidental with the schistosity, and are assumed to be hematite and/or ilmenite.

1157351 : (albite) pyrrhotite hornblende diopside rock;
137.0 m calc-silicate derived from an iron-rich impure, pelitic carbonate facies;
minor magnetite crystals enclosed in pyrrhotite, minor chalcopyrite and trace sphalerite also accompanies pyrrhotite.

This very dark coloured rock consists of a vaguely layered inequigranular aggregate of pale green diopside (50%), up to 3.5 mm in size and finer very dark green hornblende (20 - 25%).

Pyrrhotite (20%) occurs as highly irregular intergranular networks, locally enlarged to patchy aggregates, more or less associated with the hornblende. Coarser domains of pyrrhotite commonly enclose numerous subhedral to euhedral crystals of magnetite.

This pyrrhotite is also accompanied by accessory small irregular grains of chalcopyrite and trace sphalerite. Trace pentlandite is exsolved within the pyrrhotite.

Accessory small anhedral grains of untwinned K-spar are locally intergranular, rare stringers of quartz $\pm$ carbonate also occur locally. Accessory sphene is present.

This rock is interpreted as an iron-rich (?chloritic or sideritic) pelitic dolomitic-limestone metamorphically reconstituted under amphibolite facies conditions. The abundant Fe now manifest as magnetite was conceivably an original chemical component.

1157352 : (biotite) K-spar, hornblende marble, accessory
139.4 m disseminated pyrrhotite.

At least 70% of this rock consists of an inequigranular granuloblastic aggregate of calcite, i.e. it is essentially a marble.

Subhedral to anhedral crystals of dark green hornblende (15 - 20%), are randomly but fairly evenly scattered, more or less intergranular/poikiloblastic, average size about 1 mm. Generally smaller (0.5 mm), subhedral crystals of vaguely twinned K-spar (10%), also occur throughout and intergranular to the coarser calcite aggregate.

Small flakes of biotite (5 - 7%) are similarly aligned in several poorly defined layers. Accessory, very small grains of pyrrhotite are disseminated.

APPENDIX III

SAMPLE LEDGERS AND ASSAY RESULTS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

366

KANAPPA PROSPECT

Area: MT KARINYA
Map ref: 6728-IV
Photo name
Run No:

Collected: P.L.
Date collected MARCH '84
Date to lab: 28-4-84
D.P.O. No: 918, 920, 921

Analysed by PONTIFEX & ASSOCIATES, COMLABS
Date anal. rec. 10-4-84
Plan no: 2642
Report no:

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ag	Au	Sn	W
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	XRF	XRF
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(1)	(0.05)	(4)	(10)
1157473			1				1/3	CLINOPYROXENE - GARNET - EPIDOTE ROCK, FINE TO COARSE GRAINED SKARN.	46	-	80	-	-	14	10
477			1				1/3	CALC-SILICATE, CLINOPYROXENE - EPIDOTE - GARNET TREMOLITE ROCK, MEDIUM GRAINED, MINOR LIMONITE	300	10	48	-	-	14	35
478			1				1/3	CALC-SILICATE, FINE GRAINED, PORPHYROBLASTIC SCAPOLITE, CLINOPYROXENE, HORNBLENDE	50	8	16	-	-	-	10
479			1	.2		10	1	CALC-SILICATE, FINE GRAINED, GREY, SILICEOUS BRECCIATED IN PART	90	6	18	-	0.10	-	10
480			3	.5			1	CLAY, YELLOW-BROWN-BLACK, SOME EARTHY LIMONITE RARE COARSE BROWN BIOTITE, MINOR QUARTZ BOXWORKS.	680	14	34	-	0.10	4	10
481			1	.2		10	1	CALC-SILICATE, FINE GRAINED, SILICEOUS, MINOR SIDERITE, MANGANESE STAINING.	1300	12	32	-	0.10	8	20
482			1	1		30	1	CALCAREOUS BIOTITE-FELDSPAR-QUARTZ SCHIST, FINE GRAINED, BRECCIATED.	18	-	28	-	0.15	16	-
483			3	.5			1	CALCAREOUS SILTY BIOTITE SCHIST, FINE GRAINED SOME WHITE RAOLIN? BLEBS.	60	-	30	-	0.15	6	-
484			3	.3			1	CLAY, RED-BROWN, YELLOW-WHITE, MOTTLED, WEATHERED GRANITE, SHEARED	115	12	75	-	-	4	-
485			3	.5			1	CLAY, RED-YELLOW-BROWN, MINOR QUARTZ FRAGMENTS, BRECCIATED, MANGANESE? STAINING	160	-	34	-	0.10	10	-
486			1				1	CARBONATE, SILICEOUS, LIMONITIC, MINOR BOXWORKS, SIDERITIC	1200	4	20	-	0.10	6	20
487			1				1	CARBONATE, SIDERITE - QUARTZ VEINING, SOME LIMONITE	150	8	12	-	-	-	-
488			1				1	SCHIST, MICACEOUS, PINK, GREEN-BROWN, BROKEN, MINOR LIMONITE AND MANGANESE OXIDES.	12	-	26	-	-	28	25
489			1		1		1	QUARTZ-SIDERITE VEINING IN CARBONATE MINOR LIMONITE.	8	6	8	-	-	6	15

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

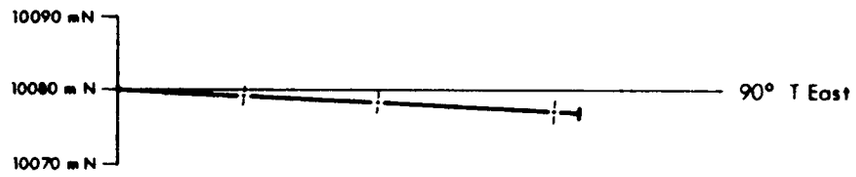
367 PAGE No 2/2

Area: MT KARINYA Collected: P.L. Analysed by PONTIFEX & ASSOCIATES, COMLABS KANAPPA PROSPECT
Map ref: 6728-IV Date collected MARCH 84 Date anal. rec. 10-4-84
Photo name Date to lab: 28-4-84 Plan no: 2642.
Run No: D.P.O. No: 918, 920, 921 Report no:

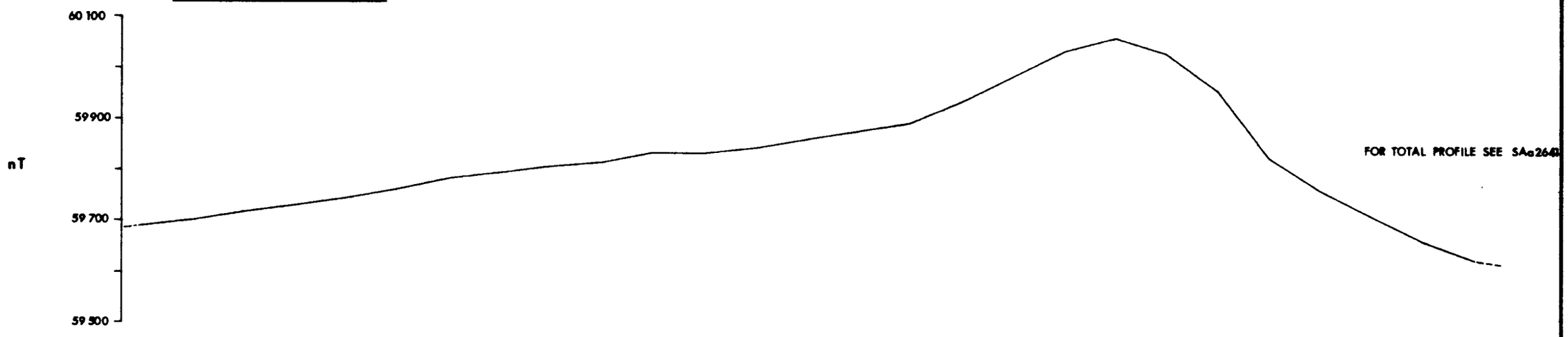
Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ag	Au	Sn	W
ANALYSIS METHOD									AAS	AAS	AAS	AAS	AAS	XRF	XRF
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(1)	(0.05)	(4)	(10)
1157490			1				1	EARTHY LIMONITE CARBONATE WITH VOIDS, IN	6500	6	42	-	-	4	-
								SHEARED COARSE GRAINED CARBONATE							
491			1				1/3	HORNBLENDE SCHIST, FINE GRAINED, MINOR	38	4	22	-	-	-	15
								CALCITE. PETROLOGY - AMPHIBOLITE.							
492			1				1	SECONDARY CARBONATE, RED - PINK - YELLOW - WHITE,	3400	-	46	-	-	-	55
								VOIDS, FALSE GOSSAN.							
493			1				1	BIOTITE RICH CLAY	400	12	4800	2	-	4	15
494			2				1	QUARTZ - LIMONITE - SIDERITE VEIN, BRECCIATED	150	-	18	-	0.5	-	10
								TEXTURE.							

PLAN



GROUND MAGNETICS



DD 84 MK 1

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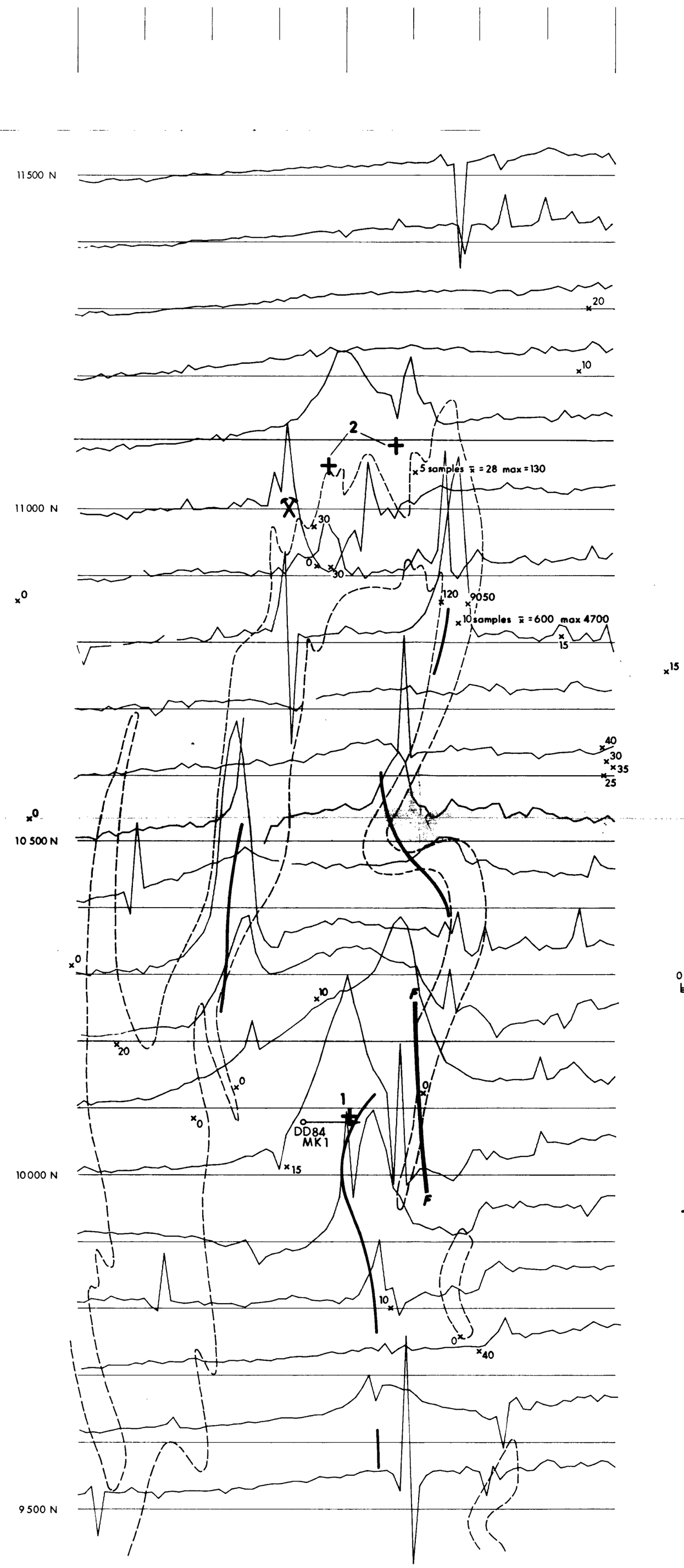
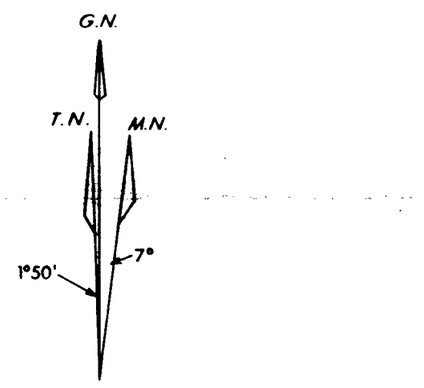
CRA EXPLORATION PTY LIMITED	
MT. KARINYA E.L. 947 – S.A. KANAPPA PROSPECT DRILL HOLE SECTION DD84MK1	
Ref ADELAIDE SI 54-9	
Scale 1 : 1000	
Author P L	Report No. 12827
Date June 1984	Plan No. SAa 2737





0 100 200 300 400 500 metres

Milendella Limestone Member
(after Mills K.J. 1964. The Structural Petrology of an area east of Springton, South Australia. Unpublished Ph.D. Thesis, Univ. Adelaide.)

