SOUTH AUSTRALIA

DEPARTMENT OF MINES AND ENERGY

OPEN FILE ENVELOPE NO. 8254

EL 1621, NORTHERN PEAKE AND DENISON RANGES AREA

PROGRESS REPORTS FOR THE PERIOD
JULY 1989 TO DECEMBER 1990

Submitted by

J. F. Allender and Placer Exploration Limited

1991

ENVELOPE 8254

TENEMENT: EL 1621, Peake and Denison Ranges

TENEMENT HOLDER: J Allender and Associates and Placer Exploration Limited

CONTENTS

END OF CONTENTS

21 Salisbury Street,
Unley S.A. 5061

The Director General,
South Australian Department of Mines and Energy,
191 Greenhill Road,
Parkside S.A. 5063

13 March 1990

Dear Sir,

Exploration Licence 1621- Report 1st quarter

Please find attached a report entitled:

"PEAKE AND DENISON RANGES
REPORT ON EXPLORATION
BY PLACER EXPLORATION"

along with a statement of expenditure by Placer Exploration.

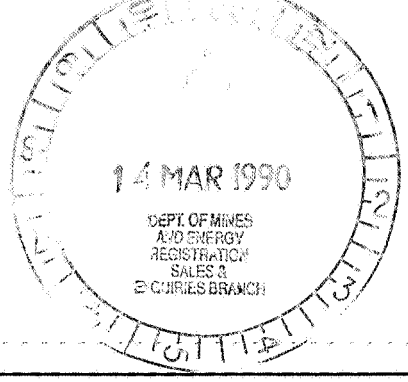
A series of mineral index overlays at a scale of 1:150 000 which correspond to the published geological map contained within SADME Bulletin 50 have been prepared. A data base of all data relating to these overlays has also been prepared. These will be supplied to the Department along with an aeromagnetic interpretation of the area being currently undertaken by Mr C. G. Anderson, during the next quarter. A detailed geological map of the Spring Hill area is also being prepared. It is anticipated that the expenditure requirements for the EL will be met on the basis of this work.

Transparency Cylinder TC 8254/1

Yours faithfully,

J.F. Allender A.F.G.Lebrun

c.c. C.G. Anderson



PLACER EXPLORATION LIMITED

TITLE: Peake and Denison Ranges

ACTUAL PERIOD: July to December, 1989

PERMANENT PAYROLL	7,847
TEMPORARY PAYROLL	5,952
CAMP OPERATIONS	1,115
COMMUNICATIONS	17
COMPUTER SERVICES	465
CONSULTING	1,200
DIAMOND DRILLING	
ENGINEERING SERVICES-VANCOUVER	
ENGINEERING SERVICES-OTHER	
GEOLOGICAL SERVICES	774
ENVIRONMENTAL ASSESSMENT	
GEOPHYSICS	
LEGAL FEES	
METALLURGICAL TESTING	
OPTION PAYMENTS	
PROPERTY EXPENSES	
ROAD BUILDING	
SAMPLING AND ASSAYING	3,196
SURVEYING	
FARES, ACCOMMODATION ETC.	3,690
HELICOPTER CHARTER	
MOTOR VEHICLE OPERATIONS	2,455
RESEARCH	
GEOLOGICAL CONTRACTORS	3,520
DEPRECIATION	
CAPITAL EXPENDITURE	
COMMUNITY ACTIVITY	
ADMINISTRATION	9,905
TOTAL	40,216

Ref: 28.72/33.34/GC/SGS

Ref: 33.9/GC/SGS

PEAKE AND DENISON RANGES
REPORT ON EXPLORATION
BY PLACER EXPLORATION

Distribution

PEL Sydney	1	Placer Exploration Limited
PEL Adelaide	1	Genesio Circosta
PEL Brisbane	1	November, 1989
Jim Allender	2	Report No. SA12/89

CONTENTS

LIST OF FIGURES

SUMMARY

Placer Exploration carried out preliminary exploration over the northern portion of the Peake and Denison Ranges ELA. The area was considered to be of interest for a number of reasons including:

1) The known occurrence of gold within conglomerates of Jurassic to Cretaceous age (Algebuckina Sandstone).

2) The interesting sequence of Carpentarian Basement consisting of meta-sediments, rhyolites and basic volcanics.

3) The major faults bounding the eastern side of the ranges.

Exploration consisted of a regional Bulk Leach (BLEG) sampling programme over the Denison Inlier with some rock chip sampling of interesting lithologies. The Algebuckina area was rock chip sampled as all streams are contaminated by Jurassic scree.

Results were disappointing with only two BLEG samples recording greater than 1ppb gold. The area is considered to have little potential for sizeable gold deposits and no further work is recommended.

1. INTRODUCTION

1.1 Tenement History

The Peake and Denison Licence Area (Application No. 153/89) is located in the far north of South Australia (Figures 1, 2 & 3). The Licence is held by J. Allender and Associates and was offered to Placer Exploration Limited as a Joint Venture. Placer undertook to carry out preliminary exploration with the aim of then formalising a full Joint Venture if interested.

