Open File Envelope No. 8312

EL 1648

MOUNT PLAYFAIR

PROGRESS AND FINAL REPORTS TO LICENCE SURRENDER FOR THE PERIOD 28/3/90 TO 24/5/91

Submitted by
CRA Exploration Pty Ltd
1991

Enquiries: Customer Services
Ground Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

PRIMARY INDUSTRIES AND RESOURCES SA

CRA EXPLORATION PTY LIMITED

SUBJECT: FIRST QUARTERLY REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH JUNE, 1990

AUTHOR: M.J. DONNELLY

DATE: 28TH JUNE, 1990

CRAE REPORT NO: 16621

SOUTH AUSTRALIA

DEPARTMENT OF MINES AND ENERGY

OPEN FILE ENVELOPE NO. 8312

EL 1648, MOUNT PLAYFAIR

PROGRESS AND FINAL REPORTS FOR THE PERIOD
28/3/90 to 24/5/91

Submitted by

CRA Exploration Pty Limited

1991

ENVELOPE 8312

TENEMENT: EL 1648, Mount Playfair

TENEMENT HOLDER: CRA Exploration Pty Limited

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SEPARATELY HELD DATA

DRILL SAMPLES (Held in SADME Core Libraries):

For up to date information on available drillhole samples, contact the Supervisor, SADME Core Library and quote the Exploration Licence and Drillhole number/s you wish to query.

CRA EXPLORATION PTY. LIMITED

FIRST QUARTERLY REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH JUNE, 1990

AUTHOR: M.J. DONNELLY

COPIES TO: SADME
CIS CANBERRA

DATE: 28TH JUNE, 1990

SUBMITTED BY: M. Donnelly

ACCEPTED BY:

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1. SUMMARY

Exploration on Mt. Playfair EL 1648 during the first quarter of tenure has included geochemical and mineralogical drainage sampling and ground magnetometry. The drainage geochemical survey identified one catchment as being moderately anomalous in Zn.

A total of 79.6 line kilometres of ground magnetometry confirmed the position of six anomalies which are evident in the regional aeromagnetic data. These anomalies will require geological mapping and possibly drill testing to identify their sources.

The minus 2 mm fraction of drainage samples (gravel samples) are yet to be processed.

2. CONCLUSIONS AND RECOMMENDATIONS

From the results of investigations completed during the first quarter, it is concluded that drainage sample 2542288, containing 141 ppm Zn against a background level of 75 ppm, may be considered to be sufficiently anomalous as to require follow up investigations. No other geochemical sample is recommended for follow up at this stage.

Results of ground magnetometry surveys indicate relatively shallow sources for the anomalies evident in the results of regional data collected by BMR aerial surveying. Geological mapping of creek beds and possible drilling to penetrate superficial cover will be required to identify the sources of these anomalies.

3. INTRODUCTION

Mt. Playfair EL 1648 is located on the Copley 1:250 000 sheet. It is situated west of Lyndhurst and covers an area of approximately 900 sq km (plan SAa 5215). The licence was granted to CRA Exploration Pty. Limited (CRAE) on 28th March, 1990 for a period of one year.

CRAE is currently exploring EL 1648 for a range of commodities. In particular, the diapirs are being tested for a variety of mineralisation styles.

This report details work completed during the first quarter of Mt. Playfair EL 1648, for the period ending 27th June, 1990.

4. GEOLOGY

Mt. Playfair EL 1648 contains Adelaidean sedimentary rocks, diapirs and Quaternary cover. The Adelaidean sediments belong to the Burra Group and Umberatana Group and consist of quartzite, sandstone, dolomite, shale, siltstone, magnesite, limestone and chert. These sediments have been upthrust by the Norwest Fault which is the dominant structure in EL 1648. Diapiric breccias containing dolerite outcrop within EL 1648. The northern half of the exploration licence is covered by Quaternary sand, gravel and clay. Magnetic features covered by this Quaternary cover are being investigated during the current exploration activities.

5. PREVIOUS WORK

Previous exploration within Mt. Playfair EL 1648 has been for base metals, coal, magnesite and diamonds.

Carpentaria Exploration Pty. Ltd. in the early 1970's were exploring for fault associated base metal mineralisation. They made gravity and electromagnetic traverses over the Norwest Fault. Creeks draining the Norwest Fault scarp were stream sediment sampled and returned low Cu and Zn values (SADME Env 1246).

The Leigh Creek Coalfield lies immediately to the southeast of EL 1648. The Electricity Trust of South Australia, BHP Minerals Ltd. and Australian Consolidated Minerals Ltd. have held exploration licences looking for coal over Mt. Playfair EL 1648.

Magnesite has been quarried from interbeds within the Skillogalee Dolomite on EL 1648. Three quarries at Myrtle Springs produced 30 000 tonnes of magnesite in 1984-5 (McCallum, 1988).

CRAE whilst exploring Tarlton Knob EL 1196 collected drainage gravel samples (plan SAa 5288) over EL 1648 for diamond exploration.

6. CURRENT EXPLORATION

6.1 Reconnaissance Drainage Geochemistry Programme

During the quarter, a reconnaissance drainage geochemistry programme consisting of 102 samples was conducted over EL 1648. Approximately 100 g of -80# active stream sediment was collected at each sample site and details of geology and creek morphology noted. The samples were analysed for a suite of 22 elements by Analabs in Adelaide (refer Table 1). Appendix I contains the -80# stream sediment ledgers and Appendix II presents all assays for these samples. Sample locations are plotted on plan SAa 5288. A single rock chip sample of float was collected during the course of the programme. It did not contain anomalous geochemistry (Appendix III).

Table 1

Analytical Methods and Detection Limits for -80# Drainage Geochemistry

Element	Analytical Method	Detection Limit (ppm)	Element	Analytical Method	Detection Limit (ppm)
Au	Aqua Regia/Carbon Rod finish	0.001	Fe	ICP-OES	100
As	Hydride generation/ AAS	1	La	ICP-OES	5
Pb	AAS	5	Mn	ICP-OES	15
Ag	AAS	0.5	Mo	ICP-OES	10
Nb	ICP-MS	0.2	P	ICP-OES	100
Sb	ICP-MS	0.05	Ni	ICP-OES	10
U	ICP-MS	0.05	Sr	ICP-OES	1
Ce	ICP-OES	15	Th	ICP-OES	10
Co	ICP-OES	5	Y	ICP-OES	1
Cr	ICP-OES	10	Zn	ICP-OES	5
Cu	ICP-OES	5	Zr	ICP-OES	5

Assays for the stream sediment samples are generally low (Table 2). The only sample warranting follow up is 2542288. The maximum values for Zn, P, Cu, Pb, Sr and Y shown in Table 2 are from this sample.

Table 2

Summary of Statistics for Arkaba EL 1625 -80# Stream Sediment Geochemistry

Element	Minimum	50th Percentile	90th Percentile	95th Percentile	98th Percentile	Maximum
Au	<0.001	<0.001	0.001	0.001	0.002	0.002
As	2	4	5	6	7	10
Pb	<5	5	10	15	16	40
Ag	<0.5	<0.5	0.5	0.5	0.5	.05
Nb	3.75	6.1	8.63	9.51	10.06	10.8
Sb	<0.05	0.42	0.86	1.01	1.08	2.4
U	0.83	1.23	1.76	1.88	2.29	3.67
Ce	23	40	49	50	59	71
Co	<5	9	14	15	15	20
Cr	11	33	54	58	62	66
Cu	10	16	21	23	25	29
Fe%	0.22	2.56	3.18	3.49	4.13	4.76
La	16	25	30	31	35	39
Mn	115	305	427	456	498	509
Mo	<10	<10	<10	<10	<10	<10
P	<100	243	357	400	442	670
Ni	<10	16	23	24	26	31
Sr	34	86	138	157	188	586
Th	<10	<10	12	13	13	15
Y	10	14	19	20	22	36
Zn	12	39	58	62	75	141
Zr	52	101	129	132	145	188

6.2 Diamond Exploration

A reconnaissance drainage gravel sampling programme consisting of 15 samples was carried out during the quarter. The gravel samples were taken from heavy mineral trap sites within active creeks. Approximately 25 kg of -2 mm material was collected. Results of mineral observation of these samples are not yet available. At each gravel sample site approximately 100 g of -80# active stream sediment was also collected. Analysis techniques are the same as those for the drainage geochemistry samples in Section 6.1. The assay results are presented in Appendix II.

Sample locations are plotted on plan SAa 5288. Sample numbers 918962 and 918963 were collected from creeks draining magnetic anomalies Red Hill Dam #3 and Red Hill Dam #1 respectively (refer Section 6.3). The 1984 gravel samples shown on plan SAa 5288 were collected by CRAE during exploration of EL 1196.

6.3 Ground Magnetometry

A total of six regional magnetic anomalies were identified as being associated with either mapped or inferred diapiric structures. Refer to plan SAa 5391 for the prospect locations. Detailed gridding and ground magnetic recovery at 100 metre and 10 metre intervals respectively were completed to further define the locations and nature of these anomalies. Table 3 lists the complete ground magnetic coverage details.

To date, only qualitative interpretation of the magnetic data has been completed - the data is generally subject to high frequency noise caused by surficial rubble, but in all cases the target anomalies were recovered. The plotted data was subjected to a spike filter to remove single reading spikes of greater than +/-50 nT.

With the possible exception of one traverse at Tin Hut Dam, all sources appear to have some cover, but are likely to be shallower than the estimated depths due to weathering of magnetic materials.

6.3.1 Tin Hut Dam

The target anomaly was traversed by lines 11300mE and 11700mE (refer plan SAa 5278). The data on line 11300mE shows multiple near surface sources with a shallow contact near 9050mN on the (grid) southern edge of the source. In contrast, the data on line 11700mE is smoothly varying itself with a pronounced 800nT dipolar anomaly peaking at 9500mE. Preliminary modelling results show a moderately south-westerly dipping body with a depth to top of approx. 90 metres, centred on 9500mN.

6.3.2 White Hill Dam

The three east-west profiles and one north-south profile in plan SAa 5277 indicate the regional magnetic anomaly to be composed of several apparently discrete sources. Depth estimates vary from 20-50 metres. The data north of 6650000mN is generally less noisy due to a veneer of ?several metres of sand cover.

6.3.3 Lyndhurst

This prospect is similar to White Hill Dam in that the regional anomaly is resolved into several discrete sources by the four east-west and one north-south traverses (plan SAa 5276). Estimated depths to top of the magnetic sources range from 40-60 metres.

6.3.4 Red Hill Dam #1

This anomaly of over 1000 nT (plan SAa 5273) appears to be composed of multiple, adjacent magnetic sources centred at 15000mN on line 8900E. Estimated depths to top are less than 80 metres and dips are to grid south-east.

6.3.5 Red Hill Dam #2

Two of the three traverses across this prospect (plan SAa 5274) indicate the source(s) to be at least 800 metres long and striking approx. north-west (i.e. 351° to grid north). Depth estimates are approx. 80 metres.

6.3.6 Red Hill Dam #3

The three traverses across this prospect (plan SAa 5275) indicate a series of magnetic sources striking approx. 340° true, with depth estimates of 90-120 metres.

Table 3

Ground Magnetic Coverage - Mt. Playfair EL 1648

Magnetometer: Scintrex MP-3 Proton
Station Interval: 10 metres

Prospect	Grid Type	Line	From	To	Km
Tin Hut Dam	Local GN=040m	10000N	10000E	12500E	2.5
		11300E	7000N	11000N	4.0
		11700E	8000N	11000N	3.0
White Hill Dam	AMG	6650300N	236000E	239650E	3.65
		6650700N	235350E	239000E	3.65
		6651100N	235300E	239000E	3.7
		237400E	6646000N	6653000N	7.0
Lyndhurst	AMG	6645300N	239800E	242800E	3.0
		6645700N	240000E	243000E	3.0
		6646100N	240000E	243000E	3.0
		6646500N	240000E	243000E	3.0
		241700E	6639000N	6647500N	8.5
Red Hill Dam #1	Local GN=323m	15400N	7000E	11000E	4.0
		8900E	13500N	16500N	3.0
		10000E	10000N	16500N	6.5
Red Hill Dam #2	Local GN=323m	11200N	8000E	11000E	3.0
		11600N	7000E	11000E	4.0
		12400N	8000E	11000E	3.0
Red Hill Dam #3	AMG	6640000N	241700E	244000E	2.3
		6640400N	241500E	245000E	3.5
		6640800N	241700E	244000E	2.3
				Total	79.6

M.J. DONNELLY

MJD/pq

EXPENDITURE

Expenditure on Mt. Playfair EL 1648 for the period ending 30th June, 1990, the nearest accounting period, amounted to $53 113.00, as detailed below.

	$
Payroll	19 143
Supplies	2 539
Vehicle	3 941
Travel	6 037
Rent	6 309
Contractors	9 423
Overheads	5 721
Total	**$53 113**

REFERENCES

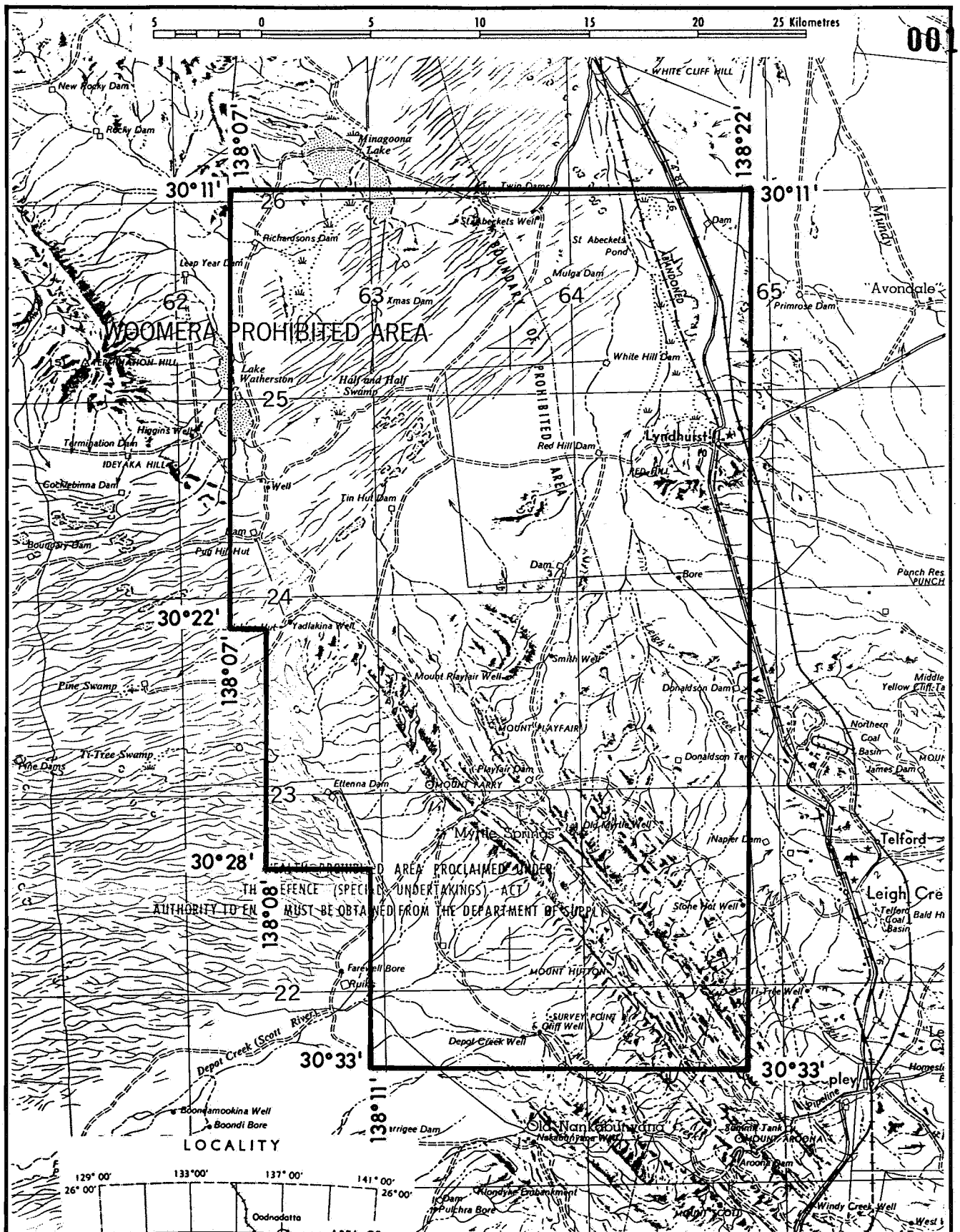
McCallum, W.S. 1988 Magnesite in South Australia - A Summary. SADME RB 88/063

LOCATION

Copley SH54-09 1:250 000 sheet

KEYWORDS

Diamonds, Diapir, Geochem-drainage, Geophys-magnetics, Lyndhurst, Red Hill Dam #1, Red Hill Dam #2, Red Hill Dam #3, Tin Hut Dam, White Hill Dam



CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR E.L.1648 – S.A.

LOCATION PLAN

Approx. Area 899 Km²

REFERENCE	COPLEY SH 54-9		
SCALE	1 : 250000		
AUTHOR	D. C. P.	REPORT	16621
DATE	Nov. '89	PLAN No	SAa 5215

138°05' 220000mE 230000mE 138°15' 240000mE 250000mE 138°25'

6660000mN 30°10'

Minagoona Lake

Dam Dam

Yd

Primrose Dam

6650000mN

30°20'

6640000mN

1233354 1233355 2542297 2542354 2542296 2542355 2542356 1233353 1233352 1233351 2542357 2542358 2542295 918962 918963 918960

2542343 1233349 2542342 2542366 2542344 2542362 2542363 2542359 2542361 2542360 2542365 1233350 2542364 2542345 2542346 2542367 2542368 2542369 2542370 918965 918968 2542371 2542372 2542373 2542299 2542298 918961 2542292 2542294 2542293 2542291 2542290 918959 918958 2542300 2542301 MT. PLAYFAIR 918957 2542289 2542288 2542287 MT. PARRY 2542348 2542349 2542347 2542350 2542352 2542351 2542322 2542321 2542324 2542323 2542326 2542327 2542325 2542328 2542329 2542330 2542331 917730 2542332 2542333 2542334 2542335 2542336 2542338 2542337 2542339 2542340 2542341 2542375 2542377 2542376 2542380 2542379 2542320 918966 918967 2542318 2542310 918969 2542319 2542381 2542317 2542316 2542302 918970 2542303 2542304 2542315 2542314 2542305 2542306 2542309 2542308 2542307 2542313 Old Myrtle Well 2542286 2542285 Bore 2542284 2542283 2542282 2542281 Stone Hut Well 2542280 2542279 2542312 2542311 LEIGH CREEK COALFIELD

Ettenna Dam

Myrtle Springs

-Tree Swamp

6630000mN

6620000mN

30°30'

30°35'

220000mE

138°05' 230000mE 138°15' 240000mE 250000mE 138°25'

TRAP SITE RATING

- ⊙ Good
- ⊖ Good to Moderate
- ⊕ Moderate
- ⊕ Moderate to Poor
- ⊗ Poor
- O Unsatisfactory

Stream Sediment Sample ···· [2542279 – 2542377; 2542379 – 2542381]

Gravel Sample ···· [1233349 – 1233355 (1984); 918956 – 918970 (1990)]

Rock Sample ···· 917730

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.

MOUNT PLAYFAIR E.L.1648 – S.A.

SAMPLE LOCATION PLAN

8312-1

Ref.: COPLEY SH 54-9	
Scale. 1 : 100,000	Drawn.
Author. A.R.H./ M.J.D.	Report No. 16621
Date. June '90	Plan No. SAa 5288

138°05' 220000mE 230000mE 138°15' 240000mE 250000mE 138°25'

6660000mN 30°10'

Minagoona Lake

Dam

Yd

Primrose Dam

237400mE 6653000mN

235300mE 239000mE 6651100mN 6650700mN 6650300mN

235350mE 236000mE 239650mE

WHITE HILL DAM

6646000mN

241700mE 243000mE 6647500mN

LYNDHURST

240000mE 6646500mN 6646100mN 6645700mN 6645300mN

239800mE 242800mE

6650000mN

30°20'

6640000mN

10000mE BASE PEG 12000N Line 11300mE 10000mN Line 11700mE

Line 10000mE 16500mN Line 8900mE Line 15400mN

241500mE 244000mE 245000mE 6640800mN 6640400mN 6640000mN

TIN HUT DAM

RED HILL DAM 1

RED HILL DAM 3

6639000mN

11000mN 12500mE Line 10000mN 11000mE

8000mN 7000mE 13500mN Line 12400mN Line 11600mN Line 11200mN 11000mE

10000mE BASE PEG 10000mN

RED HILL DAM 2

MT. PLAYFAIR

Tree Swamp

6630000mN

Etienna Dam

MT. PARRY

Old Myrtle Well

'Myrtle Springs'

LEIGH CREEK COALFIELD

Bore

Stone Hut Well

220000mE

30°30'

6620000mN

30°35'

138°05' 230000mE 138°15' 240000mE 250000mE 138°25'

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.

MOUNT PLAYFAIR E.L.1648 – S.A.

GRID LOCATIONS

8312-2

Ref.: COPLEY SH 54-9	
Scale. 1 : 100,000	Drawn.
Author. G.L.M.	Report No. 16621
Date. June '90	Plan No. SAa 5391

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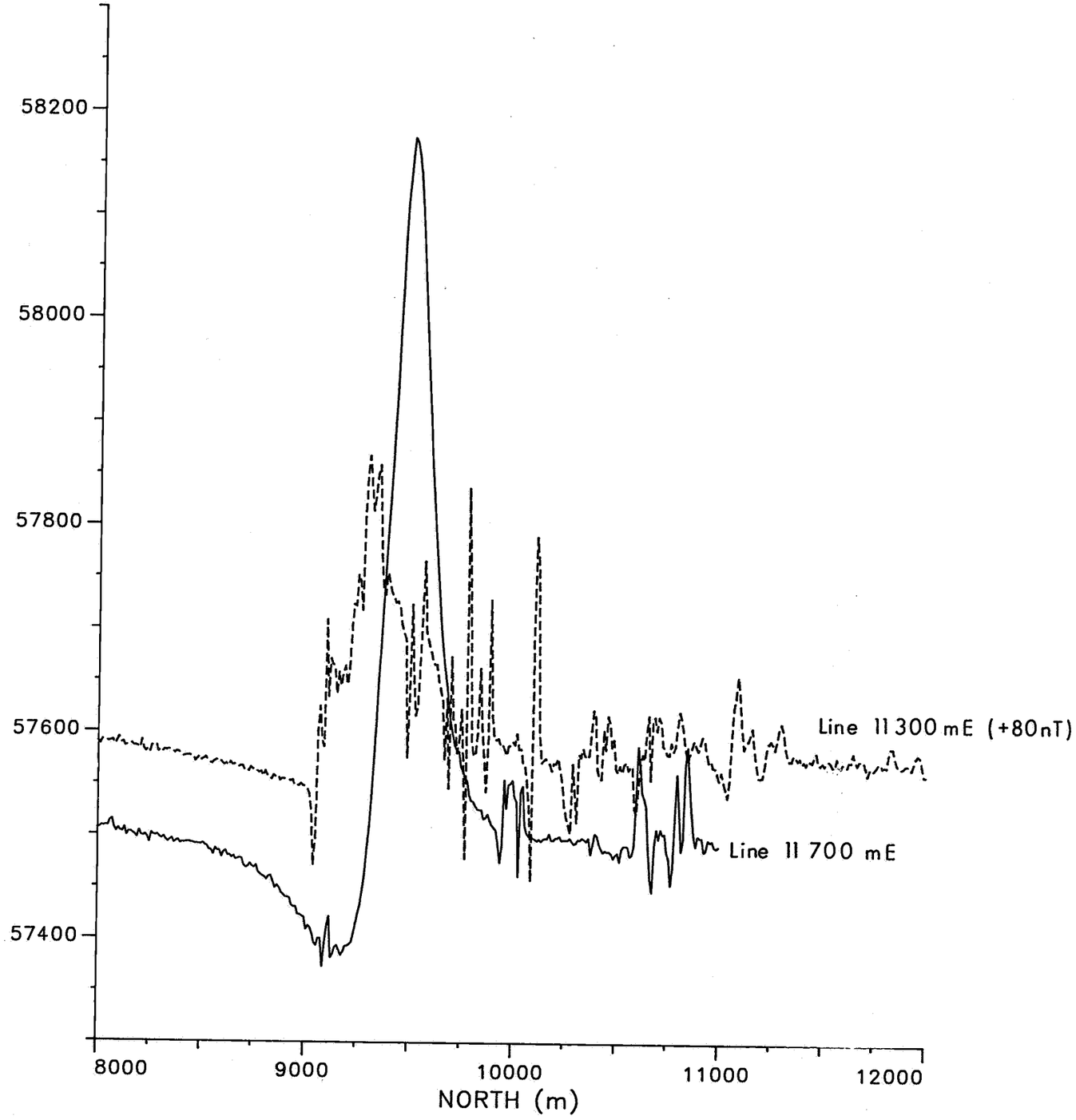

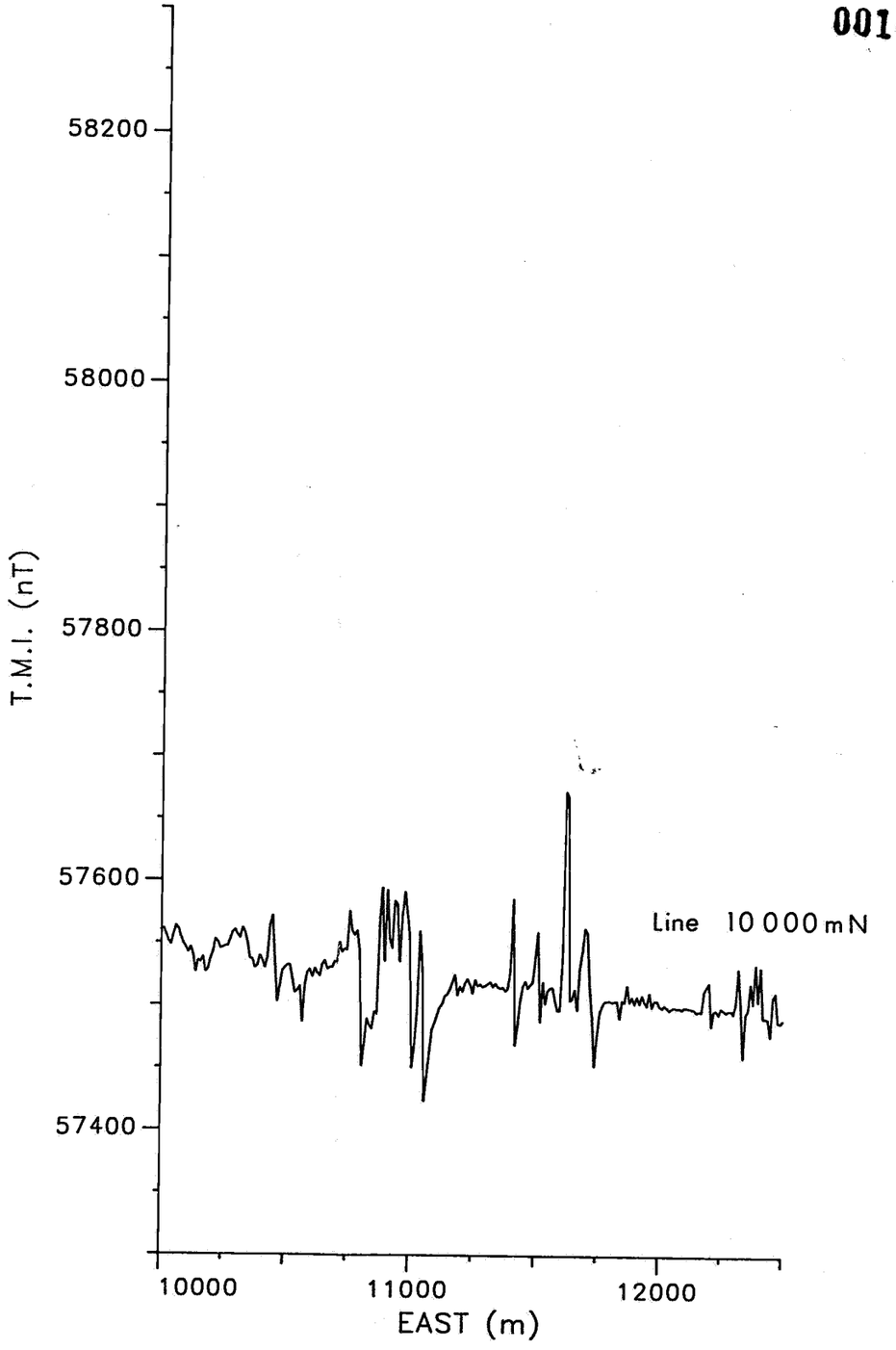

Grid Location Plan
SAa 5391

CRA EXPLORATION PTY LTD	
MT PLAYFAIR ELA TIN HUT DAM PROSPECT T.M.I. PROFILES	
REFERENCE COPLEY SH 54–9	
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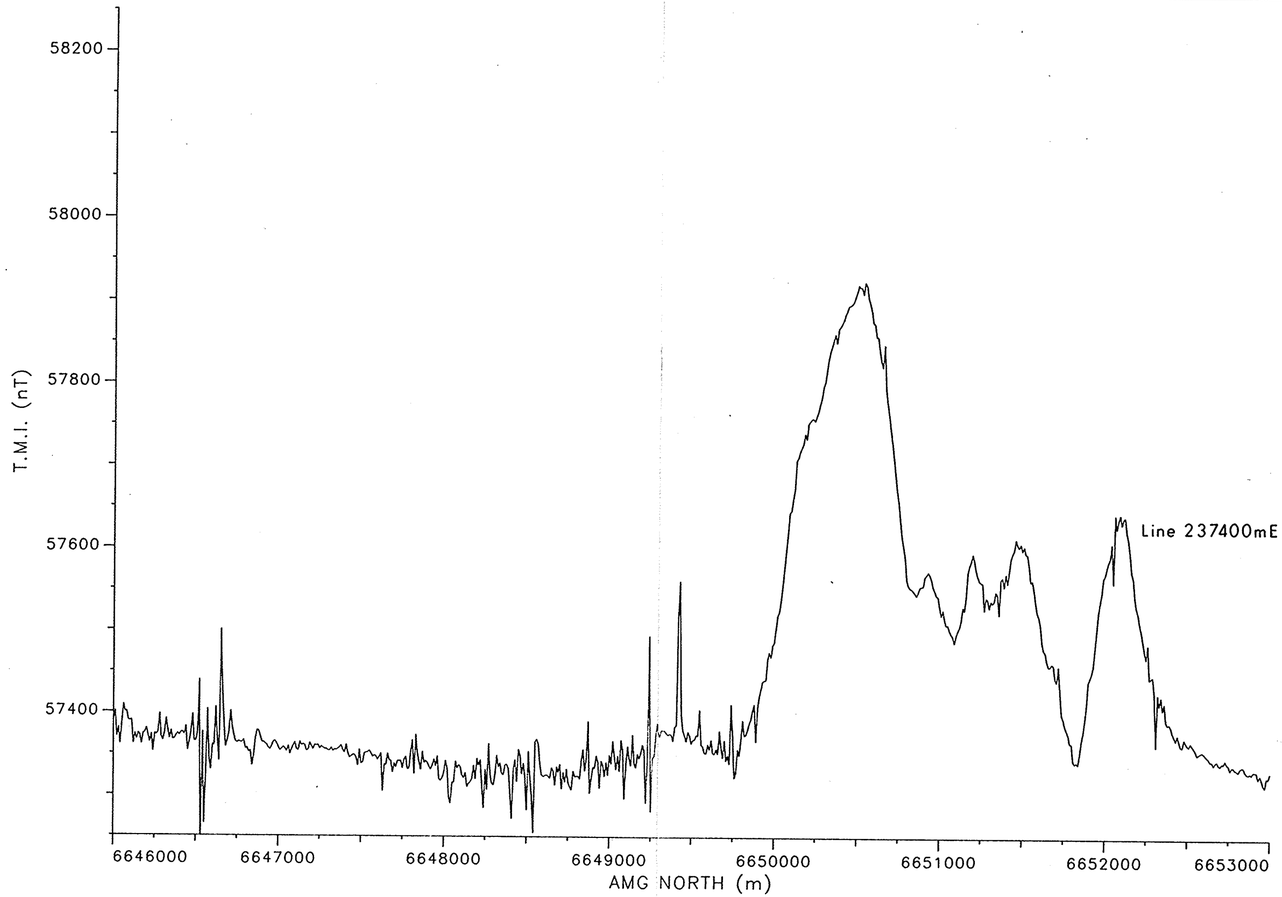
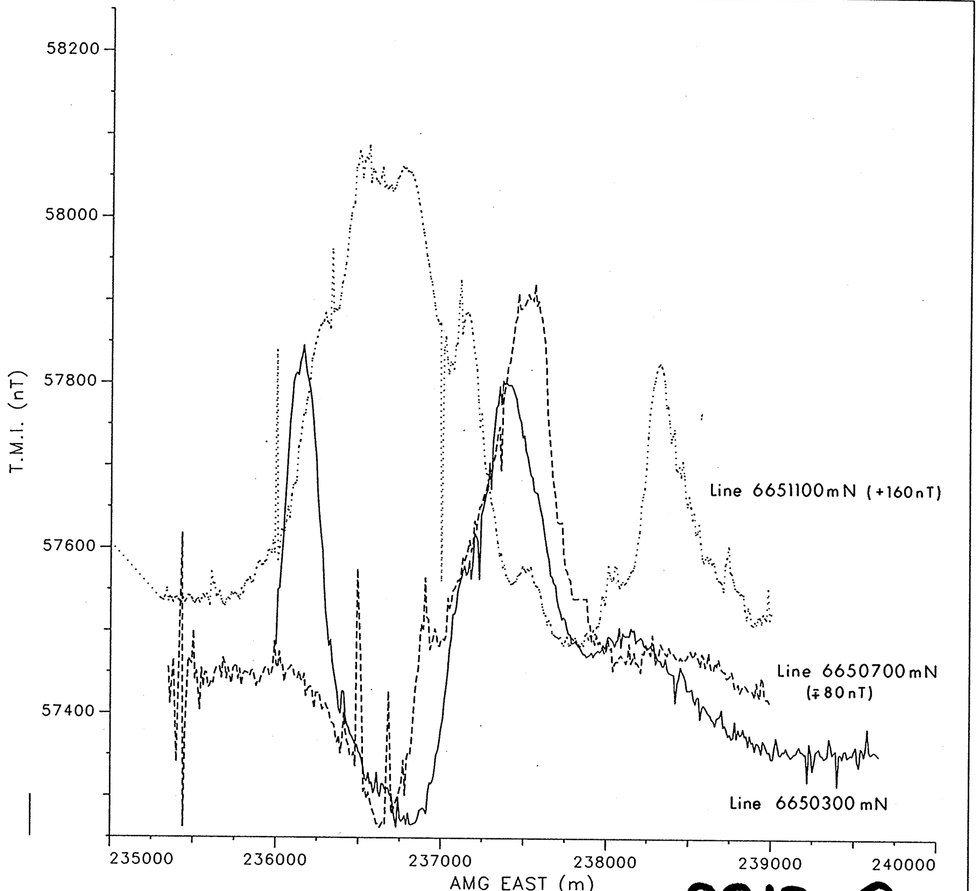
AUTHOR GLM	REPORT 16621
DATE 1 MAY 90	PLAN No SAa 5278