Linear Magnetic Trend

1+ Equidimensional Feature

x30 Rock Chip Samples and Tungsten Values in ppm.

Station interval 10m.

Vertical scale 1 cm = 100nT

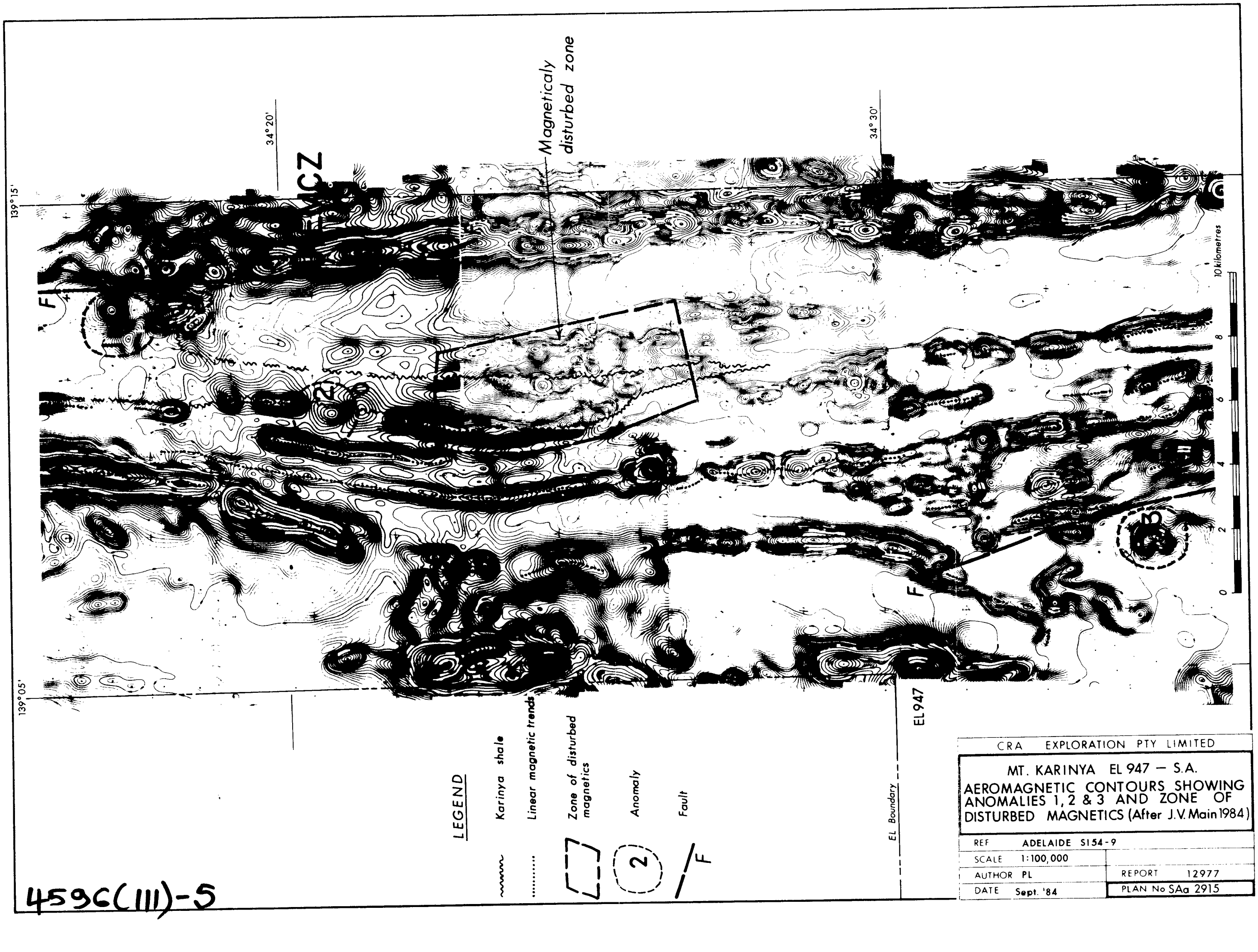
Profiles plotted with a base level of 59500 nT.

4596(111)-4

CRA EXPLORATION PTY. LIMITED

MT. KARINYA E.L. 947 — S.A.
KANAPPA GRID
INTERPRETED GROUND MAGNETIC PROFILES

Ref.	ADELAIDE SI 54-9		
Scale	1 : 5000		
Author	R.J.L.L.	Report No.	12827
Date	June 1984	Plan No.	SAa 2835



CRA EXPLORATION PTY LIMITED

MT. KARINYA EL 947 — S.A.

AEROMAGNETIC CONTOURS SHOWING ANOMALIES 1, 2 & 3 AND ZONE OF DISTURBED MAGNETICS (After J.V. Main 1984)

REF	ADELAIDE S154-9	
SCALE	1:100,000	
AUTHOR	PL	REPORT 12977
DATE	Sept. '84	PLAN No SAa 2915

4596(III)-5

III

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CRA EXPLORATION PTY. LIMITED

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ELEVENTH QUARTERLY REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH SEPTEMBER, 1984

AUTHOR: P. LEWIS

COPIES TO: CIS CANBERRA
SADME

DATE: 6TH NOVEMBER, 1984

SUBMITTED BY:

ACCEPTED BY:

12977

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1. SUMMARY

18.4 line kilometres of ground magnetic data was acquired over a magnetically positive feature associated with the Milendella Limestone at Keyneton. Several narrow high amplitude features are apparent in the ground magnetic data. Anomalous gold (3.6 ppm), tungsten (max. 300 ppm), bismuth (75 ppm) and cobalt (550 ppm) assays were returned from float samples collected from the area. Further sampling and mapping is warranted.

2. INTRODUCTION

Mt. Karinya E.L. 947 covers an area of 1150 square kilometres centred approximately 75 kilometres north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on the 11th December, 1981, for a period of twelve months. The term of the licence was extended to thirty six months on the 11th December, 1983.

This report describes the work carried out during the quarter ending 10th September, 1984.

3. RECOMMENDATIONS

1) Further sampling and mapping to be undertaken over anomaly 3 to assist in the evaluation of the ground magnetic data.

2) Infill ground magnetics be completed over the small dipolar magnetic anomaly at the Kanappa Mine.

3) Further exploration be undertaken over the two remaining short strike length features and the zone of disturbed magnetics highlighted by J.V. Main.

4. SUMMARY OF PREVIOUS WORK

Previous work undertaken by CRA Exploration Pty. Limited on the tenement is summarised below.

Geochemistry - 68 -10#+20# stream sediment samples analysed for Cu, Pb, Zn, Sn, W; some Co, Ni, Ag and Au

- 32 -80# stream sediment analysed for W

- 12 pan concentrate samples submitted for heavy mineral identification

- 264 rock chip samples analysed for Cu, Pb, Zn, Au; some for Ag, Sn, W, Mn, As, Hg, Co and Ni; 31 samples submitted for petrology

- 205 samples of drill core/cuttings analysed for Cu, Pb, Zn, Ag, Au, some for Ni, Co, Cr, As, U, Mo, Ta, W, Ce and Y. 7 samples submitted for petrology.

Geophysics

- aeromagnetic/radiometric survey; 300 metre line spacing flown E-W, at 80 metre mean terrain clearance

- 68.0 line kilometres of ground magnetics

- 11.4 line kilometres of gravity

- 1.2 line kilometres of ground E.M.

- 5.1 line kilometres of I.P.

- two geophysical reviews; reports by K. Jones and J.V. Main.

Drilling

- 3 percussion drill holes for a total of 364 metres

- 1 diamond drill hole totalling 170.1 metres

Geology

- geological mapping at 1:5000, 1:10 000 or 1:25 000 scale of the Mt. Rhine, Schneider's Gossan, Cambrai Scheelite, Murray Creek, Malabena and Kanappa Prospects

- one geological review, report by D.M. Ransom.

5. CURRENT EXPLORATION

5.1 Anomaly 3 - Keyneton

5.1.1 Ground Magnetics

This anomaly is a localised magnetically positive feature occurring in a structurally complex area just below the Milendella Limestone Member (plan SAa 2915). 18.4 line kilometres of ground magnetic data was acquired over the anomaly. Specifications of the survey were as follows:

Magnetometer:	Scintrex MP-2
Sensitivity:	+/- 1.0 nT
Line Orientation:	Base line 020°, Grid lines 110° magnetic
Line Spacing:	100 metres (in-fill lines 50 metres)
Station Spacing:	10 metres
Gridding:	Compass and Topofil

Diurnal variations were monitored by reference to a base station on the base line.

The ground magnetic profiles are shown on plans SAa 2960 and SAa 2961. The location of the grid is shown on plan SAa 2925.

High magnetic susceptibility readings were recorded from massive magnetite-haematite float (up to 50 000 x 10^{-5} SI) which occurs around 10000E on line 10400N, and from coarse grained specular haematite float (up to 5000 x 10^{-5} SI) which occurred along the fence at 9400E south of line 10100N.

Several narrow, elongate, high amplitude anomalies are apparent in the stacked magnetic profiles (plan SAa 2960). In-fill magnetic data was acquired over the southernmost anomaly (plan SAa 2961).

5.1.2 Rock Chip Sampling

Twenty two rock chip/float samples were collected from the survey area and analysed for copper, lead, zinc, nickel, cobalt, bismuth, manganese, chrome, molybdenum, vanadium, silver and gold by AAS techniques and arsenic, uranium, tin and tungsten by XRF techniques. Sample ledgers and full assay results are presented in Appendix I and sample locations are shown on plan SAa 2925. Anomalous gold (3.6 ppm) was returned from a sample of coarse-grained specular haematite. Anomalous bismuth (max. 75 ppm), cobalt (550 ppm) and tungsten (300 ppm) assays and elevated copper (max. 650 ppm), zinc (440 ppm), arsenic (105 ppm) and nickel (1350 ppm) assays were returned from float samples. Fifteen of the twenty-two samples returned detectable silver assays (1-3 ppm). Petrology on two samples indicate the rocks are laterised residual detritus derived in part from a pegmatoidal source. The presence of relatively fresh biotite and completely argillised feldspar is noted in one of these samples (Appendix II).

Further sampling and detailed mapping of the area is warranted to assist in the evaluation of the magnetic data and definition of drill site(s).

P. LEWIS

PL/pw

EXPENDITURE

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Expenditure for the period ended 31st August, 1984, the nearest accounting period was $5008.00, as listed below.

	$
Payroll	2616
Supplies	28
Vehicle	62
Travel	14
Property	604
Tenements	46
Laboratory	592
Overheads	1046
Total	$5008

374

LOCATION

Adelaide SI 54-9 1:250 000

KEYWORDS

Assays-surf.(rock), Gold, Bismuth, Cobalt, Tungsten, Laterite, Geochem-rock, Geophys-magnetics, Petrology

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	Mt. Karinya E.L. 947 Location Plan	1:250 000
SAa 2915	Mt. Karinya E.L. 947 Aeromagnetic Contours Showing Anomalies 1, 2 & 3 and Zone of Disturbed Magnetics	1:100 000
SAa 2925	Mt. Karinya E.L. 947 Anomaly 3 - Keyneton Ground Magnetic Grid and Sample Locations	1: 5 000
SAa 2960	Mt. Karinya E.L. 947 Ground Magnetic Profiles - Keyneton Grid	1: 5 000
SAa 2961	Mt. Karinya E.L. 947 Enlargement of Ground Magnetic Profiles - Keyneton Grid	1: 2 000

APPENDICES

Appendix I Sample Ledgers and Assay Results
Appendix II Petrological Report

APPENDIX I

SAMPLE LEDGERS AND ASSAY RESULTS

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

Area: MT KARINYA
Map ref: ANGASTON
Photo name
Run No :

Collected: P.L.
Date collected JULY 84
Date to lab : 1-8-84
D.P.O. No: 935, 936

Analysed by COMLABS / PONTIFEX & ASSOCIATES.
Date anal. rec. 21-8-84, 30-8-84
Plan no:
Report no:

ANOMALY 3 - KEYNETON

Sample Types: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Bi	Mn	Cr	Ag	Au	As	U
ANALYSIS METHOD									AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 2	AAS 2	AAS 3	AAS 3A	XRF 1	XRF 1
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(4)	(4)	(4)	(4)	(1)	(0.05)	(2)	(4)
1157508			2				1	LIMONITIC IRONSTONE, CONCRETIONARY VOIDS ? EX CARBONATE (NOT CALCAREOUS).	330	8	250	195	90	26	1950	22	3	–	24	–
509			2				1	LIMONITIC IRONSTONE AS ABOVE	320	8	90	380	130	26	3300	12	3	–	12	8
510			2				1	LIMONITE - QUARTZ - TOURMALINE BRECCIA, GOSSANOUS VOIDS, SOME PINKISH-PURPLE OXIDES IN VOIDS.	105	4	12	44	55	6	130	36	1	–	36	–
511			2				1	LIMONITIC GOSSAN, WEAKLY ORIENTATED VOIDS COMPRISE 40% OF ROCK.	300	10	100	310	150	28	1650	42	3	–	40	–
512			2				1	HEMATITIC IRONSTONE, SOME VOIDS AND CELLULAR STRUCTURES, DEEP PURPLISH TINGE, EARTHY	280	4	440	1350	410	32	2100	50	3	–	70	–
513			2				1/3	POROUS HEMATITE - LIMONITE - MICA ROCK, WITH CLAY. PORPHYROBLASTS AND PHLOGOPITIC MICAS	600	12	330	960	550	26	2800	60	3	–	105	–
514			2				1	SPECULAR HEMATITE SCHIST, FINE GRAINED, MASSIVE DENSE, MAGNETIC	95	8	50	60	30	14	70	75	2	–	18	–
515			2				1	MASSIVE COARSE GRAINED SPECULAR HEMATITE WITH GOSS LIMONITIC VOIDS, WHITE COATINGS IN VOIDS	70	–	16	46	38	20	1300	16	2	3.6	60	–
516			2				1	MARBLE, MEDIUM GRAINED, IMPURE SOME MICA (BIOTITE), MASSIVE	12	4	10	20	22	75	310	10	2	–	8	–
517			2				1	MARBLE, IMPURE, DIRTY, SCHISTOSE BANDS.	16	6	30	32	24	60	480	10	2	–	8	–
518			2				1	META-SANDSTONE; MEDIUM GRAINED, GOSSANOUS LIMONITE - HEMATITE BOXWORKS.	650	–	10	42	20	6	330	60	1	–	32	–
519			2				1	GNEISSIC QUARTZ - FELDSPAR - BIOTITE - SPECULAR HEMATITE ROCK, EQUIGRANULAR, LAYERED.	12	6	–	6	6	–	48	32	–	–	5	–
520			2				1	QUARTZ VEIN, PEGMATITIC, SOME ORANGE & RED STNG, STRESSED.	16	–	–	4	–	–	110	50	–	–	4	–
521			2				1	PEGMATITIC QUARTZ - KYANITE - BIOTITE - MUSCOVITE ROCK, RARE LIMONITE, IN SHEAR ZONE.	4	–	–	–	–	–	38	60	–	–	5	–

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

377

Area: MT KARINYA
Map ref: ANEASTON
Photo name
Run No:

Collected: P.L.
Date collected JULY 84
Date to lab: 1-8-84
D.P.O. No: 935, 936

Analysed by COMLAB, PONTIFEX & ASSOCIATES
Date anal. rec. 21-8-84, 30-8-84
Plan no:
Report no:

ANOMALY 3 — KEYNETON

Sample Type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G./Long./Lat./Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Bi	Mn	Cr	Ag	Au	As	U
								ANALYSIS METHOD	AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 2	AAS 2	AAS 3	AAS 5A	XRF 1	XRF 1
								DETECTION LIMIT (ppm)	(2)	(4)	(2)	(4)	(4)	(4)	(4)	(4)	(1)	(0.05)	(2)	(4)
1157522			1				1	MICA - FELDSPAR - QUARTZ SCHIST, FINE GRAINED	10	-	34	46	20	-	140	12	-	-	4	-
								COARSE MICA ALONG CLEAVAGE DECUSSATE WITHD LATHS												
523			2				1	MAGNETITE - HEMATITE ROCK, MASSIVE, DENSE	26	-	34	44	40	16	360	34	2	-	10	-
								SOME GOSSANOUS LIMONITE VOIDS.												
524			2				1	MASSIVE MAGNETITE - HEMATITE ROCK WITH	28	-	50	60	50	20	610	34	2	-	7	-
								LIMONITE - HEMATITE OKIDES IN RANDOM VOIDS.												
525			2				1	CHLORITE - GRAPHITE - SERICITE ROCK, VERY LIGHT	20	8	55	42	26	4	200	18	1	-	10	-
								DECUSSATE, SOME VOIDS.												
526			2				1	HEMATITIC SILTY SCHIST; FINE GRAINED, RED	16	16	4	10	8	6	50	160	2	-	18	-
								LAYERED, MINOR SPECULAR HEMATITE FINE GRAINED												
527			2				1/3	PORPHYROBLASTIC QUARTZ - HEMATITE ROCK, SOME	10	8	4	6	4	-	18	130	-	-	4	-
								GLASSY QUTZ, (SEE ALSO PETROLOGY)												
528			2				1	QUARTZ - TOURMALINE - FELDSPAR SANDY ROCK,	6	-	-	8	-	-	10	18	-	-	6	-
								FINE GRAINED, LAYERED, MINOR LIMONITE STNG.												
529			2				1	SILICIFIED (SILCRETE) SANDSTONE, MINOR JASPER	14	-	-	6	-	-	65	130	-	-	6	-
								STNG, RARE SPECULAR HEMATITE.												

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

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ANOMALY 3 – KEYNETON

Area: MT KARINYA
Map ref: ANEASTON
Photo name
Run No:

Collected: P.L.
Date collected JULY 84
Date to lab: 1-8-84
D.P.O. No: 935, 936

Analysed by COMLAB, PONTIFEX & ASSOCIATES
Date anal. rec. 21-8-84, 30 8-84
Plan no:
Report no:

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Mo	V	Sn	W
ANALYSIS METHOD									AAS 3	AAS 3	XRF 1	XRF 1
DETECTION LIMIT (ppm)									(4)	(10)	(4)	(10)
1157522			1				1	MICA - FELDSPAR - QUARTZ SCHIST, FINE GRAINED	6	110	6	–
								COARSE MICA ALONG CLEAVAGE DECUSSATE WITH LATHS				
523			2				1	MAGNETITE - HEMATITE ROCK, MASSIVE, DENSE	6	40	–	–
								SOME GOSSANOUS LIMONITE VOIDS.				
524			2				1	MASSIVE MAGNETITE - HEMATITE ROCK WITH	6	30	–	15
								LIMONITE - HEMATITE OXIDES IN RANDOM VOIDS.				
525			2				1	CHLORITE - GRAPHITE - SERICITE ROCK, VERY LIGHT	6	120	4	10
								DECUSSATE, SOME VOIDS.				
526			2				1	HEMATITIC SILTY SCHIST; FINE GRAINED, RED	4	1600	10	–
								LAYERED, MINOR SPECULAR HEMATITE FINE GRAINED				
527			2				1/3	PORPHYROBLASTIC QUARTZ - HEMATITE ROCK, SOME	8	150	4	–
								GLASSY QUTZ, (SEE ALSO PETROLOGY)				
528			2				1	QUARTZ - TOURMALINE - FELDSPAR SANDY ROCK,	6	60	14	25
								FINE GRAINED, LAYERED. MINOR LIMONITE STNG.				
529			2				1	SILICIFIED (SILCRETE) SANDSTONE, MINOR JASPER	14	20	4	10
								STNG, RARE SPECULAR HEMATITE.				

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

Area: MT KARINYA
Map ref: ANGASTON
Photo name
Run No:

Collected: P.L.
Date collected JULY 84
Date to lab: 1-8-84
D.P.O. No: 935, 936

Analysed by COMLABS / PONTIFEX & ASSOCIATES.
Date anal. rec. 21-8-84, 30-8-84
Plan no:
Report no:

ANOMALY 3 - KEYNETON

Sample Type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Mo	V	Sn	W
ANALYSIS METHOD									AAS 3	AAS 3	XRF 1	XRF 1
DETECTION LIMIT (ppm)									(4)	(10)	(4)	(10)
1157508			2				1	LIMONITIC IRONSTONE, CONCRETIONARY VOIDS ? EX CARBONATE (NOT CALCAREOUS).	-	70	-	-
509			2				1	LIMONITIC IRONSTONE AS ABOVE	-	70	-	20
510			2				1	LIMONITE - QUARTZ - TOURMALINE BRECCIA, GOSSANOUS VOIDS, SOME PINKISH-PURPLE OXIDES IN VOIDS.	4	150	10	60
511			2				1	LIMONITIC GOSSAN, WEAKLY ORIENTATED VOIDS COMPRISE 40% OF ROCK	4	140	-	10
512			2				1	HEMATITIC IRONSTONE, SOME VOIDS AND CELLULAR STRUCTURES, DEEP PURPLISH TINGE, EARTHY	-	190	-	-
513			2				1/3	POROUS HEMATITE - LIMONITE - MICA ROCK, WITH CLAY ? PORPHYROBLASTS AND PHLOGOPITIC MICAS	-	330	-	-
514			2				1	SPECULAR HEMATITE SCHIST, FINE GRAINED, MASSIVE DENSE, MAGNETIC	6	100	-	70
515			2				1	MASSIVE COARSE GRAINED SPECULAR HEMATITE WITH GOSS LIMONITIC VOIDS, WHITE COATINGS IN VOIDS	6	70	14	300
516			2				1	MARBLE, MEDIUM GRAINED, IMPURE SOME MICA (BIOTITE), MASSIVE	6	60	6	-
517			2				1	MARBLE, IMPURE, DIRTY, SCHISTOSE BANDS	6	100	4	-
518			2				1	META-SANDSTONE; MEDIUM GRAINED, GOSSANOUS LIMONITE - HEMATITE BORWORKS.	6	60	-	10
519			2				1	GNEISSIC QUARTZ - FELDSPAR - BIOTITE - SPECULAR HEMATITE ROCK, EQUIGRANULAR, LAYERED.	4	30	10	230
520			2				1	QUARTZ VEIN, PEGMATITIC, SOME ORANGE & RED STNG, STRESSED.	10	10	4	-
521			2				1	PEGMATITIC QUARTZ - KYANITE - BIOTITE - MUSCOVITE ROCK, RARE LIMONITE, IN SHEAR ZONE.	8	10	8	-

APPENDIX II

PETROLOGICAL REPORT

Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 4377

30th August, 1984

TO: Mr. Paul Lewis,
CRA Exploration Pty. Ltd.,
P.O. Box 254
NORWOOD, S.A. 5067

COPY TO: The Administrator,
CRA Exploration Pty. Ltd.,
P.O. Box 254,
NORWOOD, S.A. 5067

The Manager Information Services,
CRA Exploration Pty. Ltd.,
P.O. Box 656,
FYSHWICK, A.C.T. 2069

YOUR REFERENCE: Order No. B0936

MATERIAL: Rock samples (Mt. Karinya)

IDENTIFICATION: 1157513
1157527

WORK REQUESTED: Thin section preparation
and petrographic description

SAMPLES & SECTIONS: Returned to you
with this report

PONTIFEX & ASSOCIATES PTY. LTD.

1157513 : weathered-residual grains of quartz, fresh biotite, completely argillised ? felspar, rare tcurmaline, cemented by lateritic-limonite

About 60% of this sample consists of a very loose-packed aggregate of various "grains", ranging in size from 0.01 mm to 1.5 mm maximum dimension, average about 0.5 mm. The other approximate 40% consists of a microporous, lateritic-limonitic matrix-cement.

The "grains" consist of :-

pale greenish-brown (?phlogopitic) biotite generally at random locally vaguely layered	10 - 15%
quartz grains, subangular to subrounded, but smaller ones rounded (the same as the finer quartz grains in 1157527)	10%
grains of kaolinite apparently as in-situ alteration pseudomorphs after felspar	20%
voids, probably kaolinite as above, but removed tourmaline, pale bluish/brownish zoned	2 - 3%

The complete genesis of this rock is not certain, but it appears to represent laterite-cemented residual detritus from a ?granitoid, and possibly pegmatoidal source; or possibly a mixed source, partly of a ?lamprophyre, and partly of a quartzose rock. However, the reason why the biotite is relatively fresh, and the felspar completely argillised is not known.

The limonitic matrix/cement is not gossanous, and there is no evidence of oxidised opaque oxides (magnetite, ilmenite, chromite).

1157527 : fine limonite-cemented quartz sand, incorporating numerous coarse to very large clasts of stressed single-crystal quartz; accessory tourmaline, rarer rutile grains (coarse material of pegmatitic? derivation)

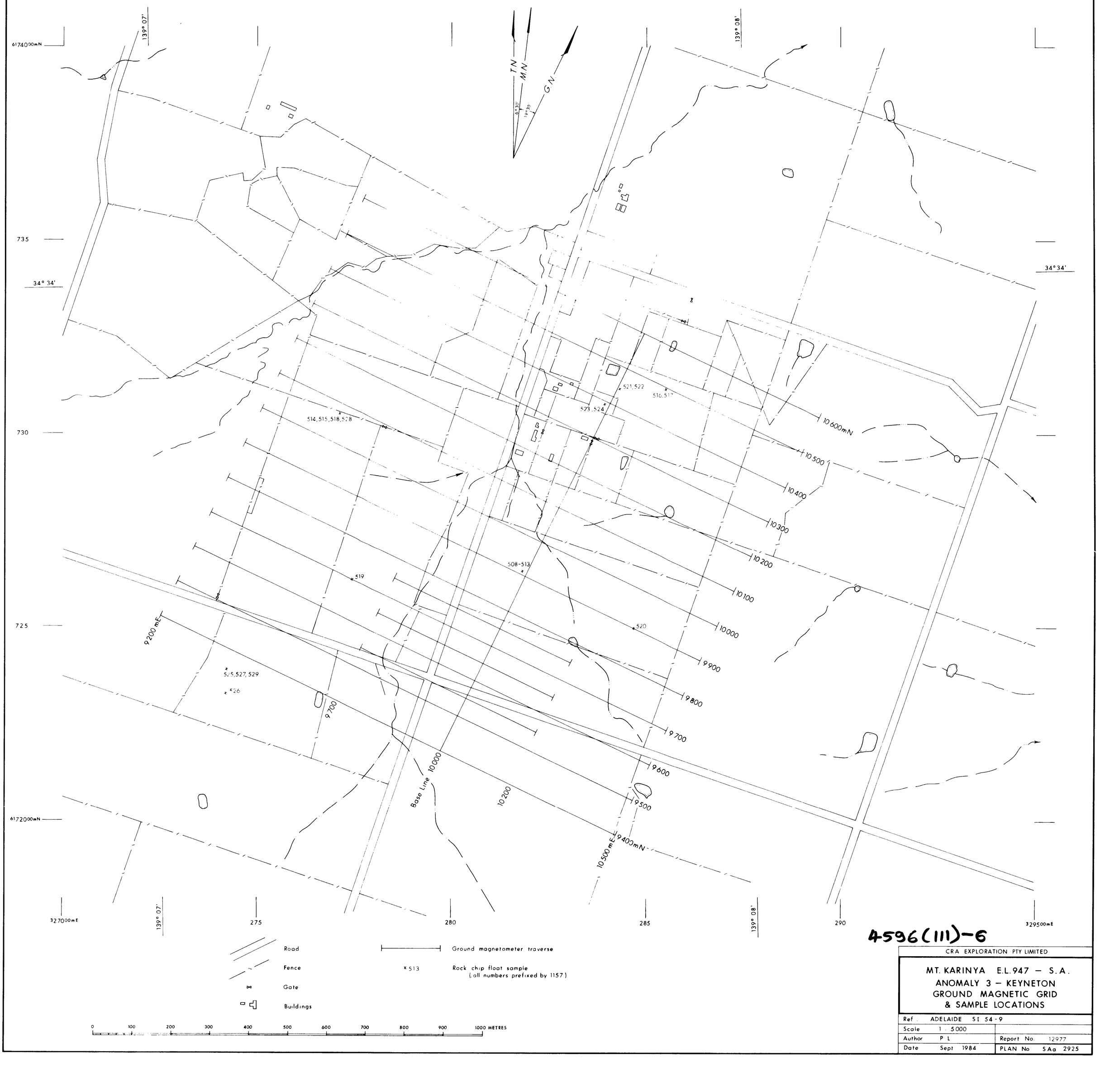
About 20% of this rock consists of an intergranular limonite cement. The remainder consists of quartz grains of two distinctly different populations, which are :-