1.2 Location and Access

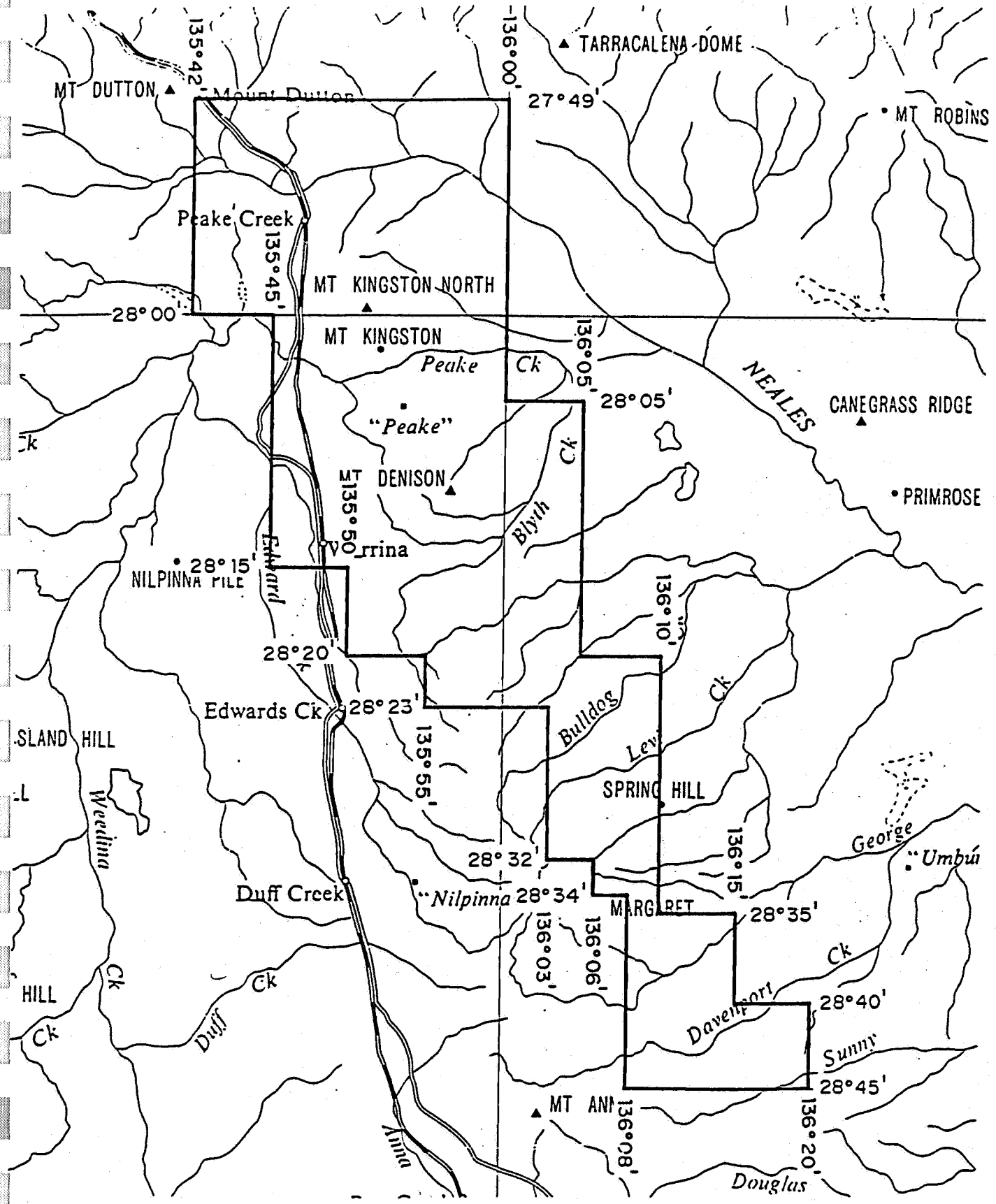
The Peake and Denison Ranges are located approximatly 1000km north of Adelaide. They trend northerly for 130km parallel to the old narrow gauge Ghan Railway and the Marree-Oodnadatta road (Figures 1, 2 & 3).

The Peake and Denison Ranges consist of a northerly trending series of low-lying ranges with a maximum relief of 300m above undulating plains. Four Precambrian inliers constitute the Peake and Denison Ranges - the Dutton, Algebuckina, Denison and Margaret Inliers. The Dutton and Algebuckina Inliers lie to the north of, and are subordinate to, the Denison and Margaret Inliers which form the bulk of the ranges (Figure 1).

Rock exposures are good except on the western margin of the ranges where Mesozoic and Tertiary weathering, leaching, kaolinisation and peneplanation of the Precambrian has resulted in a subdued topography. Mesozoic and Permian sediments lap onto the western margin of the ranges and the weathered Precambrain rocks are often masked by a veneer of younger sediments and associated lag deposits.

SCHEDULE A

0 9



SCALE 1:500.000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

APPLICANT: JAMES FRASER ALLENDER & ANTHONY FRANCIS GREVE LEBRUN

DM: 153/89 AREA: 2298 square kilometres (approx.)