8312-3

Grid Location Plan
SAa 5391

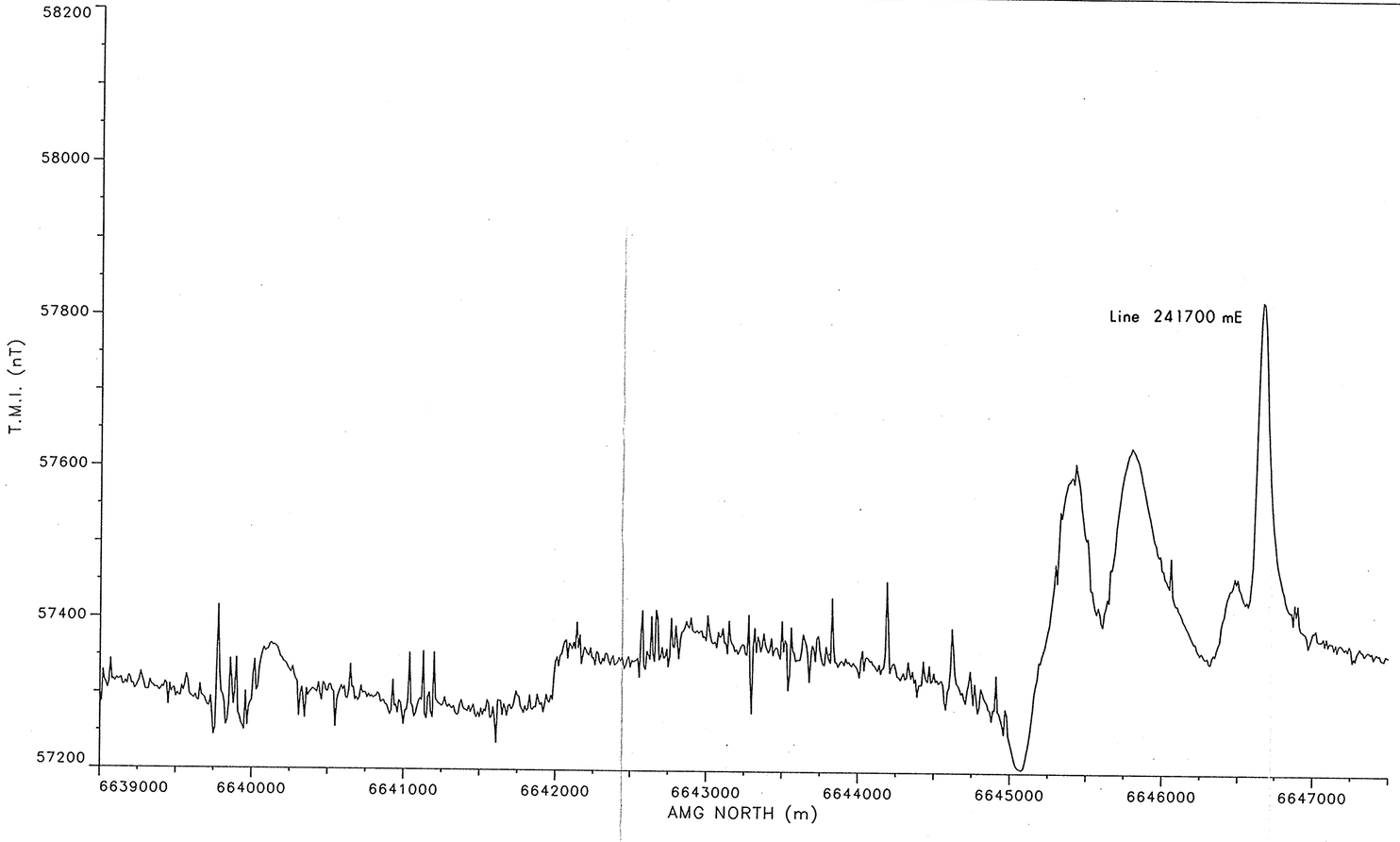
CRA EXPLORATION PTY LTD

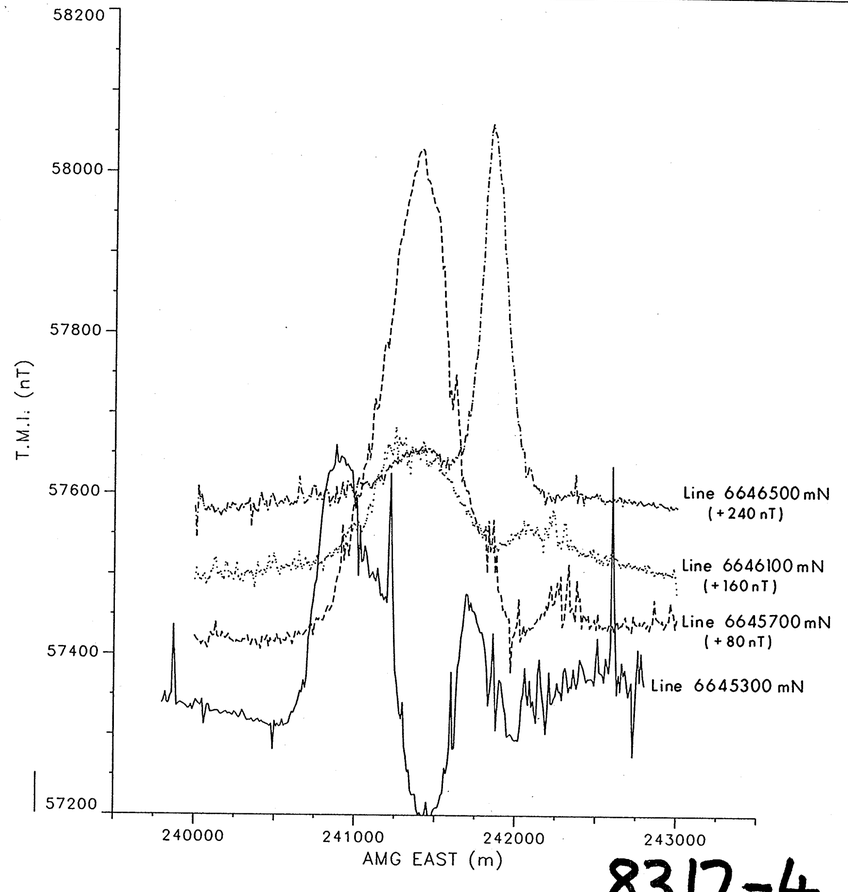
MT PLAYFAIR EL-1648-SA

WHITE HILL DAM PROSPECT

T.M.I. PROFILES

REFERENCE COPLEY SH 54-9	
SCALE 1:25,000	DRAWN GLM
AUTHOR GLM	REPORT 16621
DATE 14 JUN 90	PLAN No SAa 5277





8312-4

Grid Location Plan
SAo 5391

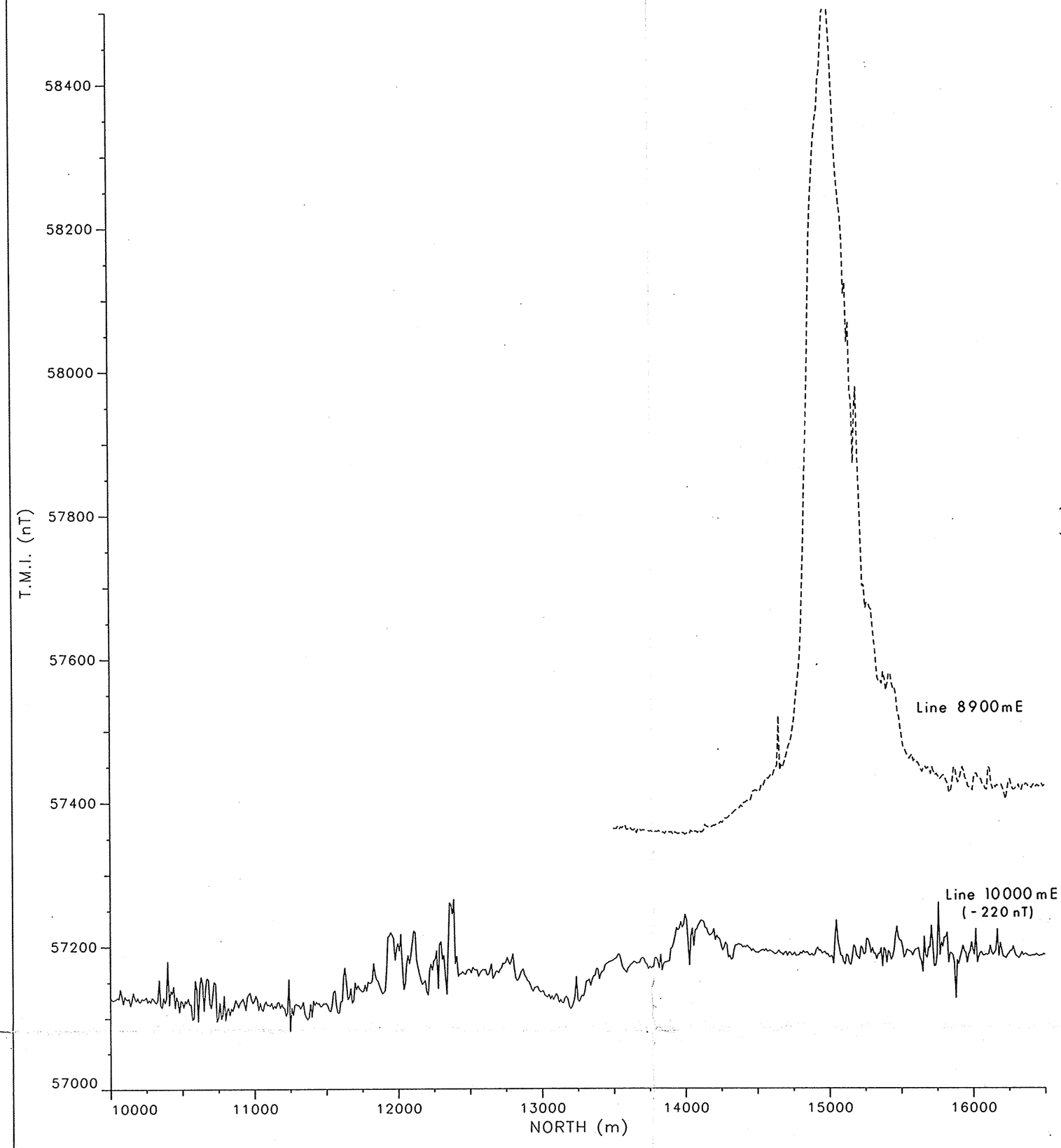
CRA EXPLORATION PTY LTD

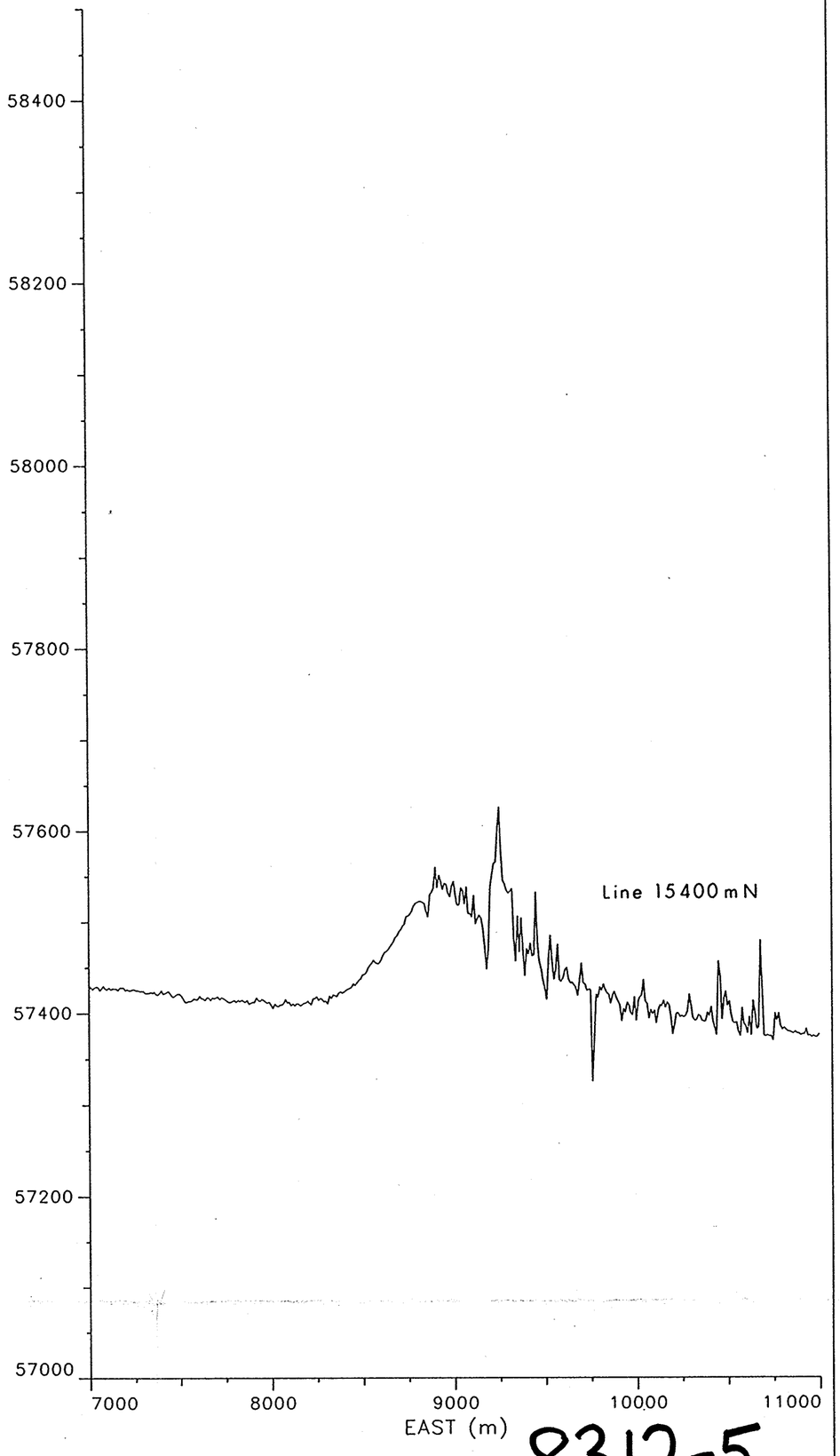
MT PLAYFAIR EL-1648-SA

LYNDHURST PROSPECT

T.M.I. PROFILES

REFERENCE COPLEY SH 54-9	
SCALE 1:25,000	DRAWN GLM
AUTHOR GLM	REPORT 16621
DATE 15 JUN 90	PLAN No SAo 5276





8312-5

CRA EXPLORATION PTY LTD

MT PLAYFAIR EL 1648-SA

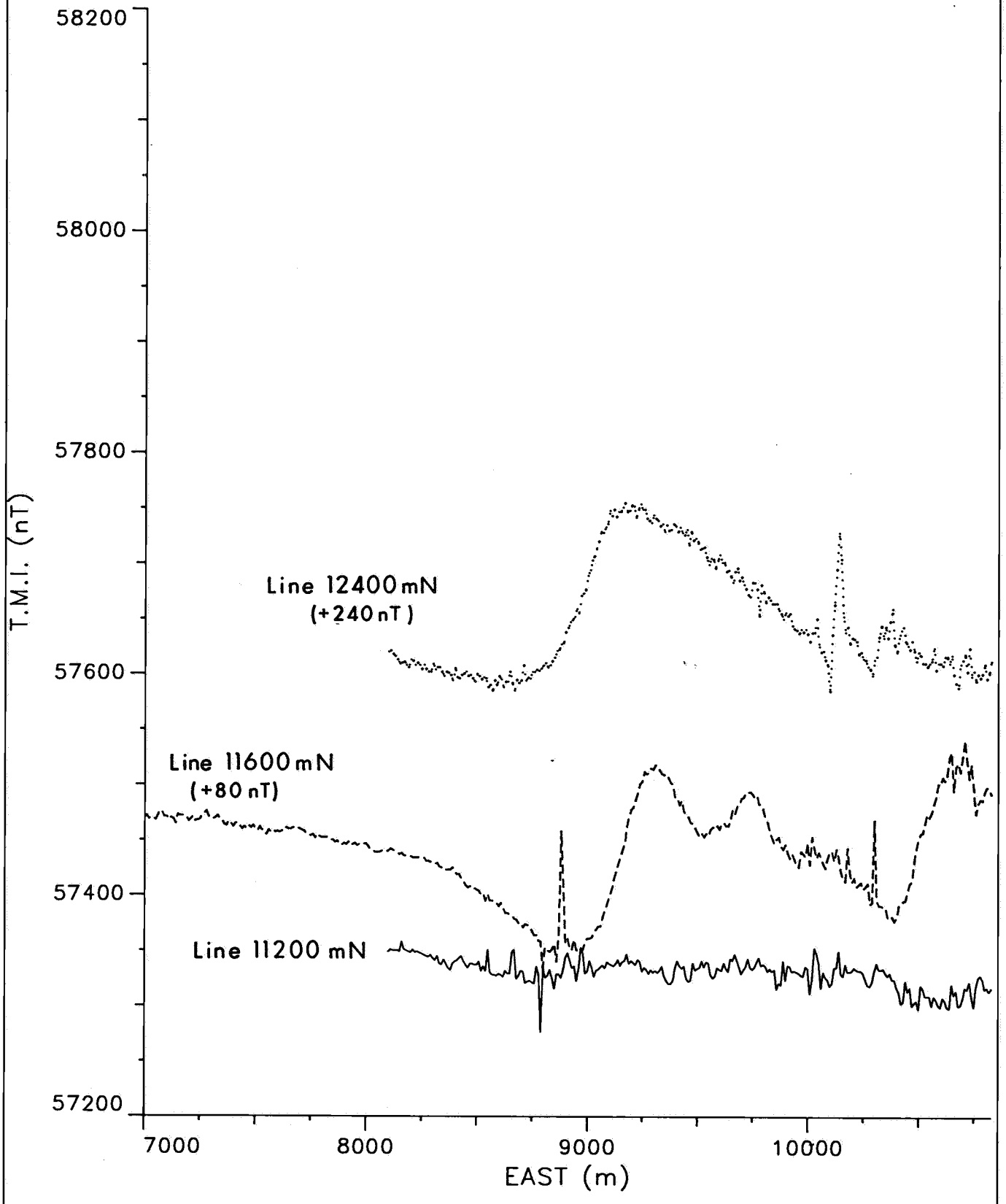
RED HILL DAM #1 PROSPECT

T.M.I. PROFILES

REFERENCE COPLEY SH 54-9	
SCALE 1:25,000	DRAWN GLM
AUTHOR GLM	REPORT 16621
DATE 14 JUN 90	PLAN No SAa 5273

Grid Location Plan
SAa 5391

8312-5

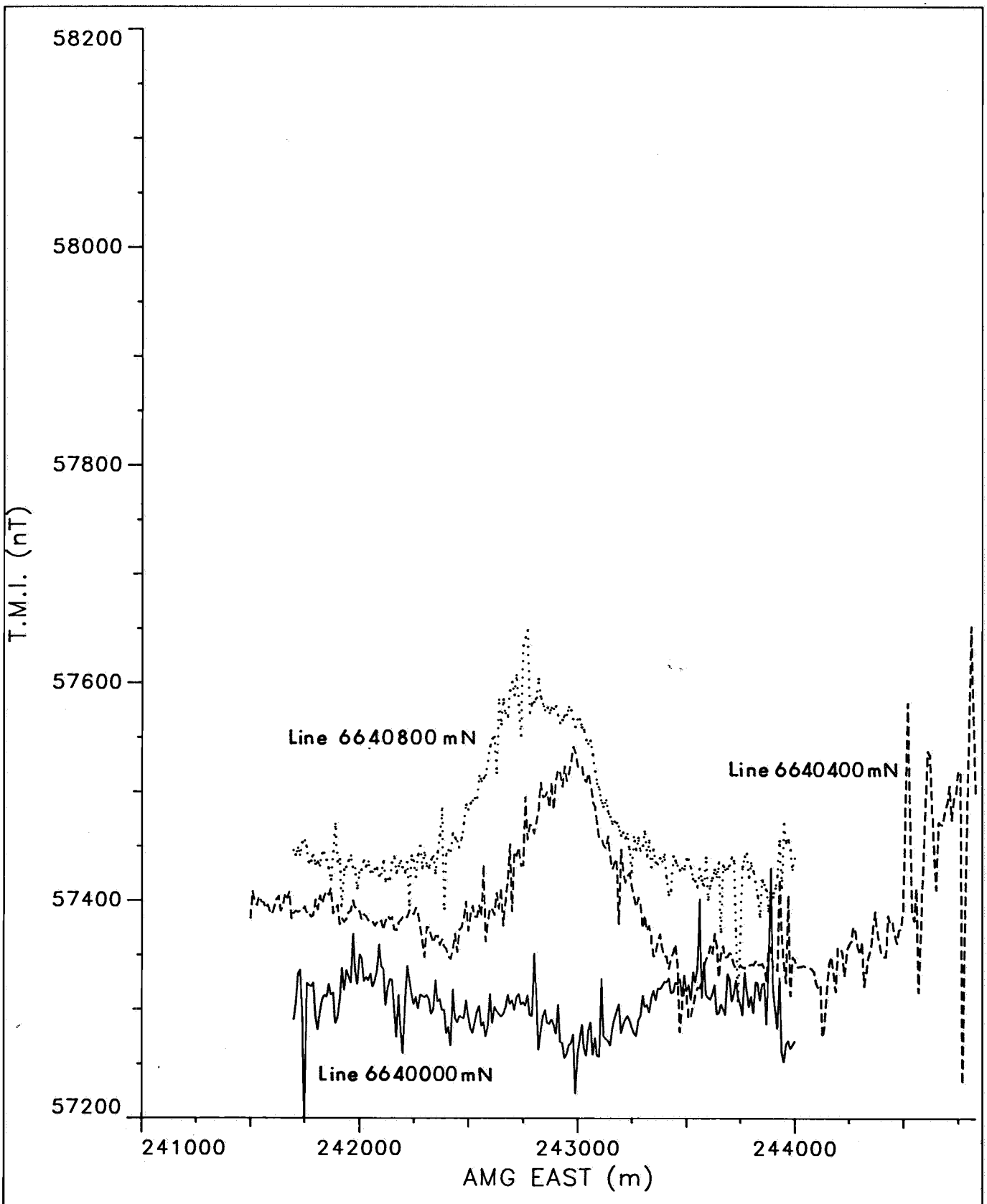


CRA EXPLORATION PTY LTD

MT PLAYFAIR EL 1648-SA
RED HILL DAM #2 PROSPECT
T.M.I. PROFILE

REFERENCE COPLEY SH 54-9			
SCALE	1:25,000	DRAWN	GLM
AUTHOR	GLM	REPORT	16621
DATE	14 JUN 90	PLAN No	SAa 5274

Grid Location Plan
SAa 5391



CRA EXPLORATION PTY LTD

MT PLAYFAIR EL 1648 - SA
RED HILL DAM #3 PROSPECT
T.M.I. PROFILE

REFERENCE COPLEY SH 54–9	
SCALE 1:25,000	DRAWN GLM
AUTHOR GLM	REPORT 16621
DATE 14 JUN 90	PLAN No SAa 5275

Grid Location Plan
SAa 5391

APPENDIX I

DRAINAGE GEOCHEMISTRY SAMPLE LEDGERS

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Leigh Creek
Zone 54 1:50,000: Telford
DATE: 6/5/90
SAMPLED BY: AH/MSD
DPO: 37857
PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542279	247000	6624000	25	<1m of gravel + bedrock	dolomite, siltstone, minor sandstone, qtzite, Rare Un qtz + black carb min.	dolomite
2542280	246750	6624450	8	~0.5m gravel	dolomite, siltstone, qtzite, sst, clg lithic sst.	
2542281	246300	6625200	10-15	2-3m of shallow angle veg. banks creek bottom vegetated	V. little float in actual channel. Qtzite, dolomitic ss, qtz sst	sampled immed upstream of road
2542282	245700	6625950	10-15	0.5-1m of gravel	Lt gn dolomite (dolo ss), qtzite, siltstone, calcrete, sst often ferruginous	
2542283	245650	6626000	10	0.5m gravel + soil	dolomite, qtzite, ss, ferruginous ss	
2542284	244700	6626900	4	<0.3m soil	Abundant Fe-rich lithologies: goethitic sandstone, minor iron stone, deformed goethitic ss; dolomite predominant, ss, calcrete, vein qtz.	
2542285	244200	6627300	15m	2m shallow angle, soil + float.	dolomitic ss, ss, qtzite, calcrete	dolomitic ss
2542286	243100	6627700	10	2m o/c rgravel + soil	dolo ss, qtzite, sst, calcrete, Rare Un qtz.	Brown dolo. ss
2542287	242300	6630200	15	1.5m soil + gravel.	Both gn + purple dolo ss, limestone, calcrete, minor clg lithic sst. rare carb breccia - not diapiric	
2542288	240300	6630200	7	<0.5m soil + gravel.	dolomitic ss predom, ss, qtzite, calcrete coated coarse ls,	

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Leigh Creek
Zone 54 1:50,000: Telford

DATE: 6/5/90
SAMPLED BY: AH/MJD
DPO: 37857

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542289	239700	6630600	7	1m soil	dolo ss, rare vn qtz, ss, calcrete	dolomitic ss
2542290	236700	6635000	5	1m outcrop+soil slaty gravel bed	dol st, ss, lst, calcrete, qtz,	dolomitic siltst (dol st)
2542291	236650	6635050	8	1m outcrop+soil slaty gravel bed	dol st, ss, fine cg, calcrete, rare qtz, qtz	dol st, ss.
2542292	237200	6635800	25	2 soil. slaty + pebbly	dol st, ss, qtz, calcrete qtz	
2542293	237250	6635750	1	2 soil, alluvium sand + gravel	dol st, brown st ĉ many fine ferrug veins	
2542294	237350	6635850	8	1 soil cobbles + slaty pebbles	dol st, ss, qtz, calcrete, qtz ĉ holes in it	
2542295	237650	6639850	6	1 soil pebbly sand	Ferrug qtz, ss, st calcrete, white qtz Prob. remnants of lag gravel from fossil	land surface
2542296	241400	6645200	5	1 lag gravel over pale + red clay	Ferruginous + siliceous gravel, colluvial clay Sample near s/mag proj	(cross line) 241400/6645600
2542297	242350	6645850	1.5	0.5 sandy soil sandy bed ĉ lag gravels from old surface.	Sand, ferruginous dolomite seds, qtz, maghemite.	lag 241700/6645800

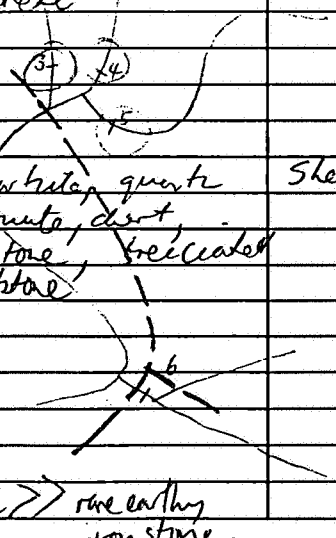
CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Lexy Ck / Copley
Zone 54 1:50,000: Telford / Copley

DATE: 12-5-90
SAMPLED BY: TN AH
DPO: 37857

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542298	244500	6636100	2	0.2 Sandy bed of pebbles	Sandstone, calcrete qtz (prob lag gravel)	
2542299	241150	6637200	4	1 soil gravel + sand bed	Qtz, calcrete, chert qtz, siltstone, ironstone	
2542300	239250	6633900	8	1-5 soil ⌊⌋ shaped	st, dol ss/st rare vein qtz, qtz	
2542301	239400	6633800	10-15	2m soil + gravel	purple ss, dol. ss, calcrete minor qtz	
2542302	241150	6618900	3	1-5 cobbly banks cobbly bed ē grass cover	Quartzite, qtz siltstone. Little -80#.	Quartzite (30m away)
	COPLEY 1:50,000					
2542303	244050	6618350	2	1-5 outcrop pebbly bed	Quartzite, siltstone quartz	Quartzite
2542304	244200	6618350	3	Low gravelly banks, sand + boulder bed	Dolomite, limestone, quartzite, quartz, sandstone	Sandstone
2542305	244250	6618150	5	1-5m soil + gravel Slaty gravel bed	Dolomite, siltstone limestone, plenty qtz (black). White qtz calcrete	Dolomite ss, st.
2542306	244350	6617700	10	Low soil banks. gravelly bed	Quartzite, quartz dolomite, chert, ironstone, fine crystal siltstone	Sheoaks.
2542307			is	2 gravel cobbly bed	Qtz >> rare earthy ironstone	



CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley 1:100,000: Copley Zone 54 1:50,000: Copley			DATE: SAMPLED BY: DPO: 37857		PROJECT: Adelaide Geosyncline TENEMENT: Mt Playfair PROSPECT: Reconnaissance geochem	
SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542307	241350	6616550	5	Outcrop gravelly bed	Qfe >> limey ss + st, ironstone.	limey ss.
2542308	240600	6616750	2	Outcrop cobbly bed	Qfe >> ferruginous ss, silty dolomite, lst,	ss/qfe.
	Old land surface littered with ferruginous + siliceous gravel between creeks 308 and 309.					
2542309	240350	6616750	2	Outcrop wall bouldery bed	Qfe >> ss, dolomitic siltstone	Cemented gravels
2542310	238050	6618850	1	1-5 sand Rare rocks + silt	Qfe, ss, ferruy ss.	

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Copley
Zone 54 1:50,000: Copley

DATE: 12/5/90
SAMPLED BY: MSD-MB
DPO: 37857

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542311	247050	6622000	10m	1-2m bedrock + soil	dolo ss, qtzite, lithic sst, ss, calcrete,	dolo ss
2542312	246700	6622600	5	2m bedrock + soil	dolo ss, qtzite, ss calcrete, lithic sst, Un qtz, Un carb	laminated dolo ss.
2542313	243800	6616700	2	<1m of soil	Predom qtzite/qtz sst.	qtzite
2542314	243100	6618050	2	cuts thru bedrock with no usual banks.	Qtz sst, Qtzite minor calcareous sst	Qtz sst
2542315	242750	6618100	10	braided, sanded channel 4m wide incised 1-2m into gravel + colluvium	Qtzite qtz sst, rare gn dolo ss.	
2542316	241850	6619200	5	1m gravel + soil	Qtz sst, Qtzite minor micaceous qtz sst	Qtz sst.
2542317	241600	6619200	3	1-3m gravel + bedrock	Qtzite, Qtz sst Rare lam - qtz sst	qtzite.
2542318	237500	6618900	5	2 gravel	Qtzite >> rare earthy ironstone	
2542319	237850	6618200	4	1.5m gravel + soil	Qtzite, dolo ss, hematite slightly vuggy ironstone, rare white siltstones	
~~2542320~~						
2542320	236300	6620350	15-20	braided, banks 0.5m of gravel	Predom. qtzite	

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley.
1:100,000: Leigh Creek
Zone 54 1:50,000: Telford
DATE: 13/5/90
SAMPLED BY: MJD-TN
DPO: 37857
PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542321	236350	6628300	4	<0.5m soil	Qtzite, siltstone(ss), dolo ss, dolomite, qtz sst	Interbeds of unusual chert conglom, dolo ss, dolomite + sst.
						A very well bedded sedi sequence.
2542322	237000	6628400	2	1.5m soil	Qtzite, lam + deformed dolomite, ss, rare lam ss with 1-2% disem yellow weath clay + black metallic luster min, Abundant f/g black cubic hem.? Minor Vn Qtz.	
2542323	237000	6627750	4	1m bedrock, soil + gravel	Qtzite, dolomite, ss, black lax chert, rare fossiliferous sst	Interbedded white chert granule conglom, ss + sst.
2542324	237750	6627800	1-2	0.5m soil	Qtzite, ss + sst, minor dolomite minor dolomitic ss, minr Vn Qtz.	
2542325	237600	6627350	4	3m soil + float	Qtzite, dolomite, ss, white cherty conglom, calcrete, minor carbonaceous f/g ironstone	ss.
2542326	238000	6627400	2	<0.5m soil	Qtzite, ss, sst, dolomite minor hem ss, rare Vn qtz.	
2542327	238200	6627200	1-2	2m soil + bedrock	Qtzite ss, dolomite, rare lam sltstite, sst.	dolomitic sst
2542328	238150	6627050	3-4	0.5m gravel + soil	Qtzite, dolomite, qz ss, calcrete	
2542329	238500	6626950	2-3	0.5m soil + bedrock	Qtzite, ss, sst, dolomite with disem brown min weath to orange - rte min? Rel minor dolomite	dolo sst/ss.

Qtzites often fockmarked.

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: coffey.
1:100,000: Le.igh ck
Zone 54 1:50,000: Telford

DATE: 13/5/90
SAMPLED BY: MSO-TN
DPO: 37857

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542330	238900	~~23890~~ 6626450	3-7m	0.5m soil	Qtzite, siltstone, minor dolomite + hem ss. Qtzite is again fetmalad. Rare Vn qtz. Some ss with disseminated hem.	
2542331	238950	6625900	3	1m gravel + soil	siltstone Qtzite with trace disseminated euhedral hem, minor white chert granule conglom, dolomite, float sample of breccia ? of carb(?) in matrix of Highly weathered. Not observed before.	Well f/g clasts carbonate + qtz.
2542332	239350	6625700	7	1.5m soil	Qtzite dolomite, ss, black chert, well to rounded magnesite, minor white clasty conglom, mass earthy hem. tell. Rare carb.	Only about 20m between jn + then jn with main creek.
2542333	239450	6625800	1-2	<0.5m soil	Qtzite, ss, sst, hem ss minor dolomite. Vn Qz	
2542334	239900	6625350	9	1-2m bedrock + soil	Ss, qtzite, minor dolomite calcrete.	Ss with qtzite interbeds
2542335	239950	6625050	10	2-3m of soil + bedrock	Qtzite, dolomite, ss, black chert, ferruginous sst, magnesite, white clasty conglom, hem ss, calcrete	Qtzite + ss.
2542336	240450	6624750	2-3	<0.5m soil	Qtzite ss, dolomite sst, minor hem ss. calcrete	
2542337	240500	6624250	5	1m gravel + soil	Qtzite, ss, dolomite, sst, magnesite, Minor black chert + Vn qtz. white clasty congl.	
2542338	240900	6624200	2-3	0.5m soil	ss, qtzite, sst, dolomite hem ss, calcrete, Rare Vn qtz	Slightly dolo ss.

* Interesting Float

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Coglaq 1:100,000: Leigh Ck Zone 54 1:50,000: Telford			DATE: 13/5/90 SAMPLED BY: MSO-TN DPO: 37857		PROJECT: Adelaide Geosyncline TENEMENT: Mt Playfair PROSPECT: Reconnaissance geochem	
SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542339	241200	6623800	4	2-3m of bedrock dipslope	ss dolomite, qtzite, sst, lam ss, qtz	foliated siltstone
2542340	241200	6623700	5-7	3m of bedrock	ss qtzite, dolomite, black chert magnesite, white cherty conglom + sst.	Interbedded dolomite, white cherty conglom + dolo ss.
2542341	241100	6623650	7	1-2m of soil + bedrock.	Qtzite, ss, dolomite, white cherty conglom, sst, minor black chert, rare felt siliceous breccia (?)	siltstone.

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Leigh Ck
Zone 54 1:50,000: Myrtle

DATE: 13-5-90
SAMPLED BY: NB AH
DPO: 37857

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542342	226300	6637150	3	1 Soil Fine sand ±	Qtz, limestone, dolomite black chert, stromatolites	
				some cobbles in bed		
2542343	227150	6637650	2	0.5 soil Pebbly bed	Red qtz >> silty dolomite, black chert.	
2542344	227800	6637250	2	2 Gravelly soil Pebbly bed	Qtz >> dolomite, calcrete, black chert fine str pebble conglom	
2542345	231300	6634850	4	1 Gravelly soil Slaty pebbles + boulders of lst	Lst, dolomite Qtz, st, nodular lst, chert, nodular ironstone in CO_3 matrix	Laminated silty dolomite, chert
2542346	231100	6634850	5	2 outcrop + soil Very pebbly.	lst, dolomite, siltstone qtz, black chert	Lam. silty dolomite.
2542347	234650	6629300	7	Low gravel banks Slaty bed	Silty dolomite, lst, qtz, st, black chert	
2542348	234800	6629550	10	1 soil + gravel Sand + gravel bars	Lst, ss, calcrete, dolomite, st, black chert	
2542349	234850	6629500	12	1 soil + gravel cobbly bed	dolomite, st, ss, qtz. qtz	
2542350	234800	6629300	20	1 soil + gravel fine + coarse pebbles	dolomite, st, qtz calcrete, qtz, flint	
2542351	234250	6628650	4	1 gravelly soil Sand + gravel bars	Qtz, dolomite. siliceous ironstone after CO_3.	
2542352	233900	6628750	6	1 outcrop + soil gravelly bed	dolomite, qtz, st, lst,	Qtz.
2542353	232100	6627500	4	Low gravel	Qtz	

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: coffey'			DATE: 14/5/90		PROJECT: Adelaide Geosyncline	
1:100,000: Leigh Ck			SAMPLED BY: AH-MD		TENEMENT: Mt Playfair	
Zone 54 1:50,000: Telford			DPO: 37857		PROSPECT: Reconnaissance geochem	
SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542354	243000	6695750	50m	NIL. Broad vegetated wash.	No float. Only mud cracked silt + vegetation	silcrete poorly developed.
2542355	241500	6694000	1m	0.5m soil	Minor Qtzite + fusolitic ironstone.	
2542356	238700	6694200	2-3	0.3m soil	Qtzite, ironstone, siltstone, Vn qtz, sst	
				only poorly defined creek.		