1) angular to subangular single crystal fragments of stressed quartz generally ranging in size from about 1 to 5 mm, but with one, optically continuous clast of stressed quartz measuring 25 x 30 mm.
These are unsorted and randomly disposed to form about 50% of the rock (mostly the very large clast).

2) generally subrounded grains of quartz, reasonably well sorted with an average size of 0.15 mm (30% of the rock); as a loosely packed aggregate, with ubiquitous intergranular limonitic cement.
This ferruginised fine quartz sand thus forms a matrix to the coarse quartz fragments, and locally largely fills a fracture in the very large clast.

Accessory sand-size grains of tourmaline, and several coarser (0.6 mm) angular fragments of dark-green tourmaline, and one smaller angular fragment of rutile are present.

It seems likely that the coarse quartz, and the rare angular tourmaline, are derived from pegmatite. There is no diagnostic evidence for the source of the fine quartz sand.



4596(111)-6

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L.947 – S.A. ANOMALY 3 – KEYNETON GROUND MAGNETIC GRID & SAMPLE LOCATIONS

Ref.	ADELAIDE SI 54-9		
Scale	1 : 5000		
Author	P L	Report No.	12977
Date	Sept 1984	PLAN No	SAa 2925

9300 E 9500 E 9700 E 9900 E 10100 E 10300 E 10500 E

10600N

10400 N

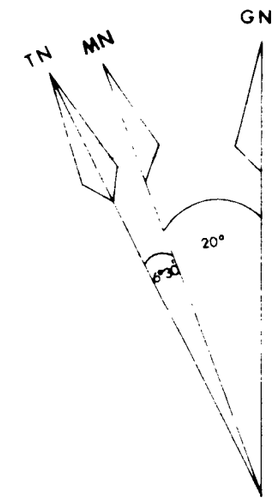
10 200 N

10 000 N

9800 N

9600 N

9400 N



Station interval 10m
Vertical scale 1cm = 200nT
Profiles plotted with a
base level of 59400 nT

4596(111)-7

0 100 200 300 400
metres

CRA EXPLORATION PTY LIMITED

MT. KARINYA EL 947-S.A.
GROUND MAGNETIC PROFILES
KEYNETON GRID

REF	ADELAIDE SI54-9		
SCALE	1:5,000		
AUTHOR	RJLL	REPORT	12977
DATE	SEP '84	PLAN No	SAa 2960

9700 E 9800 E 9900 E 10000 E 10100 E 10200 E

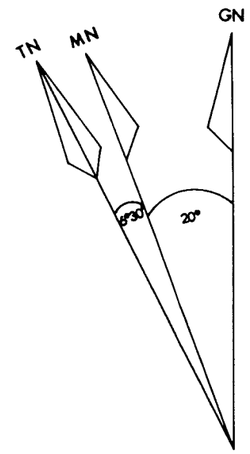
9800 N

9700 N

9600 N

9500 N

9400 N



Station interval 10m
Vertical scale 1cm = 400 nT
Profiles plotted with a
base level of 59400 nT

0 40 80 120 160
metres

4596(111)-8

CRA EXPLORATION PTY LIMITED

MT. KARINYA EL 947-S.A.
ENLARGMENT OF GROUND
MAGNETIC PROFILES
KEYNETON GRID

REF	ADELAIDE SI 54-9		
SCALE	1:2,000		
AUTHOR	RJLL	REPORT	12977
DATE	SEP '84	PLAN No	SAa 2961

CRA EXPLORATION PTY. LIMITED

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TWELFTH QUARTERLY AND FINAL REPORT FOR MOUNT KARINYA E.L. 947, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 10TH DECEMBER, 1984.

AUTHOR: P. LEWIS

COPIES TO: CIS CANBERRA
SADME

DATE: 7TH MARCH, 1985

SUBMITTED BY:

ACCEPTED BY:

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1. SUMMARY

Infill ground magnetic data was acquired over the dipolar magnetic anomaly adjacent to the Kanappa Mine. Modelling of the data indicates a very small, highly magnetic source which is interpreted to be a pod of magnetite skarn within the Milendella Limestone Member. No further work is warranted.

Mapping and follow up sampling were undertaken over anomaly "3" at Keyneton. Tourmaline alteration is common in the area. Only low geochemical assays were returned from rock chip and float samples. The results have downgraded the potential of the area to host significant base metal or gold mineralisation.

Stream sediment samples were collected along the base of the fault scarp to follow up anomalous scheelite concentrations reported by Aquitaine. Follow up mapping, sampling, UV lamping, ground magnetic and drilling programmes were completed without locating economic tungsten mineralisation.

Surface exploration completed over four short strike length aeromagnetic anomalies did not produce any targets warranting further work.

Geological mapping, sampling and ground magnetic, gravity and Sirotem surveys were completed at Schneider's gossan. Drill testing of the gossan at depth and a semi coincident gravity-magnetic anomaly intersected barren, weakly magnetic basalts.

Mapping, surface and underground sampling and an IP survey completed over a breccia zone around the Mount Rhine silver-lead(-gold) mine downgraded the potential of this zone to host significant base or precious metal mineralisation. Drill testing of a chargeability anomaly associated with a fold closure in the Milendella Limestone Member to the north of the mine intersected disseminated pyrite.

2. INTRODUCTION

Mt. Karinya E.L. 947 covers an area of 1150 square kilometres centred approximately 75 km north east of Adelaide (plan SAa 976). The exploration licence was granted to CRA Exploration Pty. Limited on 11th December, 1981, for a period of twelve months. The term of the licence was extended to thirty six months on 11th December, 1983.

This report describes the work carried out during the quarter ending 10th December, 1984, and summarises all work completed by CRA Exploration Pty. Limited.

3. CONCLUSIONS

Work programmes completed by CRA Exploration within E.L. 947 have downgraded the potential of the area to host significant pyrrhotite associated base metal or tungsten mineralisation, black shale-carbonate facies, lead-zinc mineralisation or epithermal gold mineralisation.

4. WORK CARRIED OUT

4.1 Cambrai Scheelite Prospect

A stream sediment sampling programme was undertaken along the base of the fault scarp to the west of Cambrai to follow up anomalous scheelite in heavy mineral concentrates reported by Aquitaine. This sampling confirmed the presence of scheelite and highlighted an area north of Bundilla homestead. Further stream sediment sampling, mapping and UV lamping of anomalous drainages failed to locate scheelite in outcrop. Elevated tungsten assays were returned from coarse grained calc-silicates which outcrop within the area. Sample ledgers and results occur in Bubner 1982a, Bubner 1982b, Lewis 1983b and Lewis 1984a.

4.1.1 Kanappa Prospect

Two discrete low amplitude aeromagnetic anomalies coincident with the Kanappa and Kanappa South mine workings were investigated for Cantung style scheelite-pyrrhotite skarn mineralisation.

Mapping, sampling, UV lamping and 16.8 line kilometres of ground magnetics were completed over the anomalies. Anomalous tungsten assays (max. 1.16%) were returned from narrow zones of skarn alteration within and along the contact of the Milendella Limestone Member near the Kanappa mine. A broad ground magnetic anomaly adjacent to the Kanappa South mine workings was drill tested. The drill hole intersected pyrrhotite-magnetite calc-silicate skarn alteration zones within the Milendella Limestone Member. No associated scheelite mineralisation was present. All results are presented in Lewis 1984a, 1984b and 1984c.

Infill ground magnetics were completed over the small dipolar magnetic anomaly at the Kanappa Mine during the quarter. The results indicate the source is a very small, strongly magnetic, steeply dipping body. The grid, ground magnetic profiles and contoured data are presented on plans SAa 3004-3006. No further work is warranted.

4.2 Aeromagnetic Survey

Detailed airborne magnetic and radiometric surveys were flown over most of Mount Karinya E.L. 947 as part of the Kanmantoo Trough survey. The specifications of the survey are included on the contoured aeromagnetic data presented in Appendix I. Interpretation of these data by R.K. Jones and Associates (1981) and by J.V. Main (1984) recommended the follow up of seven limited strike length magnetic anomalies for base metal mineralisation (plans SAa 2695 and SAa 2915). Descriptions of the anomalies are included in Bubner 1982a and Lewis 1984c.

4.2.1 Aeromagnetic Anomaly Follow Up

Five of the seven anomalies selected by Jones (1981) and Main (1984) were followed up. Details of the work completed on these anomalies occurs in previous reports (Bubner 1982b, 1982c, Lewis 1984b, 1984c and 1984d) and are summarised below.

Anomaly "M" is a 500 nT dipolar anomaly at the southern end of a linear magnetic feature. Geological mapping, sampling and 17 line kilometres of ground magnetics were completed over the anomaly. The source of a narrow 6000 nT ground magnetic anomaly is a discordant magnetite quartz lode. Base metal assays were low. Detectable gold assays (max. 0.2 ppm) were returned from the cross-cutting magnetic ironstone lodes.

Anomaly "O" is a localised broad 50 nT high along a linear shorter wavelength anomaly. Anomaly "2" is a negative feature off the northern end of this anomaly. Geological mapping, sampling and 18.5 line kilometres of ground magnetics were completed over anomaly "O" and the southern part of anomaly "2". The source of either anomaly is not evident at the surface. Anomalous zinc (max. 5100 ppm), copper (4500 ppm), nickel (660 ppm) and cobalt (250 ppm) and elevated gold (0.08 ppm) assays were returned from isolated samples of black shales which outcrop within the area. Previous regional soil sampling over this black shale unit (Karinya Shale) in this area returned low base metal assays (Mason & Mayer, 1978).

Anomaly "3" is a localised magnetically positive feature occurring in a structurally complex area just below the Milendella Limestone. Geological mapping, sampling and 18.4 line kilometres of ground magnetics were completed over the anomaly. The source of several narrow, elongate, high amplitude ground magnetic anomalies is interpreted as being pods of massive magnetite-haematite rock, float of which occurs within the area. Anomalous gold, bismuth, cobalt and tungsten assays were returned from float samples of lateritic ironstone, coarse grained magnetic specular haematite and impure carbonate collected from the area (Lewis 1984d). Tourmaline alteration is common in the area (plan SAa 2925). Follow up rock chip and float sampling during the quarter returned low geochemical assays (Appendix II). No further work is planned for this anomaly.

Anomaly "4" is the two discrete magnetic anomalies at the Kanappa Prospect and have been discussed above.

Anomalies "N" and "1" are two dipolar negative anomalies which occur in an area of folding within the Karinya Shale. Access to parts of both these anomalies was denied.

4.3 Ironstone Investigations

4.3.1 Schneider's Gossan

Schneider's gossan is an impressive ironstone body which outcrops in the south bank of Pine Creek near the old Waterfall Station homestead. Anomalous copper, lead, zinc and gold geochemistry is associated with the gossan. Geological mapping, sampling, ground magnetics, gravity and two lines of Sirotem were completed on a 3.8 km x 1.0 km grid over the gossan. The gossan occurs at the northern end of a 1000 nT linear ground magnetic anomaly. Two percussion holes were drilled to test the gossan at depth and a semi-coincident gravity-magnetic anomaly north of the gossan. Both drill holes intersected variably magnetic, altered, flow textured basalts. The gossan was not intersected at depth. Base and precious metal assays were low (Bubner 1982c, 1983, Lewis 1983c).

4.3.2 Truro Ironstone

The Truro ironstone is located five kilometres north of Dutton and consists of discontinuous ferruginous bodies cross cutting Lower Cambrian calcareous schists. Rock samples collected from the ironstones returned low base metal assays (Bubner 1982c).