1: 250000 PLANS: OODNADATTA, WARRINA

OCALITY: NORTHERN PEAKE AND DENISON RANGES – Approx. 80km SOUTH of OODNADATTA

DATE GRANTED: DATE EXPIRED: FL No: FIGURE 1

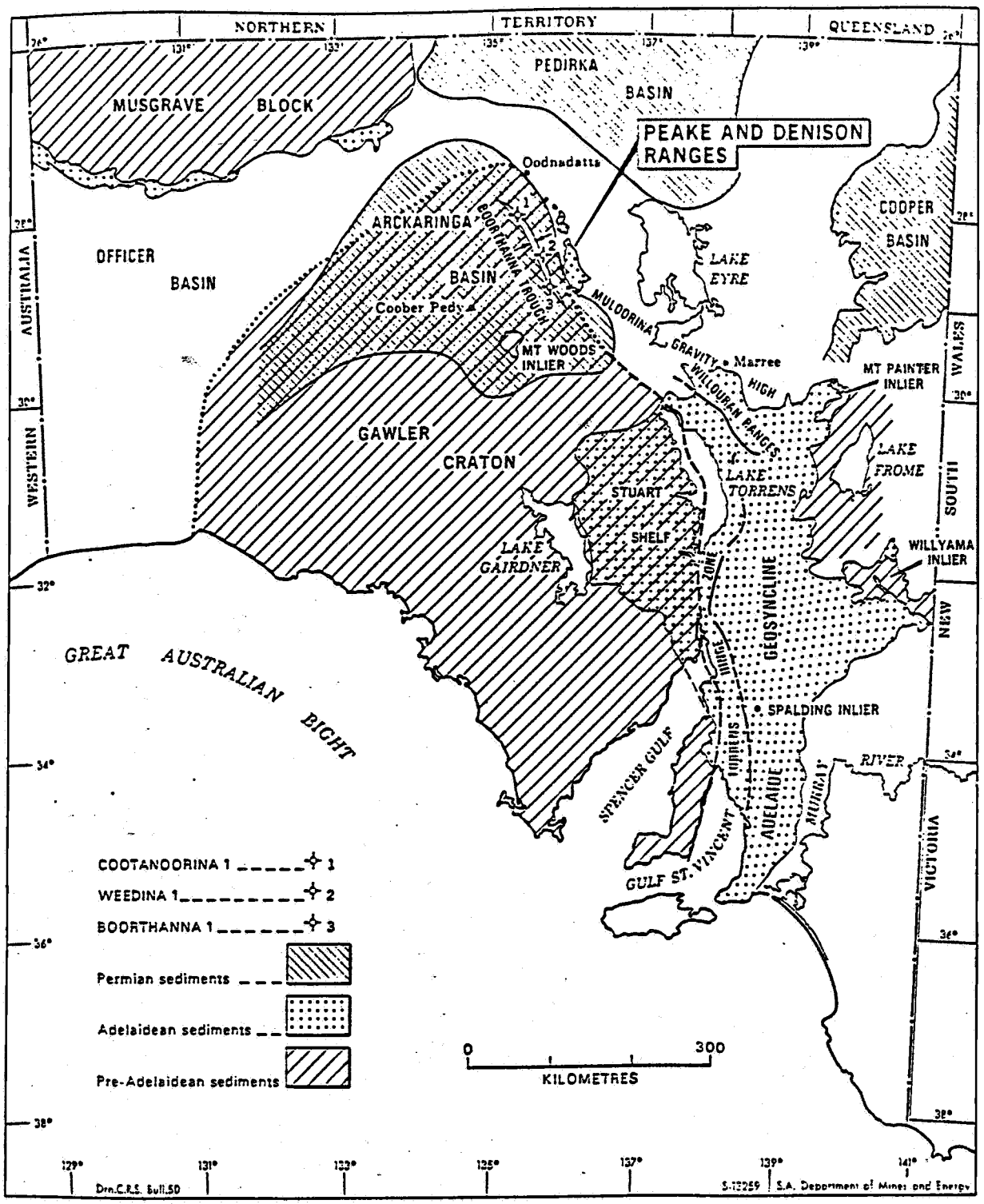


Fig. 2. Peake and Denison Ranges, regional geological setting

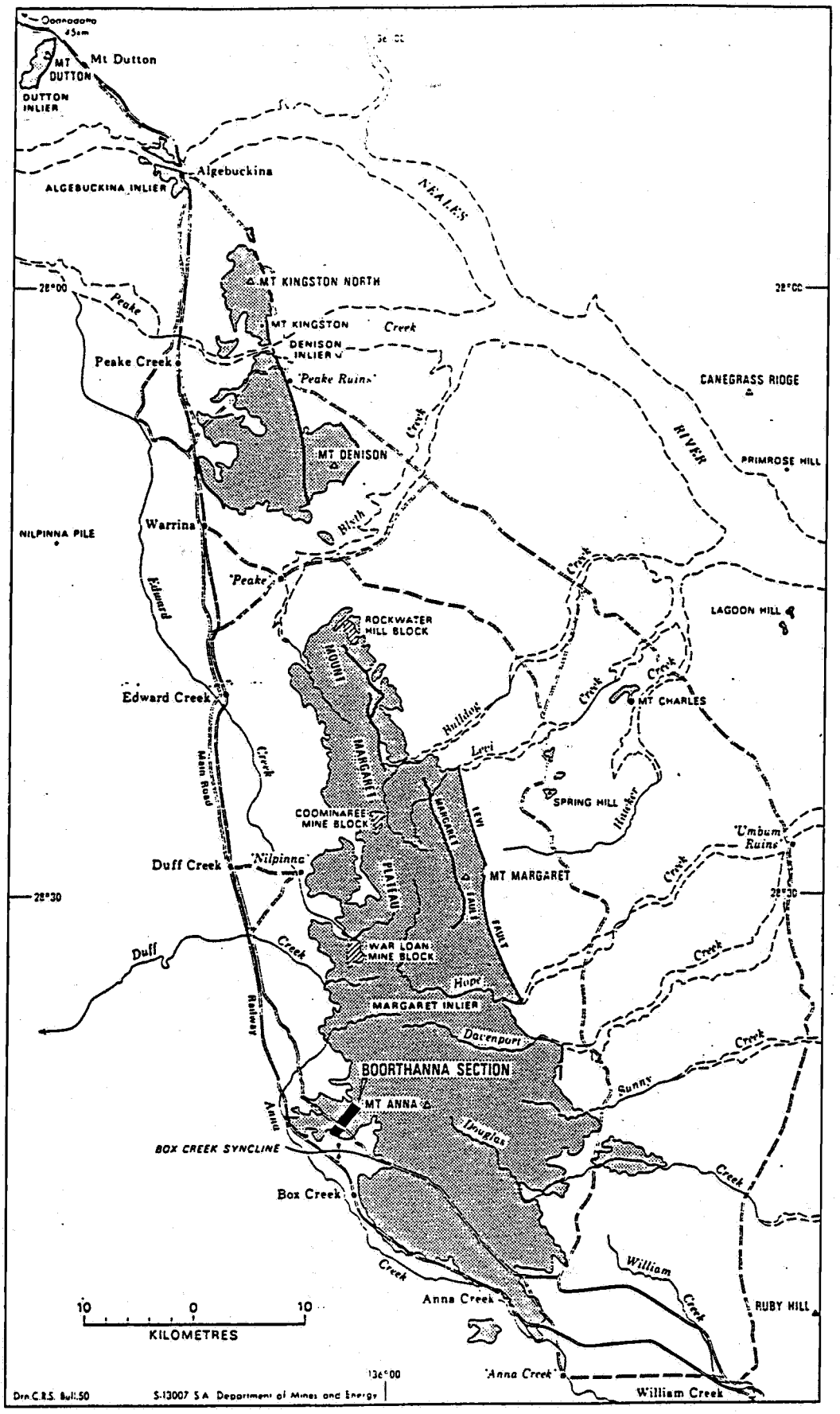


Fig. 3. Locality plan, Peake and Denison Ranges

Drainage from the ranges is dominantly easterly, with creeks draining via the Peake Creek and Neales River into Lake Eyre 80km to the east. There are two permanent waterholes in the region, one near Algebuckina R.S. (Railway Siding) on the Neales River, and the other at Warrawaroona W.H. (Waterhole) on the Peake Creek. Along the faulted eastern margin of the ranges are several springs including Freeling, Edith, and Tarlton Springs. On the plains to the east of the ranges are numerous artesian springs (e.g. Hawker, Outside, and Fanny Springs) and artesian bores (e.g. Hope Creek, Birthday, and Umbum Bores).

Climate of the region is arid with a mean annual rainfall of 125mm; average annual evaporation is 3,800mm. The low rainfall results mainly from thunderstorms between October and May. The region experiences hot summers with an average summer maximum temperature of 36.5^{o}C; minimum winter temperatures often fall below 0^{o}C.

Although vegetation in the region is sparse, a considerable variety of species is present.

Because of the harsh climate the region is sparsely settled, and since the area lies north of (outside) the dingo-proof 'Dog-Fence', land use is restricted to cattle grazing. The four cattle stations are Anna Creek, Peake, Nilpinna and Allandale. A very small township is located at William Creek.