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Coffey
1:100,000: Leigh Creek
Zone 54 1:50,000: Myrtle
DATE: 4/5/90
SAMPLED BY: AH-MSO
DPO : 37857
PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair
PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542357	231150	6639450	10	0.5m soil	Gn ss, Qtzite, Vn Qz, bn ss, calcrete	
2542358	231000	6639400	15	0.5m soil	fissolitic ironstone, ss, calcrete, qtzite, sst	
2542359	233800	6637450	5	0.5m soil	siltstone, Vn qtz, minor Qtzite, dolo ss	Creek ~~fold~~ follows fold hinge
2542360	233450	6636300	8	0.5-1m soil	ss, dolo ss, qtzite, Vn qtz, sst, dolomite. Possible diapiric carb.	
2542361	233350	6636400	10	1.5m soil + gravel.	ss, qtzite, dolo ss, sst, Vn qtz. rare dolerite dolomite	
2542362	230750	6637500	10-15	0.5m soil	ss, qtzite, dolo ss, minor dolomite, Vn qtz	
2542363	230700	6637450	5	0.5m soil	ss, qtzite minor black chert, calcrete, ironstone	
2542364	230500	6635250	4	1.5m soil + gravel	Qtzite, dolomite ss, black chert, Rare white cherty conglom. calcrete	
2542365	229500	6635900	3	1m soil + gravel	Qtzite, ss, calcrete dolomite, black chert	Banded dolomitic ss.
2542366	228150	6637250	5	1-1.5m soil	Qtzite, dolomite, calcrete, calcareous sst, black chert, ss	
2542367	226800	6634050	8	low sand sandy	Qtz + sand minor dolomite	
2542368	227100	6633300	8	low sand sandy ī rare peb	Qtz minor ferug chips.	
2542369	227340	6632100	2	Low sand Sandy ī rare peb	Qtz	

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley 1:100,000: Leigh Creek Zone 54 1:50,000: Myrtle	DATE: 14-5-90 SAMPLED BY: MD-AH DPO: 37857	PROJECT: Adelaide Geosyncline TENEMENT: Mt Playfair PROSPECT: Reconnaissance geochem

SAMPNO	EAST	NORTH	STREAM WIDTH	STREAM BANKS	GEOLOGY FLOAT	GEOLOGY OUTCROP
2542370	227300	6631400	5	low sand	qte + calcrete	
2542371	227950	6629950	3	low sand	qte	
2542372	228700	6628700	8	low sand	qte, dolomite, ss, calcrete, qtz	
2542373	229050	6627900	6	low sand	qte, ss, rare dolomite black chert	
2542374	233200	6626700	3	0.5m soil + gravel	Predom. Qtzite, sst, calcrete, goethitic ironstone.	25m downstream of fence.
2542375	232800	6624600	7	1m gravel + soil	Qtzite, ss, dolo ss,	
2542376	233500	6623300	6	1-2m soil + gravel	Qtzite, ss, dolomite ss ironstone	
2542377	234450	6623650	6	<0.5m sand + gravel.	Qtzite	
2542378			10	0.5m sand + gravel	Qtzite, Rare ss + hem qtz sst	NO SAMP.
1:50,000 Nankabunyana						
2542379	233300	6621400	15-20	<0.5m sand	Qtzite, ss minor black cherty qtzite.	~50m upstream of road.
2542380	233500	6621550	~30m c 5m wide most active	~~Qtzite~~ 1m sasl / gravel	Qtzite minor ss, rare dolo ss with hem cubodal cubes.	~800m upstream of road.
2542381	235000	6617700	5	1m sand + minor gravel	Qtzite, siltstone, hem qtz sst.	

[Margin note: Might ck pattern different.]

APPENDIX II

ASSAY RESULTS FOR -80# DRAINAGE SAMPLES

Note: All values in ppm unless stated otherwise.
Where assays are below detection limit, the value is reported as half the element's detection limit.

	SAMPNO	ZONE	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr
1	2542279	54	247000	6624000	.0005	5	10.0	.25	5.93	.530	1.69	49	13	48
2	2542280	54	246750	6624450	.0010	5	15.0	.25	7.92	.740	1.67	50	15	42
3	2542281	54	246300	6625200	.0010	7	10.0	.25	8.16	.580	1.68	48	14	39
4	2542282	54	245700	6625950	.0005	4	10.0	.25	8.59	.470	1.72	47	11	38
5	2542283	54	245650	6626000	.0005	4	15.0	.25	6.10	.340	1.82	51	13	51
6	2542284	54	244700	6626900	.0005	3	10.0	.25	7.63	.390	1.50	43	12	38
7	2542285	54	244200	6627300	.0005	3	10.0	.25	5.86	.270	1.64	44	11	35
8	2542286	54	243100	6627700	.0005	4	10.0	.25	8.42	.850	1.89	49	15	54
9	2542287	54	242300	6630200	.0010	3	10.0	.25	9.45	1.050	1.87	49	14	35
10	2542288	54	240300	6630200	.0020	4	40.0	.25	9.28	.800	2.81	55	20	41
11	2542289	54	239700	6630600	.0010	4	5.0	.25	7.86	.520	1.54	41	13	43
12	2542290	54	236700	6635000	.0020	3	10.0	.50	6.50	.610	1.28	40	10	33
13	2542291	54	236650	6635050	.0005	4	5.0	.25	7.31	.500	1.53	45	12	40
14	2542292	54	237200	6635800	.0005	4	5.0	.25	7.54	.370	1.45	44	11	40
15	2542293	54	237250	6635750	.0005	4	10.0	.25	7.17	.420	1.30	42	11	33
16	2542294	54	237350	6635850	.0010	4	10.0	.25	7.05	.360	1.35	38	11	32
17	2542295	54	237650	6639850	.0010	5	10.0	.25	7.83	.490	1.52	71	13	33
18	2542296	54	241400	6645200	.0010	7	5.0	.25	10.80	.940	3.67	23	5	34
19	2542297	54	242350	6645850	.0010	7	5.0	.25	10.00	.600	1.86	46	10	44
20	2542298	54	241500	6636100	.0010	4	5.0	.25	4.66	.300	1.22	37	8	34
21	2542299	54	241150	6637200	.0005	3	5.0	.25	5.82	.380	1.24	37	9	35
22	2542300	54	239250	6633900	.0020	3	2.5	.50	8.50	.500	1.77	50	14	44
23	2542301	54	239400	6633800	.0010	3	2.5	.25	8.14	.560	1.66	44	13	41
24	2542302	54	241150	6618900	.0005	2	2.5	.25	7.50	.320	1.47	48	10	35
25	2542303	54	244050	6618350	.0005	3	10.0	.50	7.12	.370	1.48	48	11	41
26	2542304	54	244200	6618350	.0010	2	10.0	.50	5.26	.140	1.07	36	9	35
27	2542305	54	244250	6618150	.0010	4	15.0	.25	5.58	.760	1.33	44	16	55
28	2542306	54	244350	6617700	.0005	3	10.0	.25	6.81	.860	1.16	40	8	24
29	2542307	54	241350	6616550	.0010	3	10.0	.50	6.79	.420	1.41	46	8	21

	SAMPNO	ZONE	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr
30	2542308	54	240600	6616750	.0010	4	20.0	.50	5.52	.240	1.28	44	10	34
31	2542309	54	240350	6616750	.0005	5	10.0	.25	9.54	.620	2.03	66	14	46
32	2542310	54	238050	6618850	.0010	3	5.0	.50	8.27	.350	1.35	46	10	32
33	2542311	54	247050	6622000	.0010	4	15.0	.50	9.08	.530	1.68	49	15	52
34	2542312	54	246700	6622600	.0005	4	15.0	.50	9.80	.510	1.72	49	15	52
35	2542313	54	243800	6616700	.0005	3	10.0	.50	7.24	.310	1.29	45	8	25
36	2542314	54	243100	6618050	.0010	2	5.0	.25	7.48	.320	1.38	43	8	25
37	2542315	54	242750	6618100	.0005	2	10.0	.25	8.05	.810	1.17	41	9	30
38	2542316	54	241850	6619200	.0005	2	5.0	.25	6.58	.760	1.46	40	7	21
39	2542317	54	241600	6619200	.0005	2	10.0	.50	6.84	.560	1.49	46	9	33
40	2542318	54	237500	6618900	.0005	2	2.5	.50	4.81	.240	1.10	34	7	28
41	2542319	54	237850	6618200	.0005	3	5.0	.50	4.53	.270	1.10	34	9	23
42	2542320	54	236300	6620350	.0010	2	5.0	.50	4.68	.260	1.02	32	7	18
43	2542321	54	236350	6628300	.0005	2	5.0	.25	4.45	.080	.97	32	8	26
44	2542322	54	237000	6628400	.0005	2	5.0	.50	5.86	.025	1.04	36	12	44
45	2542323	54	237000	6627750	.0005	3	5.0	.50	5.64	.220	1.29	43	10	34
46	2542324	54	237750	6627800	.0005	2	2.5	.25	5.98	.025	1.19	41	14	43
47	2542325	54	237600	6627350	.0005	3	5.0	.25	4.54	.850	1.00	37	7	29
48	2542326	54	238000	6627400	.0005	2	5.0	.25	6.10	.470	1.15	39	12	58
49	2542327	54	238200	6627200	.0005	2	2.5	.25	5.80	.360	1.15	42	12	60
50	2542328	54	238150	6627050	.0005	3	5.0	.25	4.48	.330	1.12	39	8	33
51	2542329	54	238500	6626950	.0005	3	2.5	.50	5.98	.160	1.10	39	11	56
52	2542330	54	238900	6626450	.0005	2	5.0	.25	6.14	.140	1.20	41	13	54
53	2542331	54	238950	6625900	.0010	3	5.0	.25	5.09	.420	1.21	43	9	35
54	2542332	54	239350	6625700	.0010	4	10.0	.25	5.83	.260	1.31	40	10	39
55	2542333	54	239450	6625800	.0010	3	2.5	.25	5.77	.820	1.09	39	13	55
56	2542334	54	239900	6625350	.0005	3	5.0	.25	6.44	.720	1.14	40	13	62
57	2542335	54	239950	6625050	.0010	4	10.0	.25	4.69	.520	1.48	48	9	37
58	2542336	54	240450	6624750	.0010	3	5.0	.50	6.05	.220	1.10	37	13	66

	SAMPNO	ZONE	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr
59	2542337	54	240500	6624250	.0005	3	15.0	.50	4.74	.310	1.35	46	9	38
60	2542338	54	240900	6624200	.0005	3	5.0	.25	7.16	.140	1.30	44	14	64
61	2542339	54	241200	6623800	.0005	3	5.0	.25	7.20	.170	1.23	41	12	50
62	2542340	54	241200	6623700	.0010	4	10.0	.50	5.26	.200	1.20	35	11	43
63	2542341	54	241100	6623650	.0005	3	10.0	.25	5.84	.290	1.30	40	9	32
64	2542342	54	226300	6637750	.0010	4	5.0	.25	4.72	.900	.85	36	5	21
65	2542343	54	227150	6637650	.0005	4	2.5	.25	4.89	1.050	.87	30	5	22
66	2542344	54	227800	6637250	.0005	4	2.5	.25	4.80	.520	.92	31	5	23
67	2542345	54	231300	6634850	.0005	3	5.0	.25	4.13	.300	.92	34	8	33
68	2542346	54	231100	6634850	.0005	3	5.0	.25	3.75	.260	.88	30	6	26
69	2542347	54	234650	6629300	.0005	3	5.0	.50	4.42	.270	1.07	37	7	31
70	2542348	54	234800	6629550	.0010	3	2.5	.25	4.34	.220	.91	30	7	29
71	2542349	54	234850	6629500	.0005	3	2.5	.25	6.15	.110	1.12	39	12	58
72	2542350	54	234800	6629300	.0005	4	5.0	.25	6.23	.280	1.26	40	9	39
73	2542351	54	234250	6628650	.0005	4	5.0	.25	5.87	.850	1.29	48	9	32
74	2542352	54	233900	6628750	.0005	5	10.0	.25	5.44	2.400	1.35	36	7	32
75	2542353	54	232100	6627500	.0005	5	10.0	.25	6.20	.630	1.16	35	6	24
76	2542354	54	243000	6645750	.0005	5	10.0	.25	8.64	.610	1.96	42	6	45
77	2542355	54	241500	6644000	.0005	10	5.0	.25	10.40	.710	2.19	48	11	61
78	2542356	54	238700	6644200	.0005	4	2.5	.25	4.60	.210	.83	32	6	29
79	2542357	54	231150	6639450	.0005	6	5.0	.25	4.50	.240	.99	30	6	34
80	2542358	54	231000	6639400	.0005	4	2.5	.25	5.98	.210	1.16	37	6	26
81	2542359	54	233800	6637450	.0005	5	2.5	.25	7.04	.320	1.10	36	9	38
82	2542360	54	233450	6636300	.0010	5	10.0	.25	7.54	.250	1.03	37	7	26
83	2542361	54	233350	6636400	.0005	4	5.0	.50	5.34	.890	.93	33	7	27
84	2542362	54	230750	6637500	.0005	4	2.5	.25	5.03	.830	1.06	31	7	31
85	2542363	54	230700	6637450	.0005	3	5.0	.25	5.08	.520	.94	29	7	26
86	2542364	54	230500	6635250	.0005	3	5.0	.50	4.14	.440	.92	31	6	20
87	2542365	54	229500	6635900	.0005	3	2.5	.50	5.01	.290	.98	36	6	22

	SAMPNO	ZONE	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr
88	2542366	54	228150	6637250	.0005	4	5.0	.25	5.02	.220	.98	35	6	21
89	2542367	54	226800	6634050	.0005	3	5.0	.50	5.98	.240	1.17	40	2	23
90	2542368	54	227100	6633300	.0005	3	2.5	.25	5.45	.170	1.12	39	2	23
91	2542369	54	227300	6632100	.0005	4	2.5	.25	4.61	.250	1.77	58	5	36
92	2542370	54	227300	6631400	.0005	4	2.5	.25	5.20	.840	.98	42	5	13
93	2542371	54	227950	6629950	.0010	4	2.5	.50	5.71	1.040	1.07	37	5	17
94	2542372	54	228700	6628700	.0005	4	5.0	.25	6.23	.600	1.08	32	5	14
95	2542373	54	229050	6627900	.0005	4	5.0	.50	4.83	.400	1.16	40	6	22
96	2542374	54	233200	6626700	.0005	4	5.0	.25	5.60	.340	1.03	39	8	25
97	2542375	54	232800	6624600	.0005	4	5.0	.25	4.98	1.040	.93	34	7	22
98	2542376	54	233500	6623300	.0005	4	2.5	.25	5.35	.250	1.00	34	6	25
99	2542377	54	234450	6623650	.0005	4	5.0	.50	4.66	.250	.96	34	6	23
100	2542379	54	233300	6621400	.0005	4	5.0	.25	6.97	.370	1.16	37	8	27
101	2542380	54	233500	6621550	.0005	5	2.5	.25	6.82	.930	1.20	41	7	26
102	2542381	54	235000	6617700	.0010	4	5.0	.25	5.90	1.260	1.00	34	6	16
103	918956	54	246700	6626450	.0005	5	5.0	.25	8.23	.650	1.40	35	10	29
104	918957	54	245700	6631700	.0005	5	5.0	.25	8.02	.650	1.40	37	10	25
105	918958	54	241600	6634500	.0005	5	5.0	.25	9.12	.490	1.59	46	12	40
106	918959	54	241600	6635450	.0005	4	5.0	.25	8.20	.470	1.82	41	11	37
107	918960	54	240500	6639350	.0010	5	5.0	.25	8.73	.520	1.31	43	12	26
108	918961	54	237300	6636050	.0010	5	10.0	.50	5.96	.580	1.34	35	11	34
109	918962	54	242900	6640650	.0010	4	15.0	.25	8.41	.880	1.55	48	14	34
110	918963	54	236600	6638900	.0005	4	5.0	.25	9.94	.660	1.34	47	9	22
111	918964	54	232000	6626550	.0005	3	5.0	.25	7.36	.480	1.19	34	11	28
112	918965	54	226500	6631050	.0010	4	5.0	.50	8.14	.590	1.40	43	5	16
113	918966	54	229500	6620250	.0010	4	10.0	.25	6.67	.380	1.15	31	11	28
114	918967	54	229800	6620050	.0010	6	10.0	.50	7.65	.440	1.27	39	11	30
115	918968	54	227150	6630100	.0010	5	10.0	.50	5.91	.400	1.04	28	5	13
116	918969	54	236400	6618300	.0010	5	10.0	.25	6.54	.590	1.42	38	10	24

	SAMPNO	ZONE	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr
117	918970	54	241450	6619000	.0010	4	5.0	.25	6.61	.400	1.13	32	7	11

	Sampno.	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
1	2542279	20	3.05	30	417	5	359	22	98	12	19	58	109
2	2542280	22	3.23	30	458	5	377	24	97	12	18	59	93
3	2542281	27	3.11	31	399	5	440	23	168	11	20	54	129
4	2542282	20	3.02	29	408	5	346	21	87	10	20	61	128
5	2542283	21	3.17	31	440	5	395	22	109	11	20	61	120
6	2542284	18	2.80	28	423	5	335	17	118	10	18	52	115
7	2542285	19	2.90	29	386	5	379	19	140	11	19	54	115
8	2542286	21	3.08	31	343	5	406	24	157	12	22	66	126
9	2542287	20	3.02	30	412	5	348	25	162	13	19	60	125
10	2542288	29	3.13	33	426	5	670	31	241	13	36	141	123
11	2542289	19	2.48	27	321	5	386	21	138	10	17	45	92
12	2542290	17	2.66	24	350	5	284	21	62	5	16	42	105
13	2542291	19	2.91	27	404	5	324	22	78	10	18	54	105
14	2542292	19	2.85	27	348	5	344	21	90	10	18	51	113
15	2542293	17	2.83	24	396	5	309	19	55	5	17	46	107
16	2542294	17	2.66	23	326	5	264	20	77	5	15	43	101
17	2542295	19	4.06	39	379	5	230	18	109	5	18	37	155
18	2542296	14	4.46	16	115	5	124	5	586	5	11	12	119
19	2542297	19	4.76	29	258	5	215	16	116	10	17	33	120
20	2542298	15	2.35	23	226	5	157	14	119	5	14	30	80
21	2542299	16	2.42	23	290	5	154	14	88	5	15	32	92
22	2542300	25	3.12	30	487	5	308	24	115	10	20	47	117
23	2542301	20	3.33	27	459	5	369	21	156	10	19	45	115
24	2542302	16	2.66	27	364	5	309	17	69	5	17	42	129
25	2542303	16	2.83	28	378	5	313	18	93	11	17	54	120
26	2542304	14	2.17	21	283	5	168	16	72	5	13	35	91
27	2542305	22	3.17	28	394	5	333	26	150	11	17	60	110
28	2542306	16	2.63	24	300	5	190	17	72	5	15	43	107
29	2542307	14	2.52	25	295	5	233	14	62	5	16	38	131

	Sampno.	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
30	2542308	17	2.35	26	286	5	269	18	97	10	16	43	72
31	2542309	24	3.27	38	500	5	451	25	130	15	23	80	141
32	2542310	20	2.99	26	377	5	341	21	86	10	18	48	118
33	2542311	20	3.06	29	452	5	402	23	89	12	18	63	130
34	2542312	22	3.23	29	509	5	417	26	87	11	19	64	131
35	2542313	17	2.64	25	285	5	275	15	74	5	16	42	121
36	2542314	17	2.64	24	303	5	258	16	65	5	16	39	134
37	2542315	15	2.82	23	331	5	311	16	66	5	16	43	126
38	2542316	15	2.76	22	290	5	235	15	50	5	15	31	125
39	2542317	15	2.89	25	373	5	303	17	61	10	16	37	127
40	2542318	12	2.09	19	241	5	198	13	47	5	12	27	89
41	2542319	13	1.97	21	348	5	251	15	75	10	12	28	69
42	2542320	13	2.31	17	241	5	171	13	50	5	12	25	91
43	2542321	11	1.76	21	247	5	175	12	106	5	11	29	74
44	2542322	15	2.54	22	337	5	230	18	83	10	13	36	100
45	2542323	14	2.23	26	305	5	267	17	117	12	14	41	96
46	2542324	15	2.71	24	368	5	249	20	87	11	14	39	118
47	2542325	13	1.99	22	238	5	206	15	77	10	12	35	65
48	2542326	15	2.69	25	363	5	252	19	86	11	14	40	110
49	2542327	17	2.88	26	399	5	291	21	97	12	15	44	102
50	2542328	14	2.13	24	286	5	243	15	83	11	13	39	76
51	2542329	16	2.56	25	362	5	290	19	106	12	14	39	103
52	2542330	16	2.71	26	376	5	292	20	94	12	14	42	103
53	2542331	17	2.47	27	338	5	297	18	121	12	15	46	74
54	2542332	17	2.57	27	365	5	324	17	154	13	15	45	94
55	2542333	19	3.02	26	428	5	298	21	98	11	14	46	107
56	2542334	16	2.73	25	401	5	267	20	92	12	14	46	97
57	2542335	16	2.34	30	314	5	304	18	136	13	15	45	52
58	2542336	16	2.84	25	452	5	268	22	102	11	13	43	101

	Sampno.	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
59	2542337	17	2.56	29	344	5	317	18	124	12	16	50	55
60	2542338	19	3.18	28	449	5	306	21	97	11	16	49	116
61	2542339	18	2.89	27	427	5	351	21	122	11	16	48	115
62	2542340	15	2.29	25	350	5	284	17	178	11	13	41	87
63	2542341	15	2.23	26	311	5	309	16	135	11	13	42	89
64	2542342	11	2.12	23	138	5	164	12	69	10	11	24	100
65	2542343	12	1.90	18	161	5	184	13	55	5	10	26	84
66	2542344	11	1.65	19	149	5	156	11	71	5	11	24	76
67	2542345	14	2.08	22	253	5	185	15	98	10	12	34	61
68	2542346	10	1.61	20	183	5	159	11	96	5	10	25	57
69	2542347	13	1.98	24	262	5	212	14	112	11	12	32	52
70	2542348	11	1.80	19	209	5	174	11	108	10	10	24	57
71	2542349	17	2.63	25	348	5	259	20	91	11	14	39	102
72	2542350	14	2.31	23	253	5	221	15	68	10	13	33	99
73	2542351	18	2.49	29	341	5	302	18	95	13	15	50	100
74	2542352	13	2.13	25	296	5	209	12	78	5	12	39	92
75	2542353	15	2.33	22	237	5	198	13	66	5	14	34	90
76	2542354	16	3.58	26	202	5	211	14	86	10	16	31	109
77	2542355	24	4.07	30	416	5	347	23	145	12	21	58	121
78	2542356	14	2.21	19	231	5	138	11	67	5	13	30	77
79	2542357	14	2.04	19	205	5	144	12	67	5	12	28	77
80	2542358	16	2.61	23	188	5	120	10	81	5	12	19	96
81	2542359	16	2.82	22	286	5	158	15	56	5	14	36	104
82	2542360	15	2.44	23	257	5	210	14	68	5	13	35	96
83	2542361	16	2.31	21	236	5	166	14	61	5	13	31	95
84	2542362	13	2.40	21	253	5	145	13	67	5	12	28	103
85	2542363	12	2.05	19	214	5	130	12	66	5	11	24	92
86	2542364	11	1.90	21	192	5	131	10	86	5	11	26	57
87	2542365	14	2.14	21	213	5	151	13	59	5	13	29	89

	Sampno.	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
88	2542366	12	2.21	22	185	5	144	11	71	5	12	25	92
89	2542367	11	2.24	24	141	5	109	5	41	5	13	21	143
90	2542368	10	2.27	22	132	5	50	5	35	5	12	18	133
91	2542369	12	3.23	34	160	5	50	10	34	5	18	20	118
92	2542370	12	1.94	25	148	5	212	11	65	5	12	23	123
93	2542371	11	2.03	21	130	5	153	11	37	5	10	19	120
94	2542372	10	1.95	19	154	5	130	5	41	5	10	19	104
95	2542373	13	2.35	23	166	5	147	13	43	5	12	22	84
96	2542374	15	2.28	22	215	5	207	16	65	5	13	32	86
97	2542375	14	1.95	20	167	5	181	15	64	10	11	24	90
98	2542376	13	2.11	20	191	5	172	14	57	5	12	28	84
99	2542377	13	.22	19	213	5	195	15	46	5	12	28	77
100	2542379	17	2.46	22	252	5	217	17	79	5	14	38	93
101	2542380	16	2.94	25	217	5	180	15	64	5	14	30	130
102	2542381	13	2.11	20	216	5	188	14	56	5	12	28	82
103	918956	18	2.66	26	311	5	271	16	87	5	15	52	101
104	918957	18	2.42	26	331	5	246	17	86	5	14	46	92
105	918958	20	2.66	30	323	5	284	19	126	5	17	50	113
106	918959	21	2.61	28	348	5	266	19	110	5	17	49	95
107	918960	20	2.87	28	380	5	276	21	83	5	17	53	98
108	918961	20	2.83	23	337	5	271	21	65	5	14	53	92
109	918962	24	3.87	30	498	5	328	23	98	5	19	74	106
110	918963	21	2.38	27	279	5	199	15	95	5	16	43	102
111	918964	16	2.36	25	285	5	210	15	99	5	13	43	97
112	918965	11	2.42	27	140	5	100	5	42	5	14	19	188
113	918966	15	2.47	24	287	5	168	13	92	5	12	37	97
114	918967	21	2.86	29	308	5	235	19	102	5	16	51	95
115	918968	11	1.91	20	125	5	50	5	51	5	10	20	120
116	918969	17	2.63	26	307	5	218	17	72	5	13	53	78

	Sampno.	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
117	918970	13	2.16	22	259	5	170	10	53	5	12	36	98

APPENDIX III

LEDGER AND ASSAY RESULTS FOR ROCK CHIP SAMPLES

SAMPLE NUMBER	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
917730	238950	6625900	<0.005	7	15	0.5	0.74	<0.05	1.91	<15	17	48	10	9.80	<5	6238	<10	232	14	288	<10	6	131	22

All values in ppm, unless stated otherwise

Rock Description:

Breccia float sample consisting of yellow fine grained carbonate clasts in a matrix of carbonate and quartz. Collected at drainage sample site 2542331.

CRA EXPLORATION PTY LIMITED

SUBJECT: SECOND QUARTERLY REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH SEPTEMBER, 1990

AUTHOR: M.J. DONNELLY

DATE: 25TH SEPTEMBER, 1990

CRAE REPORT NO: 16806

CRA EXPLORATION PTY. LIMITED

SECOND QUARTERLY REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH SEPTEMBER, 1990

AUTHOR: M.J. DONNELLY

COPIES TO: SADME
CIS CANBERRA

DATE: 25TH SEPTEMBER, 1990

SUBMITTED BY: M. Donnelly

ACCEPTED BY:

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Plan No.	Title	Scale
SAa 5215	Mt. Playfair EL 1648, S.A., Location Plan	1:250 000
SAa 5288	Mt. Playfair EL 1648, S.A., Sample Locations	1:100 000
SAa 5391	Mt. Playfair EL 1648, S.A., Grid Locations	1:100 000
SAa 5430	Mt. Playfair EL 1648, S.A., Playfair 1 Prospect, Work Summary Plan	1: 10 000

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1. SUMMARY

Exploration on Mt. Playfair EL 1648 during the second quarter of tenure has included follow up of one anomalous drainage geochemistry sample, follow up gravel and rock sampling of chromites and picroilmenites in gravel samples and preparation of a proposed drilling programme over five magnetic anomalies.

Results were received for 26 of the 30 gravel samples that CRAE have collected over Mt. Playfair EL 1648. A number of the samples have reported chromites.

2. CONCLUSIONS AND RECOMMENDATIONS

Follow up sampling of drainage sample 2542288, containing anomalous Zn, returned significantly lower base metal values than the original anomalous sample. No further work is warranted. No other geochemical sample is recommended for follow up.

Drilling is planned over five of the magnetic anomalies on EL 1648 to test for diapir associated Cu mineralisation and diamond bearing ultrabasic rocks.

Once all gravel results are received and the proposed drilling programme has been carried out, follow up of the chromites in drainage gravel samples can be planned.

3. INTRODUCTION

Mt. Playfair EL 1648 is located on the Copley 1:250 000 sheet. It is situated west of Lyndhurst and covers an area of approximately 900 sq km (plan SAa 5215). The licence was granted to CRA Exploration Pty. Limited (CRAE) on 28th March, 1990 for a period of one year.

CRAE is currently exploring EL 1648 for a range of commodities. In particular, exploration is targetted upon diamonds and diapir associated Cu mineralisation.

This report details work completed during the second quarter of Mt. Playfair EL 1648, for the period ending 27th September, 1990.

4. GEOLOGY

Mt. Playfair EL 1649 contains Adelaidean sedimentary rocks, diapirs, Tertiary silcrete and Quaternary cover. The Adelaidean sediments belong to the Burra Group and Umberatana Group and consist of quartzite, sandstone, dolomite, shale, siltstone, magnesite, limestone and chert. Diapiric breccias containing dolerite outcrop within EL 1648. The northern half of the exploration licence to covered by Quaternary sand, gravel and clay, with minor Tertiary silcrete. Magnetic features under cover in the northern half of EL 1648 are being investigated during the current exploration activities.

5. PREVIOUS WORK

Pre-1990 exploration within Mt. Playfair EL 1648 has been for base metals, coal, magnesite and diamond. This work is described in the first quarterly report for EL 1648 (CRAE Report No. 16621).

Exploration carried out on EL 1648 during the first quarter of tenure consisted of a reconnaissance -80# drainage geochemistry programme, reconnaissance gravel sampling and ground magnetometry. This work is detailed in the first quarterly report (CRAE Report No. 16621).

6. CURRENT EXPLORATION

6.1 Drainage Geochemistry Follow Up

A total of 102 -80# drainage geochemistry samples were collected during the first quarterly period. Sample number 2542288 was considered to be the only reconnaissance drainage sample requiring follow up. This sample contains 141 ppm Zn with elevated P (670 ppm), Pb (40 ppm), Sr (586 ppm), Cu (29 ppm) and Y (36 ppm).

Follow up sampling of the 5.5 sq km anomalous catchment consisted of nine -80# drainage samples and one rock sample. Sample locations are plotted on SAa 5288. Sample ledgers for the drainage samples are presented in Appendix I and the rock sample ledger is included in Appendix II. Samples were analysed for a suite of 22 elements by ANALABS in Adelaide (refer Table 1).

Table 1

Analytical Methods and Detection Limits for -80# Drainage Geochemistry

Element	Analytical Method	Detection Limit (ppm)	Element	Analytical Method	Detection Limit (ppm)
Au	Aqua Regia/Carbon Rod finish	0.001	Fe	ICP-OES	100
As	Hydride generation/ AAS	1	La	ICP-OES	5
Pb	AAS	5	Mn	ICP-OES	15
Ag	AAS	0.5	Mo	ICP-OES	10
Nb	ICP-MS	0.2	P	ICP-OES	100
Sb	ICP-MS	0.05	Ni	ICP-OES	10
U	ICP-MS	0.05	Sr	ICP-OES	1
Ce	ICP-OES	15	Th	ICP-OES	10
Co	ICP-OES	5	Y	ICP-OES	1
Cr	ICP-OES	10	Zn	ICP-OES	5
Cu	ICP-OES	5	Zr	ICP-OES	5

Note: Only difference for rock samples is use of fire assay fusion/AAS finish for Au with detection limit of 0.005 ppm

All follow up drainage samples contain significantly less Zn, P, Pb and Cu than the original anomalous sample (Appendix III). The rock sample, similarly, does not contain anomalous geochemistry (Appendix IV). No further work is warranted on this anomaly.

6.2 Diamond Exploration

Reconnaissance drainage gravel sampling of EL 1648 consists of 15 samples collected during the first quarterly period and seven samples taken in 1984 by CRAE during exploration of EL 1196 (plan SAa 5288) Results from heavy mineral observation of the +0.4 mm fraction of these samples are currently being received, with the results of four samples still awaited. Table 2 presents the indicator mineral results.

Table 2

Gravel Sample Indicator Mineral Results
(Current at 24/09/90)

Sample Number	DPO	Results
1233349	B0698	1 Chromite
1233350	B0698	7 Chromites
1233351	B0698	1 Chromite
1233352	B0698	16 Chromites
1233353	B0698	5 Chromites
1233354	B0698	Negative
1233355	B0698	Negative
918956	37858	Negative
918957	37858	Negative
918958	37858	Negative
918959	37858	1 Chromite
918960	37858	Not Received
918961	37858	Not Received
918962	37858	Negative
918963	37858	45 Chromites, 10 Picroilmenites
918964	37858	Negative
918965	37858	Negative
918966	37858	Negative
918967	37858	Negative
918968	37858	Negative
918969	37858	Not Received
918970	37858	Not Received
918971	37860	47 Chromites, 3 Picroilmenites
918972	37860	Negative
918973	37860	7 Chromites
918974	37860	9 Chromites
918975	37860	9 Chromites
918976	37860	86 Chromites, 2 Picroilmenites
918977	37860	1 Chromite
918978	37860	Negative

Chromites have been reported in a number of samples from EL 1648. Sample 918963 was taken from a small drainage gutter with a very restricted catchment at magnetic anomaly Playfair 1, formerly Red Hill Dam #1. Follow up gravel sampling of this sample and sample 1233353 consisted of six gravel samples (918971-918976) shown on plan SAa 5430. The follow up sampling confirmed the presence of chromites and picroilmenites. Samples 918971 and 918973 were checked for the presence of diamonds in the -0.4+0.25 mm fraction, but none were found. Testing for the source of the chromites and picroilmenites is planning during proposed drilling of Playfair 1 Prospect (refer Section 6.3). Two follow up gravel samples were collected downstream of magnetic anomaly Playfair 2 (plan SAa 5288) with only one chromite reported from the two samples.

Follow up of other chromites on EL 1648 is not planned until all gravel results are received and the proposed drilling programme is carried out.

6.3 Magnetic Anomalies

Ground magnetometry was carried out over six magnetic anomalies on Mt. Playflair EL 1648 during the first quarter (plan SAa 5391). These anomalies are covered by sand, gravel and silcrete. Geophysical modelling of the ground magnetic data has been carried out to assist in planning a drilling programme over the magnetic anomalies. The proposed drilling will test for diapir associated Cu mineralisation and for diamond-bearing ultrabasic rocks. This programme is planned to be carried out during the third quarter.

6.3.1 Playfair 1 (formerly Red Hill Dam #1)

This 1100nT anomaly is modelled as an antiformal body of approximately 35 metres depth to top. Drainage gravel samples collected from Playfair 1 contain chromites and picroilmenites (refer Section 6.2). The presence of the kimberlitic indicator minerals and the magnetic feature indicates potential for kimberlitic/lamproitic rocks at the prospect. Geological mapping did not locate any igneous rocks. Steeply dipping siltstone and minor sandstone outcrops in creek bed at the prospect. A summary of work carried out at Playfair 1 is presented as plan SAa 5430.

Five rock chip samples were collected at the prospect to test for anomalous levels of Nb, La and Ce (Appendix II). The samples do not contain anomalous geochemistry (Appendix IV). A rock sample of a 15 cm sized quartz boudin hosted within siltstone was submitted for petrological description because of the acicular, spinifex-like texture of the quartz. Pontifex and Associates Pty. Ltd. suggest that the silicified bladed crystals were originally barite, an evaporite mineral or ice (Appendix V).

The chromites and picroilmenites at Playfair 1 appear to be derived from either the gritty silcrete or a buried basic/ultrabasic source. The proposed drilling will attempt to determine the source.

6.3.2 Playfair 2 (formerly Tin Hut Dam)

No outcrop has been located at Playfair 2. Geophysical modelling of very noisy data on line 11300mE was carried out using a series of vertically dipping dykes with a depth to top of 35 metres. Modelling of the 800nT dipolar magnetic anomaly on line 11700mE gives a depth to top of approximately 85 metres for two tabular bodies.

6.3.3 Playfair 3 (formerly Red Hill Dam #2)

The magnetic sources for the profiles on lines 11600mN and 12400mN are thought to be north-east dipping. Modelling on line 11600mN indicates a depth to top of source of 15.5 metres. No drilling is proposed for this anomaly.

6.3.4 Lyndhurst 1 (formerly White Hill Dam)

Ground magnetometry over Lyndhurst 1 resolved the regional anomaly into several discrete sources (CRAE Report No. 16621). Depth estimates using the slope distance rules indicate depth of cover to be approximately 40 metres. Lyndhurst 1 is located amongst low (<3 m high) sand dunes.