4.4 Mount Rhine Mine

The Mount Rhine silver-lead(-gold) mine comprises a series of shallow workings developed on narrow galena veins within a zone of brecciated net veined quartz-sericite schist. Geological mapping, sampling and five lines of IP were completed over the fault zone in the vicinity of the workings. Patchy anomalous silver-gold mineralisation is associated with the fault zone. No significant conductors are apparent in the IP data (Lewis 1983a, 1983b, Bubner 1983).

A sixth line of IP was conducted over a fold closure within the Milendella Limestone Member to the north of the Mount Rhine mine. Drill testing of a 20 mV/V chargeability anomaly intersected disseminated pyrite mineralisation. Base metal assays were low (Bubner 1983, Lewis 1983c).

5. INTERPRETATION

a. The source of the scheelite reporting in drainage samples in the Cambrai Scheelite Prospect is interpreted to be narrow zones of skarn alteration either within the Milendella Limestone Member as at Kanappa or within the calc-silicate beds in the Lower Cambrian Hawker Group sediments to the north of Bundilla. Drill testing of a magnetic anomaly at Kanappa South downgraded the potential of the area to host Cantung-style scheelite-pyrrhotite mineralisation. The mineralisation is probably related to hydrothermal alteration of the impure calcareous sediments during the final stages of regional metamorphism.

b. Drill hole 83SGP1 sited to test Schneider's gossan at depth failed to intersect the source of the gossan. The gossan is interpreted to be a false gossan derived from the leaching of carbonate with the anomalous base metal geochemistry being derived from the adjacent black shales.

c. The anomalous gold in the breccia zone at the Mount Rhine mine is interpreted to be derived from weakly mineralised hydrothermal solutions reacting with carbonate in the impure Milendella Limestone Member. Patchy gold mineralisation in fault breccias cutting the Milendella Limestone Member also occurs at the Kanappa, Kanappa South and Towitta mines. Iron oxides are common at all these locations.

Paul Lewis.

P. LEWIS

PL/pw

EXPENDITURE

Expenditure for the period ended 30th November, 1984, the nearest accounting period was $5510.00, as listed below.

		$
Payroll		2 548
Supplies		291
Vehicle		242
Travel		14
Property		205
Contractors		211
Laboratory		984
Overheads		1 015
	Total	$5 510

REFERENCES

Bubner, G.J. 1982a — First Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th March, 1982. CRAE Report No. 11256

Bubner, G.J. 1982b — Second Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th June, 1982. CRAE Report No. 11256

Bubner, G.J. 1982c — Third Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th September, 1982. CRAE Report No. 11256

Bubner, G.J. 1983 — Sixth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th June, 1983. CRAE Report No. 12253

R.K. Jones & Associates 1981 — A Review of Aeromagnetic Data in The Kanmantoo Trough and Along The Western Margins of The Murray Basin. CRAE Report No. 11368

Lewis, P. 1983a — Fourth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th December, 1982. CRAE Report No. 11256

Lewis. P. 1983b — Fifth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th March, 1983. CRAE Report No. 11256

Lewis, P. 1983c — Seventh Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th September, 1983. CRAE Report No. 12362

Lewis, P. 1984a — Eighth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th December, 1983. CRAE Report No. 12448

Lewis, P. 1984b — Ninth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th March, 1984. CRAE Report No. 12637

Lewis, P. 1984c — Tenth Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th June, 1984. CRAE Report No. 12827

Lewis, P. 1984d — Eleventh Quarterly Report on Mt. Karinya E.L. 947, for the period ending 10th September, 1984. CRAE Report No. 12977

Main, J.V. 1984 — A Review of The Kanmantoo Project, South Australia, CRAE Report No. 12520

Mason, D.O. & Mayer, T.E. 1978 — Report on Eudunda E.L. 381, S.A., for the Quarter Ending 25th July, 1978. CRAE Report No. 8953

LOCATION

Adelaide SI 54-09 1:25 000

KEYWORDS

Assays-surf(rock), Geochem rock, Geophys-mag, History

LIST OF PLANS

Plan No.	Title	Scale
SAa 976	Mt. Karinya E.L. 947 Location Plan	1:250 000
SAa 2695	Mt. Karinya E.L. 947 Kanappa Project Grid and Proposed Drilling	1: 50 000
SAa 2915	Mt. Karinya E.L. 947 Aeromagnetic Contours showing Anomalies 1,2 & 3 and Zone of Disturbed Magnetics	1:100 000
SAa 2925	Mt. Karinya E.L. 947 Anomaly 3 - Keyneton Ground Magnetic Grid and Sample Locations	1: 5 000
SAa 3004	Mt. Karinya E.L. 947 Kanappa Grid Kanappa Mine Area	1: 5 000
SAa 3005	Mt. Karinya E.L. 947 Kanappa Grid Ground Magnetic Profiles Kanappa Mine Area	1: 5 000
SAa 3006	Mt. Karinya E.L. 947 Kanappa Grid Ground Magnetic Contours Kanappa Mine Area	1: 5 000

LIST OF APPENDICES

Appendix I	Mt. Karinya E.L. 947 - Contoured Aeromagnetic Data
Appendix II	Sample Ledgers and Assay Results - Anomaly "3" Keyneton

1698

APPENDIX I

MT. KARINYA E.L. 947
- CONTOURED AEROMAGNETIC DATA

213500 N
211000 N
208500 N
206000 N
203500 N
201000 N
198500 N
196000 N
193500 N
191000 N
188500 N
312500 E
316000 E
319500 E
323000 E
326500 E
330000 E
333500 E
337000 E
340500 E
34°25'
4°25

Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

CRA EXPLORATION PTY LIMITED

KANMANTOO AREA SOUTH AUSTRALIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

SURVEY AREA

SURVEY LOCATION

SHEET INDEX

SCALE 1:50000

0 500 1000 1500 2000 2500 METRES

4596(III)-9

The data presented is the residual magnetic intensity, after subtracting the International Geomagnetic Reference Field from the observed Total Magnetic Intensity. The data was corrected for diurnal drift using a base station monitor at MOOROOLOE Airfield, Latitude 34.850 S, Longitude 138.882 E, Altitude 457 Metres. The sensor height was 3 metres. The adopted value for this location was 60251 nT. Final detailed levelling of the data was performed using tie-line crossover analysis. A simple 3 point filter was applied to the data, which was then gridded and contoured using a 100m by 100m mesh cell.

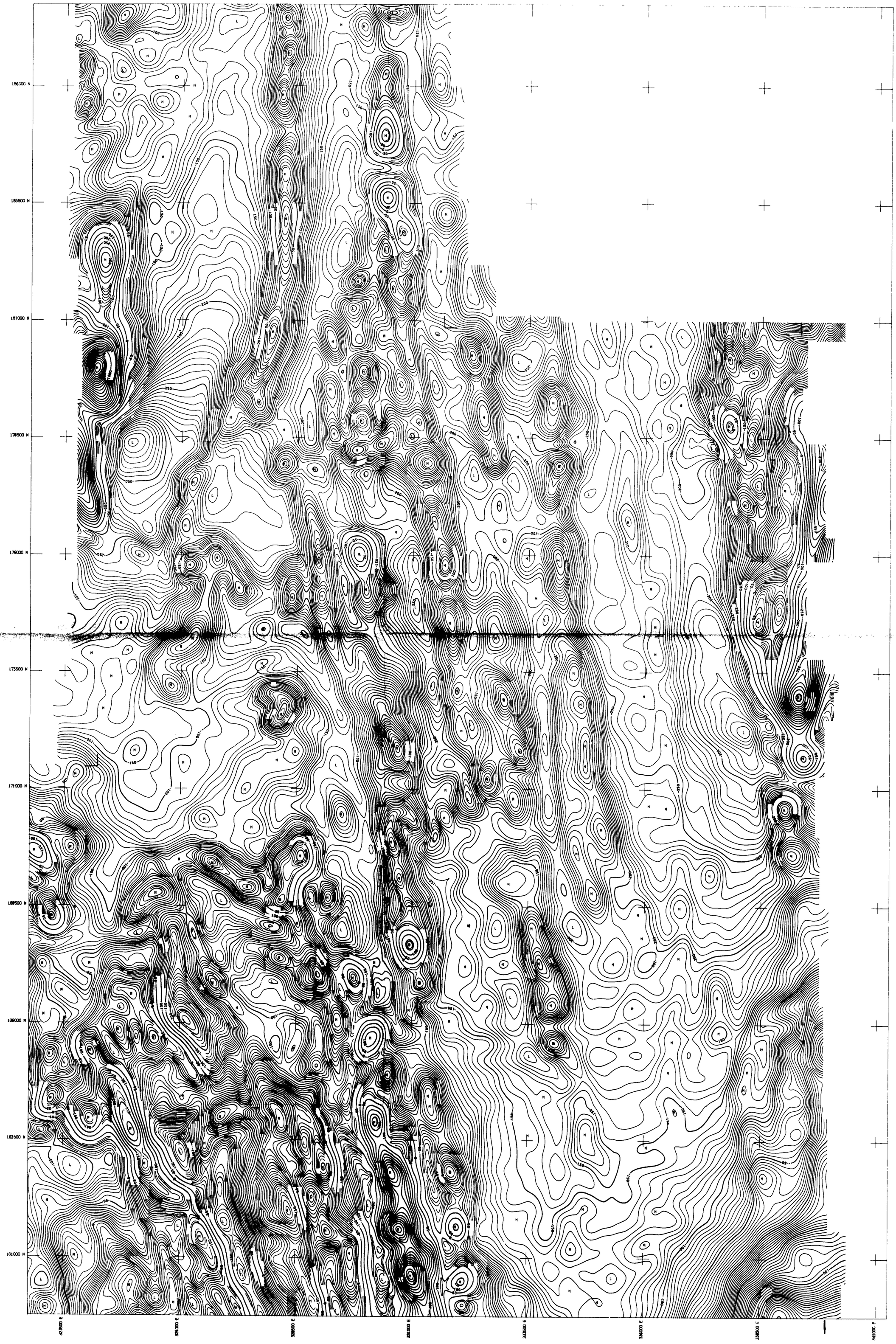
CONTOUR INTERVAL 5nT

SURVEY BOUNDARY

PROJECT NUMBER 79270 SURVEYED OCTOBER 1979

EQUIPMENT SPECIFICATIONS
Cessna A185E Aircraft
Geometrics G803 Magnetometer
Kevhar SPECTRA 2 Spectrometer
Kevhar 1024 Channel Analyser
24 Litre NaI(Tl) Detector
Bonzer Mark 10 Radar Altimeter
16mm Ground Tracking Camera
Digital Recording on 9 track 800 bpi
Industry Standard Magnetic Tape
Analogue Recording on Century 444
8 channel Recorder

The nominal flight line separation was 500 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval of the flight direction was 25 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.5 seconds. The mean sensor height was 80 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 1.0 nT.



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

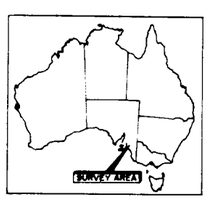
CRA EXPLORATION PTY LIMITED

KANMANTOO AREA SOUTH AUSTRALIA

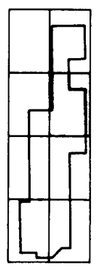
CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 500 1000 1500 2000 2500 METRES



SURVEY LOCATION



SHEET INDEX

4596(111)-10

The data presented is the residual magnetic intensity, after subtracting the International Geomagnetic Reference Field from the observed Total Magnetic Intensity. The data was corrected for diurnal drift using a base station monitor at WOODSIDE Airfield. Latitude 34.950 S, Longitude 138.892 E, Altitude 457 Metres. The sensor height was 3 metres. The adopted value for this location was 60231 nT. Final detailed levelling of the data was performed using tie-line crossover analysis. A simple 3 point filter was applied to the data, which was then gridded and contoured using a 100m by 100m mesh cell.