The graded Marree-Oodnadatta road provides reasonable access to the region. Through the ranges a system of rough tracks allow access, the adequacy of which varies according to weather conditions.

2. REGIONAL GEOLOGICAL SETTING AND EXPLORATION TARGETS

2.1 Regional Geological Setting

The Peake and Denison Ranges are a result of northerly trending Precambrian inliers situated inthe south-western portion of the Great Artesian Basin, approximately midway between the Musgrave Block and Willouran Ranges (Figure 2).

The Peake and Denison Ranges represent the northwestern extension of the Adelaide Geosyncline. The inlier comprises basement Peake Metamorphics and basal Adelaidean rocks - Arkoroola Subgroup, Burra and Umberatana Groups.

Basement is dominated by interfingering quartz-muscovite schist, quartzite metabasalt and metarhyolite with minor phyllite, sillimanite gneiss, marble and calc-silicates. It is intruded by syntectonic granite (1650 Ma approx.).

The Arkaroola Subgroup unconformably overlies and comprises Younghusband Conglomerate, Coominaree Dolomite and Cadlareena Volcanics.

This in turn is overlain by a metasedimentary sequence of cherts dolamites siltstones quartzites and arkoses of the Burra and Umberatana Groups.

The Peake and Denison Ranges lie on a major northwest trending gravity zone which includes the mineralisation at Olympic Dam, Mt. Gunson, Burra, Kapunda and Kanmantoo.

Major faults mark the eastern edge of the inlier.

The Peake and Denison Ranges represents a zone of extensional tectonism into which the basic volcanism was extruded, and was active through Willouran and Torrensian times.