6.3.5 Lyndhurst 2 (formerly Lyndhurst)

The magnetic pattern is similar to that at Lyndhurst 1, in that the regional anomaly consists of a number of magnetic anomalies. General depth of cover is modelled at 40 m.

6.3.6 Lyndhurst 3 (formerly Red Hill Dam #3)

The magnetic data for Lyndhurst 3 is quite noisy. Modelling of line 6640800mN suggests a depth of cover of approximately 100 metres for a source or sources extending from 242600mE to 243100mE and striking 340 degrees AMG.

M.J. DONNELLY

MJD/pq

EXPENDITURE

Expenditure on EL 1648 Mt. Playfair for the three month period ending 30th September, 1990 amounted to $33,560.00 as detailed below.

		$
Payroll		11,429
Supplies		2,068
Vehicle		2,646
Travel		532
Rent		5,892
Contractors		2,102
Laboratory		3,316
Sundry		1,830
Overheads		3,745
	Total	$33,560

REFERENCES

Donnelly, M.J. 1990 — First Quarterly Report for Mt. Playfair EL 1648, South Australia, For The Period Ending 27th June, 1990. (CRAE Report No. 16621)

LOCATION

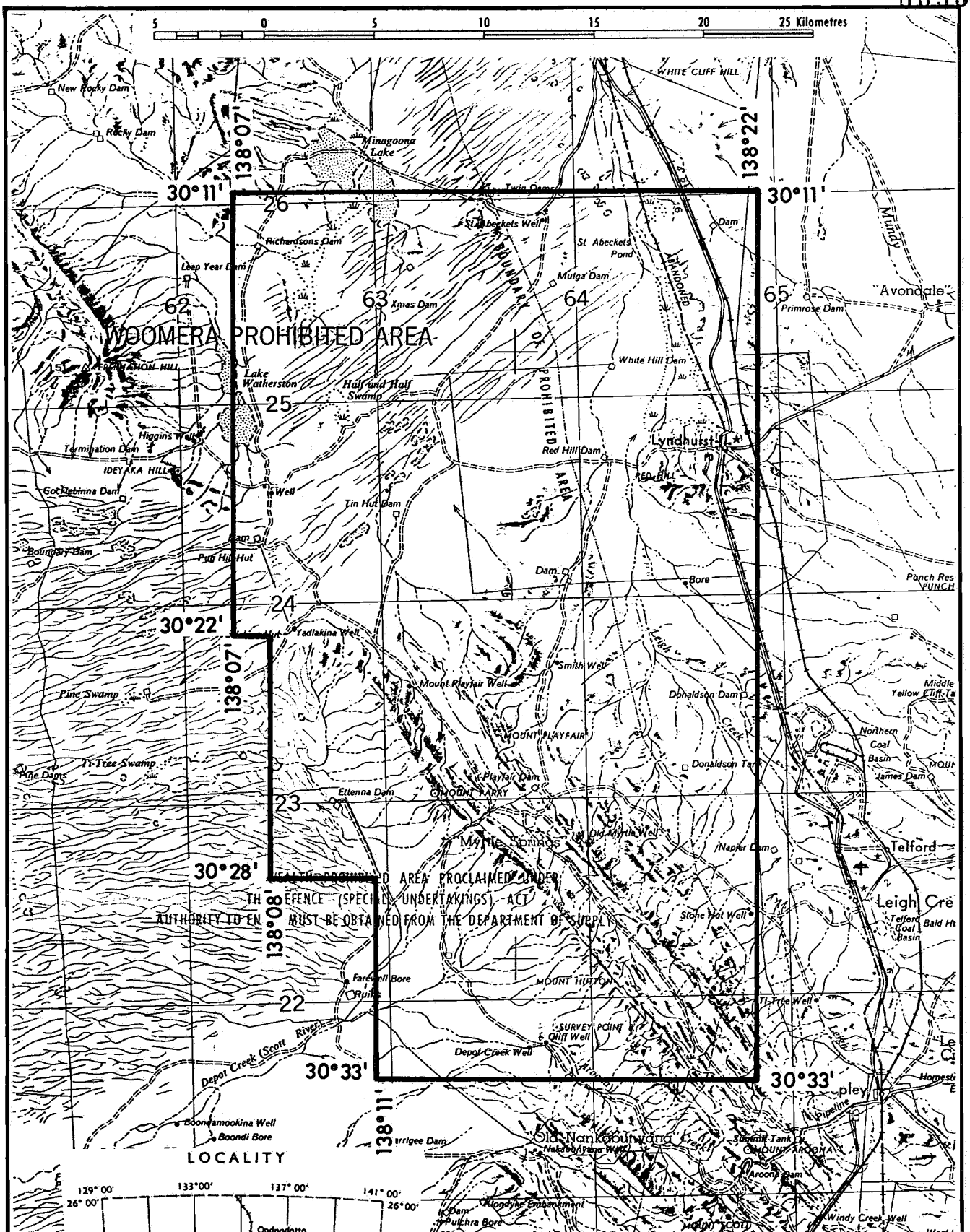
Copley SH54-09 1:250 000 sheet

LIST OF DPO's

Gravel: B0698, 37858, 37860
Geochemistry: 37859, 37861
Petrology: 37862

KEYWORDS

Copper, Diamonds, Diapir, Geochem-drainage, Geophys-magnetics, Lyndhurst, Playfair



CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR E.L.1648 – S.A.

LOCATION PLAN

Approx. Area 899 Km²

REFERENCE	COPLEY SH 54-9		
SCALE	1 : 250000		
AUTHOR	D. C. P.	REPORT	16806
DATE	Nov. '89	PLAN No	SAa 5215

138°05' 220000mE 230000mE 138°15' 240000mE 250000mE 138°25'

6660000mN 30°10'

6650000mN

30°20' 6640000mN

6630000mN

30°30' 220000mE

6620000mN

30°35'

Minagoona Lake

Dam

Primrose Dam

Refer to Plan SAa 5430

MT. PLAYFAIR

MT. PARRY

'Myrtle Springs'

Old Myrtle Well

Stone Hut Well

Bore

LEIGH CREEK COALFIELD

I-Tree Swamp

Ettenna Dam

1233354 1233355 1233353 1233352 1233351 1233349 1233350

2542297 2542354 2542296 2542355 2542356 2542357 2542358 2542295 2542343 2542342 2542344 2542366 2542362 2542363 2542359 2542361 2542360 2542365 2542364 2542345 2542346 2542367 2542368 2542369 2542370 2542371 2542372 2542373 2542374 2542375 2542377 2542376 2542380 2542379 2542318 2542310 2542319 2542381 2542348 2542349 2542347 2542350 2542352 2542351 2542322 2542321 2542324 2542323 2542326 2542325 2542327 2542328 2542329 2542330 2542331 2542332 2542333 2542334 2542335 2542336 2542338 2542337 2542339 2542340 2542341 2542299 2542298 2542292 2542294 2542293 2542291 2542290 2542300 2542301 2542289 2542288 2542287 2542382 2542384 2542383 2542390 2542389 2542385 2542386 2542387 2542388 2542286 2542285 2542284 2542283 2542282 2542281 2542280 2542279 2542312 2542311 2542317 2542316 2542302 2542303 2542304 2542315 2542314 2542305 2542306 2542309 2542308 2542307 2542313

918977 918978 918963 918960 918962 918961 918959 918958 918957 918965 918968 918964 917730 917731 918956 918966 918967 918969 918970

TRAP SITE RATING

- ⊙ Good
- ⊖ Good to Moderate
- ⊕ Moderate
- ⊕ Moderate to Poor
- ⊗ Poor
- O Unsatisfactory

Stream Sediment Sample ···· 2542279 – 2542377; 2542379 – 2542390

Gravel Sample ···· 1233349 – 1233355 (1984); 918956 – 918970 (1990); 918977 – 918978 (1990)

Rock Sample ···· 917730 – 917731

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.

MOUNT PLAYFAIR E.L.1648 – S.A.

SAMPLE LOCATION PLAN

8312-6

Ref.: COPLEY SH 54-9	
Scale. 1 : 100,000	Drawn.
Author. A.R.H./ M.J.D.	Report No. 16806
Date. Sept.'90	Plan No. SAa 5288

138°05' 220000mE 230000mE 138°15' 240000mE 250000mE 138°25'

6660000mN 30°10'

Minagoona Lake

Dam

Primrose Dam

6650000mN

LYNDHURST 1

LYNDHURST 2

LYNDHURST 3

30°20'

6640000mN

PLAYFAIR 2

PLAYFAIR 1

PLAYFAIR 3

MT. PLAYFAIR

T-Tree Swamp

6630000mN

Ettenna Dam

MT. PARRY

Myrtle Springs

Old Myrtle Well

Bore

Stone Hut Well

LEIGH CREEK COALFIELD

30°30'

6620000mN

220000mE

30°35'

138°05' 230000mE 138°15' 240000mE 250000mE 138°25'

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.

MOUNT PLAYFAIR E.L.1648 – S.A.

GRID LOCATIONS

8312-7

Ref.:	COPLEY SH 54-9		
Scale.	1 : 100,000	Drawn.	
Author.	G.L.M.	Report No.	16806
Date.	Sept. '90	Plan No.	SAa 5391

138°15'
138°16'
138°17'
6641000 mN
6640000 mN
6639000 mN
6638000 mN
6637000 mN
235000 mE
236000 mE
237000 mE
238000 mE
239000 mE
30° 21'
30° 22'

AMG N
GN
MN
29°
6°

LINE 10000E
LINE 8900E
LINE 15400 N

1233353
5

RED HILL DAM
SHED
2542295
918972
NEGATIVE
150nT Broad Magnetic High
Featureless magnetic traverse

918976
86
2 picro
Gritty silcrete

Abundant gypsum + minor magnesite on face
Gritty silcrete
Calcrete
917764
55
10 picro
918963
918971 (REPEAT)
47
3 picro
918975
9
Magnetic Peak (1100nT)
Gritty silcrete
Gritty silcrete
Weathered siltstone
Weathered green siltstone
917768
918973
7
917765-66
917767
60°
65°
Light brown-green shale
918974
9
Calcrete - quartz fine grained sandstone
Subcropping geothite carbonate siltstone
White sericite - quartz siltstone with quartz veins
Laminated light green siltstone with gypsum

0
1
2 Km

LEGEND

- Creek
- Top of breakaway
- Fence
- Ground magnetic traverse showing position of peak (shaded)
- Outcrop
- 65° Strike and dip of bedding
- Strike of bedding, dip unsure
- 918973 / 7 Drainage gravel sample (results for indicator minerals in italics)
- 2542295 -80# drainage geochemistry sample
- 917767 Rockchip sample

Gravel Sample - Trap Site Rating

- Moderate
- Moderate to Poor
- Poor

Indicator Minerals

- Chromite
- picro Picroilmenite

8312-8

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 - S.A.

Playfair One Prospect

Work Summary Plan

REF. COPLEY SH5409	
SCALE: 1:10000	DRAWN: F.R.
AUTHOR: M.J.D.	REPORT: 16806
DATE: SEPT. 1990	PLAN NO. SAo 5430

APPENDIX I

DRAINAGE GEOCHEMISTRY SAMPLE LEDGER

CRA EXPLORATION PTY. LIMITED
DRAINAGE GEOCHEMISTRY LEDGER - MINUS 180 MICRON FRACTION

LOCATION: 1:250,000: Copley
1:100,000: Leigh Creek
Zone 54 1:50,000: Telford.

DATE: 21/6/90
SAMPLED BY: MSD/AC
DPO: 37859

PROJECT: Adelaide Geosyncline
TENEMENT: Mt Playfair EL1648
FOLLOW-UP: Myrtle Well Anomaly

SAMPNO	EAST	NORTH	STREAM		GEOLOGY	
			WIDTH	BANKS	FLOAT	OUTCROP
2542382	240250	6629900	3	1-1.5m o/c.	predom gy, lam dolomite. Minor Un carb + limestone (lt bn)	Grey lam dolomite with minor remobilised carb veins.
2542383	240650	6628950	5	1m o/c + soil	Lt Gn dolo ss dominant, Qtzite, dolomite, minor ls, lam gn + purple ss, Rare purple lam siliceous siltstone (T.S.M.?)	Finely laminated dolomite.
2542384	240500	6629000	Active=2m overall=7m	0.5-1m o/c + soil.	Lt gn-bn dolo ss, ss, lithic med/g sst, qtzite, Purple lam Qz-lam ss. Rare qtz sst, Single pebble of lam ss with boxwork Fe oxide (after Py?)	Lt Gn-bn dolo ss
2542385	239850	6628200	2	<0.25m, very shallow angle, soil	dolo ss, calcrete, ss, qtzite, minor dolo with chl ss wisps. Minor lithic sst, rare H pup ss	dolomitic siltstone.
2542386	239950	6628200	4	1m o/c + soil	dolo ss, lithic sst, pink ss, lam ss. calcrete, ls.	dolomitic siltstone
2542387	239400	6627850	2-3	1-2m o/c	dolo ss, lithic sst, calcrete, ss, purple lam ss as frags observed. Bleached white ss. Stromite.	I6 dolo ss + lithic sst that contain clast of ss pebble size.
		Sample taken of Non-siliceous calcareous			of 'mafled' T.S.M. ss member observed in mafled frags.	
2542388	240700	6627200	3	1.5m o/c	dolo ss, calcrete, lithic sst, qtzite, ss	finded + lam dolo ss S_0: 50N, 125°.
2542389	240850	6628550	2-3	1m o/c	dolo ss. limestone, calcrete, siltstone	dolo ss S=45N 125°
2542390	240750	6628600	8	1m o/c, soil, gravel	dolo ss, calcrete, ls, ss, qz sst, purple lam ss, qtz sst. qtzite	

APPENDIX II

ROCK CHIP SAMPLE LEDGER

ROCKCHIP LEDGER

DPO: 37859 Sampled by: MJD 1:250 000 Sheet: Copley

Project: Adelaide Geosyncline Date: 21/6/90

Sampno	AMG East	AMG North	Prospect/ Area	Rock Description
917731	240800	6628300	Myrtle Well Anomaly	QUARTZ-HEMATITE SILTSTONE Float sample of laminated, purple-brown quartz hematite siltstone comprising <1% of total float. Distributed widely through the catchment. 10×10^{-3} SI.

ROCKCHIP LEDGER

Sheet of

DPO: 37861 Sampled by: MJO 1:250 000 Sheet: Copley
Project: Adelaide Geosyncline Date: July '90

Sampno	AMG East	AMG North	Prospect/ Area	Rock Description
917764	236550	6639150	Red Hill	~~Grab sample from~~
			Dam #1	SAPROLITE
				Grab sample from breakaway face. Abundant gypsum, rare magnesite and relics of 'claystone' fragments exposed.
917765	236950	6638650	Red Hill	SILTSTONE
			Dam #1	Creme-white, soft, fissile, broken siltstone, possibly containing magnesite. Thin calcrete developed on surface. Siltstone is cut by quartz veins and veinlets and by fracturing.
917766	236950	6638650	Red Hill	Quartz Boudin.
			Dam #1	Single, 15cm sized siliceous boudin hosted with creme-white siltstone (917764). Quartz has unusual spinifex-like texture. Boudin is transgressed by very fine quartz veinlets.
917767	237100	6638650	Red Hill	CALCITE QUARTZ SANDSTONE
			Dam #1	Grab sample from three pods of white, poorly bedded, calcite-quartz fine grained sandstone with minor fine grained, unknown black mineral (?).
917768	237300E	6638750N	Red Hill	WEATHERED SILTSTONE (?)
			Dam #1	Grab sample of rock at gravel site 918973. Extremely weathered, green, soft and crumbly, clay-carbonate ± gypsum rock with minor relics of green siltstone preserved. Small (<5cm) pods of calcrete form occassionally on surface
				917764-768 do not contain elevated magnetic susceptibility.

00058

APPENDIX III

ASSAY RESULTS FOR -80# DRAINAGE GEOCHEMISTRY SAMPLES

Note: All values in ppm unless stated otherwise. Where assays are below detection limit, the value is reported as half the element's detection limit.

SAMPNO	EAST	NORTH	Au	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
2542382	240250	6629900	0.001	4	10	0.25	8.98	1.71	1.45	47	25	27	21	2.95	26	436	5	290	22	118	12	15	43	100
2542383	240650	6628950	0.0005	5	10	0.25	8.46	1.26	1.54	47	25	30	18	2.93	26	381	5	367	19	86	12	17	49	101
2542384	240500	6629000	0.0005	5	20	0.25	9.01	1.02	1.63	49	25	38	26	3.22	28	459	5	420	24	93	12	19	57	115
2542385	239850	6628200	0.0005	5	10	0.25	7.23	0.9	1.53	47	25	38	25	3.42	26	448	5	370	20	84	11	18	50	111
2542386	239950	6628200	0.0005	5	10	0.25	5.46	0.83	1.84	53	25	54	24	3.44	30	448	5	414	26	86	12	19	61	110
2542387	239400	6627850	0.001	4	5	0.5	9.24	0.63	1.37	45	25	41	30	3.36	26	462	5	389	18	116	12	17	52	108
2542388	240700	6627200	0.001	5	5	0.5	10.6	0.85	1.73	50	25	57	24	3.32	28	401	5	436	26	107	12	18	62	106
2542389	240850	6628550	0.001	6	10	0.5	8.59	0.95	1.71	52	25	42	20	2.99	29	408	5	396	20	116	12	19	52	107
2542390	240750	6628600	0.0005	5	5	1	6.23	0.91	1.37	44	25	35	20	3.11	26	385	5	381	20	81	10	16	48	106

APPENDIX IV

ASSAY RESULTS FOR ROCK CHIP SAMPLES

Note: All values in ppm unless stated otherwise. Where assays are below detection limit, the value is reported as half the element's detection limit.

SAMPNO	EAST	NORTH	Au	Au(R)	As	Pb	Ag	Nb	Sb	U	Ce	Co	Cr	Cu	Fe%	La	Mn	Mo	P	Ni	Sr	Th	Y	Zn	Zr
917731	240800	6628300	0.006	•	3	2.5	0.25	20.1	0.87	1.51	53	25	80	5	5.85	29	507	5	456	38	61	5	18	55	150
917764	236550	6639150	0.009	0.0025	3	2.5	0.25	14.1	0.75	6.39	35	2.5	5	5	0.53	13	23	5	50	5	693	5	9	9	60
917765	236950	6638650	0.0025	•	0.5	2.5	0.25	31.4	0.67	2.58	86	5	61	12	1.54	40	28	5	103	11	41	11	20	16	170
917766	236950	6638650	0.0025	•	1	2.5	0.25	3.23	0.52	0.78	31	2.5	148	11	0.73	22	48	5	50	12	77	5	11	8	47
917767	237100	6638650	0.0025	•	1	2.5	0.25	2.15	0.44	0.77	27	2.5	72	5	0.45	18	89	5	100	5	55	5	7	5	71
917768	237300	6638750	0.005	•	9	5	0.25	16.2	0.85	2.9	86	31	42	38	3.94	45	352	5	661	31	489	10	31	63	99

APPENDIX V

MINERALOGICAL REPORT

Rock sample 917766 (Zone 54; 236950mE, 6638650mN) from Playfair 1 Prospect was submitted to Pontifex and Associates Pty. Ltd. for petrological description. The sample is a 15 cm sized quartz boudin hosted within siltstone. The quartz possesses an acicular, spinifex-like texture. The sample was submitted for comments on this texture.

917766 Silicified bladed crystals, possibly barite or an evaporite mineral (?anhydrite), set in fine siltstone.

This is an unusual rock with a sparse matrix of foliated sericite and fine quartz, hosting silicified bladed crystals to 10mm long, but mostly less than 0.5mm wide. The crystals occur partly as interlocking networks, partly as subradiating bundles and partly in a subparallel arrangement. They rarely have a slightly dendritic character.

It is possible that the crystals were of barite, an evaporite mineral such as anhydrite, or even ice. One crystal has been partly replaced by carbonate rather than quartz.

CRA EXPLORATION PTY LIMITED

SUBJECT: COMBINED THIRD & FOURTH QUARTERLY REPORT FOR **MT. PLAYFAIR EL 1648**, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH MARCH, 1991

AUTHOR: M.J. DONNELLY

DATE: 15TH MARCH, 1991

CRAE REPORT NO: **17200**

CRA EXPLORATION PTY. LIMITED

COMBINED THIRD & FOURTH QUARTERLY REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH MARCH, 1991

AUTHOR: M.J. DONNELLY

COPIES TO: **SADME**
CIS CANBERRA

DATE: 15TH MARCH, 1991

SUBMITTED BY: M. Donnelly

ACCEPTED BY:

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1. SUMMARY

A 914 m percussion and RAB drilling programme was conducted over five magnetic anomalies on EL 1648. Basalt and dolerite was intersected at four of the prospects. An intersection of 20 m @ 900 ppm Cu was made at Playfair 1 Prospect, in basalt from 50 m depth. Cu values in basics at the other prospects were significantly lower. Geochemistry and heavy mineral observation of drill cuttings indicated no potential for diamond bearing ultrabasic rocks.

Chromites and picroilmenites in drainage gravel samples are thought to be derived from Tertiary silcrete grit. The drilling programme, ground magnetics and rock sampling have located no basic or ultrabasic, indicator mineral source within the catchments shedding chromites and picroilmenites.

2. INTRODUCTION

Mt. Playfair EL 1648 is located on the Copley 1:250 000 sheet. It is situated west of Lyndhurst and covers an area of approximately 900 sq km (plan SAa 5215). The licence was granted to CRA Exploration Pty. Limited (CRAE) on 28th March, 1990 for a period of one year. EL 1648 has been renewed for a further period of one year.

CRAE is currently exploring EL 1648 for a range of commodities. In particular, exploration is targetted upon diamonds and diapir associated Cu mineralisation.

This report details work completed during the third and fourth quarters of Mt. Playfair EL 1648, for the period ending 27th March, 1991.

3. CURRENT EXPLORATION ACTIVITIES

3.1 1990 Drilling Programme

A 914 m percussion and RAB drilling programme was conducted over five magnetic anomalies on Mt. Playfair EL 1648 during the third quarter of tenure (plan SAa 5391). The anomalies are covered at surface by sand, gravel and silcrete. The drilling aimed to test for diapir associated Cu mineralisation and diamond bearing ultrabasic rocks.

Drilling at prospects Playfair 1, Playfair 2, Lyndhurst 1 and Lyndhurst 2 intersected basalt and dolerite with elevated magnetic susceptibility. The drill logs are presented in Appendix I. These basic igneous rocks are believed to be the source of the magnetic anomalies and are interpreted to be diapir hosted.

Samples of drill cuttings were analysed for a suite of 15 elements to test for base and precious metal mineralisation and to identify possible diamond bearing ultrabasic lithologies (Appendix I). No Au or Ag mineralisation was identified, nor was any ultrabasic-type geochemistry recognised. Anomalous Cu was reported in PD90PF1 at Playfair 1 Prospect, where 20 m @ 900 ppm Cu occurs in basalt from 50 m depth.

Thirteen samples were submitted for heavy mineral observation to check for kimberlitic indicator minerals. All samples returned negative results (Table 1).

Table 1

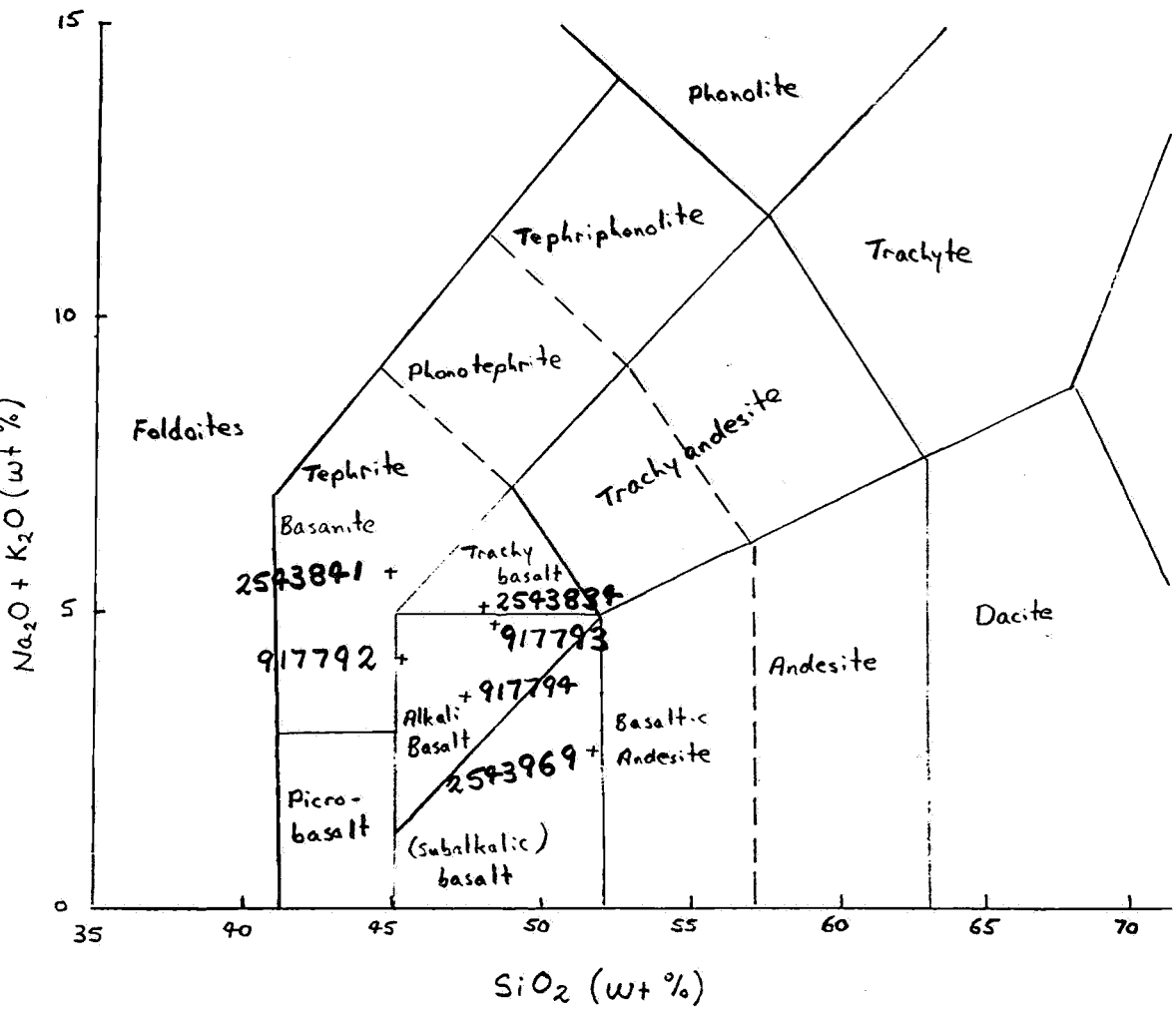
Indicator Mineral Results for Samples Submitted from 1990 Drilling Programme

Sample Number	Prospect	Drill Hole	Interval (m)	Lithology	Results
918979	Playfair 1	2543839	3-5.5	Surficial Gravel & Silcrete	Negative
918980	Playfair 2	PD90PF2	118-121	Basalt, Sandstone, Clay, Silcrete	Negative
918981	Playfair 1	2544061	0-6	Surficial gravel, gypsum	Negative
918982	Playfair 1	2544061	6-12	Claystone	Negative
918983	Playfair 1	2544060	1.5-6	Siltstone	Negative
918984	Playfair 1	PD90PF1	0-6	Surficial gypsum, sand, clay, carbonate	Negative
918985	Playfair 1	PD90PF1	6-14	Weathered basalt	Negative
918986	Playfair 1	PD90PF1	14-30	Weathered basalt	Negative
918987	Playfair 1	PD90PF1	30-70	basalt	Negative
918988	Lyndhurst 1	PD90PF8	62-70	dolerite	Negative
918989	Lyndhurst 1	PD90PF4	60-72	basalt	Negative
918990	Lyndhurst 2	PD90PF6	40-58	dolerite	Negative
918991	Lyndhurst 2	PD90PF6	2-40	clay	Negative

Whole rock analysis was conducted on eight selected samples (Appendix I). Six of these samples are of basalt or dolerite. Figure 1 illustrates that the basics on EL 1649 can be classified as alkali basalts.

Figure 1

Plot of $Na_2O + K_2O$ vs SiO_2 for Selected Drill Chip Samples



2543834 : Basalt, PD90PF1, 68-70m

2543841 : Weathered basalt, 5-7m

2543969 : Basalt, PD90PF4, 70-72m

917792 : Basalt, PD90PF2, 112-121m

917793: Dolerite, PD90PF6, 52-56m

917794: Dolerite, PD90PF8, 62-68m

Downhole geophysical logging was attempted on drill holes PD90PF1 to PD90PF9. Due to hole collapse, logging was only possible for PD90PF1, which was gamma logged (SAa 5515).

Aquifers were intersected in a number of drill holes (Appendix I). Water samples from the aquifers were submitted to Classic Laboratories, Adelaide for electrical conductivity analysis and total dissolved salts calculations (Table 2). The drill holes intersected single, unconfined aquifers and as such there is no potential for contamination of any other aquifers.

Table 2

Water Sample Results

Sample Number	Drill Hole	Interval (m)	Comments	Total Soluble Salts (mg/L)
917795	PD90PF1	32-34	1200 gal/hr est.	17270
917796	PD90PF2	98-100	500 gal/hr est. Aquifer at 72 m	8260
917797	PD90PF7	86-88	1200 gal/hr est. Aquifer at 84 m	13340
917798	PD90PF9	56-57	2500 gal/hr est. Aquifer at 56 m	11740

Rehabilitation of all drill sites was carried out in early December, 1990. A report on this rehabilitation is presented as Appendix II.

3.1.1 Playfair 1 Prospect

Playfair 1 Prospect is an 1100nT ground magnetic anomaly that is also shedding chromites and picroilmenites into the drainage system (CRAE Report No. 16806). One percussion drill hole, PD90PF1, and 11 RAB holes were drilled at Playfair 1 (plan SAa 5430). Weathered basalt was intersected at 6 m in PD90PF1. Fresh basalt was intersected at 30 m and the hole terminated in basalt at 70 m. The final 20 m, 50-70 m assayed 900 ppm Cu (plan SAa 5515). No mineralisation was observed when logging the drill cuttings (Appendix I). The heavy mineral concentrate from sample 918987 (30-70 m, PD90PF1) was observed to contain 1-3% pyrite. Only the RAB holes 50 m either side of PD90PF1 intersected weathered basalt (plan SAa 5430).

To test for higher grade zones of sulphide associated Cu mineralisation an IP survey is planned for Playfair 1. An additional 8 km of gridding has been completed at the prospect (plan SAa 5430). Ground magnetometry of these four lines, each of 2 km length, has been conducted. The magnetic anomaly is approximately 600 m wide, although weakens markedly at either end (plan SAa 5510).

3.1.2 Playfair 2 Prospect

Drilling at Playfair 2 Prospect consisted of two percussion holes and six RAB holes (plan SAa 5447). Basalt was intersected between 94 and 121 m in PD90PF2. No anomalous geochemistry was identified in PD90PF2 (plan SAa 5516). PD90PF3 failed to intersect basalt or dolerite (plan SAa 5517).

3.1.3 Lyndhurst 1 Prospect

Several discrete magnetic anomalies have been defined at Lyndhurst 1 Prospect (CRAE Report No. 16806). Three percussion holes and a total of 11 RAB holes were drilled at this prospect (plan SAa 5443). Drill holes PD90PF4 and PD90PF8 intersected dolerite beneath a 40-60 m thick cover of clay. This clay is interpreted as the Quaternary Avondale Clay (Copley SH54-09 1:250 000 sheet). Slightly elevated Cu values were recorded within the dolerite (plans SAa 5518 and SAa 5521).

Drill hole PD90PF5 was abandoned at 26 m in clay. All RAB holes intersected the clay, indicating that it blankets the prospect.

3.1.4 Lyndhurst 2 Prospect

Two percussion and two RAB holes were drilled at Lyndhurst 2 Prospect (plan SAa 5444). PD90PF6 intersected dolerite, again with weakly elevated Cu (plan SAa 5519). The dolerite is overlain by 40 m of Quaternary clay.

Drill hole PD90PF7 and the two RAB holes failed to intersect basic igneous rocks beneath the 24 m thick clay cover (Appendix I). Siltstone was intersected in PD90PF7, with 66-88 m containing 0.5-1% fine (<0.5 mm) disseminated pyrite. This interval does not contain base or precious metal mineralisation (plan SAa 5520).

3.1.5 Lyndhurst 3 Prospect

The single percussion hole, PD90PF9, at Lyndhurst 3 Prospect was abandoned before reaching the target depth of 100 m for the magnetic source (plan SAa 5391). Clay was intersected to a depth of 55.5 m, and is underlain by an aquifer consisting of unconsolidated sand. The hole had to be abandoned at 57 m.

3.2 Kimberlitic Indicator Mineral Follow Up

Chromites and rare picroilmenites have been reported from drainage gravel samples collected from the central area of EL 1648 (CRAE Report No. 16806). In particular, large numbers of chromites were found in samples from restricted catchments in the vicinity of Playfair 1 Prospect (plan SAa 5430). Catchments shedding chromites extend to the west, around Playfair 2 Prospect.

Eight samples of drill cuttings from Playfair 1 Prospect were submitted for heavy mineral observation. No kimberlitic indicator minerals were identified (Table 1). Similarly a sample from PD90PF2 at Playfair 2 Prospect reported no indicator minerals. Rock sample 918996 is outcropping weathered dolerite collected from an aeromagnetic anomaly 4.5 km SE of Playfair 2 Prospect (SAa 5288). It also reported no indicator minerals (Table 3). The basalt and dolerite producing the magnetic anomalies can be dismissed as a source for the chromites and picroilmenites.

Table 3

Gravel and Rock Sample Indicator Mineral Results

Sample Number	East	North	Material	Results
918960	240500	6639350	Drainage gravel	Negative
918961	237300	6636050	Drainage gravel	Negative
918969	236400	6618300	Drainage gravel	Negative
918970	241450	6619000	Drainage gravel	Negative
918993	235900	6636600	Drainage gravel	Negative
918994	233800	6637400	Drainage gravel	1 Chromite
918995	233600	6637150	Drainage gravel	Negative
918996	234000	6635850	Rock (dolerite)	Negative
918997	235400	6639700	Rock (silcrete grit)	Negative

Drainage gravel samples 918993-918995 were collected to further define the area shedding chromites (plan SAa 5288). Only sample 918994 contained any indicator minerals, a single chromite (Table 3). Rock float sample 918997 is of Tertiary silcrete grit at Playfair 1 Prospect. This grit is thought to be the source of the indicator minerals, although no chromites or picroilmenites were identified in the sample.

In order to test for any magnetic features not detected by the BMR aeromagnetic survey, flown at 1.6 km line spacing, a ground magnetic survey was conducted between Playfair 1 and Playfair 2 Prospects. This area, Playfair 4 Prospect, was gridded at 400 m line spacing (plan SAa 5391). A total of 24.9 line kilometres of ground magnetics located no features warranting further work (plan SAa 5450). Minor magnetic noise at the northern ends of the traverses occurs over a gentle silcrete gravel slope.

No further work is warranted investigating the chromites and picroilmenites in drainage gravel samples on EL 1648. Basic igneous magnetic sources do not appear to contain the indicator minerals. No untested magnetic features have been located. The Tertiary silcrete grit outcropping in the area is regarded as the most likely source of the indicator minerals. From what source the silcrete gained indicator minerals is unknown.

3.3 Regional Gravity Data

Recontouring of SADME regional Bouguer gravity data over EL 1648 is presented as plan SAa 5511. Magnetic anomalies Lyndhurst 1 and Lyndhurst 2 are 3 mgal gravity lows. Prospects Lyndhurst 3 and Playfair 3 lie on the edge of gravity lows. Basic igneous bodies

would be expected to give gravity highs. This magnetic high, gravity low association suggests the basics occupy a portion of a larger feature, probably diapir. Playfair 1 Prospect differs in that it is a local gravity high. Playfair 2 Prospect lies along a NW striking gravity high.

M. Donnelly

M.J. DONNELLY

MJD/pq

EXPENDITURE

Expenditure on EL 1648 Mt. Playfair for the six month period ending 31st March, 1991 amounted to $110,500, as detailed below.