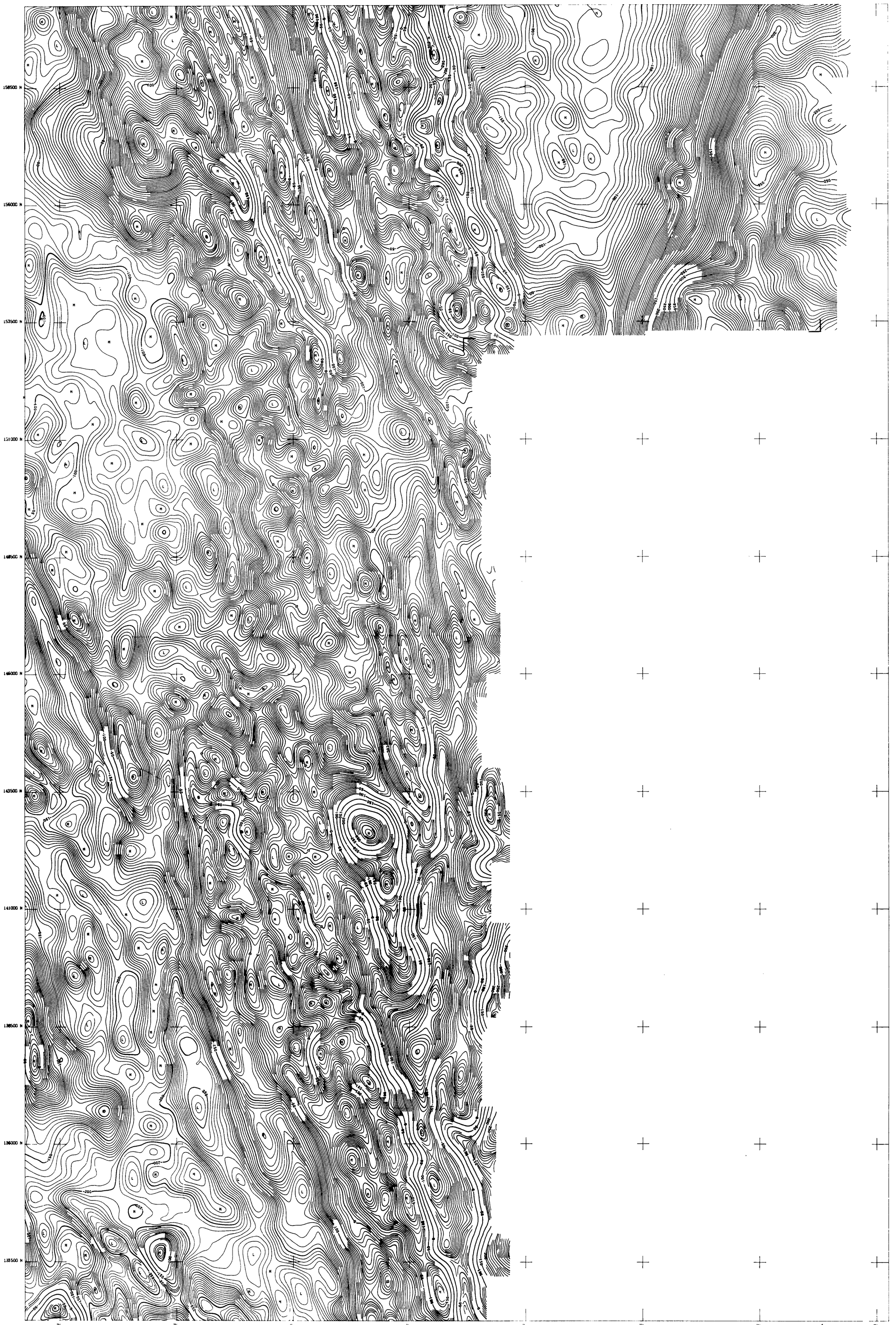
CONTOUR INTERVAL 5nT

SURVEY BOUNDARY

PROJECT NUMBER 79270 SURVEYED OCTOBER 1979

EQUIPMENT SPECIFICATIONS
Cessna A185E Aircraft
Geometrics G803 Magnetometer
McPhar SPECTAR 2 Spectrometer
McPhar 1024 Channel Analyser
24 Litre NaI(Tl) Detector
Bonzer Mark 10 Radar Altimeter
16mm Ground Tracking Camera
Digital Recording on 9 track 800 bpi Industry Standard Magnetic Tape
Analogue Recording on Century 444 6 channel Recorder

The nominal flight line separation was 300 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 25 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.5 seconds. The mean sensor height was 80 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 1.0 nT.



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

CRA EXPLORATION PTY LIMITED

KANMANTOO AREA SOUTH AUSTRALIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

SURVEY LOCATION

SHEET INDEX

SCALE 1:50000

0 500 1000 1500 2000 2500 METRES

4596(III)-11

The data presented is the residual magnetic intensity, after subtracting the International Geomagnetic Reference Field from the observed Total Magnetic Intensity. The data was corrected for diurnal drift using a base station monitor at WOODSIDE Airfield, Latitude 34.950 S, Longitude 138.892 E, Altitude 457 Metres. The sensor height was 3 metres. The adopted value for this location was 60231 nT. Final detailed levelling of the data was performed using tie-line crossover analysis. A simple 3 point filter was applied to the data, which was then gridded and contoured using a 100m by 100m mesh cell.

CONTOUR INTERVAL 5nT

SURVEY BOUNDARY

PROJECT NUMBER 79270 SURVEYED OCTOBER 1979

EQUIPMENT SPECIFICATIONS
Cessna A185E Aircraft
Geometrics G803 Magnetometer
McPhar SPECTAR 2 Spectrometer
McPhar 1024 Channel Analyser
24 Litre NaI(Tl) Detector
Bonzer Mark 10 Radar Altimeter
16mm Ground Tracking Camera
Digital Recording on 9 track 800 bpi Industry Standard Magnetic Tape
Analogue Recording on Century 444 6 channel Recorder

The nominal flight line separation was 300 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 25 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.5 seconds. The mean sensor height was 80 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 1.0 nT.

APPENDIX II

SAMPLE LEDGERS AND ASSAY RESULTS - ANOMALY "3" KEYNETON

C.R.A. EXPLORATION PTY. LTD.- ROCK SAMPLE FIELD DATA

1397

Area: MT KARINYA
Map ref: ANGASTON
Photo nome
Run No:

Collected: P.L.
Date collected NOV 1984
Date to lab: 27-11-84
D.P.O. No: 941

Analysed by COMLABS.
Date anal. rec. 4-12-84
Plan no: SAa 2925
Report no:

ANOMALY 3 - KEYNETON.

Sample Type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Bi	Mn	Cr	Ag	Au	As	U
ANALYSIS METHOD									AAS1	AAS1	AAS1	AAS1	AAS1	AAS1	AAS2	AAS2	AAS3	AAS5A	XRF1	XRF1
DETECTION LIMIT (ppm)									(2)	(4)	(2)	(4)	(4)	(4)	(4)	(4)	(1)	(0.01)	(2)	(4)
1157530								SCHIST; GREY-BROWN, SANDY, MICACEOUS, LIMONITE STAINED	12	12	44	60	20	-	380	14	-	-	7	8
531								SHALE; RED-BROWN, MICACEOUS, FINE GRAINED THIN IRON RICH BANDS. ?LATERITISED.	12	18	8	16	-	-	70	105	-	-	16	-
532								SHALE; OFF WHITE, BLEACHED ZONES IN ?LATERITISED SHALE ABOVE.	12	4	4	12	-	-	30	4	-	-	7	-
533								QUARTZ-MUSCOVITE-TOURMALINE-RUTILE GNESSIC ROCK, MINOR LIMONITIC VOIDS, COARSE MUSCOVITE	8	8	2	12	-	-	12	8	-	-	14	-
534								LIMESTONE, MEDIUM GRAINED, IMPURE, SANDY MINOR GREEN ?DIOPSIDE / STRAKMELANE	12	8	14	20	6	-	2100	4	-	-	26	-
535								QUARTZITIC SANDSTONE; COARSE GRAINED, GRANULAR, LIMONITE STAINED.	4	-	4	6	-	4	60	110	-	-	7	-
536								SANDSTONE; YELLOW-BROWN, GREY, FINE GRAINED, SLIGHTLY MICACEOUS, MINOR LIMONITE.	4	-	6	22	4	-	40	12	-	-	10	-
537								SILTSTONE, FINE GRAINED, SLIGHTLY SILICEOUS, BLEACHED, SERICITIC, TOURMALINE ALTERATION	6	-	2	16	-	-	16	12	-	-	9	-
538								SANDSTONE, FINE GRAINED, SERICITIC, SLIGHTLY ?BLEACHED, MINOR TOURMALINE ALTERATION.	3	-	2	8	-	-	12	10	-	-	5	-
539								SANDSTONE, MEDIUM GRAINED, AS ABOVE, MINOR IRON STAINING, SOME ROUNDED VOIDS.	12	6	2	10	6	4	16	16	-	-	10	-
540								COARSE GRAINED SPECULAR HEMATITE, WITH VEIN OF GOSSAN LIMONITE/JAROSITE	125	6	32	55	10	-	70	30	-	-	14	-
541								SANDSTONE; GRANULAR, "TOURMALANITIC" DARK GREEN BANDED X'LS, SOME IRON STAINED VOIDS	10	-	3	16	-	-	26	50	-	-	6	-
542								CLAYSTONE; LAYERED, PEBBLES OF HARDER MATERIAL ALLIGNED ALONG LAYERS, ?FAULT GOUGE.	6	-	2	10	4	8	50	18	-	-	9	-
543								SPECULAR HEMATITE; FINE GRAINED, SLIGHTLY LAYERED.	4	4	3	16	-	-	30	160	-	-	4	-

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

1598

Area: MT KARINYA
Map ref: ANGASTON
Photo name
Run No:

Collected: P.L.
Date collected NOV 1984
Date to lab: 27-11-84
D.P.O. No: 941

Analysed by COMLABS.
Date anal. rec. 4-12-84
Plan no: SAa 2925
Report no:

ANOMALY 3 - KEYNETON.

Sample Type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G./Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (equal)	No. CHIPS	TEST		Mo	V	Sn	W
								ANALYSIS METHOD	AAS 3	AAS 3	XRF 1	XRF 1
								DETECTION LIMIT (ppm)	(4)	(10)	(4)	(10)
1157530								SCHIST; GREY-BROWN, SANDY, MICACEOUS, LIMONITE STAINED	-	100	-	10
531								SHALE; RED-BROWN, MICACEOUS, FINE GRAINED THIN IRON RICH BANDS ?LATERITISED.	-	480	-	-
532								SHALE; OFF WHITE, BLEACHED ZONES IN ?LATERITISED SHALE ABOVE.	-	10	4	-
533								QUARTZ-MUSCOVITE-TOURMALINE-RUTILE GNEISSIC ROCK, MINOR LIMONITIC VOIDS, COARSE MUSCOVITE	4	30	-	10
534								LIMESTONE, MEDIUM GRAINED, IMPURE, SANDY MINOR GREEN ?DIOPSIDE / STILPNOMELANE	-	10	12	-
535								QUARTZITIC SANDSTONE, COARSE GRAINED, GRANULAR, LIMONITE STAINED.	8	20	-	-
536								SANDSTONE; YELLOW-BROWN, GREY, FINE GRAINED, SLIGHTLY MICACEOUS, MINOR LIMONITE.	4	25	6	-
537								SILTSTONE, FINE GRAINED, SLIGHTLY SILICEOUS, BLEACHED, SERICITIC, TOURMALINE ALTERATION	4	20	4	-
538								SANDSTONE, FINE GRAINED, SERICITIC, SLIGHTLY ?BLEACHED, MINOR TOURMALINE ALTERATION.	-	15	4	-
539								SANDSTONE, MEDIUM GRAINED, AS ABOVE, MINOR IRON STAINING, SOME ROUNDED VOIDS.	4	20	6	15
540								COARSE GRAINED SPECULAR HEMATITE, WITH VEIN OF GOSSAN LIMONITE/JAROSITE	4	100	4	-
541								SANDSTONE; GRANULAR, "TOURMALANITIC" DARK GREEN ?ALTERED XLS, SOME IRON STAINED VOIDS	4	30	4	-
542								CLAYSTONE; LAYERED, PEBBLES OF HARDER MATERIAL ALLIGNED ALONG LAYERS, ?FAULT GOUGE.	-	35	-	-
543								SPECULAR HEMATITE; FINE GRAINED, SLIGHTLY LAYERED	4	20	12	10

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

Area: MT KARINYA
Map ref: ANGASTON
Photo name
Run No:

Collected: P.L.
Date collected NOV 1984
Date to lab: 27-11-84
D.P.O. No: 941

Analysed by COMLABS
Date anal. rec. 4-12-84
Plan no: SAa 2925.
Report no:

ANOMALY 3 – KEYNETON

Sample type: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES A.M.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m.)	No. CHIPS	TEST		Cu	Pb	Zn	Ni	Co	Bi	Mn	Cr	Ag	Au	As	U
								ANALYSIS METHOD	AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 1	AAS 2	AAS 2	AAS 3	AAS 5A	XRF 1	XRF 1
								DETECTION LIMIT (ppm)	(2)	(4)	(2)	(4)	(4)	(4)	(4)	(4)	(1)	(0.01)	(2)	(4)
1157544								DOLERITE; DARK GREEN WHITE, FINE GRAINED, WEAKLY LAYERED.	16	6	14	24	12	–	330	24	–	–	5	–
545								IRONSTONE, FINE GRAINED, DENSE, LIMONITIC STAINING.	210	–	75	100	20	–	270	22	–	–	6	–
546								SANDSTONE, FINE GRAINED TOURMALINE ALTERATION, SLIGHTLY "APLITIC" IN PART.	5	6	2	20	6	–	36	48	–	–	14	–
547								WEATHERED ? DOLERITE; PURPLISH GREY BROWN, FINE-MEDIUM GRAINED, MICACEOUS, WKLY LAYERED	26	–	140	150	140	–	7400	28	–	–	5	–
548								SANDSTONE, MEDIUM GRAINED, SUGARY TEXTURED SERICITIC, MINOR LIMONITE & BLACK? MN OXIDES	6	10	14	26	10	4	290	14	–	–	7	–
549								LIMESTONE, GREY, SUGARY TEXTURED, IMPURE, WEAKLY LAYERED, MEDIUM GRAINED.	6	–	18	24	4	–	290	12	–	–	8	–
550								SANDSTONE; SLIGHTLY SILICIFIED, TOURMALINE RICH, WITH VEIN TOURMALINE.	3	–	3	6	–	–	10	26	–	–	6	–

C.R.A. EXPLORATION PTY. LTD. - ROCK SAMPLE FIELD DATA

Area: MT KARINYA
Map ref: ANGASTON
Photo name
Run No:

Collected: R.L.
Date collected NOV 1984
Date to lab: 27-11-84
D.P.O. No: 941

Analysed by COMLABS
Date anal. rec. 4-12-84
Plan no: SA4 2925
Report no:

ANOMALY 3 – KEYNETON

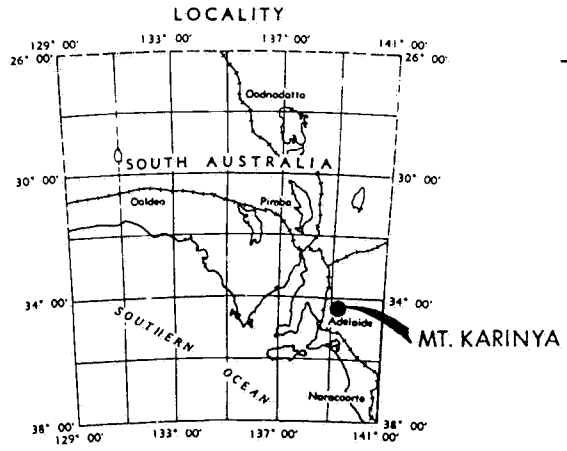
Sample TYPE: 1. Chip 2. Float 3. Channel. 4. Panel.
Test: 1. Chemistry 2. Duplicate 3. Thin section 4. Polished section.