The Peake and Denison Ranges are flanked by two Permian basins - the Arckaringa Basin to the west and the Pedirka Basin to the north east.

Table 1 represents a summary of the Stratigraphy of the Peake and Denison Ranges and comes from Ambrose et.al., 1981.

2.2 Exploration Targets

The Peake and Denison Ranges was considered to be of interest for a number of reasons:

1) Gold was known to occur within conglomerates of Jurassic to Cretaceous in age. (Algebuckina Area).

2) The presence of Carpentarian Basement consisting of meta-sediments, rhyolites and basic volcanics.

3) The interesting major faults that bound the ranges to the west.

From an exploration point of view past work seemed to concentrate on exploration for alluvial gold (in the Tertiary) or copper (dominantly in the Adelaidean and Peake Metamorphics). Little systematic exploration for gold had ever been carried out in the Peake and Denison Ranges.

Table 1 *Stratigraphic table—Peake and Denison Ranges*

Age	Stratigraphic unit: symbol and primary references	Thickness (metres)	Lithology	Remarks
			Post-Adelaidean Stratigraphy	
ORDOVICIAN	Bungadillina Monzonite-Odb (Reyner, 1955)	—	Coarse-grained porphyritic monzonites and syenites, porphyritic diorites, porphyritic white albitites.	Intrusives are plagioclase rich and quartz poor.
			Adelaidean Stratigraphy	
			UMBERATANA GROUP	
MARINOAN	Unnamed siltstone—Ph1 (Thomson, *In* Parkin, 1969)	950 (minimum)	Red-brown silty shales, grey-green shales, silty dolomites, fine sandstones and thin grey-yellow dolomites.	Records the first appearance of reddish siltstones in the Umberatana Group—hence allocated to the Willochra Subgroup.
STURTIAN	*Thora Dolomite—Pfl (Mawson and Sprigg, 1950)	30-40	Buff-weathering, grey-green and brown dolomites, minor siltstones; large festoon surfaces and algal bedding.	Characterised by a light-coloured weathering pattern which distinguishes it from adjacent units.
	Tapley Hill Formation—Pft (Coats, 1964; Coats and Blissett, 1971)	150	Laminated grey-green silty shales and silty dolomites; basal thin sandy dolomite.	Exhibits characteristic fine lamination; records a marine transgression following the pre-existing glacial conditions.
	Unnamed sandstone—Pu1	530	Quartzitic sandstones, arkoses, argillaceous sandstones; red porphyry granules and large-scale cross-bedding.	Fluvio-glacial; intertongues with the Calthorinna Tillite and marks the end of the glacial period.
	*Calthorinna Tillite—Pub (Coats, 1964; Coats and Blissett, 1971; Coats and Forbes, 1977; Reyner, 1955)	650 (minimum)	Diamictites, conglomeratic dolomites, pale green shales, gritty sandstones, arkoses and quartzites.	Represents the upper phase of lower Sturtian glacial activity. Interbedded diamictites (glacial) and marine sediments indicate a glacial marine environment.
			Disconformity	
			BURRA GROUP	
	*Kalachalpa Formation—Pbh (Fairchild, 1975; Coats, 1973)	900	Grey-green and brown siltstones and shales, gritty sandstones and quartzites, conglomeratic dolomites, stromatolitic dolomites, oolitic sediments, black cherts; quartzites and shales at the top.	Stramatolitic microflora described by Fairchild, 1975; considered to be equivalent to the Myrtle Springs Formation; gradational contact with the underlying unnamed unit.
TORRENSIAN	Unnamed unit—Pb2 (Fairchild, 1975)	2 000 (minimum)	Gritty quartzitic sandstone, stromatolitic dolomites, conglomeratic dolomites, magnesite conglomerates, black and minor red cherts, grey shales and siltstones; mud cracks, ripple marks and cross-bedding.	Many lithological affinities with the Skillogalee Dolomite e.g. dolomite pebble conglomerates, magnesites and black cherts; this unit is probably transitional between the Kalachalpa Formation and Skillogalee Dolomite.
			Gap in the sedimentary record (gradational contact suspected)	
	Skillogalee Dolomite—Pbk (Mirams and Forbes, 1964; Reyner, 1955)	3 600 (minimum)	Basal member composed of quartzites, sandstones, shales and minor dolomites. The middle member consists of sandstones, dark and pale grey conglomeratic dolomites, magnesite conglomerates and blue-black cherts. The upper member is mainly dark grey conglomeratic dolomite.	Outcrops in a series of basinal synclines forming the core of Margaret Inlier; stromatolite form *Baicalia burra* is common in the upper two members; lower contact with the Mount Margaret Quartzite is comformable although often disrupted by diapirism.