	$
Drilling	16,288
Payroll	24,226
Vehicle	13,684
Travel	3,055
Rent	5,526
Contractors	1,075
Laboratory	34,898
Computer	1,030
Professional	3,281
Miscellaneous	7,437
Total	$110,500

REFERENCES

Donnelly, M.J. 1990 Second Quarterly Report for Mt. Playfair EL 1648, South Australia, For The Period Ending 27th September, 1990. (CRAE Report No. 16806)

LOCATION

Copley SH54-09 1:250 000 sheet

LIST OF DPO's

37858, 37867, 37868, 37869, 37871

KEYWORDS

Copper, Diamonds, Diapir, Drill-percuss, Drill-RAB, Geophys-gravity, Geophys-magnetics, Lyndhurst, Playfair

APPENDIX I

PERCUSSION AND RAB DRILL LOGS

LYNDHURST 2

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 10/10/90 DEPTH _____ HOLE No. _____

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 11/10/90 CASING LEFT - DPO Nos. 37867

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

SAMPLE Nos. 2544058-2544059 DPO Nos 37867

DEPTH FROM _____ TO _____ LABS. ANALABS

8312-9

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 2 RAB HOLES

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
					2544058 241800E 6646500N 130m RL Depth 32m 10/10/90-11/10/90						
0	10				**CLAY** Cream-grey and purple clay		0	10		10	120
10	14				**CLAY** Predominantly purple clay		10	14		10	130
14	24				**CLAY** Cream-grey and purple clay		14	24		10	120
24	28				**SANDSTONE** Light green clay sample with no rock fragments		24	30		10	110
28	32				**SANDSTONE** Light green sample with rock fragments of fine grained clayey quartz sandstone	2544058	30	32		10	120
					2544059 241900E 6646500N 130m RL Depth 26m 11/10/90						
0	10				**CLAY** Cream-grey, purple and brown clay		0	2		150	130
							2	10		10	150
10	12				**CLAY** Predominantly brown clay with quartz		10	12		10	150
12	23				**CLAY** Cream-grey clay with 12-18m containing quartz		12	22		10	130
23	26				**SILTSTONE** Light green siliceous and clayey siltstone with minor epidote		22	24		10	120
						2544059	24	26		10	130

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm
<0.005	4	<0.5	<5	36	48	44	73	12	52	112	160	3.00	388	135
<0.005	1	0.5	<5	68	67	56	101	<10	46	78	116	3.09	162	75

Lyndhurst 2 Prospect

SUMMARY: _____

LOGGED BY M.J. DONNELLY DATE 11/10/90

SHEET 1 OF 1

SAo 4187a

8312-9

Sheet 1 of 1

Plan No SAo 4187b

PLAYFAIR 1

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 11/10/90

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 11/10/90

DEPTH 18m Total HOLE No. _____

CASING LEFT - DPO Nos. 37867, 37868

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI(x10⁻³)	GEOPHYSICS CPS
					2544060 8900E 14825N 157m RL Depth 6m						
					237120E 6638635N						
0	1				Sandy soil						
1	6				White grey siltstone	2544060	3	6		10	100
					Note: Heavy mineral sample 918983 from 1.5-6m interval.						
					2544061 8900E 15175N 167m RL Depth 12m						
					236950E 6638940N						
0	1				Soil		0	2		500	110
1	2				Gravel						
2	4				Gravel, soil and gypsum		2	4		2000	100
4	5				Gravel, gypsum and minor clay		4	6		300	110
5	6				Yellow claystone						
6	12				Yellow brown claystone		6	9		20	110
						2544061	9	12		20	110
					Note: Heavy mineral sample 918981 from 0-6m interval						
					Heavy mineral sample 918982 from 6-12m interval						

SUMMARY: Playfair 1 Prospect

LOGGED BY M.J. DONNELLY DATE 11/10/90

SHEET 1 OF 1

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-10

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 2 RAB HOLES

SAMPLE Nos. 2544060 - 2544061 DPO Nos. 37867

DEPTH FROM _____ TO _____ LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15 ppm
<0.005	1	0.5	<5	147	54	73	83	16	53	104	174	6.59	946	546
<0.005	<1	0.5	<5	10	13	10	49	12	42	82	128	1.10	209	96

8312-10

Sheet 1 of 1

Plan No SAo 4187b

Playfair 1

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 03/10/90 DEPTH 70m Total HOLE No. 9 RAB holes

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 03/10/90 CASING LEFT NONE DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC	CORE SIZE	LOG	GEOLOGY
					2543835 8900E 15000N Depth 8m
					237030E 6638790N 160m RL
0	2				Orange-brown soil
2	5				Cream coloured gypsum and green, soft, weathered, clayey rock after basalt
5	8				Weathered basalt - mid brown. Clay-epidote weathered rock
					2543836 8900E 15050N Depth 13m
					237010E 6638830N 162m RL
0	1				Orange brown soil
1	5				Cream coloured clay and gypsum
5	10				Brown clay with no rock fragments
10	13				Purple-red claystone
					2543837 8900E 15100N Depth 7m
					236980E 6638875N 164m RL
0	2				Soil and gritty silcrete scree
2	4				Cream-brown coloured gypsum and clay
4	5				Brown claystone and crystals of gypsum
5	7				Red-brown claystone with minor yellow-brown harder siltstone(?) and rare gypsum
					2543838 8900N 15150N Depth 8m
					236960E 6638920N 166m RL
0	2				Brown soil and scree of gritty silcrete
2	3.5				Hard siliceous and ferruginous rock
3.5	4				Cream gypsum
4	6				Yellow-brown clay (claystone?)
6	8				Purple-pink claystone with lesser yellow-brown claystone
					2543839 8900E 15200N Depth 11m
					236935E 6638960N 167m RL
0	2				Clayey brown soil with occasional fragments of gritty silcrete
2	3				Harder, siliceous and ferruginous quartz sandstone, probably silcrete
3	5.5				Hard, recovered fragments of quartz-iron oxide-gypsum. Probable silcrete. Heavy mineral sample 918979 taken.
5.5	6				Purple-brown and orange-brown clay and minor gypsum
6	9				Brown and lesser purple-brown claystone
9	11				Brown, well consolidated, massive claystone

SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI(x10³)	GEOPHYSICS CPS
2543835	6	8		30	80
2543836	11	13		15	110
2543837	5	7		10	100
2543838	6	8		40	100
2543839	9	11		20	90

SUMMARY: Playfair 1 Prospect

LOGGED BY M.J. DONNELLY DATE 03/10/90

SHEET 1 OF 2

8312-11

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

SAMPLE Nos. 2543835 - 2543839 DPO Nos 37867 HOLE No. 9 RAB HOLES

DEPTH FROM _____ TO _____ LABS ANALABS

	Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI
2543835	<0.005	2	0.5	<5	101			541	86	80	<10	66		161	94	2.90	514	246											
2543836	0.005	1	0.5	<5	142	255	49	45	91	97	13	47	53	99	165	4.93	893	263	62.6	1.26	17.30	6.77	0.03	1.70	0.32	0.38	0.176	3.05	6.46
2543837	<0.005	1	0.5	<5	207			65	105	84	14	48		92	158	5.86	682	303											
2543838	<0.005	3	0.5	<5	79			28	43	82	14	61		125	159	4.89	788	153											
2543839	<0.005	1	0.5	<5	172			84	86	86	13	74		173	157	7.93	1390	1160											
FIRE ASS	AAS	AAS	AAS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	XRF	XRF	XRF	XRF	XRF	XRF	XRF	AAS	XRF	XRF	GRAV/TRIC
0.005 ppm	1ppm	0.5 ppm	5ppm	5ppm	5ppm	1 ppm	5 ppm	10ppm	10ppm	10 ppm	5ppm	1 ppm		15ppm	5ppm	0.01%	100 ppm	15ppm	0.1%	0.01%	0.05%	0.01%	0.01%	0.05%	0.01%	0.01%	0.005%	0.01%	0.01%

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Sheet 1 of 2

Plan No SAe 4187b

Playfair 1

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 03/10/90 DEPTH 70m Total HOLE No. 9 RAB HOLES

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 03/10/90 CASING LEFT NONE DPO Nos. 37867

SAMPLE Nos. 2543840-2543843 DEPTH FROM _____ TO _____

DPO Nos 37867 LABS. ANALABS

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

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PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 9 RAB HOLES

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI (x10⁻³)	GEOPHYSICS CPS
					2543840 8575E 15525N Drilled into topographic low. Depth 6m						
					236490E 6639080N 160m RL						
0	6				Brown claystone, massive, soft. Basal metre slight purple colour.	2543840	4	6		5	120
					2543841 8900E 14900N Depth 7m						
					237080E 6638700N 157m RL						
0	2				Orange-brown soil and sand						
2	2.5				Gravel-fragments of rock (siltstone, quartz, sandstone), harder						
2.5	5				Dark green, fine, unconsolidated 'powder', probably weathered basalt						
5	7				As above, plus contains fine fragments of friable, dark green, weathered rock probably after basalt	2543841	5	7		30	90
					2543842 8900E 14850N Depth 6m						
					237100E 6638660N 157m RL						
0	1				Brown sand and scree						
1	4				White quartz-carbonate-clay rock						
4	6				White quartz-clay fine grained sandstone	2543842	4	6		5	100
					2543843 8900E 14800N Depth 4m						
					237130E 6638610N 157m RL						
0	4				<0.5m of brown sandy soil. White quartz sandstone with white clay and minor gypsum	2543843	2	4		0	100

	Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI	SO_3
	<0.005	4	0.5	<5	83			225	52	89	14	49		104	183	4.55	907	214												
	<0.005	1	0.5	<5	86	157	505	5	75	123	<10	15	37	23	46	8.76	423	971	45.0	1.47	13.60	12.10	0.14	4.10	8.47	4.17	0.079	1.60	7.35	2.30
	<0.005	<1	0.5	<5	11	349	56	19	19	54	<10	27	15	48	137	0.67	<100	100	71.7	0.55	15.70	0.87	0.02	0.29	0.50	0.22	0.016	5.10	4.31	0.40
	0.005	1	0.5	<5	8			13	<10	39	<10	36		58	124	0.68	100	63												
	Fire Assay 0.005 ppm	AAS 1 ppm	AAS 0.5 ppm	AAS 5 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 1 ppm	ICP-OES 5 ppm	ICP-OES 10 ppm	ICP-OES 10 ppm	ICP-OES 10 ppm	ICP-OES 5 ppm	ICP-OES 1 ppm	ICP-OES 15 ppm	ICP-OES 5 ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15 ppm	XRF 0.1%	XRF 0.01%	XRF 0.05%	XRF 0.01%	XRF 0.01%	XRF 0.05%	XRF 0.01%	XRF 0.01%	AAS 0.01%	XRF 0.005%	XRF 0.01%	GRAV. TECH 0.01%

SUMMARY: Playfair 1 Prospect

LOGGED BY M.J. DONNELLY DATE 03/10/90

SHEET 2 OF 2

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Sheet 2 of 2

Plan No SAa 4187b

Lyndhurst 1

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 07/10/90 DEPTH 86m Total HOLE No. _____

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 07/10/90 CASING LEFT - DPO Nos. 37867

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

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PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 11 RAB HOLES

SAMPLE Nos. 2543973 - 2543977 DPO Nos. 37867

DEPTH FROM _____ TO _____ LABS. ANALABS

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS	Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
					2543973 236300E 6651100N 120m RL Depth 10m																					
0	1.5				Sandy Soil																					
1.5	2.5				Gypsum and carbonate																					
2.5	3				Gravel - rounded pebbles of quartzite and ironstone																					
3	5				Gypsum and carbonate																					
5	8				Cream-brown clay with rare gypsum																					
8	10				Cream-brown clay	2543973	8	10		10	80	<0·005	6	0·5	<5	25	28	15	67	17	34	56	145	4·99	<100	713
					2543974 236350E 6651100N 120m RL Depth 8m																					
0	2				Sandy soil																					
2	3				Gravel - pebbles of siltstone, quartz sandstone, dolomite																					
3	4.5				Gypsum and carbonate; white coloured.																					
4.5	8				Cream-brown clay and minor gypsum	2543974	6	8		10	70	<0·005	4	0·5	10	32	22	18	45	21	22	26	109	3·16	104	179
					2543975 236400E 6651100N 120m RL Depth 7m																					
0	2				Orange-brown sandy soil with gypsum towards base																					
2	2.5				Gravel																					
2.5	4				Gypsum and carbonate; white coloured																					
4	7				Cream-brown clay and gypsum	2543975	5	7		10	80	<0·005	4	<0·5	5	33	24	18	36	17	20	30	102	3·07	<100	187
					2543976 236450E 6651100N 120m RL Depth 7m																					
0	1.5				Orange-brown sandy soil																					
1.5	2.5				Gravel and sand																					
2.5	4				Gypsum and carbonate; white coloured																					
4	7				Cream-brown clay and gypsum	2543976	5	7		5	80	<0·005	4	0·5	5	28	20	13	46	15	23	24	102	3·04	106	111
					2543977 236500E 6651100N 120m RL Depth 8m																					
0	1				Sandy soil																					
1	2.5				Gravel and soil																					
2.5	3.5				Gypsum, carbonate and clay; white coloured																					
3.5	4				Clay and gypsum																					
4	6				Cream-brown clay																					
6	8				Cream-brown clay with minor gypsum	2543977	6	8		10	80	<0·005	4	0·5	<5	32	22	18	49	20	19	24	117	3·94	113	117
												FIRE ASS 0·005 ppm	AAS 1ppm	AAS 0·5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10 ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 0·01%	ICP-OES 100 ppm	ICP-OES 15 ppm

Lyndhurst 1 Prospect

SUMMARY: Eleven RAB holes totalling 86m, all bottomed in clay. The RAB drilling at Lyndhurst 1 was terminated as bedrock was not being sampled.

LOGGED BY M.J. DONNELLY DATE 07/10/90

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SAo 4187a

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Plan No SAo 4187b

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CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 07/10/90 DEPTH _____ HOLE No. _____

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 07/10/90 CASING LEFT - DPO Nos. 37807

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

SAMPLE Nos. 2543978 - 2543983 DPO Nos 37867

DEPTH FROM _____ TO _____ LABS. AMDLABS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 11 RAB HOLES

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
					2543978 236600E 6651100N 120m RL Depth 7m						
0	1				Orange-brown sandy soil						
1	2.5				Sand and gravel						
2.5	4				Carbonate, gypsum and clay; white coloured						
4	7				Cream-brown and purple clay, plus gypsum	2543978	5	7		10	80
					2543979 236650E 6651100N 120m RL Depth 7m						
0	1.5				Orange-brown sandy soil						
1.5	2.5				Gravel and sand, with some gypsum						
2.5	4				Gypsum, carbonate and clay; white coloured						
4	7				Cream-brown and minor purple clay, plus minor gypsum	2543979	5	7		20	70
					2543980 236700E 6651100N 120m RL Depth 7m						
0	1				Orange-brown sandy soil						
1	2.5				Sand, calcrete and gravel						
2.5	4.5				Carbonate, gypsum and clay; white coloured						
4.5	7				Cream-brown clay, purple clay and minor gypsum	2543980	5	7		10	60
					2543981 237650E 6650700N 120m RL Depth 10m						
0	2				Orange-brown sandy soil						
2	3				Gypsum						
3	4				Gypsum and minor gravel						
4	10				Cream-grey clay and lesser purple clay plus minor gypsum	2543981	8	10		10	80
					2543982 237600E 6650700N 120m RL Depth 8m						
0	1.5				Brown sandy soil						
1.5	3				Gypsum and gravel - pebbles of siltstone, ironstone and dolomite						
3	4				Layers of brown clay, gypsum and gravel						
4	8				Cream-grey, brown and purple clay with minor gypsum	2543982	6	8		5	90
					2543983 237550E 6650700N 120m RL Depth 7m						
0	2				Brown sandy soil						
2	3				Gypsum, clay and carbonate, plus gravel at base						
3	3.25				Gravel						
3.25	7				Cream-brown clay, gypsum and purple clay	2543983	5	7		10	80

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm
<0.005	5	0.5	<5	34	24	18	48	14	21	33	96	3.23	123	113
<0.005	5	0.5	<5	33	23	18	57	14	21	25	100	3.60	126	113
<0.005	5	0.5	<5	36	25	25	48	13	20	25	108	3.72	112	127
<0.005	5	0.5	5	19	21	13	65	12	18	23	109	3.74	160	46
<0.005	4	0.5	25	20	16	13	60	19	27	29	124	3.48	107	59
<0.005	5	0.5	5	21	17	10	58	15	35	34	128	4.39	<100	54

Lyndhurst 1 Prospect

SUMMARY: _____

LOGGED BY M.J. DONNELLY DATE 07/10/90

SHEET 2 OF 2

SAo 4187a

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Sheet 2 of 2

Plan No SAo 4187b

Playfair 2

CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 05/10/90 DEPTH 53m Total HOLE No. _____

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 07/10/90 CASING LEFT - DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI (units)	GEOPHYSICS CPS
					2543919 11300E 9300N 05/10/90 148m RL Depth 12m						
					230370E 6639120N						
0	1.5				Orange-brown soil		0	3		300	80
1.5	8				GRAVEL Fragments of ironstone, siltstone, calcrete and dolomite, often rounded.		3	6		4000	80
							6	9		500	80
8	12				CLAY Light purple-white clay	2543919	9	12		80	80
					2543920 11300E 9260N 05/10/90 148m RL Depth 9m						
					230340E 6639090N						
0	2				Soil		0	3		200	90
2	7				GRAVEL Pebble sized fragments of sometimes rounded sandstone, dolomite, siltstone and		3	6		1500	90
					ironstone		6	7		1000	90
7	9				CLAY Alternating purple and white clay	2543920	7	9		40	90
					2543932 11300E 9500N 07/10/90 148m RL Depth 6m						
					230520E 6639250N						
0	1				Orange-brown soil		0	3		1500	80
1	3.5				GRAVEL Gypsum, clacrete and rounded pebbles including ironstone						
3.5	6				CLAY Light purple clay and contains gypsum	2543932	3	6		50	80
					2543933 11300E 9400N 07/10/90 148m RL Depth 6m						
					230440E 6639190N						
0	1				Orange-brown soil		0	3		500	80
1	3				GRAVEL Contains gypsum 2.5-3.0m						
3	6				CLAY Light purple clay and contains gypsum		3	4		30	80
						2543933	4	6		20	80
					2543934 11300E 9350N 07/10/90 148m RL Depth 11m						
					230410E 6639150N						
0	1				Orange-brown soil		0	3		200	80
1	7				GRAVEL Subrounded pebbles of sandstone, ironstone, siltstone, quartz and dolomite, gypsum		3	6		2000	80
					present below 5m		6	9		300	90
7	11				CLAY Purple-brown to white clay	2543934	9	11		200	80

SUMMARY: Playfair 2 Prospect

LOGGED BY M.J. DONNELLY DATE 07/10/90

SHEET 1 OF 2

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

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PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 6 RAB HOLES

SAMPLE Nos. 2543919 - 2543934 DPO Nos. 37867

DEPTH FROM _____ TO _____ LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
<0.005	1	0.5	<5	5	10	<10	65	10	14	16	81	2.59	<100	55
<0.005	2	0.5	<5	25	15	<10	64	13	14	17	100	3.42	<100	99
<0.005	5	0.5	<5	17	16	<10	78	12	22	28	110	3.74	<100	104
<0.005	5	<0.5	<5	14	13	<10	55	12	21	27	98	3.16	<100	60
<0.005	3	0.5	5	9	12	<10	55	10	21	28	86	2.61	<100	69
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm

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Sheet 1 of 2

Plan No SAo 4187b

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CRA EXPLORATION PTY. LIMITED.

RAB DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES _____ AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 05/10/90 DEPTH 53m Total HOLE No. _____

RL COLLAR _____ INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 07/10/90 CASING LEFT - DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10⁻⁵)	GEOPHYSICS CPS
					2543935 11300E 9200N 07/10/90 148m RL Depth 9m						
					230275E 6639100N						
0	1				Orange brown sand		0	3		50	80
1	2.5				GRAVEL						
2.5	6.5				Mix of gravel and light purple-white clay		3	6		400	80
6.5	9				CLAY Light purple and white clay		6	7		200	80
						2543935	7	9		10	80

SUMMARY : _____

LOGGED BY M.J. DONNELLY DATE 07/10/90

SHEET 2 OF 2

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. 6 RAB HOLES

SAMPLE Nos. 2543935 DPO Nos. 37867

DEPTH FROM 7 TO 9 LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
<0.05	1	0.5	<5	6	10	<10	51	12	11	<15	77	1.74	<100	39
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10 ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm

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Sheet ____ of ____

Plan No SAo 4187b

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CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 237060E 6638750N / 8900E 14950N AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 02/10/90 DEPTH 70m HOLE No. PD90PF1

RL COLLAR 158m INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 02/10/90 CASING LEFT 2m PVC DPO Nos. 37867

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF1

SAMPLE Nos. 2543801 - 2543829 DPO Nos 37867

DEPTH FROM 2 TO 60 LABS. ANALABS

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10⁻³)	GEOPHYSICS CPS
0	2				SAND AND CLAY, GYPSUM AND CARBONATE	-	0	2		60	90
					Orange-brown sand						
2	6				GYPSUM AND SANDSTONE						
					Cream colour. Gypsum and fine grained white quartz sandstone with minor epidote.	2543801	2	4		10	120
						2543802	4	6		20	120
						2543803	6	8		20	120
6	14			v	VERY WEATHERED BASALT	2543804	8	10		20	120
				vv	Light brown. Weathered and soft hematite-epidote-clay rock. Interpreted as weathered	2543805	10	12		20	110
				v	equivalent to basalt.	2543806	12	14		20	100
				vv							
14	30			v	WEATHERED BASALT	2543807	14	16		50	100
				vv	Mid brown. Fine grained basalt with minor epidote and hematite and rare chlorite and	2543808	16	18		70	90
				v	carbonate. Elevated magnetic susceptibility. Includes 22-24: contains 20% veining of	2543809	18	20		150	90
				vv	carbonate-like white mineral and epidote.	2543810	20	22		150	90
				v	Hit water at 18m. Estimate 1200-1300 gal/hr (5500-6000 l/hr) air lift, from 25m down.	2543811	22	24		80	90
				vv	Salty water to E.O.H.	2543812	24	26		150	100
				v		2543813	26	28		200	110
				vv		2543814	28	30		400	90
				v							
30	50			vv	BASALT	2543815	30	32		250	90
				v	Dark grey-green, very fine grained, quite fresh basalt with 0.5-10% epidote and hematite, minor	2543816	32	34		250	100
				vv	weathered brown iron oxide. Rare chlorite.	2543817	34	36		200	80
				v	Includes: 42-44m 3-5% epidote	2543818	36	38		250	90
				vv	46-48m 5-10% hematite	2543819	38	40		250	80
				v		2543820	40	42		300	80
				vv		2543821	42	44		250	80
				v		2543822	44	46		200	80
				vv		2543823	46	48		250	80
				v		2543824	48	50		200	90
				vv							
50	70			v	BASALT	2543825	50	52		2000	90
				vv	Dark grey-green, very fine grained basalt with minor epidote and hematite. Differs from above	2543826	52	54		2500	90
				v	unit in that magnetic susceptibility measurements are 10x higher.	2543827	54	56		3000	70
				vv		2543828	56	58		3000	80
				v		2543829	58	60		2500	80

CPS measured using BGS-4 Scintillometer

	Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
PREP	AAS	AAS	AAS	AAS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES
	0.005 ppm	1ppm	0.5 ppm	5ppm	5ppm	5ppm	10ppm	10ppm	10ppm	5 ppm	15ppm	5ppm	0.01 %	100 ppm	15ppm
	<0.005	2	0.5	10	133	73	28	44	<10	35	87	73	7.37	211	261
	<0.005	<1	0.5	<5	143	84	25	87	<10	91	215	82	3.59	296	273
	<0.005	2	0.5	<5	225	229	79	111	<10	39	77	56	13.80	555	517
	<0.005	1	0.5	<5	228	227	96	101	<10	20	51	92	12.60	446	683
	<0.005	1	0.5	<5	198	153	81	101	<10	28	50	36	11.40	716	550
	<0.005	2	0.5	<5	246	312	78	105	<10	21	37	82	13.10	881	521
	<0.005	2	0.5	<5	351	263	80	95	<10	19	32	74	15.20	857	702
	<0.005	1	0.5	<5	106	177	73	101	<10	16	29	78	9.89	1080	682
	<0.005	2	0.5	<5	97	129	80	97	<10	15	27	78	11.30	936	927
	<0.005	2	0.5	<5	85	145	91	91	<10	16	31	83	13.00	1000	1180
	<0.005	1	0.5	<5	89	123	61	77	10	19	36	84	9.14	944	871
	<0.005	1	0.5	<5	82	170	69	98	<10	17	29	30	12.90	837	860
	<0.005	2	0.5	<5	84	269	90	94	<10	15	27	28	13.70	785	978
	<0.005	1	0.5	<5	74	251	88	98	<10	16	30	32	12.60	838	1000
	0.005	1	0.5	<5	81	161	82	97	<10	14	24	32	10.50	736	988
	<0.005	1	0.5	<5	74	135	81	103	<10	15	26	35	10.20	821	1000
	<0.005	1	0.5	<5	74	91	72	104	<10	16	27	34	10.20	848	1010
	<0.005	1	0.5	<5	70	142	67	97	<10	14	21	62	11.70	945	1010
	<0.005	1	0.5	<5	82	222	78	103	<10	17	30	55	11.70	888	1090
	<0.005	1	0.5	<5	76	312	80	112	<10	17	29	58	11.70	908	1720
	<0.005	1	0.5	<5	75	285	79	120	<10	19	30	68	11.50	904	1270
	<0.005	1	0.5	<5	81	140	90	139	<10	18	28	27	11.20	822	978
	<0.005	1	0.5	<5	98	121	94	152	<10	21	37	95	11.20	1080	977
	<0.005	1	0.5	<5	105	251	96	127	<10	18	33	45	8.79	912	1260
	<0.005	1	0.5	<5	85	1130	81	109	<10	17	30	57	10.50	710	1320
	0.008	1	0.5	<5	77	1070	59	75	<10	19	33	35	10.60	636	1230
	<0.005	1	<0.5	<5	81	572	64	75	<10	18	31	54	10.10	855	1110
	<0.005	1	0.5	<5	76	943	61	77	<10	16	28	17	10.40	549	1040
	0.006	1	0.5	<5	81	1030	58	76	<10	20	37	22	11.00	650	1190

SUMMARY: Playfair 1 Prospect - Changed from blade to hammer bit at 33m. No mineralisation observed.

LOGGED BY MJ DONNELLY DATE 02/10/90

SHEET 1 OF 2

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Sheet 1 of 2

Print No SAo 4187a

SAo 4187a

CRA EXPLORATION PTY LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 8900E 14950N AZIMUTH 0°

RL COLLAR INCLINATION -90°

DRILLERS STRATA EXPLORATION COMMENCED 02/10/90 DEPTH 70m HOLE No. PD90PF1

DRILL TYPE PIONEER 150 COMPLETED 02/10/90 CASING LEFT 2m PVC DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY
				v v	
				v	
				v v	
				v	
				v v	

NOTE: Heavy mineral sample 918984 from 0-6m interval; surficial material
Heavy mineral sample 918985 from 6-14m interval; very weathered basalt
Heavy mineral sample 918986 from 14-30m interval; weathered basalt
Heavy mineral sample 918987 from 30-70m interval; basalt

SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10⁻⁵)	GEOPHYSICS CPS
2543830	60	62		2500	80
2543831	62	64		2000	90
2543832	64	66		3500	90
2543833	66	68		2500	90
2543834	68	70		2500	90

SUMMARY:

LOGGED BY M.J. DONNELLY DATE 02/10/90

SHEET 2 OF 2

SAo 41870

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-7

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF1

SAMPLE Nos. 2543830 - 2543834 DPO Nos. 37867

DEPTH FROM 60 TO 70 LABS. ANALABS

Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI	SO3
<0.005	1	0.5	<5	79			868	62	80	<10	17		31	36	10.50	695	1160											
<0.005	1	0.5	<5	76			712	68	81	<10	17		28	24	11.20	674	1280											
<0.005	1	0.5	<5	75			673	60	80	<10	17		29	41	11.20	1260	1160											
<0.005	2	0.5	<5	78			828	52	52	<10	19		34	95	10.20	786	1070											
<0.005	2	0.5	<5	87	107	228	1130	90	101	<10	17	36	29	36	10.10	615	1150	48.0	2.87	12.50	14.00	0.17	5.35	7.20	4.38	0.192	0.84	3.62	1.00
FIRE AAS	AAS	AAS	AAS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	XRF	XRF	XRF	XRF	XRF	XRF	XRF	AAS	XRF	XRF	GRAV. TRIC.	
0.005 ppm	1ppm	0.6 ppm	5ppm	5ppm	5ppm	1ppm	3ppm	10ppm	10ppm	10ppm	5ppm	1ppm	15ppm	5ppm	0.01%	100 ppm	15ppm	0.1%	0.01%	0.05%	0.01%	0.01%	0.05%	0.01%	0.01%	0.005	0.01%	0.01%	0.01%

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Plan No SAo 4187b

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CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 230750E 6638930N / 11700E 9450N

AZIMUTH 0°

DRILLERS STRATA EXPLORATION

COMMENCED 03/10/90

DEPTH 121m

HOLE No. PD90PF2

RL COLLAR 150m

INCLINATION -90°

DRILL TYPE PIONEER 150

COMPLETED 06/10/90

CASING LEFT 2m PVC

DPO Nos. 37867, 37868

DEPTH From	DEPTH To	CORE REC	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
0	2				SOIL Brown coloured.						
2	4				GRAVEL AND GYPSUM 2-3m predominantly quartz sandstone and siltstone pebbles with 3-4m then mainly white-pink coloured gypsum	2343844	2	4		30	80
4	6				GYPSUM AND CLAY	2543845	4	6		5	80
6	22				SILCRETE Cream-white to light brown sample containing white fine grained sandstone with clayey white matrix (silcrete). Interval 6-20m contains minor carbonate.	2543846	6	8		5	80
						2543847	8	10		5	90
						2543848	10	12		5	80
						2543849	12	14		10	80
						2543850	14	16		10	80
						2543851	16	18		10	80
						2543852	18	20		15	80
						2543853	20	22		15	80
22	28				PURPLE QUARTZ SANDSTONE Light purple coloured rock fragments of fine grained quartz sandstone	2543854	22	28		15	90
28	36				SANDSTONE White coloured sample. Only minor rock fragments of quartz sandstone and some clay	2543855	28	34		15	90
36	38				SANDSTONE Yellow-white sample. Sieved material is 60% quartz fine grained sandstone and 40% yellow clay.	2543856	34	40		10	80
38	40				SANDSTONE White sample containing very few fragments of mainly white clay and minor fine grained quartz sandstone						
40	42				SANDSTONE Yellow-white sample of predominantly white clay plus 10% yellow-brown quartz fine grained sandstone. Minor epidote associated with white clay.	2543857	40	46		10	80
42	50				SANDSTONE White sample with clay and common fragments of white fine-grained quartz sandstone	2543858	46	52		60	70
50	56				SANDSTONE Yellow-brown sample. Fragments of yellow-brown quartz fine grained sandstone, plus 5-10% hematitic ironstone	2543859	52	58		150	90

Playfair 2 Prospect

SUMMARY: 0-6m Surficial material; 6-22m silcrete; 22-28m purple quartz sandstone; 28-64m sandstone; 64-78m Dolomite; 78-88m sandstone; 88-94m dolomite & sandstone; 94-98m dolomite, sandstone & basic volcanic; 98-121m & Basic Volcanic sandstone.

LOGGED BY M.J. DONNELLY

DATE 03/10/90

SHEET 1 OF 3

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90 PF2

SAMPLE Nos. 2343844-2343859

DEPTH FROM 2 TO 58

DPO Nos 37867

LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0·005 ppm	AAS 1ppm	AAS 0·5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0·01%	ICP-OES 100 ppm	ICP-OES 15ppm
<0·005	1	0·5	<5	29	33	33	48	<10	34	65	67	1·37	<100	59
<0·005	1	0·5	<5	48	49	43	57	10	55	102	96	1·44	<100	95
<0·005	<1	0·5	<5	49	25	44	127	12	38	76	107	1·68	<100	110
<0·005	<1	0·5	<5	34	29	32	51	<10	24	48	70	1·35	<100	98
<0·005	<1	0·5	<5	23	23	31	56	<10	23	47	69	1·51	<100	168
<0·005	1	0·5	<5	41	37	40	65	<10	24	49	56	4·35	208	315

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Sheet 1 of 3

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES Z30750E 663893ON / 11700E 9450N AZIMUTH 0° DRILLERS STRATA EXPLORATION COMMENCED 03/10/90 DEPTH 121m HOLE No. PD90PF2

RL COLLAR 150m INCLINATION -90° DRILL TYPE PIONEER 150 COMPLETED 06/10/90 CASING LEFT 2m PVC DPO Nos. 37867, 37868

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF2

SAMPLE Nos. 2543860 – 2543866 DPO Nos. 37867

DEPTH FROM 58 TO 98 LABS. ANALABS

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS ST (10-5)	GEOPHYSICS CPS
56	58				**SANDSTONE** Light brown sample. Brown fine grained siliceous sandstone and minor white sandstone						
58	64				**SANDSTONE** Light brown sample. Light purple brown fine grained siliceous sandstone and yellow-brown fine grained quartz sandstone	2543860	58	64		100	90
64	72				**DOLOMITE** Poor-fair sample recovery. Rock fragments consist of 60% light purple-pink fine grained dolomite, 30% brown carbonate and 10% silcrete	2543861	64	70		20	80
72	74				**DOLOMITE** Improved sample return. 60% light purple dolomite, 25% brown dolomite, 15% silcrete	2543862	70	78		10	80
74	76				**DOLOMITE** As above, except 90% dolomite, 10% silcrete						
76	78				**DOLOMITE** As above, except 70% dolomite, 30% silcrete						
78	82				**SANDSTONE** 70% fine grained, brown, quartz sandstone, 30% silcrete	2543863	78	84		20	80
82	84				**SANDSTONE** 40% white-pink fine grained quartz sandstone, 40% brown 'chert', 20% silcrete						
84	86				**SANDSTONE** 40% white-pink fine grained quartz sandstone, 33% brown 'chert', 25% silcrete, 2% green dolomite	2543864	84	90		20	80
86	88				**SANDSTONE** Poor sample recovery. 40% white-pink quartz sandstone, 40% dark brown chert, 15% green dolomite, 5% silcrete						
88	90				**DOLOMITE AND SANDSTONE** 40% green dolomite (A), 40% white-pink fine to medium grained, soft and friable sandstone (B), 5% silcrete (C) and 15% dark brown chert						
90	92				**DOLOMITE AND SANDSTONE** As above, except 40% (B), 30% (A), 30% (C)	2543865	90	94		20	80
92	94				**DOLOMITE AND SANDSTONE** As above, except 45% (A), 50% (B), 5% (C)						
94	96				**DOLOMITE, SANDSTONE AND BASIC VOLCANIC** As above, except 40% (A), 30% (B), 10% (C) plus rare hematitic ironstone. Also 20% dark green chloritic rock, basic volcanic.	2543866	94	98		20	80
96	98				**DOLOMITE, SANDSTONE AND BASIC VOLCANIC** As above						

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
<0.005	1	0.5	<5	31	14	24	62	<10	21	44	68	3.43	181	489
<0.005	<1	0.5	<5	44	19	46	78	10	49	89	114	2.87	191	775
<0.005	1	0.5	<5	29	14	<10	43	<10	48	92	85	2.37	196	808
<0.005	1	0.5	<5	22	20	12	88	<10	59	109	76	2.58	147	588
<0.005	1	0.5	<5	33	17	<10	31	<10	55	104	81	2.93	168	676
<0.005	1	0.5	<5	40	14	17	52	<10	64	124	99	2.05	140	414
<0.005	1	0.5	<5	55	17	21	58	12	48	89	113	2.79	187	446
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OEC 10ppm	ICP-OEC 10ppm	ICP-OES 5ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OEC 15ppm

SUMMARY: _____

LOGGED BY M.J. DONNELLY DATE 04/10/90

SHEET 2 OF 3

SAo 4187a

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Sheet 2 of 3

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 230750E 6638930N / 11700E 9450N AZIMUTH 0°

RL COLLAR 150m INCLINATION -90°

DRILLERS STRATA EXPLORATION COMMENCED 03/10/90

DRILL TYPE PIONEER 150 COMPLETED 06/10/90

DEPTH 121m CASING LEFT 2m PVC

HOLE No. PD90PF2 DPO Nos. 37867, 37868

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF2

SAMPLE Nos. 2543867-2543872 DPO Nos. 37867

DEPTH FROM 98 TO 121 LABS. ANALABS

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI(×10⁻⁵)	GEOPHYSICS CPS
98	100			v v	BASIC VOLCANIC AND SANDSTONE 40% dark green, chloritic basic volcanic, 50% light pink	2543867	98	102		30	80
				v	fine to medium grained sandstone, 10% silcrete and rare ironstone						
				v v							
100	102			v	BASIC VOLCANIC AND SANDSTONE 20% silcrete, 40% sandstone, 30% chloritic basic, 5%						
				v v	green dolomite, 10% geothitic ironstone, 5% quartz						
				v							
102	104			v v	BASIC VOLCANIC AND SANDSTONE 30% silcrete, 45% sandstone, 20% basic, 3% quartz,	2543868	102	106		20	80
				v	2% dolomite						
				v v							
104	106			v	BASIC VOLCANIC AND SANDSTONE As above						
				v v							
106	108			v	BASIC VOLCANIC AND SANDSTONE Large amount of caving and sample contamination.	2543869	106	110		70	80
				v v	Silcrete 50%						
				v							
108	110			v v	BASIC VOLCANIC AND SANDSTONE Silcrete 25%, sandstone 30%, chloritic basic 40%						
				v	(100 x 10-5 SI), dolomite 2%, quartz 3%						
				v v							
110	116			v	BASIC VOLCANIC AND SANDSTONE Silcrete 40%, chloritic basic 30%, sandstone 25%,	2543870	110	114		200	80
				v v	white clay 5%. Chloritic basic contains unknown black mineral and rare epidote.	2543871	114	118		500	80
				v							
116	118			v v	BASIC VOLCANIC AND SANDSTONE Silcrete 25%, Basic 25%, sandstone 35%, clay 10%, qtz 5%						
				v							
118	121			v v	BASIC VOLCANIC AND SANDSTONE Silcrete 15%, basic 45%, sandstone 30%, clay 10%	2543872	118	121		1500	80
					NOTE: Heavy mineral sample 918980 from 118-121m interval.						
					917792: BASIC VOLCANIC - Hand picked sample of fine grained, dark green, chloritic rock with 500x10-5 SI taken from 112-121m interval.	917792	112	121		500	-
					Hammer replaced blade bit at 19m.						
					Hit aquifer at 72m						

	Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI
	0·005	1	0·5	<5	51			19	20	33	<10	52		96	115	2·55	174	383											
	<0·005	1	0·5	<5	34			15	17	60	10	58		110	125	1·95	142	207											
	<0·005	1	0·5	<5	36			17	24	70	13	51		95	116	1·98	156	220											
	<0·005	1	0·5	<5	32			20	22	54	<10	50		97	108	1·99	139	199											
	<0·005	1	0·5	<5	34			25	20	51	10	51		99	110	2·15	147	184											
	<0·005	1	0·5	<5	37			31	22	71	<10	56		110	83	2·32	150	195											
	0·005	1	<0·5	<5	113	179	42	92	71	79	<10	17	34	30	77	9·04	859	1270	45·2	2·66	12·30	12·80	0·19	10·30	6·11	2·71	0·193	1·45	5·95
	FIRE AAS 0·005	AAS	AAS 0·5	AAS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	XRF	XRF	XRF	XRF	XRF	XRF	XRF	AAS	XRF	XRF	GRAV. TRIC.
	ppm	1ppm	ppm	5ppm	5ppm	5ppm	1ppm	5ppm	10ppm	10ppm	10ppm	5ppm	1ppm	15ppm	5ppm	0·01%	100 ppm	15ppm	0·1%	0·01%	0·05%	0·01%	0·01%	0·05%	0·01%	0·01%	0·005%	0·01%	0·01%

NOTE: Heavy mineral sample 918980 from 118-121m interval.