Sample Number	COORDINATES AM.G/Long./Lat/Local EAST	NORTH	SAMPLE TYPE	WIDTH (m)	AREA (sq.m)	No. CHIPS	TEST		ANALYSIS METHOD	AAS3	AAS3	XRF1	XRF1
									DETECTION LIMIT (ppm)	(4)	(10)	(4)	(10)
										Mo	V	Sn	W
1157544								DOLERITE; DARK GREEN WHITE, FINE GRAINED, WEAKLY LAYERED.		4	125	4	–
545								IRONSTONE, FINE GRAINED, DENSE, LIMONITIC STAINING.		10	200	–	–
546								SANDSTONE, FINE GRAINED, TOURMALINE ALTERATION, SLIGHTLY "APLITIC" IN PART		–	20	42	30
547								WEATHERED ? DOLERITE; PURPLISH GREY BROWN, FINE-MEDIUM GRAINED, MICACEOUS, WKLY LAYERED		–	75	20	–
548								SANDSTONE, MEDIUM GRAINED, SUGARY TEXTURED SERICITIC, MINOR LIMONITE & BLACK? MN OXIDES		–	50	–	–
549								LIMESTONE, GREY, SUGARY TEXTURED, IMPURE, WEAKLY LAYERED, MEDIUM GRAINED.		–	20	8	35
550								SANDSTONE; SLIGHTLY SILICIFIED, TOURMALINE RICH, WITH VEIN TOURMALINE.		–	–	–	–

139°00'
139°05'
139°15'
139°30'
34°05'
34°15'
34°30'
34°35'
34°38'
34°45'
138°55'
139°08'
139°10'

ROSEWORTH - MORGAN RAILWAY
EUDUNDA
SCHNEIDERS GOSSAN AREA
TRURO
STURT HIGHWAY
TO BLANCHTOWN
NURIOOTPA
▲ MT. KARINYA
KANGASTON
TANUNDA
MT. KARINYA
(1150 Km. Sq.)
MT. RHINE MINE AREA
CAMBRAI

LOCALITY



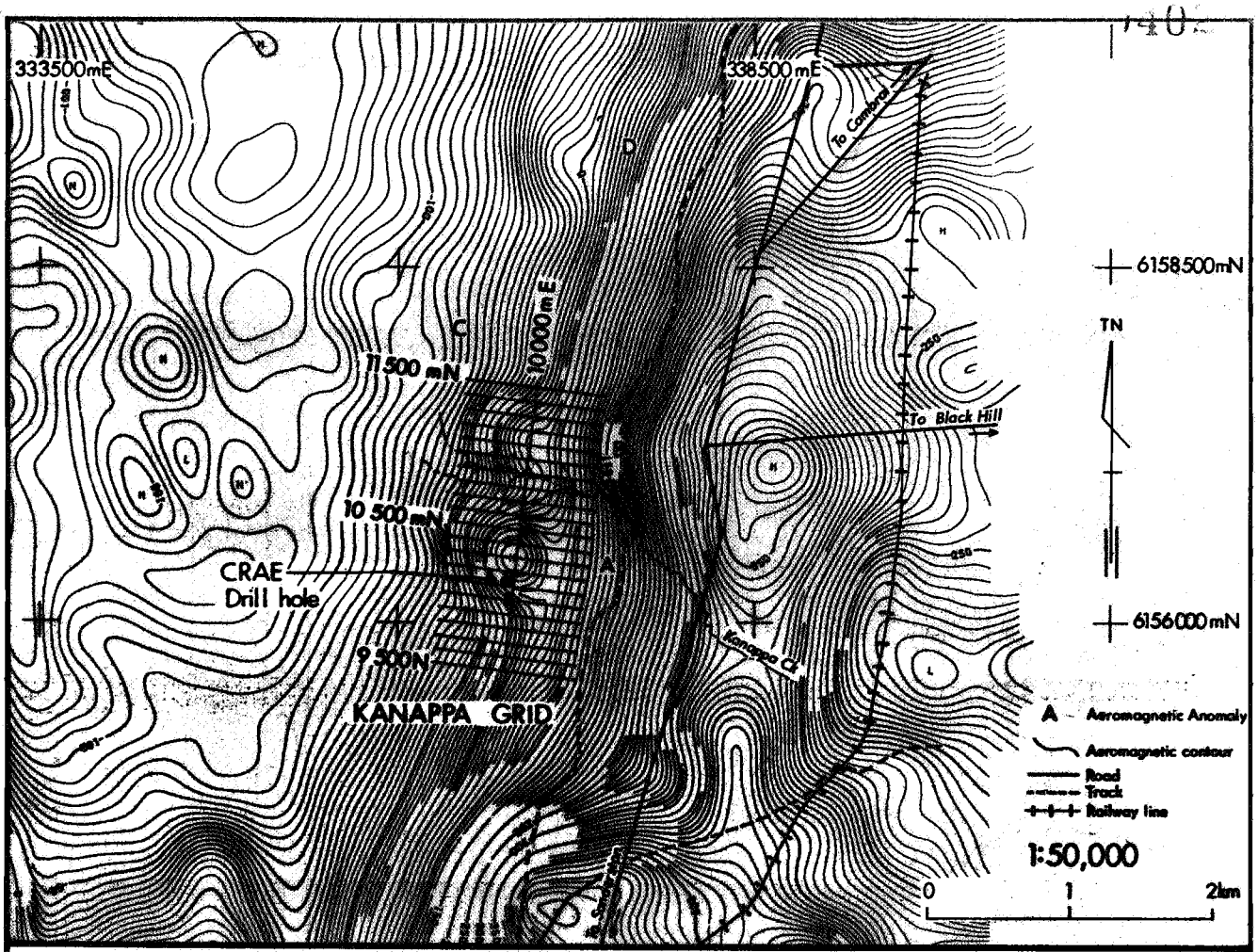
5 0 5 10 15 20 25 Kilometres

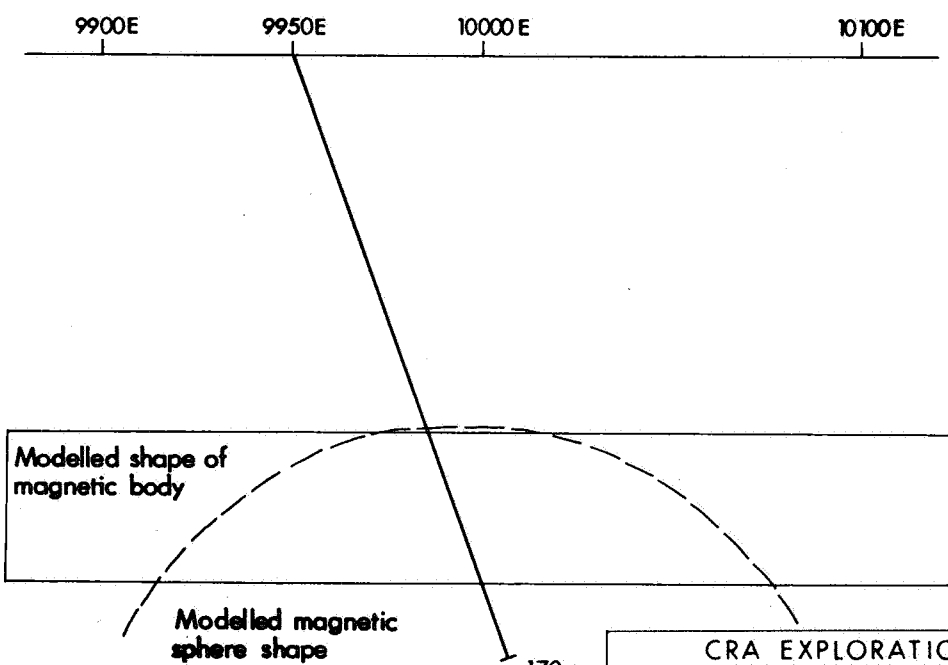
C R A EXPLORATION PTY. LIMITED

MT. KARINYA E.L. 947 — S. AUST.

LOCALITY PLAN

REF. : ADELAIDE SI 54-9	
SCALE : 1:250 000	DRAWN : J.C.R.
GEOL : P.L.	REPORT N° : 13160
DATE : March '85	PLAN N° : SAa 976