Table 1 *Stratigraphic table—Peake and Denison Ranges (continued)*

Age	Stratigraphic unit: symbol and primary references	Thickness (metres)	Lithology	Remarks
	*Mount Margaret Quartzite—Pbo (Reyner, 1955; Thomson and Coats, 1964)	2 500	White orthoquartzites, slaty quartzitic sandstones, dark grey sandy siltstones, green-grey silty shales, minor dolomitic siltstones near the base; thick orthoquartzites at the top; clay galls, ripple marks and cross-bedding.	Comprises Mount Margaret and also constitutes the Mount Margaret Plateau. The lower contact with the Fountain Spring Beds is gradational, the passage downwards being marked by an increased siltstone content.
	*Fountain Spring Beds—Pbl (Forbes, 1964)	1 100 (minimum)	Characteristic laminated grey dolomitic siltstones, interbedded grey quartzites with clay-gall laminations, grey-green silty shales containing salt casts, minor grey silty dolomites.	The upper contact with the Mount Margaret Quartzite is marked by an increase in the frequency of orthoquartzites; laminated dolomitic siltstones and silty dolomites are similar to lithologies in the underlying unnamed siltstone; considered to be River Wakefield Subgroup equivalent.
	Sedimentary contact not observed—gradational contact suspected on the basis of lithological overlaps			
	Unnamed siltstone—Pb1	1 200 (minimum)	Laminated grey pyritic dolomitic siltstones, green shales, pyritic silty dolomites, fine sandstones and minor quartzites; ripple marks, cross-beds, salt casts.	Dark grey laminated siltstones are typical of the Fountain Spring Beds, some of the dolomites and sandstones (salt casts) are reminiscent of the Duff Creek Beds.
	Gap in the sedimentary record			
	SEQUENCES OF UNCERTAIN AGE			
	Undifferentiated blocks in diapirs and faulted sequences—Pa	5 000 (minimum)	Lithologies from 8 blocks are described in the text. Sediments observed in diapirs often contain an abundance of salt casts.	Most of the sediments in these blocks are derived from early Adelaidean sequences, above the Cadlareena Volcanics, which have been dismembered by diapirism and faulting.
	Gap in the sedimentary record			
	*Murrana Beds—Paa	2 900 (minimum)	Laminated gritty quartzitic sandstones, grey-green silty shale interbeds; arkoses, pebbly dolomites, purple and grey silty shales near the top; ripple marks, mud cracks, cross-beds, flute casts and salt casts.	This unit has lithological affinities with the Duff Creek Beds e.g. minor pale dolomites in the lower part of the unit and fine sandstones and green shales both containing salt casts.
	Sedimentary contact not observed—gradational contact suspected on the basis of lithological overlaps			
WILLOURAN OR TORRENSIAN	*Duff Creek Beds—Paf (Reyner, 1955; Thomson and Coats, 1964)	5 500 (minimum)	Laminated olive-green silty shales and thin arkose interbeds, flaggy grey and yellow dolomites, dolomitic siltstones, pyritic fine sandstones, minor quartzites; mud cracks, ripple marks, clay galls, cross-bedding; horizons with abundant salt and gypsum casts.	Pale buff, flaggy dolomites characterise the unit; deposited in lagoonal, supratidal and intertidal environments; fine platy sandstones (salt casts) in the lower part of the sequence are similar to the Nilpinna Beds.
	Sedimentary contact not observed—gradational contact suspected on the basis of lithological overlaps			
	*Nilpinna Beds—Pan	2 100 (minimum)	Fine sandstones, grey-green silty shales, quartzites and minor grey silty dolomites and green arkoses; mud cracks, cross-bedding and salt casts.	Blue-grey shales and fine-medium sandstones (festoon cross-beds, salt casts) near the base of the unit are similar to the War Loan Beds.
	Sedimentary contact not observed—gradational contact suspected on the basis of lithological overlaps			
	*War Loan Beds—Paw	600 (minimum)	Blue-grey shales and siltstones, dark grey silty dolomites and greenish feldspathic sandstones and arkoses.	Blue-grey colour of the sediments is characteristic.

		Gap in the sedimentary record		
	*Rockwater Beds—Pad	200 (minimum)	Blue-grey and black cherts (weather to a cream colour), grey-black pebbly dolomites, black shales and siltstones and quartzitic sandstones.	This unit outcrops only in small blocks stratigraphically isolated by faulting and diapirism; the sequence probably lies in close proximity, stratigraphically, to the Cadlareena Volcanics.
		Gap in the sedimentary record—sequence dismembered by diapirism and faulting		
		CALLANNA BEDS		
WILLOURAN	*Cadlareena Volcanics—Pcc (Coats and Blissett, 1971; Thomson, 1966; Preiss, 1973)	750 (minimum)	Vesicular basalts and altered dolerites; minor andesites, dacites, and rhyolites; tuffs and lapilli tuffs; minor lenticular reddish mudstones and quartzites with red shale interbeds near the base and top of the unit.	The volcanics mark the last recognised unit of the Callanna Beds; equivalents are recognised in the Willouran Ranges and Mount Painter Province; the upper contact is always disrupted by diapirism.
	*Coominaree Dolomite—Pck (Thomson, 1966; Coats and Blissett, 1971; Preiss, 1973)	77	Interbedded buff dolomites (stromatolitic) and minor sandstones in the lower part; the upper part consists of non-stromatolitic dolomites, oolitic at the base, and an overlying stromatolitic dolomite.	Contains stromatolite forms *Acaciella c.f. australica* and *Gymnosolen c.f. ramsayi.*
	Younghusband Conglomerate (Pco) (Thomson, 1966; Preiss, 1973)	27	Basal quartzitic breccias, red-brown shales and sandstones at the top.	Basal Adelaidean unit containing clasts reworked from the underlying Peake Metamorphics.
		Angular unconformity		
		Pre-Adelaidean Stratigraphy		
MIDDLE PROTEROZOIC	*Wirriecurrie Granite—Pαw (Reyner, 1955)	—	Coarse-grained, porphyritic granites, augen granites, minor aplite dykes.	Intrusive, syn-orogenic granite, radiometrically dated at approximately 1 650 ma.
		PEAKE METAMORPHICS		
	Unnamed metamorphics—Pd3	not known	Amphibolites, grey quartzites, magnetite-rich epidosites, arenaceous schists, minor clinopyroxene granulites.	Lithologies (amphibolites and quartzites) are broadly similar to Baltucoodna Quartzite; all rock types are magnetite rich.
		Sedimentary contact not observed		
	*Baltucoodna Quartzite—Pdb (Reyner, 1955)	4 500 (minimum)	Greyish-white quartzites, porphyritic and amygdaloidal basalts, amphibolites, minor quartz + muscovite schists, grey phyllites, sillimanite gneisses and plagioclase + hornblende + epidote calc-silicates.	Unit is characterised by interlayered basalts and quartzites.
EARLY PROTEROZOIC	Unnamed schists—Pd2	1 000	Quartz + muscovite schists, grey quartz + chlorite phyllites, minor sandstones.	Thickest development of metamorphosed pelitic sediments.
	*Tidnamurkuna Volcanics—Pdt	600 (minimum)	Flow-banded porphyritic rhyolites, amygdaloidal basalts, rare epidosites and phyllites.	Rhyolites record the only phase of acidic vulcanism in the Peake Metamorphics.
		Sedimentary contact not observed		
	Unnamed metamorphics—Pd1	5 500 (minimum)	Grey quartzites, quartz + biotite + muscovite schists and gneisses, garnetiferous schists, migmatites, pegmatites and diorites.	Metamorphosed to amphibolite facies, sedimentary structures have been obliterated. Stratigraphic relationship with other units is not known.