917792: BASIC VOLCANIC - Hand picked sample of fine grained, dark green, chloritic rock with 500x10-5 SI taken from 112-121m interval.

Hammer replaced blade bit at 19m.

Hit aquifer at 72m

SUMMARY :

LOGGED BY M.J. DONNELLY DATE 06/10/90

SHEET 3 OF 3

SAo 4187a

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Sheet 3 of 3

Plan No SAo 4187b

8312-22

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 230360E 6639110N / 11300E 9280N — AZIMUTH 0° — DRILLERS STRATA EXPLORATION — COMMENCED 04/10/90 — DEPTH 62m — HOLE No. PD90PF3

RL COLLAR 148m — INCLINATION -90° — DRILL TYPE PIONEER 150 — COMPLETED 05/10/90 — CASING LEFT 2m PVC — DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI(x10⁻³)	GEOPHYSICS CPS
0	1				Orange-brown sandy soil						
1	8				GRAVEL Fragments of quartz sandstone, calcrete, dolomite and ironstone, some well rounded.	2543893	2	4		1000	90
					Elevated magnetic susceptibility.	2543894	4	6		3000	90
						2543895	6	8		2000	90
8	16				CLAY Light brown-white sample. Predominantly clay with minor fragments of silcrete,	2543873	8	12		60	90
					quartz and siltstone.	2543874	12	16		40	90
16	44				CLAY WITH SILCRETE BANDS(??) White sample. Predominantly clay with rare fragments of	2543900	16	18		2000	80
					rounded quartz 'clasts'. Unit is alternatively hard and soft.	2543875	18	24		30	80
					Blade bit ruined over 16-18m interval, sample contains metal filings from bit.	2543876	24	30		20	80
						2543877	30	36		10	90
						2543878	36	40		20	90
						2543879	40	44		50	90
44	46				CLAY Less than 2kg sample recovered of white clay.	2543914	44	46		-	-
46	54				NO SAMPLE RETURN	-	46	54	No Sample Recovery		
54	62				SILTSTONE Water injection commenced at 54m. White coloured, clayey sample containing	2543880	54	58		10	90
					fragments of white, non-calcareous siltstone.	2543881	58	62		5	100

SUMMARY: Playfair 2 Prospect
Did not hit modelled magnetic target (modelled at 35m)
Gravel horizon responsible for noisy ground magnetics.

LOGGED BY M.J. DONNELLY DATE 05/10/90

SHEET 1 OF 1

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF3

SAMPLE Nos. 2543873 - 2543881 — DPO Nos. 37867

DEPTH FROM 8 TO 62 — LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm
<0.005	1	0.5	<5	6	11	<10	165	15	12	18	99	2.79	<100	75
<0.005	1	0.5	<5	5	8	10	69	12	7	<15	73	1.73	<100	66
<0.005	<1	0.5	<5	<5	5	23	116	<10	<5	<15	71	0.97	<100	55
<0.005	<1	0.5	<5	<5	9	<10	48	19	25	47	115	0.78	<100	31
<0.005	<1	0.5	10	6	<5	<10	36	29	16	23	95	0.68	<100	18
<0.005	<1	0.5	5	6	5	<10	66	15	24	33	86	0.85	<100	22
<0.005	1	0.5	10	9	5	<10	39	15	42	67	119	0.84	179	20
<0.005	<1	0.5	5	33	7	<10	64	<10	67	134	103	1.26	190	25
<0.005	<1	0.5	<5	28	12	10	66	12	71	159	105	1.71	300	53

8312-22 Sheet 1 of 1

Plan No SAo 4187b

8312-23

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 236550E 6651100N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 07/10/90 | DEPTH 79m | HOLE No. PD90PF4

RL COLLAR 120m | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 08/10/90 | CASING LEFT 2m PVC | DPO Nos. 37867, 37868

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI	GEOPHYSICS CPS
0	1				Sandy soil						
1	2				**GRAVEL**		0	3		200	80
2	8				**CLAY AND GYPSUM** Light brown and purple clay (65%) and gypsum (35%)	2543936	3	6		10	90
						2543937	6	9		10	90
8	28				**CLAY** Light purple-brown coloured samples. Cream grey and purple clay.	2543938	9	14		10	70
						2543939	14	21		10	80
						2543940	21	26		10	70
28	40				**CLAY** White-brown samples. White and light brown clay.	2543941	26	32		10	70
						2543942	32	38		10	60
40	48			V V	**WEATHERED BASIC VOLCANIC?** Brown coloured clayey sample. Minor rock fragments of	2543943	38	40		20	60
				V	soft, weathered brown rock, probably weathered basalt.	2543943	40	44		500	60
				V V		2543956	44	46		1000	50
				V		2543957	46	48		800	50
				V V							
48	60			V	**WEATHERED BASIC VOLCANIC** Brown green sample with fragments of light brown, fine	2543958	48	52		250	60
				V V	grained, weathered rock.	2543959	52	56		150	50
				V		2543963	56	60		150	50
				V V							
60	72			V	**BASALT** Brown green sample. Fine grained, increasingly darker green colour with depth,	2543964	60	62		200	60
				V V	basalt with common epidote and minor hematite.	2543965	62	64		300	60
				V		2543966	64	66		200	50
				V V		2543967	66	68		100	50
				V		2543968	68	70		200	60
				V V		2543969	70	72		400	50
72	79				**CONTAMINATED SAMPLES** Changed from blade bit to hammer after leaving hole overnight	2543970	72	74		20	60
					at 72m. Sample returned as purple brown clay with minor fine (<2mm) sized fragments of	2543971	74	76		20	40
					claystone and basalt.	2543972	76	79		20	60
					Note: Water injection from 10m						
					Changed from blade bit to hammer at 72m						
					Heavy mineral sample 918989 from interval 60-72m						

Lyndhurst 1 Prospect

SUMMARY: 0-2m surficial material; 8-40m Clay; 40-60m Weathered basic volcanic; 60-72m Basalt; 72-79m Contaminated Samples.

LOGGED BY M.J. DONNELLY DATE 08/10/90

SHEET 1 OF 1

5Ao 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF4

SAMPLE Nos. 2543936-2543972 DPO Nos. 37867

DEPTH FROM 3 TO 79 LABS. ANALABS

Au FIRE AAS 0.005 ppm	As AAS 1 ppm	Ag AAS 0.5 ppm	Pb AAS 5 ppm	Zn ICP-OES 5 ppm	Ba ICP-OES 5 ppm	Sr ICP-OES 1 ppm	Cu ICP-OES 5 ppm	Ni ICP-OES 10 ppm	Cr ICP-OES 10 ppm	Nb ICP-OES 10 ppm	La ICP-OES 5 ppm	Y ICP-OES 1 ppm	Ce ICP-OES 15 ppm	Zr ICP-OES 5 ppm	Fe ICP-OES 0.01 %	P ICP-OES 100 ppm	Mn ICP-OES 15 ppm	SiO_2 XRF 0.1 %	TiO_2 XRF 0.01 %	Al_2O_3 XRF 0.05 %	Fe_2O_3 XRF 0.01 %	MnO XRF 0.01 %	MgO XRF 0.05 %	CaO XRF 0.01 %	Na_2O AAS 0.01 %	P_2O_5 XRF 0.005 %	K_2O XRF 0.01 %	LOI GRAV. TGA 0.01 %
<0.005	5	0.5	10	36			26	20	60	20	21		25	109	3.48	117	127											
<0.005	5	0.5	10	29			21	17	51	17	27		35	130	3.88	108	88											
<0.005	5	0.5	5	26			18	13	56	<10	32		41	140	4.41	<100	53											
<0.005	3	0.5	15	24			22	12	63	17	16		19	128	4.41	<100	49											
<0.005	4	<0.5	10	33			32	18	76	23	11		22	124	4.49	<100	37											
<0.005	1	<0.5	10	23			38	22	100	15	100		140	101	1.79	<100	66											
<0.005	<1	0.5	5	19			96	29	136	13	42		67	117	1.09	120	73											
<0.005	<1	0.5	<5	37			425	73	153	19	42		79	129	5.17	260	139											
<0.005	<1	0.5	<5	65			763	95	137	17	28		52	116	8.99	313	324											
<0.005	<1	0.5	<5	73			495	112	137	16	23		44	122	8.32	329	498											
<0.005	<1	<0.5	<5	55			247	117	125	<10	26		45	118	8.21	320	907											
<0.005	<1	<0.5	<5	38			208	92	101	<10	34		51	95	6.96	248	918											
<0.005	<1	0.5	<5	45			204	96	109	<10	37		55	58	7.43	433	866											
<0.005	<1	0.5	<5	69			194	114	106	<10	35		51	56	9.13	707	712											
<0.005	1	0.5	<5	71			184	119	102	<10	37		49	78	9.28	774	615											
<0.005	1	<0.5	<5	46			92	113	102	<10	29		43	62	12.30	663	1210											
<0.005	1	<0.5	<5	43			87	103	148	10	28		37	56	9.90	626	625											
<0.005	1	0.5	<5	40			99	82	137	11	26		37	73	9.58	588	675											
<0.005	1	0.5	<5	31	135	134	193	71	124	<10	26	27	36	63	9.86	529	661	51.7	1.88	14.00	14.10	0.10	4.55	5.24	1.74	0.112	0.97	5.38
<0.005	2	<0.5	<5	23			51	22	100	<10	75		95	118	3.13	<100	75											
<0.005	1	0.5	<5	23			50	21	69	17	100		110	119	3.01	103	80											
<0.005	1	0.5	5	22			61	24	89	16	120		118	108	3.47	121	113											

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Sheet 1 of 1

Plan No 5Ao 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 237500E 6650700N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 08/10/90 | DEPTH 26m | HOLE No. PD90PF5

RL COLLAR 120m RL | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 09/10/90 | CASING LEFT 2m PVC | DPO Nos.

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI	GEOPHYSICS CPS
0	2				Brown sandy and silty soil						
2	4				Gypsum-carbonate-clay and minor gravel	2543984	2	4		200	80
3	8				CLAY Cream-grey and purple coloured clay with gypsum	2543985	4	6		10	90
						2543986	6	8		20	80
8	26				CLAY Cream-grey and purple coloured clay	2543987	8	10		10	90
						2543988	10	12		10	90
						2543989	12	18		10	80
						2543990	18	24		10	80
					Hole abandoned at 26m						
					Water injection from 15m. Clay walls washing away and hole enlarging. Lost sample return at 24m.						
					Hole abandoned. Target to be tested using drilling mud - refer to PD90PF8.						

Lyndhurst 1 Prospect

SUMMARY: 0-4m Surficial material; 4-24m Clay. Hole abandoned at 26m.

LOGGED BY M.J. DONNELLY DATE 09/10/90

SHEET 1 OF 1

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-20

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF5

SAMPLE Nos. 2543984 - 2543990 DPO Nos. 37867

DEPTH FROM 2 TO 24 LABS. AMDLABS

Au	As	Ag	Pb	Zn	Ba	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01 %	ICP-OES 100 ppm	ICP-OES 15ppm

8312-24

Sheet 1 of 1

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 241400E 6645700N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 09/10/90 | DEPTH 58m | HOLE No. PD90PF6

RL COLLAR 130m | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 10/10/90 | CASING LEFT 2m PVC | DPO Nos. 36867, 37868

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
0	2				Brown soil with minor gypsum						
2	4				**CLAY** Light brown clay with gypsum and sand	2543994	2	8		40	110
4	6				**CLAY** Brown clay						
6	8				**CLAY AND GRAVEL** Cream-grey-brown clay plus gravel containing siltstone and dolomite pebbles						
8	20				**CLAY** Purple or brown coloured samples. Cream-grey and purple clay with 18-20m containing yellow-brown clay	2543995	8	14		20	100
						2543996	14	20		10	100
20	24				**CLAY** Light brown sample. Cream-grey + yellow-brown clay. Rare ferruginous rock fragments	2543997	20	26		10	100
24	30				**CLAY** Purple sample. Cream-grey, purple + yellow-brown clay with minor geothite-quartz rock fragments	2543998	26	32		10	100
30	32				**CLAY** Light purple, brown and cream-grey clay, plus rock fragments of "silcrete"						
32	40				**CLAY** Light brown sample of cream-grey and yellow-brown clay	2543999	32	40		20	100
40	48			vv	**WEATHERED DOLERITE** Light green sample with rock fragments of green-brown, weathered,	2544013	40	42		30	90
				v	fine to medium grained rock with common epidote and minor chlorite	2544014	42	44		40	90
				vv		2544015	44	46		40	90
				v		2544016	46	48		60	100
				vv							
48	50			v	**WEATHERED DOLERITE** Dark green rock fragments of weathered basic, containing epidote,	2544017	48	50		60	100
				vv	10% contamination of sample by clay						
				v							
50	58			v v	**DOLERITE** Relatively fresh, dark green basic with minor epidote 'sandstone' fragments.	2544018	50	52		60	100
				v	Approximate uphole clay contamination in samples:	2544019	52	54		150	100
				v v	50-52m: 40% 52-54m: 25% 54-56m: 25% 56-58m: 70%	2544020	54	56		150	100
				v		2544021	56	58		150	100
				v v							
				v	**Note:** Heavy mineral sample 918991 from interval 40-58m	917793	52	56	Hand picked dolerite sample		
					Heavy mineral sample 918992 from interval 2-40m				with epidote, for whole rock analysis		
					Water injection commenced at 6m. Hit minor water at 40m. Change from blade to hammer at 49m.						

Lyndhurst 2 Prospect

SUMMARY: 0-2m Surficial material; 2-40m Clay; 40-50m Weathered Dolerite; 50-58m Dolerite

LOGGED BY M.J. DONNELLY DATE 10/10/90

SHEET 1 OF 1

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-25

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF6

SAMPLE Nos. 2543994 - 2544021 DPO Nos. 37867

DEPTH FROM 2 TO 56 LABS. ANALABS

Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI
<0·005	2	<0·5	<5	42			196	88	106	<10	25		39	63	9·26	447	508											
<0·005	2	<0·5	<5	50			187	93	103	<10	19		25	64	9·86	627	642											
<0·005	1	<0·5	<5	40			185	74	117	<10	19		23	59	8·12	449	472											
<0·005	1	<0·5	<5	41			130	53	109	<10	18		25	60	8·59	497	538											
<0·005	2	0·5	<5	40			133	69	96	<10	19		29	61	8·25	484	559											
<0·005	3	0·5	<5	42			119	55	86	<10	32		57	82	6·88	308	417											
<0·005	1	0·5	<5	37			128	77	113	10	22		36	61	8·33	443	557											
<0·005	1	0·5	<5	41			118	90	139	<10	21		38	48	8·93	462	651											
<0·005	6	0·5	<5	43			83	43	113	11	36		65	105	6·44	354	366											
0·005	<1	<0·5	<5	42	521	172	110	117	128	<10	15	23	25	37	10·30	598	792	48·5	1·58	13·90	14·60	0·11	6·30	5·94	4·25	0·106	0·60	4·26
FIRE AAS 0·005 ppm	AAS 1ppm	AAS 0·5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 1ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 1ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0·01%	ICP-OES 100 ppm	ICP-OES 15ppm	XRF 0·1%	XRF 0·01%	XRF 0·05%	XRF 0·01%	XRF 0·01%	XRF 0·05%	XRF 0·01%	AAS 0·01%	XRF 0·005%	XRF 0·01%	GRAV. TRIC 0·01%

8312-25

Sheet 1 of 1

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

CO-ORDINATES 241850E 6646500N
RL COLLAR 130m
AZIMUTH 0°
INCLINATION -90°
DRILLERS STRATA EXPLORATION
DRILL TYPE PIONEER 150
PROJECT ADELAIDE GEOSYNCLINE
COMMENCED 10/10/90
COMPLETED 10/10/90
DEPTH 88m
CASING LEFT 2m PVC
HOLE No. PD90PF7
DPO Nos. 37867

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-26

PROJECT ADELAIDE GEOSYNCLINE
HOLE No. PD90 PF7
SAMPLE Nos. 2544022 - 2544009
DEPTH FROM 0 TO 72
DPO Nos. 37867
LABS. ANALABS

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI ($\times 10^{-3}$)	GEOPHYSICS CPS	Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
												FIRE AAS 0.005 ppm	AAS 1 ppm	AAS 0.5 ppm	AAS 5 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 10 ppm	ICP-OES 10 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 5 ppm	ICP-OES 0.01 %	ICP-OES 100 ppm	ICP-OES 15 ppm
0	14				CLAY Purple, light brown and cream-grey coloured clay with rare quartz	2544022	2	6		10	130																
						2544023	6	10		10	140															
						2544024	10	14		10	130															
14	20				CLAY Light grey and purple clay	2544025	14	18		10	130															
20	24				CLAYSTONE Light brown clay and soft light brown claystone	2544026	18	22		10	130															
24	42				SILTSTONE Green, often finely laminated, non-calcareous silstone. Contains minor brown siltstone	2544000	22	26		10	140	<0.005	7	0.5	<5	62	47	97	75	20	53	118	173	4.22	615	144
						2544001	26	30		10	140	<0.005	9	0.5	<5	24	54	82	57	17	32	64	169	3.73	972	310
						2544002	30	36		10	130	<0.005	19	<0.5	<5	25	42	56	65	13	39	68	163	4.16	961	306
						2544003	36	42		30	130	<0.005	17	0.5	<5	16	48	48	64	10	42	73	159	4.01	921	392
42	52				SILTSTONE Dark green, non-calcareous silstone	2544004	42	48		20	130	<0.005	14	<0.5	<5	11	63	33	53	11	34	51	148	3.80	841	643
						2544005	48	54		10	120	<0.005	10	0.5	<5	10	50	28	49	<10	37	59	145	3.53	775	473
52	56				SILTSTONE Dark green-brown, rarely laminated, non-calcareous siltstone	2544006	54	60		20	130	0.005	11	0.5	<5	10	68	28	47	10	34	52	147	3.64	808	488
56	58				SILTSTONE 60% green-brown silstone. 40% dark grey-green siltstone, with rare pyrite films on fracture faces							<0.005	5	<0.5	<5	13	32	21	44	<10	39	63	128	3.16	688	373
58	60				SILTSTONE 50% green-brown siltstone. 50% dark grey-green siltstone, with rare pyrite films on fracture faces. Py <0.1%	2544007	60	66		20	130																
60	62				SILTSTONE 60% green-brown siltstone. 40% dark grey-green siltstone with very rare pyrite.																						
62	64				SILTSTONE 60% green-brown and dark green-grey siltstone. No Py observed. 40% light brown-green siliceous siltstone																						
64	66				SILTSTONE Light brown-green siliceous siltstone																						
66	68				SILTSTONE 70% dark green grey siliceous siltstone with 0.5-1% disseminated fine pyrite (<0.5mm) (A) 30% green brown siltstone (B)	2544008	66	70		20	130	0.008	3	0.5	<5	6	21	15	28	<10	28	40	98	3.39	504	585
68	70				SILTSTONE As above, except 80% (A), 20% (B)																						
70	72				SILTSTONE As above, except 70% (A), 30% (B)	2544009	70	74		20	120	0.008	2	0.05	<5	6	16	12	31	13	42	68	101	3.40	486	658

Lyndhurst 2 Prospect

SUMMARY: 0-20m Clay; 20-24m Claystone; 24-56m Siltstone; 56-66m Siltstone with v.rare pyrite as films; 66-88m Siltstone with 0.5-1% fine (<0.5mm) disseminated pyrite.

LOGGED BY M.J. DONNELLY DATE 10/10/90

SHEET 1 OF 2

SAo 4187a

8312-26 Sheet 1 of 2

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 241850E 6646500N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 10/10/90 | DEPTH 88m | HOLE No. PD90PF7

RL COLLAR 130m | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 10/10/90 | CASING LEFT 2m PVC | DPO Nos. 37867

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
72	74				**SILTSTONE** As above, except less pyrite in (A)						
74	76				**SILTSTONE** As above, except 50% (A), 50% (B)	2544010	74	78		20	130
76	78				**SILTSTONE** Dark grey green siliceous siltstone with trace fine (<0.5mm) disseminated pyrite (0.5-1%), siltstone laminated in places						
78	80				**SILTSTONE** As above	2544011	78	82		10	140
80	82				**SILTSTONE** As above, but less pyrite						
82	84				**SILTSTONE** As above, with rare pyrite. Uphole clay contamination in sample	2544012	82	88		10	140
84	86				**SILTSTONE** As above, except increased clay contamination						
86	88				**SILTSTONE** As above						
					Note: Hit water at 39m						
					Aquifer at 76m						
					Changed from blade bit to hammer at 42m						

SUMMARY: PD90PF7 failed to intersect magnetic target.

LOGGED BY M.J. DONNELLY DATE 10/10/90

SHEET 2 OF 2

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-27

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF7

SAMPLE Nos. 2544010 - 2544012 DPO Nos. 37867

DEPTH FROM 74 TO 86 LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5 ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15 ppm
0·007	3	<0·5	<5	5	15	11	28	10	46	73	115	3·60	481	627
0·008	3	<0·5	<5	6	16	18	33	<10	34	51	102	3·40	465	566
0·007	5	0·5	<5	8	22	15	41	11	38	56	111	3·18	446	411

8312-27

Sheet 2 of 2

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 237400E 6650500N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 11/10/90 | DEPTH 72m | HOLE No. PD90PF8

RL COLLAR 120m | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 12/10/90 | CASING LEFT 2m PVC | DPO Nos. 37867, 37868

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI($\times 10^{-3}$)	GEOPHYSICS CPS
0	2				Brown soil with 1.8-2m gypsum-carbonate rich layer						
2	4.5				**GRAVEL AND SAND** 2-3m contains gypsum		2	4		200	80
4.5	6				**CLAY** Cream-grey and purple clay with minor gypsum	2544062	4	8		20	90
6	10				**CLAY** Cream-grey and purple clay with rare gypsum	2544063	8	12		10	90
10	19				**CLAY** Cream-grey and purple clay	2544064	12	16		10	80
					Hit water table at 19m	2544065	16	22		10	80
19	32				**CLAY** Water saturated, pink coloured sample of cream-grey and purple clay	2544066	22	28		10	80
					Includes 28-30: white-pink coloured sample	2544067	28	34		10	80
32	38				**CLAY** Yellow coloured sample of cream-grey, purple and yellow clay	2544068	34	40		10	80
38	40				**CLAY** Pink-brown coloured sample of cream-grey and purple clay						
40	44				**CLAY WITH 'IRONSTONE' BANDS** Brown coloured sample of cream-grey and purple clay, plus quartz-geothite rock	2544069	40	46		40	70
44	48				**CLAY WITH 'IRONSTONE' BANDS** Yellow-brown coloured sample of yellow-brown clay and quartz-geothite rock	2544070	46	50		70	70
48	52				**CLAY WITH 'IRONSTONE' BANDS** Brown coloured sample of yellow-brown clay, quartz-geothite rock and ferruginous and manganiferous chert	2544071	50	54		150	70
52	58				**CLAY WITH 'IRONSTONE' BANDS** Bands of clay, quartz-geothite rock and white, amorphous quartz with manganese oxide.	2544072	54	58		100	80
58	60				**WEATHERED DOLERITE** Yellow-brown sample. Sixty percent of rock fragments are soft, very weathered green-brown rock. Remainder of sample is clay and quartz-geothite rock.	2544073	58	60		400	70
60	62				**WEATHERED DOLERITE** Brown sample. Chip fragments are predominantly green, weathered, basic volcanic, contains uphole contamination.	2544074	60	62		300	60

Lyndhurst 1 Prospect

SUMMARY: 0-4.5m Surficial material; 4.5-40m Clay; 40-58m Clay with 'ironstone' bands; 58-62m Weathered dolerite; 62-72m Dolerite

LOGGED BY M.J. DONNELLY DATE 12/10/90

SHEET 1 OF 2

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-28

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90 PF8

SAMPLE Nos. 2544062 - 2544074 DPO Nos. 37867

DEPTH FROM 4.5 TO 62 LABS. ANALABS

Au	As	Ag	Pb	Zn	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
0.008	<1	0.5	5	65	238	107	105	<10	47	102	72	13.40	240	572
<0.005	1	<0.5	5	66	213	110	98	<10	30	53	42	12.80	391	695
FIRE AAS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 10 ppm	ICP-OES 15ppm

8312-28 Sheet 1 of 2

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 237400E 6650500N | AZIMUTH 0° | DRILLERS STRATA EXPLORATION | COMMENCED 11/10/90 | DEPTH 72m | HOLE No. PD90PF8

RL COLLAR 120m | INCLINATION -90° | DRILL TYPE PIONEER 150 | COMPLETED 12/10/90 | CASING LEFT 2m PVC | DPO Nos. 37867, 37868

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC. (m)	GEOPHYSICS SI(units)	GEOPHYSICS CPS
62	64			v v v	DOLERITE Dark green, relatively fresh dolerite containing minor epidote and minor iron oxide veining. Sample contains 15% uphole contamination.	2544075	62	64		1000	70
64	66			v v v	DOLERITE As above, except contains 50% uphole clay contamination	2544076	64	66		500	70
66	68			v v v	DOLERITE Dark green, fine to medium grained dolerite, containing magnetite. Epidote and iron oxide veining are absent. Sample contains 30% uphole contamination.	2544077	66	68		1500	70
68	70			v v v	DOLERITE As above, except 25% uphole contamination.	2544078	68	70		400	70
70	72			v v v	DOLERITE Large amount of contamination; approximately 85% of sample is uphole clay, 15% dolerite.	2544079	70	72		200	70
					Hole producing large amount of water and washing away clay, so hole terminated at 72m.						
					Note: Hit aquifer at 68m						
					Changed from blade bit to hammer at 63m						
					Heavy mineral sample 918988 from 62-70m interval						
					917794 dolerite hand picked sample from 62-68m interval for whole rock analysis	917794	62	68		—	—

SUMMARY :

LOGGED BY M.J. DONNELLY DATE 12/10/90

SHEET 2 OF 2

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-29

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF8

SAMPLE Nos. 2544075 - 2544079 DPO Nos. 37867

DEPTH FROM 62 TO 72 LABS. ANALABS

	Au	As	Ag	Pb	Zn	Ba	Sr	Cu	Ni	Cr	Nb	La	Y	Ce	Zr	Fe	P	Mn	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	P_2O_5	K_2O	LOI
	0.008	1	0.5	<5	58			179	102	99	<10	27		52	44	11.20	689	788											
	0.005	2	0.5	<5	39			113	56	125	<10	28		55	65	10.20	362	704											
	0.008	2	<0.5	<5	44			197	63	109	<10	26		52	34	9.71	439	708											
	0.014	2	<0.5	<5	43			105	55	111	<10	26		50	75	11.30	657	847											
	0.007	3	<0.5	<5	33			58	41	104	<10	40		83	119	6.72	380	539											
	0.069	<1	0.5	<5	60	135	428	243	89	70	<10	21	34	39	45	11.70	706	722	47.4	2.67	12.60	16.80	0.12	5.20	5.99	1.79	0.205	1.80	5.32
PIZE	AAS 0.005	AAS	AAS 0.5	AAS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES	ICP-OES 100	ICP-OES	XRF	XRF	XRF	XRF	XRF	XRF	XRF	AAS	XRF	XRF	GRAV. TRIC
	ppm	1ppm	ppm	5ppm	5ppm	5ppm	1ppm	5ppm	10ppm	10ppm	10ppm	5ppm	1ppm	15ppm	5ppm	0.01%	ppm	15ppm	0.1%	0.01%	0.05%	0.01%	0.01%	0.05%	0.01%	0.01%	0.005%	0.01%	0.01%

8312-29 Sheet 2 of 2

Plan No SAo 4187b

CRA EXPLORATION PTY. LIMITED.

PERCUSSION DRILL LOG

PROJECT ADELAIDE GEOSYNCLINE

CO-ORDINATES 242850E 6640800N

RL COLLAR 140m

AZIMUTH 0°

INCLINATION -90°

DRILLERS STRATA EXPLORATION

DRILL TYPE PIONEER 150

COMMENCED 12/10/90

COMPLETED 13/10/90

DEPTH 57m

CASING LEFT 3m PVC

HOLE No. PD90PF9

DPO Nos.

DEPTH From	DEPTH To	CORE REC.	CORE SIZE	LOG	GEOLOGY	SAMPLE NUMBER	FROM (m)	TO (m)	REC (m)	GEOPHYSICS SI (x10-5)	GEOPHYSICS CPS
0	1				Brown silty soil						
1	2.5				Gravel, sand and gypsum						
2.5	3				**CLAY** Light grey-cream clay						
3	6				**CLAY** Cream-grey and purple clay with minor gypsum	2544080	3	6		10	100
6	10				**CLAY** Brown coloured sample of cream-brown and minor purple clay	2544081	6	12		10	100
10	12				**CLAY** White-brown sample of cream clay						
12	50				**CLAY** Pink-brown coloured sample of cream brown and purple clay.	2544082	12	18		5	100
					Interval Includes: 18-20m: contains minor fragments of quartz-geothite rock	2544083	18	24		5	100
					24-26m: contains minor quartz geothite rock	2544084	24	30		5	100
					40-42m: white-pink sample with predominantly cream coloured clay	2544085	30	36		5	100
						2544086	36	42		5	100
						2544087	42	50		10	100
50	52				**SILCRETE AND CLAY** At 50-51m, hard horizon of white siliceous rock, consisting of cherty	2544088	50	57		5	90
					matrix with fine colourless quartz clasts. Regarded as silcrete. Remainder of sample is clay.						
52	55.5				**CLAY** White sample of cream-grey clay and minor purple clay.						
55.5	57				**QUARTZ SAND** White, fine quartz sand. Horizon is an aquifer with salty water and abundant						
					sand flowing up hole. Estimated flow rate of 2000-3000 gallons/hour. Sample contains clay						
					from uphole contamination.						
					Hole terminated at 57m upon hitting aquifer, as drill string at risk and unlikely to obtain						
					reasonable sample return below the aquifer.						
					Therefore, magnetic target not intersected.						
					Note: Water injection commenced at 6m.						

Lyndhurst 3 Prospect

SUMMARY: 0-2.5m Surficial material; 2.5-50m Clay; 50-51m Silcrete; 51-55.5m Clay; 55.5-57m Fine quartz sand aquifer.

LOGGED BY M.J. DONNELLY DATE 13/10/90

SHEET 1 OF 1

SAo 4187a

CRA EXPLORATION PTY. LIMITED.

GEOCHEMICAL RESULTS

8312-30

PROJECT ADELAIDE GEOSYNCLINE

HOLE No. PD90PF9

SAMPLE Nos. 2544080 - 2544088

DEPTH FROM TO

DPO Nos. 37867

LABS. ANALABS

Au	As	Ag	Pb	Zn	Ba	Cu	Ni	Cr	Nb	La	Ce	Zr	Fe	P	Mn
FIRE ASS 0.005 ppm	AAS 1ppm	AAS 0.5 ppm	AAS 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 5ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 10ppm	ICP-OES 5ppm	ICP-OES 15ppm	ICP-OES 5ppm	ICP-OES 0.01%	ICP-OES 100 ppm	ICP-OES 15ppm

8312-30 Sheet 1 of 1

Plan No SAo 4187b

APPENDIX II

8th December, 1990

EL 1648

Mt Playfair EL 1648 Drill Site Rehabilitation

A 900 metre percussion and RAB drilling program was carried out on Mt. Playfair EL 1648 during October, 1990. Mt. Playfair EL 1648 is located to the west of Lyndhurst, South Australia and all drilling was conducted on Myrtle Springs station. Rehabilitation of drill sites was done immediately after drilling and during the first week of December, 1990.