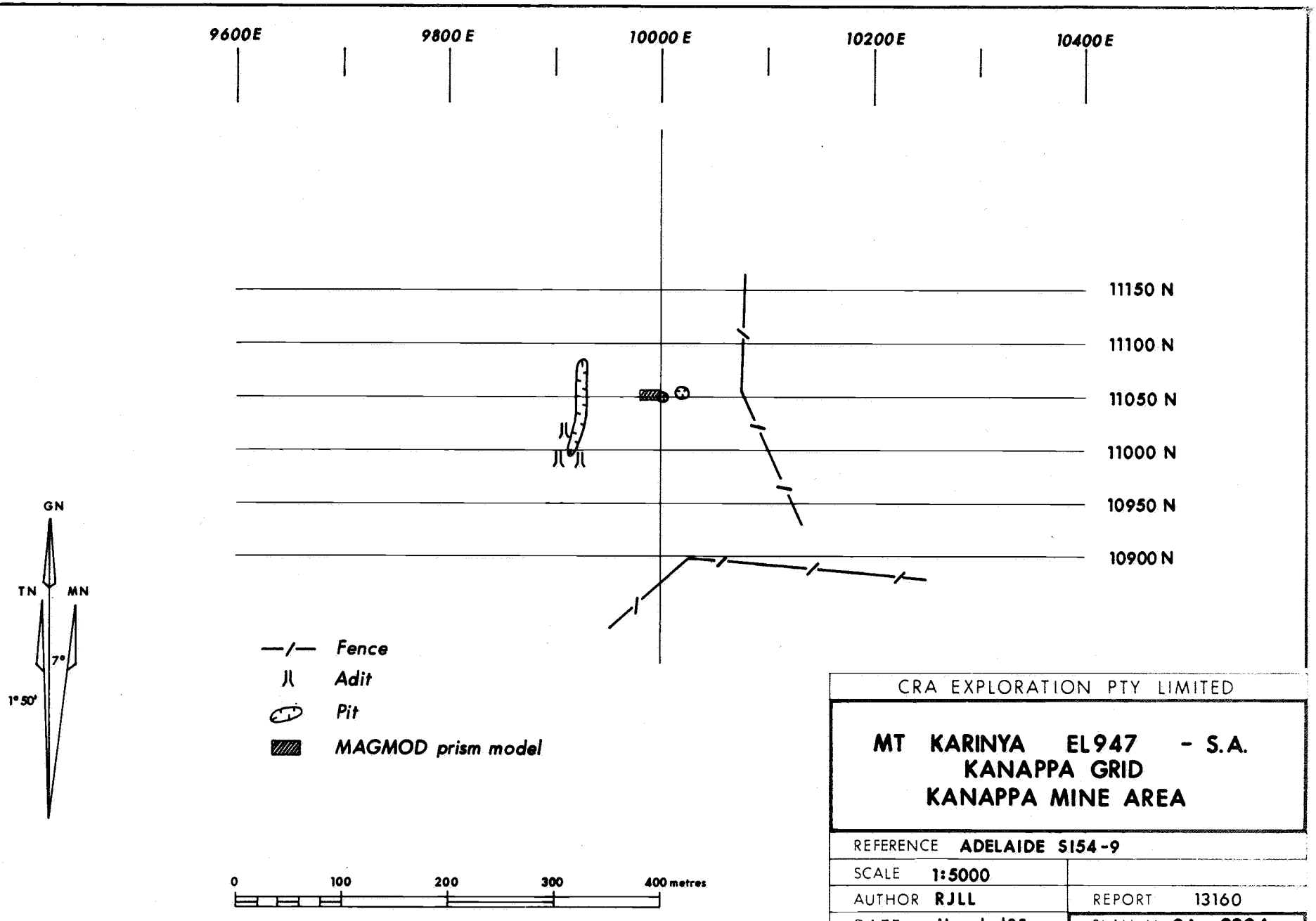
1:2,000

0 50 100 m

CRA EXPLORATION PTY LIMITED

MT KARINYA EL 947 - S.A.
KANAPPA PROJECT
GRID AND DRILLHOLE DD84 MK1

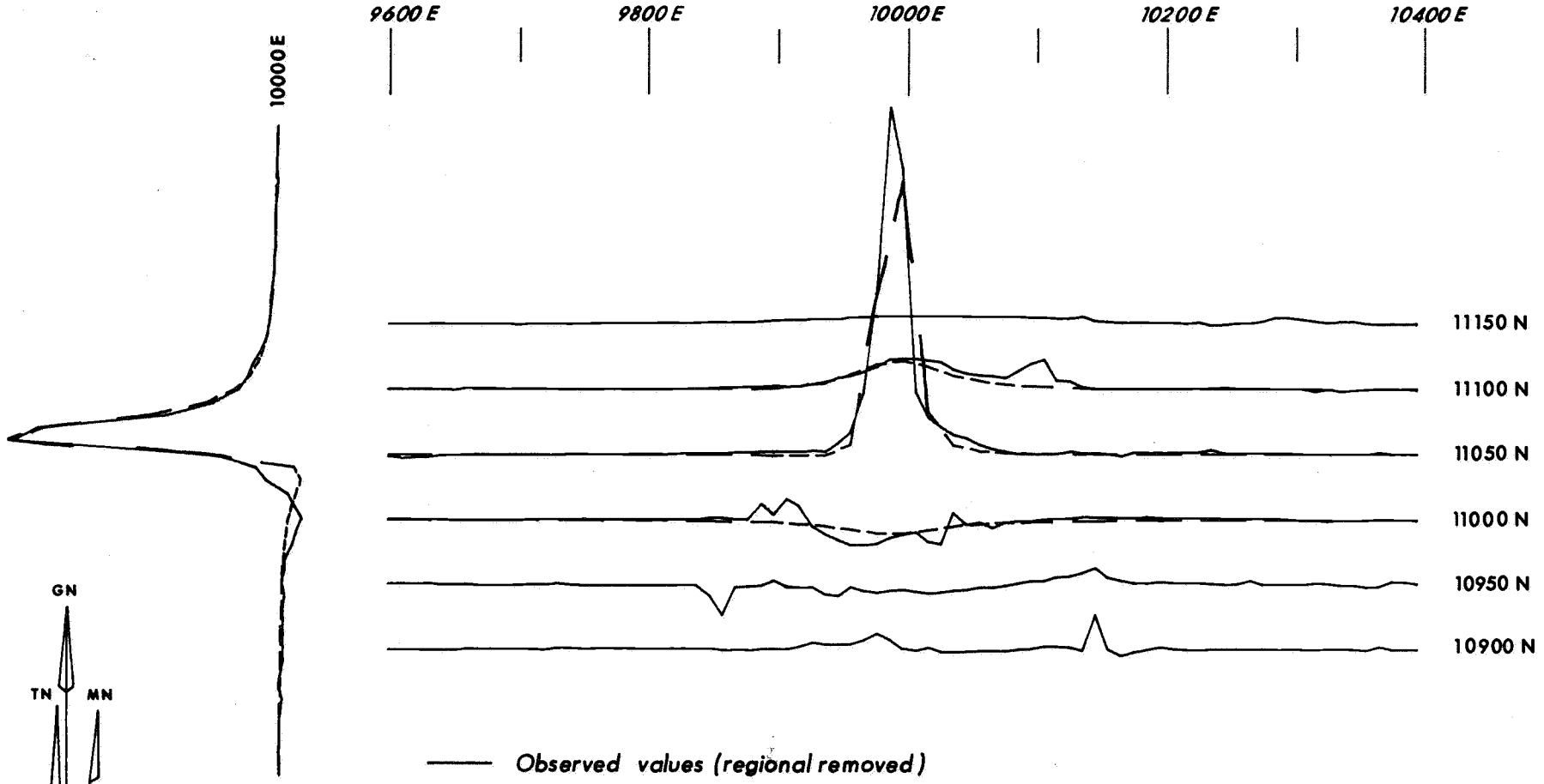
REFERENCE ADELAIDE SI 54-9	
SCALE 1:50 000	
AUTHOR KDT	REPORT 13160
DATE March '85	PLAN No SAa 2695



CRA EXPLORATION PTY LIMITED

MT KARINYA EL947 - S.A.
KANAPPA GRID
KANAPPA MINE AREA

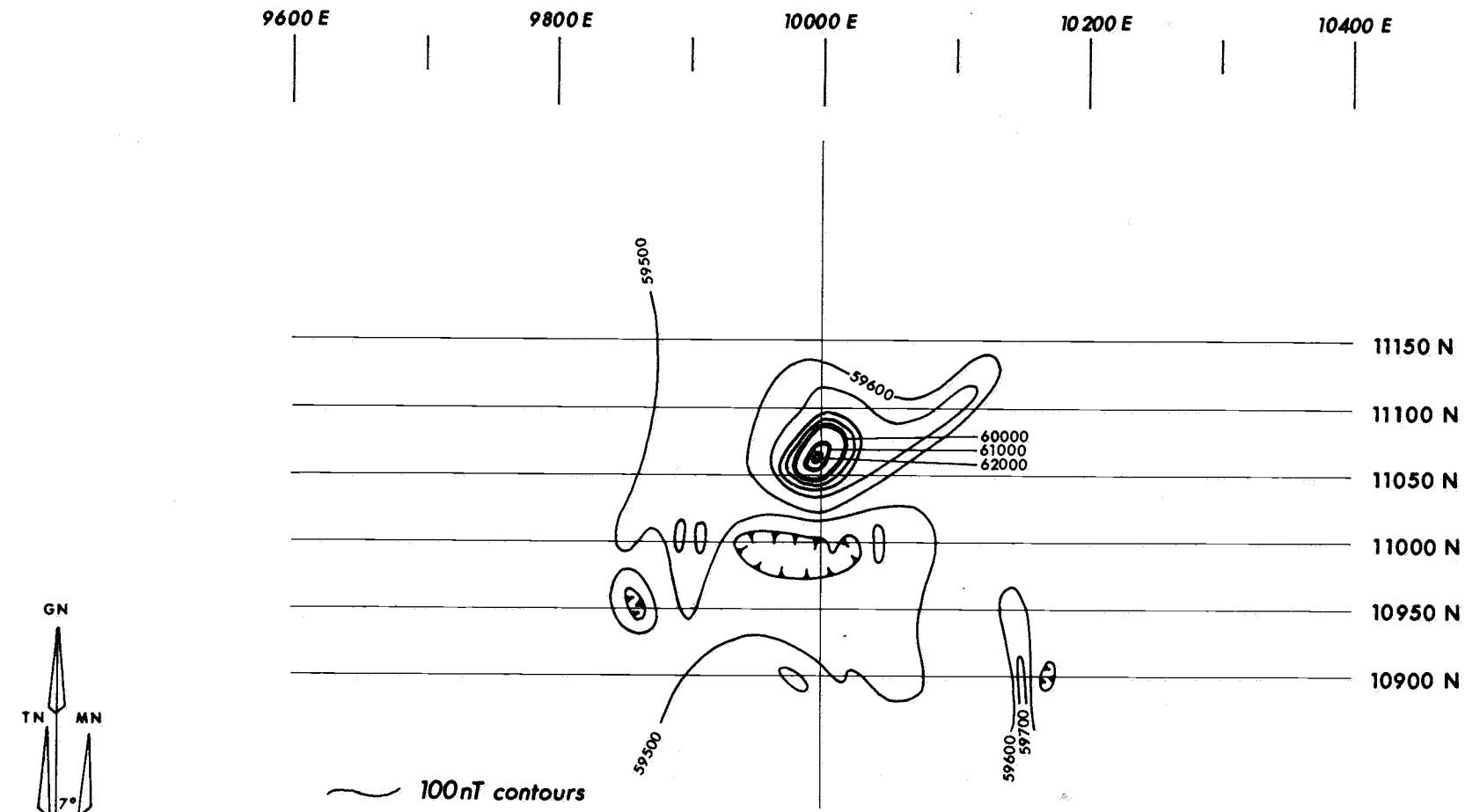
REFERENCE ADELAIDE S154-9	
SCALE 1:5000	
AUTHOR RJLL	REPORT 13160
DATE March '85	PLAN No SAa 3004



CRA EXPLORATION PTY LIMITED

MT KARINYA EL 947 - S.A.
KANAPPA GRID
GROUND MAGNETIC PROFILES
KANAPPA MINE AREA

REFERENCE ADELAIDE SI54-9	
SCALE 1:5000	
AUTHOR RJLL	REPORT 13160
DATE NOV 84	PLAN No SAa 3005



CRA EXPLORATION PTY LIMITED

MT KARINYA EL 947 - S.A.
KANAPPA GRID
GROUND MAGNETIC CONTOURS
KANAPPA MINE AREA

REFERENCE	ADELAIDE SI54-9		
SCALE	1:5000		
AUTHOR	RJLL	REPORT	13160
DATE	NOV'84	PLAN No	SAa 3006

139°05'

139°15'

34°20'

34°30'

F

CZ

Magneticaly disturbed zone

EL947

LEGEND

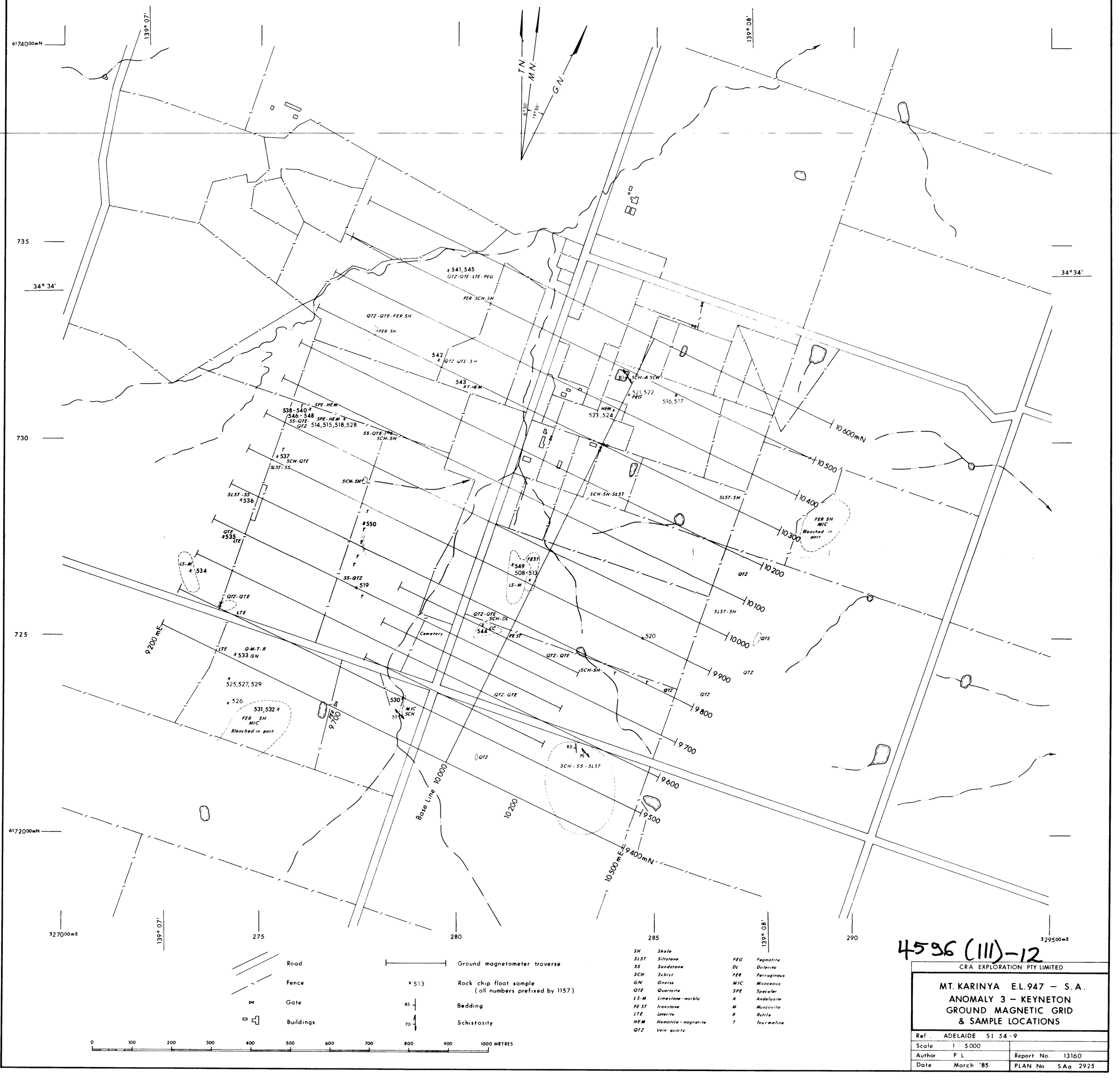
- Karinya shale
- Linear magnetic trends
- Zone of disturbed magnetics
- 2 — Anomaly
- F — Fault
- EL Boundary

0 2 4 6 8 10 kilometres

CRA EXPLORATION PTY LIMITED

MT. KARINYA EL 947 — S.A.
AEROMAGNETIC CONTOURS SHOWING ANOMALIES 1, 2 & 3 AND ZONE OF DISTURBED MAGNETICS (After J.V. Main 1984)

REF	ADELAIDE SI54-9		
SCALE	1:100,000		
AUTHOR	PL	REPORT	13160
DATE	March '85	PLAN No	SAa 2915



4596 (111)-12

CRA EXPLORATION PTY LIMITED

MT. KARINYA E.L.947 – S.A.
ANOMALY 3 – KEYNETON
GROUND MAGNETIC GRID & SAMPLE LOCATIONS

Ref.	ADELAIDE SI 54-9		
Scale	1 : 5000		
Author	P L	Report No.	13160
Date	March '85	PLAN No	SAa 2925