*New names: for formal definition see Appendix.

3. PREVIOUS EXPLORATION

The first comprehensive map of the area was compiled by Reyner (1955). Detailed mapping at 1:20,000 scale during 1975-76 was compiled at 1:150,000 scale (Ambrose, Flint & Webb, 1981).

The first recorded geological observations in the Peake and Denison Ranges were made by John McDowall Stuart who explored much of Central Australia in the late 1850's and early 1860's (Stuart 1860, 1862). Other early observers included Scoular (1887) and East (1889).

Government geologist H.Y.L. Brown located gold and a one carat diamond while panning on the western side of the ranges near Peake Creek in 1894.

Copper prospecting was active in the late 1890's and a smelting plant was established at Peake Homestead. Several Cu mines were active in the period 1915-20 (Winton, 1919).

Preliminary observation on the geology and hydrology of the area were conducted by Jack 1930. Regional mapping during 1953 resulted in publication of seven 1-mile sheets: Algebuckina, Nilpinna, Conway, Umbum, Bothanna, Cadlareena and Anna (Dickinson et al; 1954a,b, 1955a-e).

Exploration in recent years included search for U, Cu, Pb, Zn, Co, Ni, Cr, Mn, Ag, As and Au within the Precambrian rocks and U, Au, S, K, clay, coal and petroleum in the sedimentary basins flanking the ranges.

In the period 1966-1968, North Broken Hill carried out extensive soil and stream sediment sampling and drilled three diamond drillholes (Forwood, 1968). Australasian Mining Corp held an SML and conducted radiometric and aeromagnetic surveys. This work resulted in the drilling of three percussion and four diamond drill holes(Sergeant, 1970).

Uranerz (Australia) Pty Ltd explored for Uranium and drilled two DDH, one in the Cadlareena Volcanics and the other in migmatites of the Peake Metamorphics (Iliff 1974, 1975). Western Mining Corporation Ltd. (1975) carried out extensive stream sediment surveys and soil and rock chip sampling for basemetals.

More recently Britas Diamonds in JV with Stockdale carried out exploration for diamonds and also examined the Au occurrences near Mt Kingston (Robinson et al 1984).

Diamond exploration is still currently being undertaken by Metana in joint venture with Stockdale in areas to the west side of the ranges.

B.H.P./Utah have also extensively explored the Adelaidean in the southern portion of the Peake and Denison Ranges for basemetals (1984). This work also included collection of BELG samples.

Tables in Appendix I were supplied by Jim Allender and summarise the geochemistry, geophysics, drilling, and mapping that has been carried out in the Peake and Denison Ranges.

4. CURRENT EXPLORATION

4.1 Reconnaissance

A reconnaissance trip was made to the Peake and Denison Ranges between July 16th and 19th. The aim was to familiarise myself with the area and to collect a few reconnaissance samples.

Appendix II contains a copy of a memo written after this reconnaissance visit. All geochemical and sample location data is located in Appendices II And III.

4.2 Work Porgramme

It was decided that the best method of quickly assessing the potential of the area for gold mineralization would be to carry out a regional Bulk Leach (BLEG) sampling programme over areas of interest. This would be combined with rock chip sampling of any interesting zones.

The dominantly Adelaidean sequence to the south was considered to have little potential for gold mineralization with the result that little work was undertaken in this area.

Other than the Tarlton Springs area (on the Mount Margaret Inlier) all work was concentrated on the northern-most inliers of the Peake and Denison Ranges.