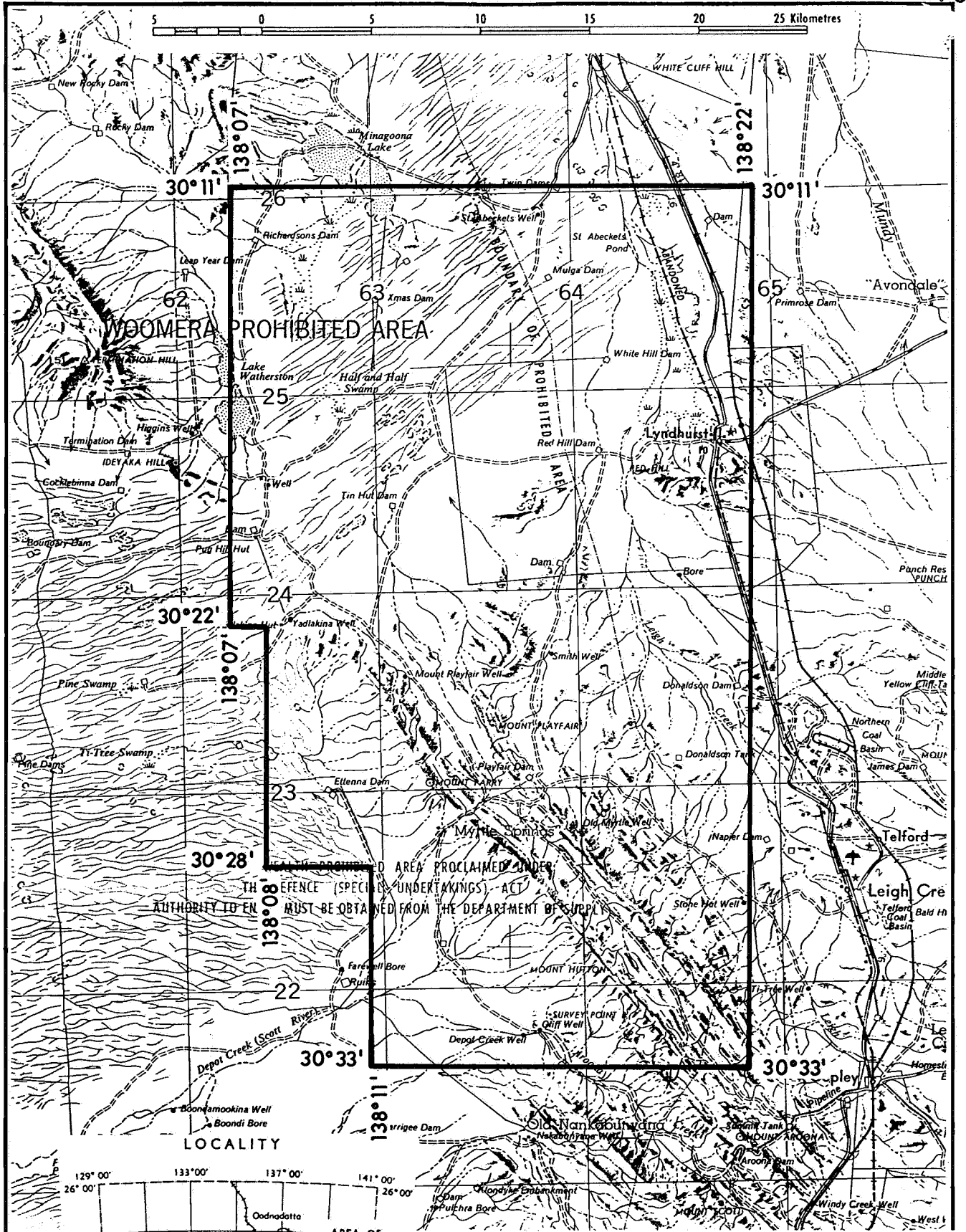
Nine percussion holes were drilled on EL 1648 to depths of between 26 and 121 metres (Table 1). At each of these sites, the samples, drill cuttings and dried mud was scraped up by front end loader and buried in a 0.5-1 m deep pit dug at the drill site. The samples were removed from their plastic bags prior to burial and the plastic bags dumped at the Leigh Creek-Copley tip. The pits were covered with at least 0.3 m of the sandy topsoil. Excess topsoil was spread over the drill site. The PVC drill collar was broken off approximately 15 cm below surface. A plastic cap was placed over the PVC and then buried. A metal star picket remains at the position of the drill collar. The drill site and any disturbed surrounding area was harrowed to promote vegetation regrowth. All access tracks used by the drill rig and water truck, other than previously established station tracks, were also harrowed. Photographs were taken at each site before and after the rehabilitation was conducted.

The only exceptions to the above are at PD90PF1 and PD90PF9. At PD90PF1 the sample bags have been retained on site pending further work on Playfair 1 Prospect. At PD90PF9 the drill collar was buried by the front end loader and could not be easily relocated. As such the PVC collar does not have a plastic cap.

Table 1 - Percussion Drill Hole Locations

Hole	Prospect	AMG Co-ordinates		Hole Depth (m)
PD90PF1	Playfair 1	237060mE	6638750mN	70
PD90PF2	Playfair 2	230750mE	6638930mN	121
PD90PF3	Playfair 2	230360mE	6639110mN	62
PD90PF4	Lyndhurst 1	236550mE	6651100mN	79
PD90PF5	Lyndhurst 1	237500mE	6650700mN	26
PD90PF6	Lyndhurst 2	241400mE	6645700mN	58
PD90PF7	Lyndhurst 2	241850mE	6646500mN	88
PD90PF8	Lyndhurst 1	237400mE	6650500mN	72
PD90PF9	Lyndhurst 3	242850mE	6640800mN	57

At the RAB drill sites (4-32 m deep holes) as the drill rig moved off site the hole was filled back in with the drill cuttings. Excess cuttings, where less than about 15 kg, were left partially buried on site. If more cuttings than this remained they were buried in the pit at the nearest percussion drill hole. RAB drill sites 2544058 and 2544059 at Lyndhurst 2 Prospect were harrowed.



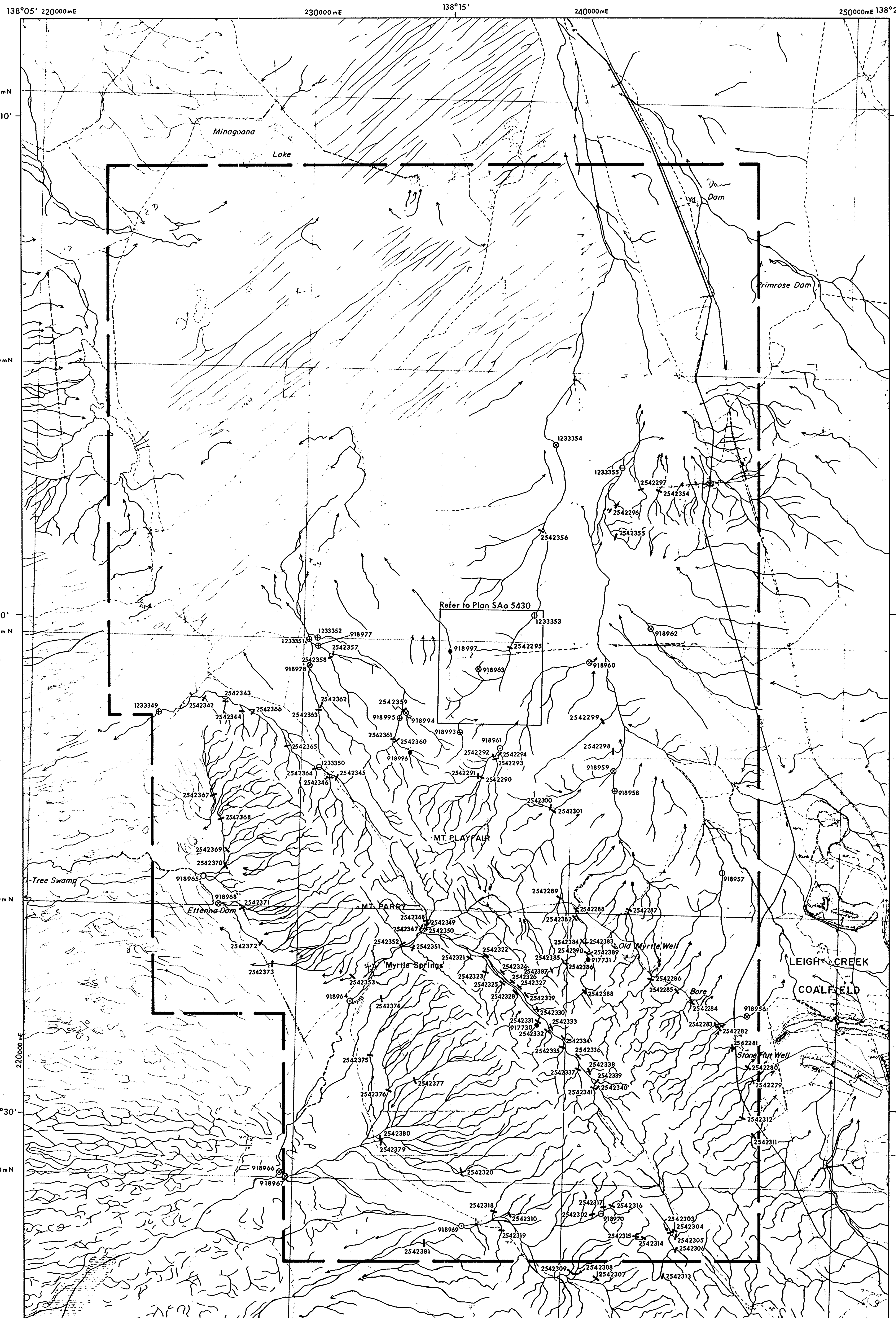
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR E.L.1648 – S.A.

LOCATION PLAN

Approx. Area 899 Km²

REFERENCE	COPLEY SH 54 – 9		
SCALE	1 : 250000		
AUTHOR	D. C. P.	REPORT	17200
DATE	Nov. '89	PLAN No	SAa 5215



TRAP SITE RATING

- ⊙ Good
- ⊖ Good to Moderate
- ⦶ Moderate
- ⊕ Moderate to Poor
- ⊗ Poor
- O Unsatisfactory

Stream Sediment Sample ····· 2542279 – 2542377; 2542379 – 2542390

Gravel Sample ····· 1233349 – 1233355 (1984); 918956 – 918970 (1990); 918977 – 918978 (1990); 918993 – 918995 (1990)

● Rock Sample ····· 917730 – 917731; 918996 – 918997

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.	
MOUNT PLAYFAIR E.L.1648 – S.A. SAMPLE LOCATION PLAN 8312-31	
Ref.: COPLEY SH 54-9	
Scale. 1 : 100,000	Drawn.
Author. A.R.H./ M.J.D.	Report No. 17200
Date. NOV. '90	Plan No. SAa 5288

138°05' 220000mE 230000mE 138°15' 240000mE 250000mE 138°25'

6660000mN 30°10'

6650000mN

30°20'

6640000mN

30°30'

6630000mN

6620000mN

30°35'

Minagoona Lake

Dam

Yd

Primrose Dam

PD90PF4

PD90PF5

PD90PF8

PD90PF7

PD90PF6

PD90PF9

PD90PF1

PD90PF2

PD90PF3

LYNDHURST 1

LYNDHURST 2

LYNDHURST 3

PLAYFAIR 1

PLAYFAIR 2

PLAYFAIR 3

PLAYFAIR 4

MT. PLAYFAIR

MT. PARRY

Ettenna Dam

'Myrtle Springs'

Old Myrtle Well

Bore

Stone Fruit Well

LEIGH CREEK COALFIELD

-Tree Swamp

237400mE 6653000mN

235300mE 239000mE

6651100mN 6650700mN 6650300mN

235350mE 236000mE 239650mE

6646000mN

241700mE 243000mE 6647500mN

240000mE 239800mE 242800mE

6646500mN 6646100mN 6645700mN 6645300mN

241500mE 244000mE 245000mE

6640800mN 6640400mN 6640000mN

6639000mN

Line 10000mN 10000mE BASE PEG 12000N Line 11300mE Line 11700mE

11000mN 12500mE 8000mN

6639800mN 6638000mN 6636000mN

Line 8900mE Line 10000mE 16500mN Line 15400mN 11000mE

1233200mE 13500mN 236400mE

Line 12400mN Line 11600mN Line 11200mN 11000mE 10000mE 10000mN BASE PEG

7000mE 8000mE

220000mE

0 1 2 3 4 5 6 7 8 9 10 Km.

CRA EXPLORATION PTY. LIMITED.

MOUNT PLAYFAIR E.L.1648 – S.A.

GRID AND DRILLHOLE LOCATIONS

8312-32

Ref.: COPLEY SH 54-9	
Scale. 1 : 100,000	Drawn.
Author. G.L.M.	Report No. 17200
Date. NOV. '90	Plan No. SAa 5391

138°15'
138°16'
138°17'
6641000 mN
6640000 mN
6639000 mN
6638000 mN
6637000 mN
30° 21'
30°22'
235000 mE
236000 mE
237000 mE
238000 mE
239000 mE
LINE 10000E
LINE 8900E
LINE 15400 N
RED HILL DAM
SHED
1233353
5
2542295
918972
NEGATIVE
918976
86
2 picro
Gritty silcrete
918997
150nT Broad Magnetic High
Abundant gypsum + minor magnesite on face
Calcrete
917764
2543840
Gritty silcrete
Gritty silcrete
Gritty silcrete
2543839
2544061
2543838
2543837
2543836
2543835
Weathered green siltstone
Weathered siltstone
PD90PF1
917768
2543841
2543842
2544060
2543843
918973
7
55
10 picro
918963
918971 (REPEAT)
47
3 picro
Magnetic Peak (1100nT)
918975
9
917765-66
917767
60°
65°
Light brown-green shale
Calcite quartz fine grained sandstone
Subcropping geothite carbonate siltstone
918974
9
White sericite-quartz siltstone with quartz veins
Laminated light green siltstone with gypsum
Featureless magnetic traverse
AMG N
GN
MN
29°
6°
0
1
2 Km

LEGEND

- Creek
- Top of breakaway
- Fence
- Ground magnetic traverse showing position of peak (shaded)
- Outcrop
- 65° Strike and dip of bedding
- Strike of bedding, dip unsure
- 918973 7 ⊕ Drainage gravel sample (results for indicator minerals in italics)
- 2542295 Ⲗ -80# drainage geochemistry sample
- 917767 × Rockchip sample
- 918997 • Rock Sample
- 2543839 o Rab hole with bottom of hole sample

Gravel Sample Trap Site Rating

- ⊕ Moderate
- ⊕ Moderate to Poor
- ⊗ Poor

Indicator Minerals

- Chromite
- picro Picroilmenite

8312- 33

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 - S.A.

Playfair One Prospect

Work Summary Plan

REF. COPLEY SH5409	
SCALE: 1:10 000	DRAWN: F.R.
AUTHOR: M. J. D.	REPORT: 17200
DATE: NOV. 1990	PLAN NO. SAo 5430

236000 mE

237000 mE

238000 mE

239000 mE

6651000 mN

6650000 mN

LINE 6651100 mN

LINE 6650700 mN

LINE 6650300 mN

2543973 2543974 2543975 2543976 2543977 PD90PF4 2543978 2543979 2543980

PD90PF5 2543983 2543982 2543981

PD90PF8

Sand dune

Sand dune

Sand dune

Sand dune

AMG N

MN

6°

0 100 200 300 400 500 600 700 800 900 1000m

LEGEND

Ground magnetic traverse

O PD90PF4 Percussion drill hole

o 2543973 RAB drill hole

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 — S.A.

LYNDHURST '1' PROSPECT
DRILL HOLE LOCATION PLAN

REF.	COPLEY SH 54-9		
SCALE	1 : 10 000		
AUTHOR	M. J. D.	REPORT	17200
DATE	Oct. '90	PLAN No	SAa 5443

240000mE
241000mE
242000mE
243000mE

LINE 6646500mN
LINE 6646100mN
6646000mN
LINE 6645700mN
LINE 6645300mN
6645000mN
LINE 241700mE

2544058
PD 90 PF7
2544059
PD 90 PF6
Leigh Creek
Lyndhurst

LEGEND

Creek
Track
Ground magnetic traverse
PD 90 PF6 Percussion drill hole
2544058 RAB drill hole

AMG.N.
MN
6°

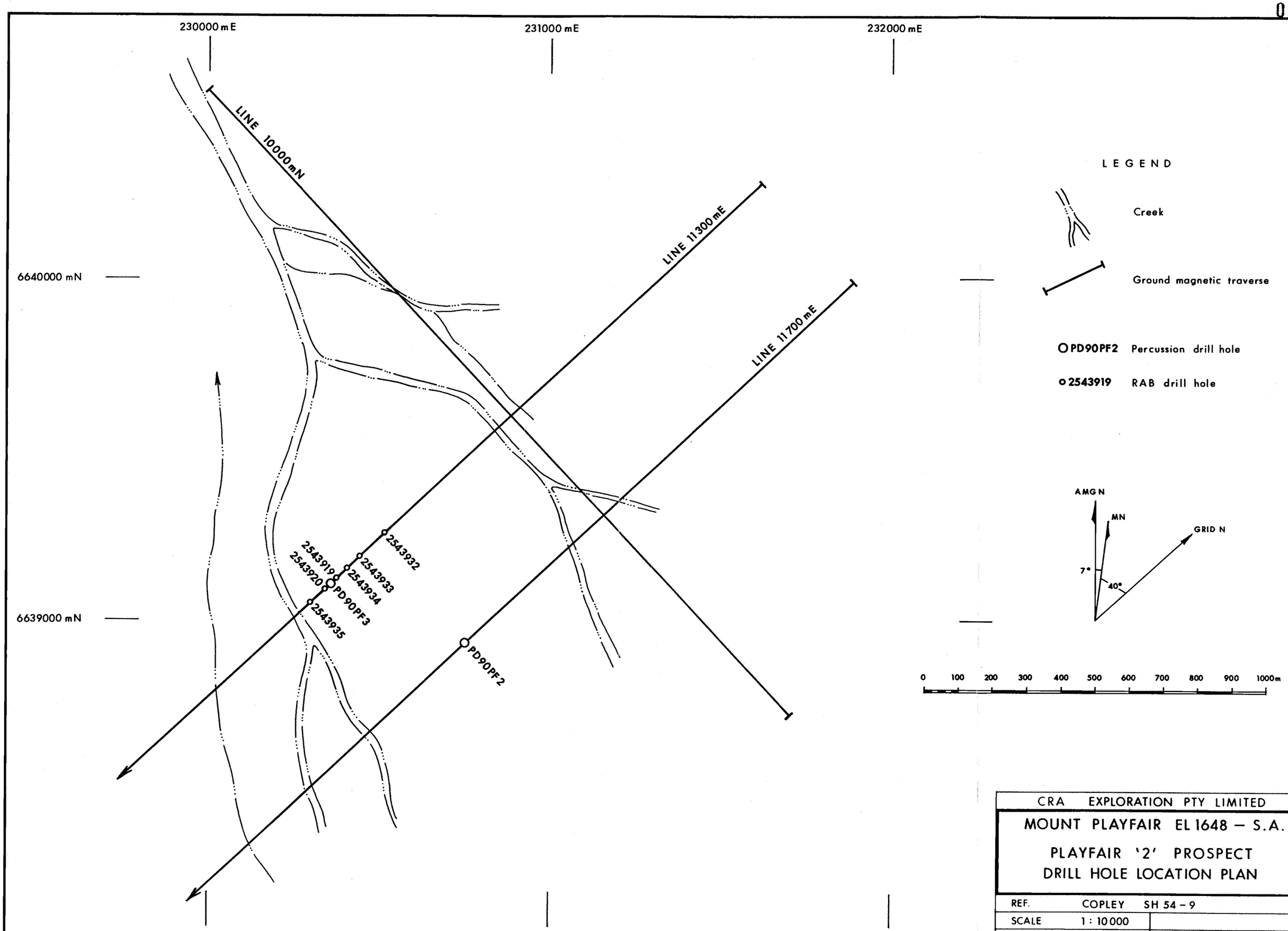
0 100 200 300 400 500 600 700 800 900 1000m

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 — S.A.

LYNDHURST '2' PROSPECT
DRILL HOLE LOCATION PLAN

REF.	COPLEY SH 54-9		
SCALE	1 : 10000		
AUTHOR	M.J.D.	REPORT	17200
DATE	Oct. '90	PLAN No	SAa 5444



CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – S.A.

PLAYFAIR '2' PROSPECT
DRILL HOLE LOCATION PLAN

REF.	COPLEY SH 54 – 9		
SCALE	1 : 10000		
AUTHOR	M.J.D.	REPORT	17200
DATE	Oct. '90	PLAN No	SAa 5447

233000M E
234000M E
235000M E
236000M E
237000M E
6640000M N
6639000M N
6638000M N
6637000M N
6636000M N
233200
233600
234000
234400
234800
235200
235600
236000
236400

V/ Scale
1cm = 20nT
60 nT
40
20
0

1:10000
0 200 400 600 800 1000m
METRES

Projection: Australian National Spheroid Grid: Australian Map Grid

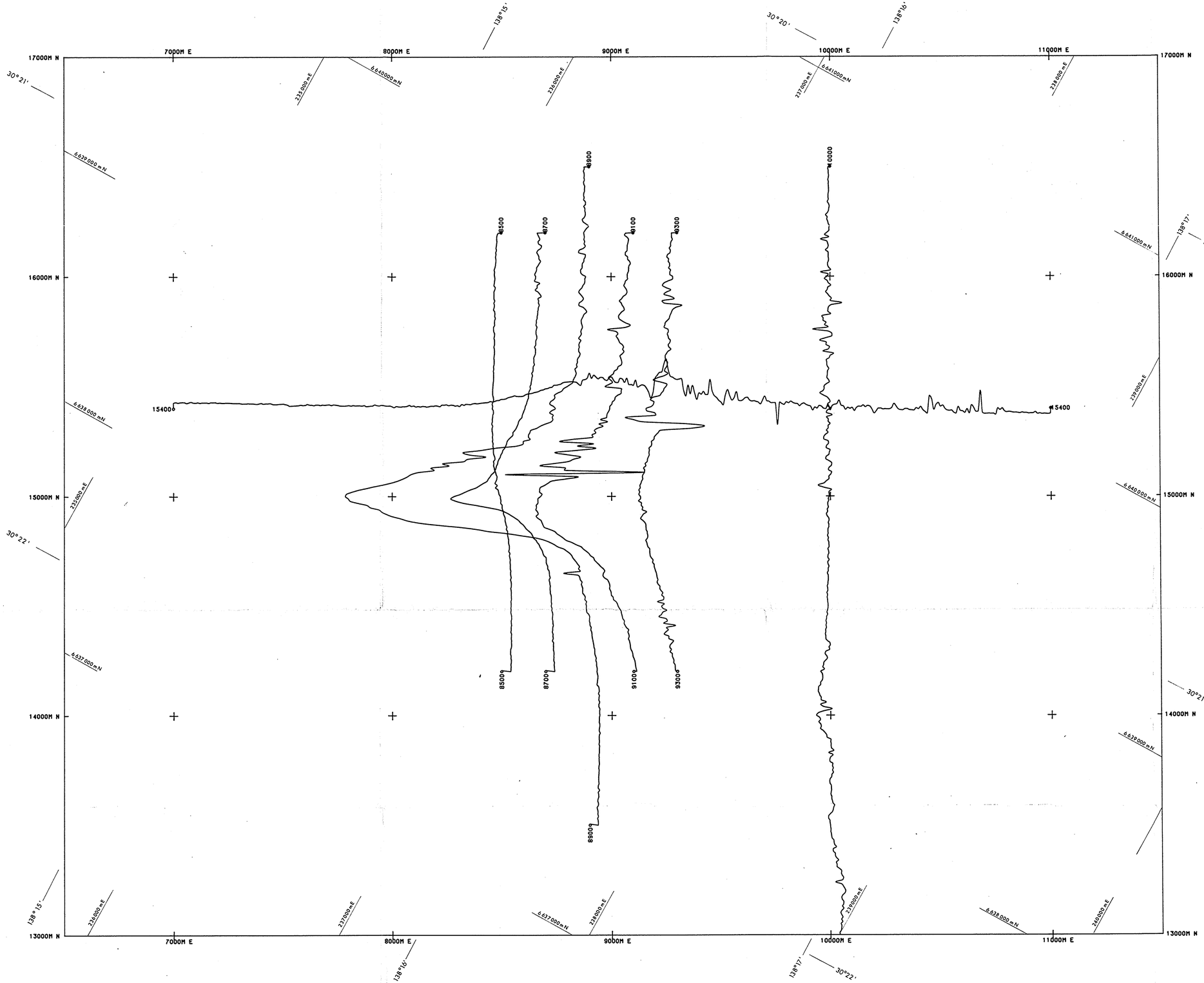
8312-34

CRA Exploration Pty Limited

MT PLAYFAIR EL 1648

PLAYFAIR 4 PROSPECT
T.M.I. PROFILES

GEOL: M.J.D.	Ref. Copley SH54-9	REPORT NO. 17200
DRAWN: M.J.D.	DATE: Nov. '90	PLAN NO. SAa 5450



8312-35

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – S.A.

Playfair One Prospect

Stacked Ground Magnetic Profiles

Ref.: COPLEY SH 54-9

GEOL: G.L.M.	SCALE 1:10000	REPORT NO. 17200	
DRAWN: G.L.M.	DATE: Mar. '91	PLAN NO. SAo 5510	

230000m E

240000m E

250000m E

30° 10' 0" S

30° 20' 0" S

30° 30' 0" S

6660000m N

6650000m N

6640000m N

6630000m N

6620000m N

138° 10' 0" E

Bouguer Density : 2·4 gm/cc

Data derived from S.A.D.M.E. Digital Database

Contour Interval : 0·5 mgal , 10·0 mgal .

SCALE 1:100000

0 2 4 6 8

km

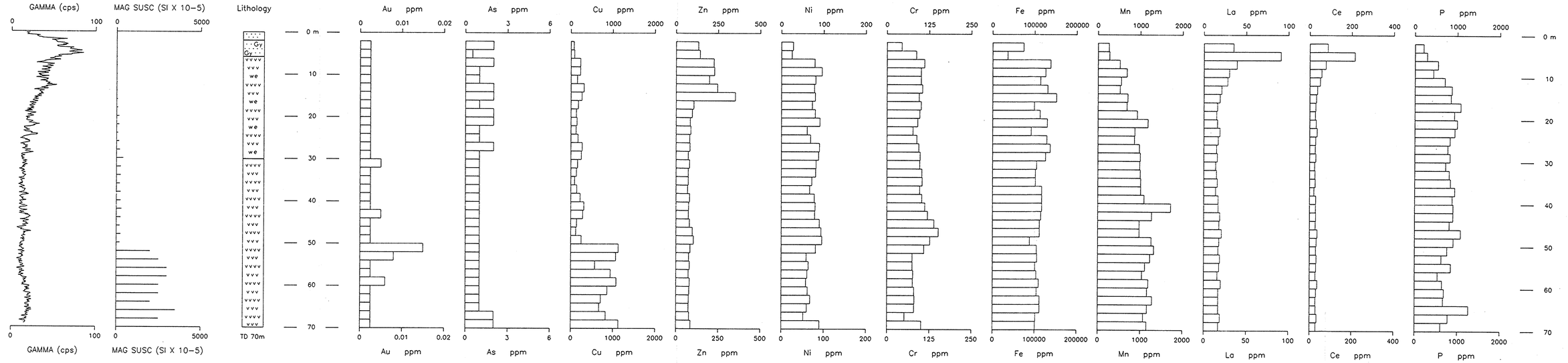
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR E.L.1648 — S.A.

REGIONAL BOUGUER GRAVITY DATA
CONTOURS AND STATION LOCATIONS

8312- 36

REF. COPLEY SH 54-9	
SCALE 1:100000	
AUTHOR : G.L.M	REPORT : 17200
DATE : 8/3/91	PLAN NO. : SAa 5511



8312- 37

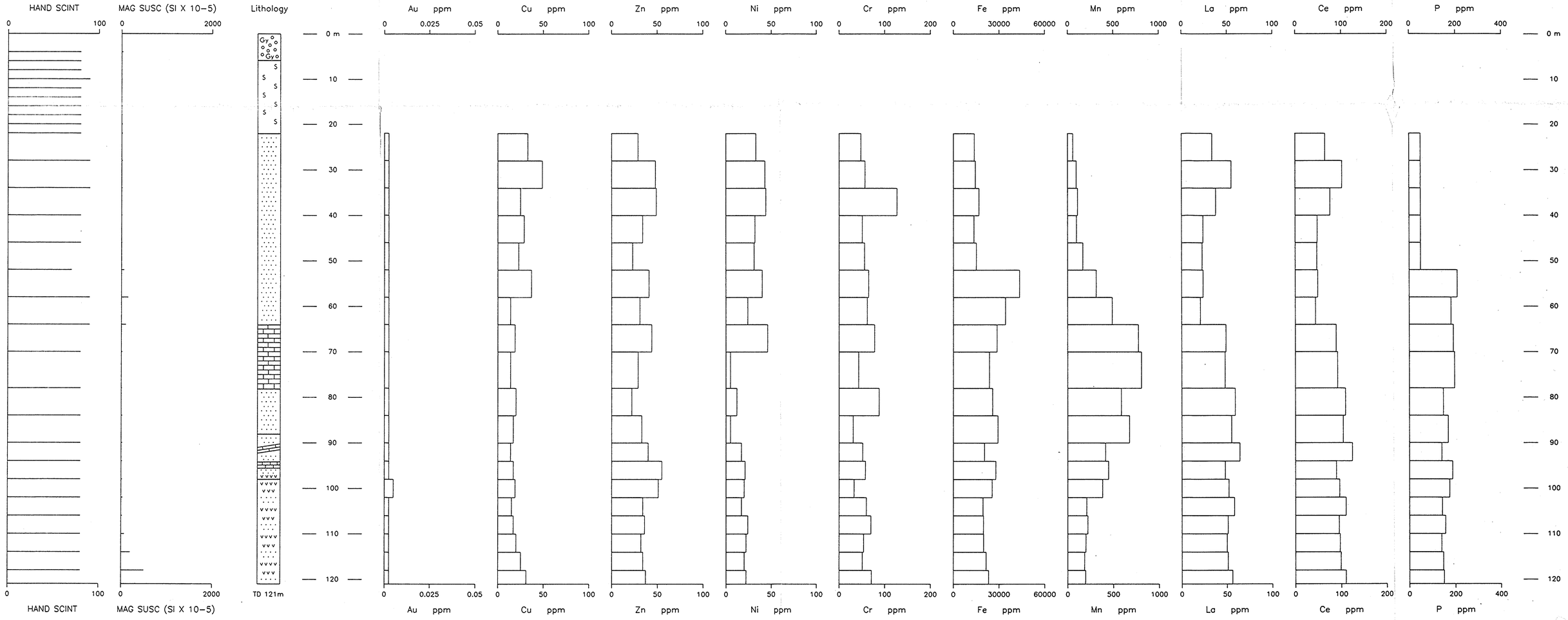
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Playfair 1 Prospect

Drillhole Logs – PD90PF1

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAo 5515



8312-38

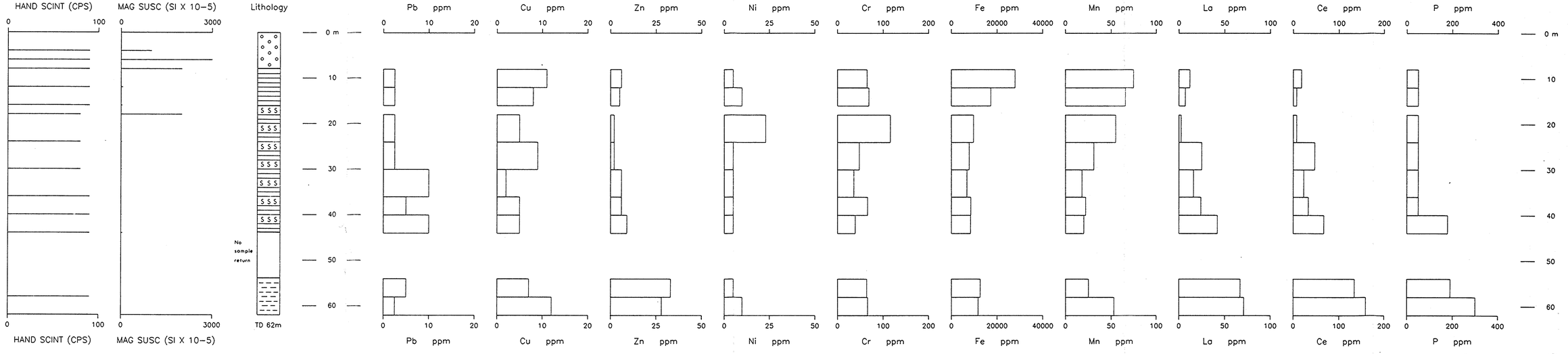
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Playfair 2 Prospect

Drillhole Logs – PD90PF2

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAa 5516



8312-39

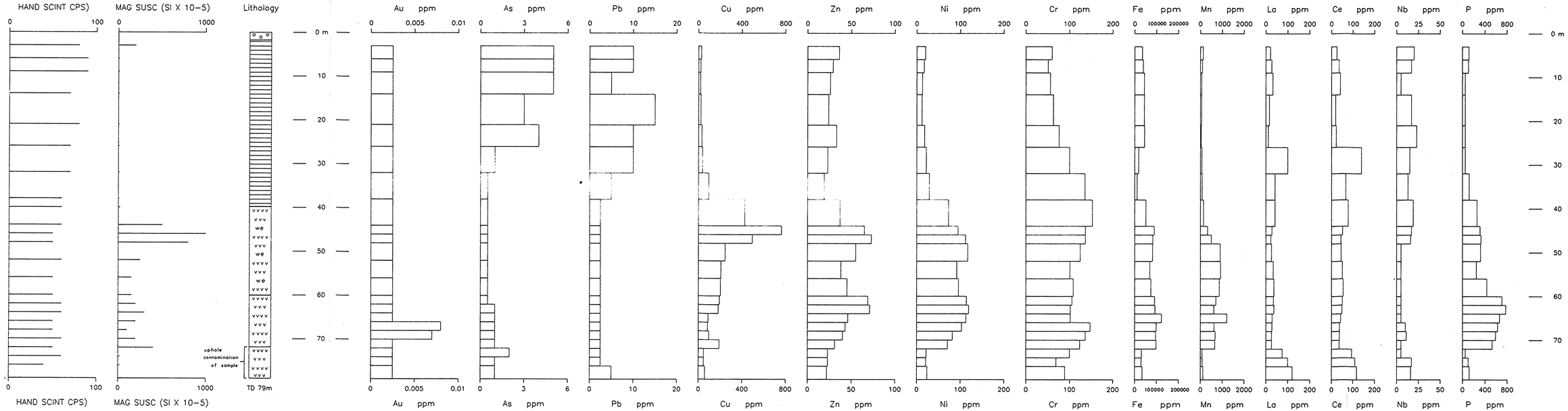
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Playfair 2 Prospect

Drillhole Logs – PD90PF3

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAa 5517



8312- 40

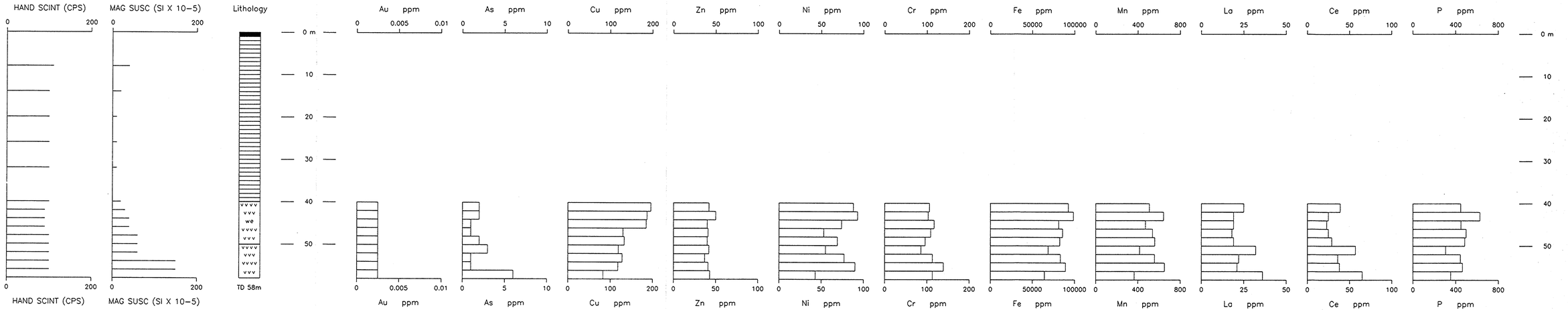
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Lyndhurst 1 Prospect

Drillhole Logs – PD90PF4

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAa 5518



8312-41

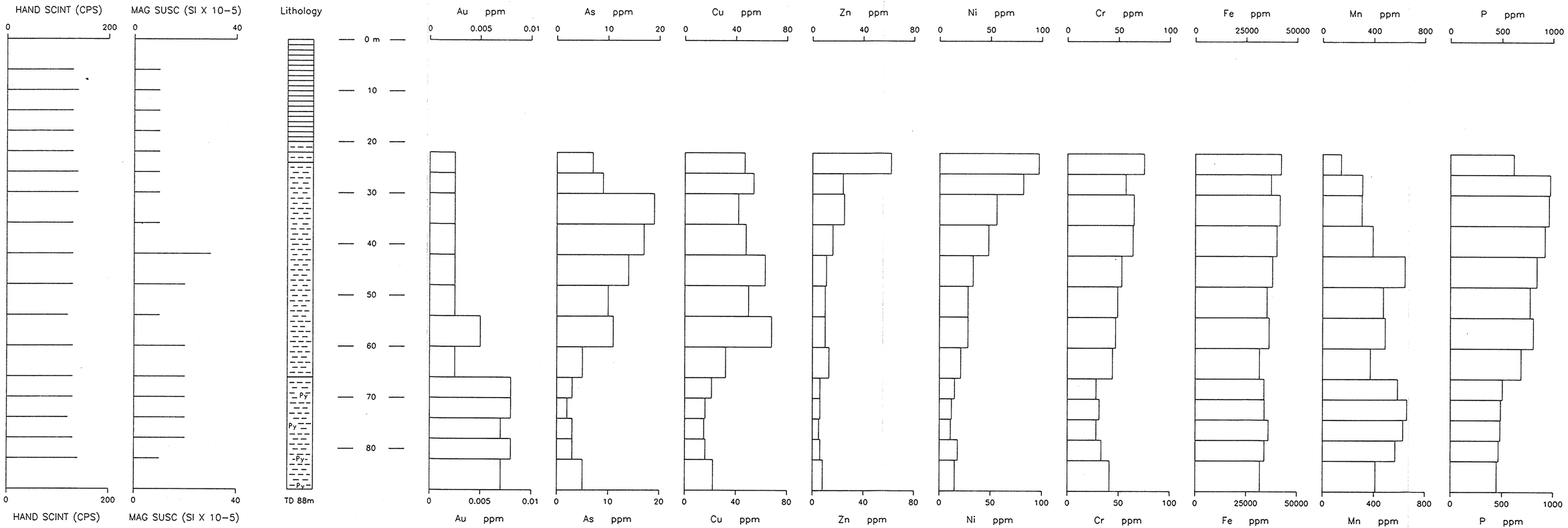
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Lyndhurst 2 Prospect

Drillhole Logs – PD90PF6

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAa 5519



Quaternary Clay

Claystone

Siltstone

Py Siltstone with trace, disseminated Pyrite

8312- 4

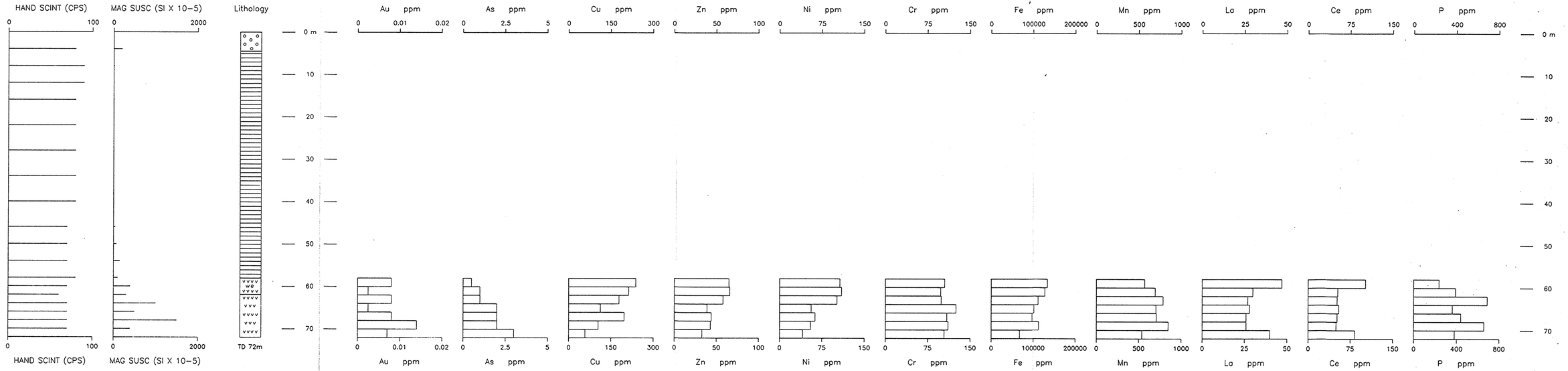
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Lyndhurst 2 Prospect

Drillhole Logs – PD90PF7

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAa 5520



8312 - 43

CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 – SA

Lyndhurst 1 Prospect

Drillhole Logs – PD90PF8

REFERENCE COPLEY SH5409	
SCALE 1:500	DRAWN F.R.
AUTHOR M.J.D.	REPORT 17200
DATE 18 MAR 91	PLAN No SAo 5521

CRA EXPLORATION PTY LIMITED

SUBJECT: FIFTH QUARTERLY & FINAL REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 24TH MAY, 1991.

AUTHOR: M.J. DONNELLY

DATE: 4TH JUNE, 1991

CRAE REPORT NO: **17343**

CRA EXPLORATION PTY. LIMITED

FIFTH QUARTERLY & FINAL REPORT FOR MT. PLAYFAIR EL 1648, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 24TH MAY, 1991

AUTHOR: M.J. DONNELLY

COPIES TO: SADME
CIS CANBERRA

DATE: 4TH JUNE, 1991

SUBMITTED BY: M. Donnelly

ACCEPTED BY:

CONTENTS

LIST OF PLANS

Plan No.	Title	Scale
SAa 5215	Mt. Playfair EL 1648, S.A., Location Plan	1:250 000
SAa 5430	Mt. Playfair EL 1648, S.A., Playfair 1 Prospect, Work Summary Plan	1: 10 000
SAa 5540	Mt. Playfair EL 1648, S.A., Playfair 1 Prospect, IP Pseudo Section, Line 8900mE	1: 5 000
SAa 5541	Mt. Playfair EL 1648, S.A., Playfair 1 Prospect, IP Pseudo Section, Line 9100mE	1: 5 000
SAa 5542	Mt. Playfair EL 1648, S.A., Playfair 1 Prospect, IP Pseudo Section, Line 9300mE	1: 5 000

1. SUMMARY

The weak Cu mineralisation intersected in drilling at Playfair 1 Prospect was further investigated by an IP survey. Three lines of IP identified no significant conductive or chargeable zones.

Following a review of the work carried out over EL 1648 the exploration licence was surrendered.

2. CONCLUSIONS AND RECOMMENDATIONS

The IP survey at Playfair 1 Prospect did not detect any potential sulphide targets. No further work is recommended investigating the weak Cu mineralisation intersected in PD90PF1.

Drill testing of the aeromagnetic anomalies on EL 1648 has defined no targets warranting further investigation. The magnetic sources are basalt and dolerite which are interpreted as diapir hosted.

No further work is recommended investigating the chromites and picroilmenites shedding into the drainage system. Their source is believed to be Tertiary silcrete grit.

3. INTRODUCTION

Mt. Playfair EL 1648 is located on the Copley 1:250 000 sheet. It is situated west of Lyndhurst and covers an area of approximately 900 sq km (plan SAa 5215). The licence was granted to CRA Exploration Pty. Limited (CRAE) on 28th March, 1990. CRAE surrendered EL 1648 on 24th May, 1991.

CRAE explored EL 1648 for a range of commodities. In particular, exploration was targetted upon diamonds and diapir associated Cu mineralisation.

This final report on Mt. Playfair EL 1648 details work completed during the fifth quarter of tenure.

4. EXPLORATION ACTIVITIES

4.1 IP Survey

Percussion drilling at Playfair 1 Prospect intersected 20 m @ 900 ppm Cu in basalt. The heavy mineral concentrate from a sample of the basalt drill cuttings was observed to contain 1-3% pyrite (CRAE Report No. 17200). An induced polarisation (IP) survey was conducted over Playfair 1 Prospect to test for sulphide associated Cu mineralisation within or adjacent to the basalt.

Three lines of IP, spaced 200 m apart and each line 1.2 km long, was carried out (plan SAa 5430). Pseudo sections of apparent resistivity and chargeability are presented as plans SAa 5540, SAa 5541 and SAa 5542. No significant zones of conductivity or chargeability were defined. Due to the discouraging results on Lines 8900mE, 9100mE and 9300mE the survey was terminated.

The IP survey detected no anomaly which might be attributed to sulphide mineralisation.

4.2 Summary of Exploration Activities

Exploration on EL 1648 by CRAE has been directed towards diamonds and diapir associated Cu mineralisation.

Reconnaissance drainage geochemical sampling over the southern half of EL 1648 returned only one anomalous sample, containing 141 ppm Zn. Follow up sampling did not repeat the anomalous value. The northern half of EL 1648 is covered by sand, gravel, alluvium and silcrete and is unsuited to testing by drainage geochemistry.

Reconnaissance drainage gravel sampling returned chromites and rare picroilmenites from the central portion of EL 1648, particularly in the vicinity of Playfair 1 Prospect. Follow up sampling confirmed the presence of indicator minerals.

Ground magnetometry was carried out over six aeromagnetic anomalies. The anomalies are covered at surface by sand, gravel and silcrete. Percussion drill testing of five of the anomalies aimed to locate diapir associated Cu mineralisation and diamond bearing ultrabasic rocks. Basalt or dolerite with elevated magnetic susceptibility was intersected at four of the five prospects. Whole rock analyses indicate the basics to be alkali basalts.

Drill cuttings of the basics submitted for heavy mineral observation contained no kimberlitic indicator minerals. No anomalous La, Ce, Nb or Zr was reported in samples submitted for assay. The basics intersected by drilling do not appear to be the source of chromites and picroilmenites in drainage gravels. The indicator minerals are believed to be shedding from the Tertiary silcrete grit covering parts of the anomalous area.

Base metal, Au and Ag assays for the percussion drill cuttings were at background or slightly elevated levels, except for Cu in PD90PF1 at Playfair 1 Prospect. This drill hole assayed 20 m @ 900 ppm Cu in basalt from 50 m depth. An IP survey at Playfair 1 Prospect identified no significant conductivity or chargeability anomalies.

Other work completed on EL 1648 and not already mentioned includes:

- Ground magnetometry over Playfair 4 Prospect to test for kimberlitic intrusives in the catchments containing chromites and picroilmenites.
- Recontouring of SADME regional Bouguer gravity data.
- Drill site rehabilitation.

M. Donnelly

M.J. DONNELLY

MJD/pq

EXPENDITURE

Expenditure on EL 1648 Mt. Playfair for the two month period ending 31st May, 1991 amounted to $19 132, as detailed below.

	$
Payroll & Benefits	3 401
Contractors	10 550
Field & Transport	1 535
Travel	15
Administration & Office	2 405
Regional Overheads	1 226
Total	$19 132

REFERENCES

Donnelly, M.J. 1990 — First Quarterly Report for Mt. Playfair EL 1648, South Australia, For The Period Ending 27th June, 1990. (CRAE Report No. 16621)

Donnelly, M.J. 1990 — Second Quarterly Report for Mt. Playfair EL 1648, South Australia, For The Period Ending 27th September, 1990. (CRAE Report No. 16806)

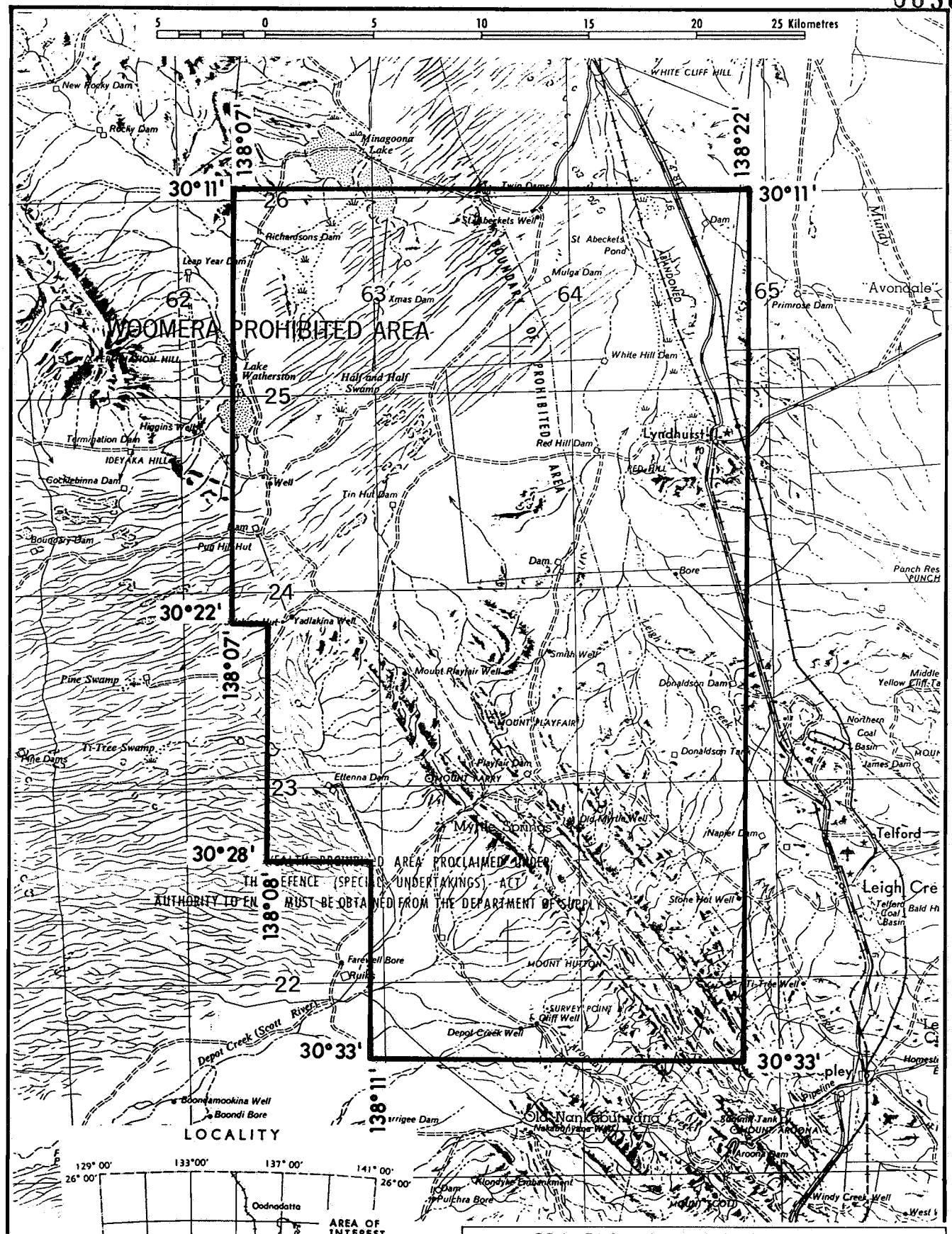
Donnelly, M.J. 1991 — Combined Third and Fourth Quarterly Report for Mt. Playfair EL 1648, South Australia, For The Period Ending 27th March, 1991. (CRAE Report No. 17200)

LOCATION

Copley	SH54-09	1:250 000 sheet

KEYWORDS

Copper, Diamonds, Diapir, Geophys-IP, Playfair



CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR E.L.1648 – S.A.

LOCATION PLAN

Approx. Area 899 Km²

REFERENCE	COPLEY SH 54-9		
SCALE	1 : 250000		
AUTHOR	D. C. P.	REPORT	17343
DATE	Nov. '89	PLAN No	SAa 5215

138°15'
138°16'
138°17'
6641000 mN
6640000 mN
6639000 mN
6638000 mN
6637000 mN
30° 21'
30°22'
235000 mE
236000 mE
237000 mE
238000 mE
239000 mE

LINE 10000E
LINE 8900E
LINE 15400 N

RED HILL DAM
SHED
1233353
5

2542295
918972
NEGATIVE

150nT Broad Magnetic High

918976
86
2 picro
Gritty silcrete
918997

Abundant gypsum + minor magnesite on face
Calcrete
Gritty silcrete
917764
2543840
55
10 picro
918963
918971 (REPEAT)
47
3 picro
918975
91

Gritty silcrete
Gritty silcrete
2543839 (918979)
2544061 (918981, 918982)
2543838
2543837
2543836
2543835
Weathered siltstone
Weathered green siltstone
PD99PF1
917768
Magnetic Peak (1100nT)
917765-66
917767
2543841
2543842
2544060 (918983)
2543843
60°
65°
Light brown-green shale
918974
91
Calcite quartz fine grained sandstone
White sericite-quartz siltstone with quartz veins
Laminated light green siltstone with gypsum
Subcropping geothite carbonate siltstone
918973
7
918984
918985
918986
918987
Featureless magnetic traverse

AMG N
GN
MN
29°
6°

LEGEND

- Creek
- Top of breakaway
- Fence
- Ground magnetic traverse showing position of peak (shaded)
- Outcrop
- 65° Strike and dip of bedding
- Strike of bedding, dip unsure
- 918973 Drainage gravel sample (results for indicator minerals in italics)
- 2542295 -80# drainage geochemistry sample
- 917767 Rockchip sample
- 918997 Rock Sample
- 2543839 Rab hole with bottom of hole sample

Gravel Sample Trap Site Rating

- Moderate
- Moderate to Poor
- Poor

Indicator Minerals

- Chromite
- picro Picroilmenite

0 200m 400m 600m 800m 1Km 2Km

8312-44

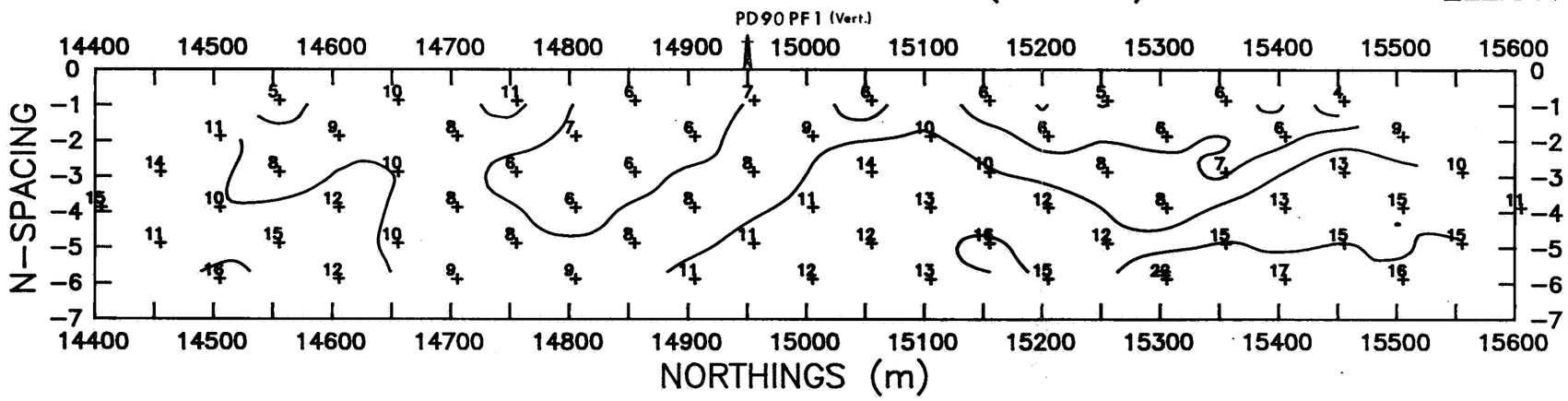
CRA EXPLORATION PTY LIMITED

MOUNT PLAYFAIR EL 1648 - S.A.
Playfair One Prospect
Work Summary Plan

REF. COPLEY SH5409	
SCALE: 1:10000	DRAWN: F.R.
AUTHOR: M.J.D.	REPORT: 17343
DATE: NOV. 1990	PLAN NO. SAo 5430

LINE 8900E: APPARENT RESISTIVITY (ohm-m)

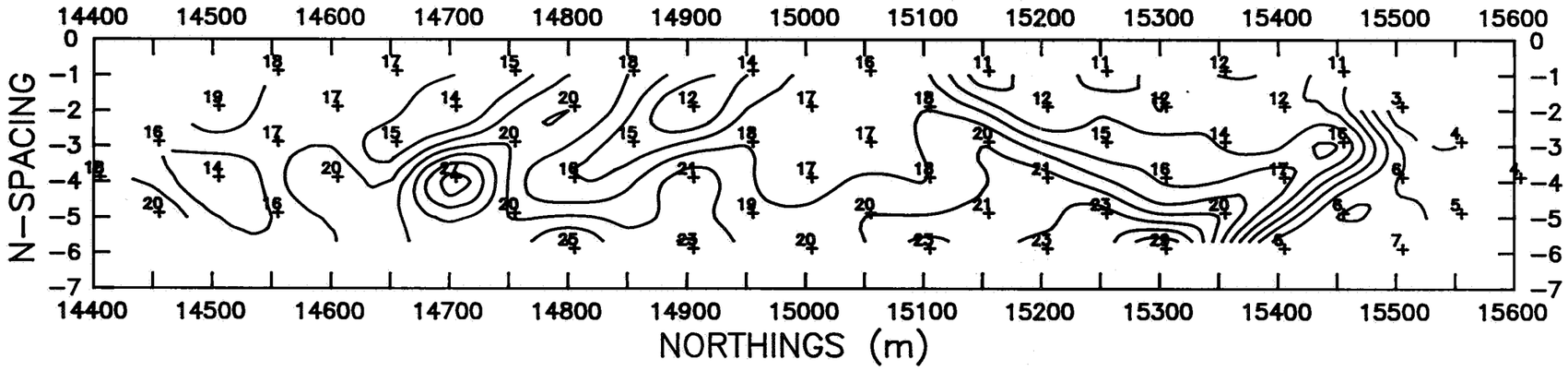
ELLIOTT GEOPHYSICS PTY. LTD.



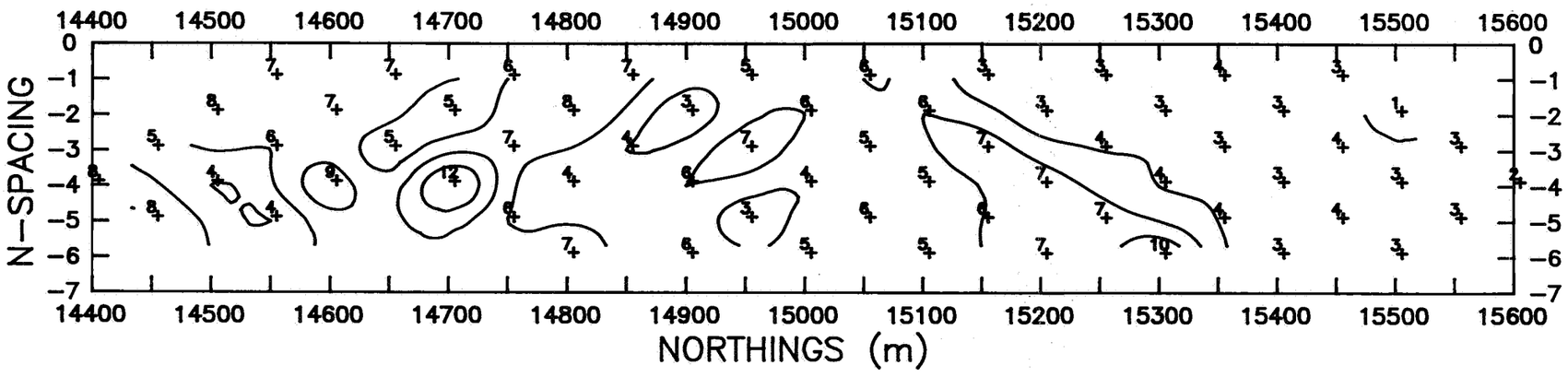
SURVEY SPECIFICATIONS

Transmitter: Zonge GGT-10
Receiver: Zonge GDP-16
Array: 100m dipole-dipole
Frequency: Time Domain .125Hz
Operators: Howard Hewison
Neil Campbell B.Sc.
Date: April, 1991.

LINE 8900E: CHARGEABILTY CH2 (mSecs)



LINE 8900E: CHARGEABILTY CH3 (mSecs)



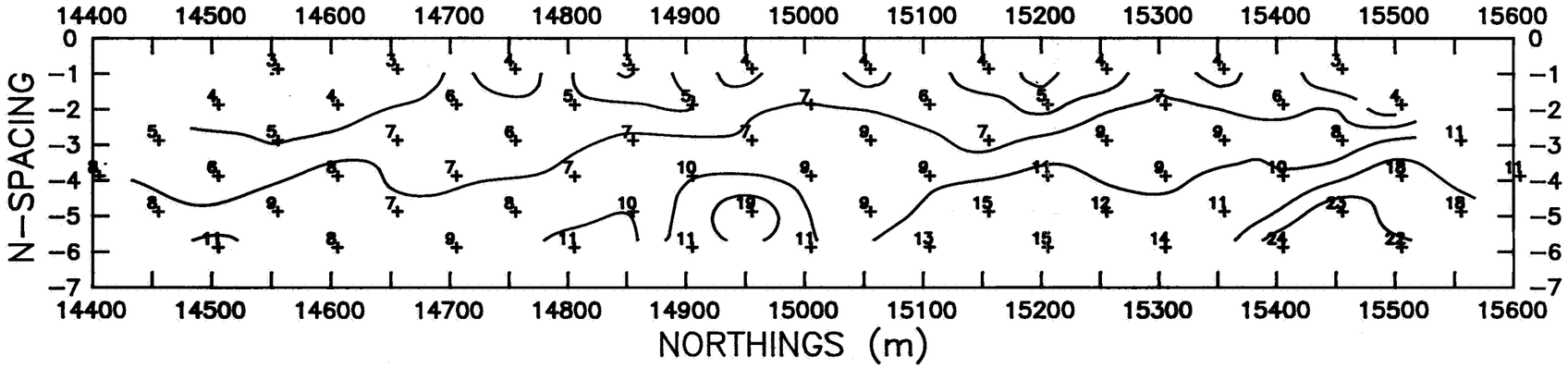
CRA EXPLORATION PTY. LIMITED

MT. PLAYFAIR EL 1648 – S.A.
PLAYFAIR 1 PROSPECT
I.P. PSEUDO SECTION
LINE 8900mE

Ref.	COPLEY SH 54-9		
Scale	1 : 5000	Drawn	ELLIOTT GEOPHYS.
Author	G.L.M.	Report No.	17343
Date	May '91	Plan No.	SAa 5540

LINE 9100E: APPARENT RESISTIVITY (ohm-m)

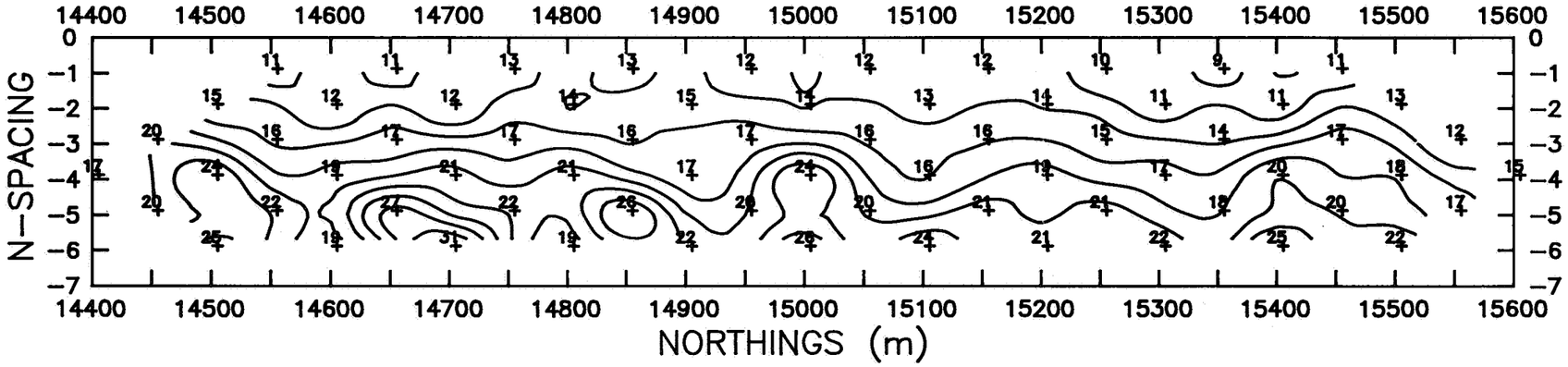
ELLIOTT GEOPHYSICS PTY. LTD.



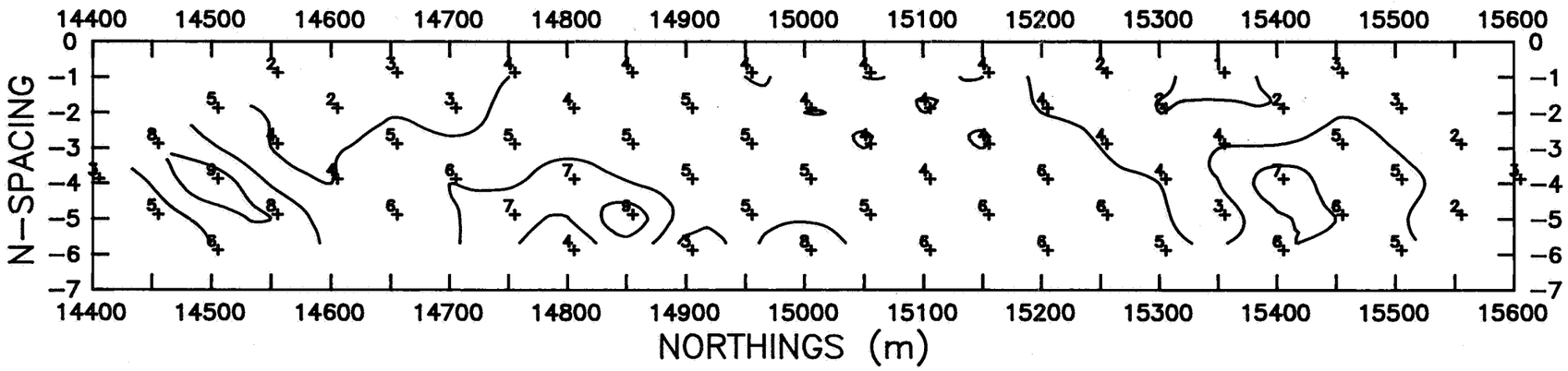
SURVEY SPECIFICATIONS

Transmitter: Zonge GGT-10
Receiver: Zonge GDP-16
Array: 100m dipole-dipole
Frequency: Time Domain .125Hz
Operators: Howard Hewison
Neil Campbell B.Sc.
Date: April, 1991.

LINE 9100E: CHARGEABILTY CH2 (mSecs)



LINE 9100E: CHARGEABILTY CH3 (mSecs)

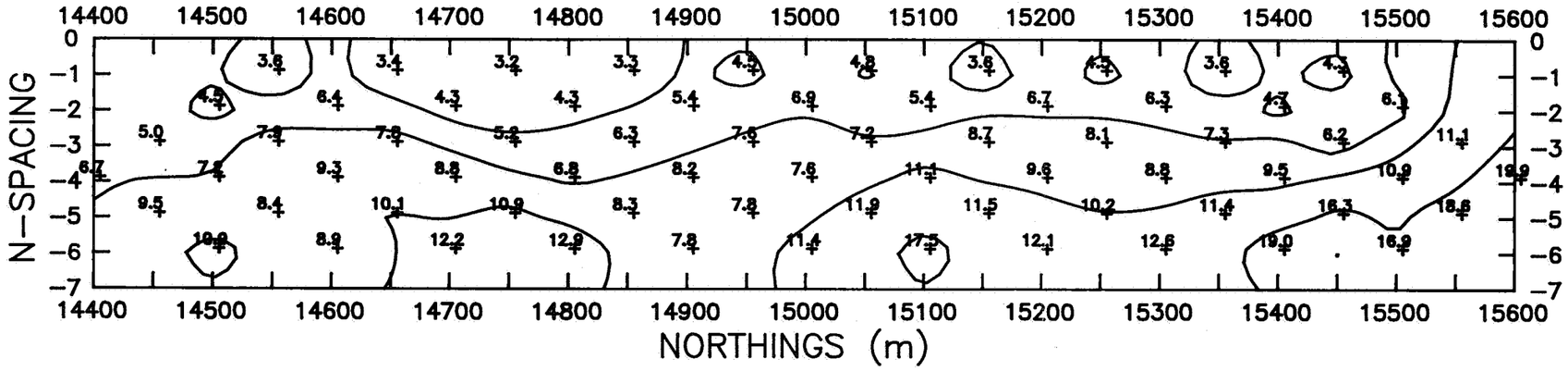


CRA EXPLORATION PTY. LIMITED

MT. PLAYFAIR EL 1648 - S.A.
PLAYFAIR 1 PROSPECT
I.P. PSEUDO SECTION
LINE 9100mE

Ref.	COPLEY SH 54-9		
Scale	1 : 5 000	Drawn	ELLIOTT GEOPHYS.
Author	G.L.M.	Report No.	17343
Date	May '91	Plan No.	SAa 5541

LINE 9300E: APPARENT RESISTIVITY (ohm–m)

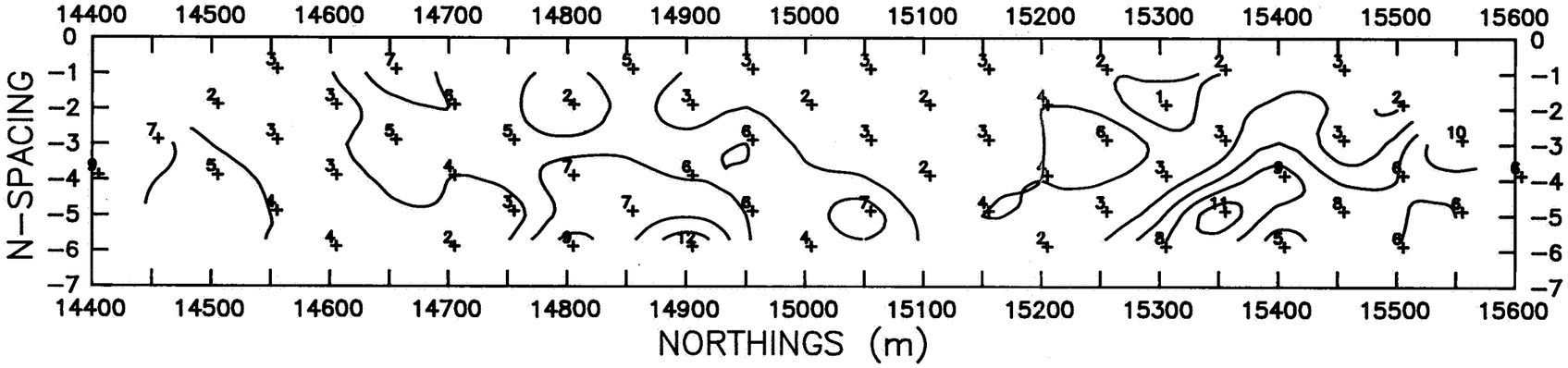


ELLIOTT GEOPHYSICS PTY. LTD.

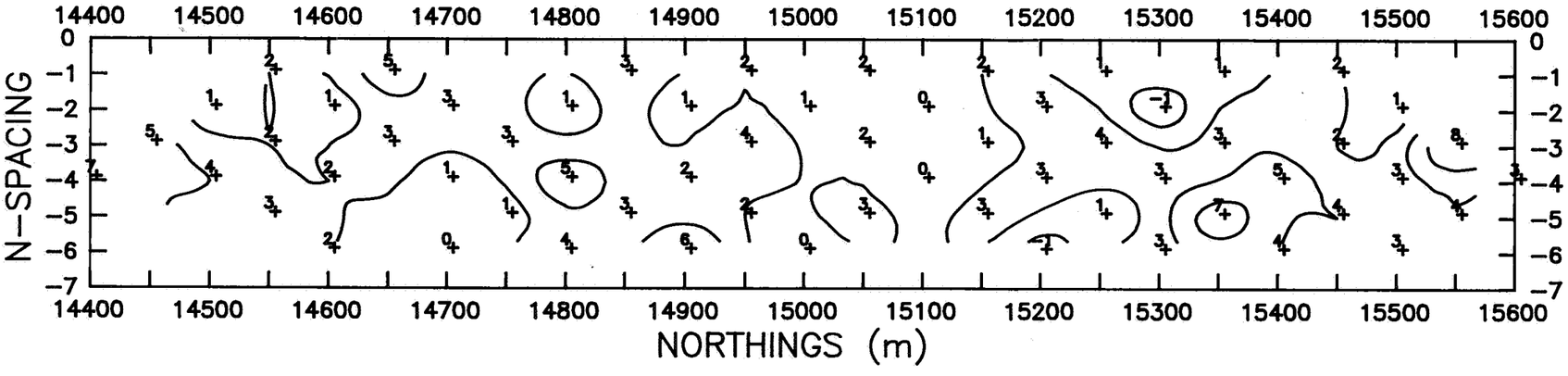
SURVEY SPECIFICATIONS

Transmitter: Zonge GGT–10
Receiver: Zonge GDP–16
Array: 100m dipole–dipole
Frequency: Time Domain .125Hz
Operators: Howard Hewison
Neil Campbell B.Sc.
Date: April, 1991.

LINE 9300E: CHARGEABILTY CH2 (mSecs)



LINE 9300E: CHARGEABILTY CH3 (mSecs)



CRA EXPLORATION PTY. LIMITED

MT. PLAYFAIR EL 1648 – S.A.
PLAYFAIR 1 PROSPECT
I.P. PSEUDO SECTION
LINE 9300mE

Ref.	COPLEY SH 54–9		
Scale	1 : 5000	Drawn	ELLIOTT GEOPHYS.
Author	G.L.M.	Report No.	17343
Date	May '91	Plan No.	SAa 5542