4.3 BLEG Sampling

4.3.1 Sample Collection

Bulk Leach Extractable Gold samples were collected over all drainages, draining from the Denison Inlier. Samples were collected in the following manner:

1) drainage basins were separated and sample sites selected.

2) at each site careful note was made of size of stream and lithologies present in each drainage; special care was taken to avoid possible contamination from Mesozoic cover. If this was not possible notes were taken.

3) a 4-5 kg sample of -4mm material was collected from each site. This involved:

a) collection from the stream surface on a diagonal across the active part of the stream.

b) all lag material was avoided.

c) all plasitc pans and seives used were carefully cleaned after each sample was collected.

4) samples when collected were placed in large calico bags. Sample sites were then tagged with aluminium tags or with wooden survey pegs. Sites were then noted on the location maps or air photos.

5) samples were despatched to Assay Research Australia Pty Ltd in Perth for BLEG determination using a 0.10 ppb detection limit for Au and Ag and a 0.01 ppb detection limit for Cu.

Sample locations are shown of figure 4.

4.3.2 Discussion of Results

Results of BLEG sampling are listed in Appendix IV with samples located on Figure 4. Results are generally very disappointing with all but two values less than 1 ppb Au. These two samples (105339 and 105441) drain from the area of Mt. Denison.

The stream draining sample 105339 is only a very minor stream (3-4 metres wide) and drains schist (dominant) with some possible acid and basic volcanics.

The stream draining sample 105341 is a more major stream and drains schists with minor quartz veining. Some old copper workings have been mapped upstream, and these may contribute to the anomalism. The dominant contribution to anomalism is thought to be the Mesozoic which is extremely limonitic and contaminates the drainage here.

Results from streams draining north and south of Tarlton Springs did not record any anomalism.

4.4 Rock Chip Sampling

4.4.1 Algebuckina Area

A total of 32 rock chip samples were collected from the Algebuckina Area. Samples were assayed for Cu, Pb, Zn, Sb, As, Ag, U and Au. Results appear in Appendix V and sample sites are located on figure 4.

Samples consisted of a mixture of samples of basal Algebuckina Sandstone conglomerates and Basement Peake Metamorphic quartz vein/bedrock material.

Samples of basal Algebuckina Sandstone (105413 - 416, 105431, 105442 - 105443) were collected from various areas to test the potential of fine grained palaeo-placer gold within this unit. Several samples were collected from the area of known workings with only one (105416) recording above detection limit gold at 0.09 g/t.

Other samples were collected within the Peake Metamorphics and consisted of quartz, quartz-limonite, quartz-tourmaline and quartz-limonite-malachite veins. Veins vary from N-S oriented (Quartz - limonite - highly recrystallized) to E-W oriented (quartz - tourmaline with little or no limonite). Very few samples recorded greater than 0.01 g/t Au with a maximum value of 0.06 g/t. Higher gold assays (>0.02 g/t) were associated with anomalous copper.

4.4.2 Other Areas

Rock chip samples from other areas are generally disappointing with one sample (105309) of sheared basaltic volcanic just south of Peake Ruins recording) 0.43 g/t Au. Interestingly enough two BLEG samples collected 50 mteres downstream (105307, 308) failed to record any gold anomlaism.

5. CONCLUSIONS AND RECOMMENDATIONS

The work carried out by Placer Exploration centred on the most prospective northern zone of the Peake and Denison Ranges. The presence of large cross cutting structures, basic volcanics, intrusive granites and common copper occurrences a well as recorded placer gold within the basal Algebuckina Sandstone were considered positive signs. This combined with the lack of any previous systematic work using modern exploration techniques suggested the area needed examining.

A regional BLEG survey, combined with rock chip sampling, was carried out over the area of interest. Results are disappointing and indicate that little potential gold mineralization is present in the area. No further work is warranted.

REFERENCES

Allchurch, P. D., Wopfner, H., Harris, W. K. and McGowran, B., 1973. Cootanoorinna No. 1 well. *Rep. Invest., geol. Surv. S. Aust.*, 40.

Badiozamani, K., 1973. The Dorag domolitization model—application to the Middle Ordovician of Wisconsin. *J. sedim. Petrol.*, 43:965-984.

Barclay, C. J., 1974. Relinquishment report EL 108 for Shell Development (Aust.) Pty Ltd. S. Aust. Dept. Mines and Energy open file Env. 2388 (unpublished).

Benbow, M. C. and Flint, R. B., 1979. The Engenina Adamellite and Balta Granite of the Mount Woods Inlier. *Q. geol. Notes, geol. Surv. S. Aust.*, 69:9-13.

Brown, H. Y. L., 1894. Report on the Peake and Denison Ranges and adjoining country with special reference to the occurrence of gold. *Parl. Pap. S. Aust.*, 25.

Carey, S. W. and Ahmad, N., 1960. Glacial marine sedimentation. *In: Geology of the Arctic.* Raasch, G. O. Toronto, University Toronto Press, pp. 865-894.

Chugg, R. I., 1957. The hydrogeology of a portion of the Great Artesian Basin near the Peake and Denison Ranges. *Rep. Invest., geol. Surv. S. Aust.*, 10.

Coats, R. P., 1964a. The geology and mineralisation of the Blinman Dome Diapir, *Rep. Invest., geol. Surv. S. Aust.*, 6.

Coats, R. P., 1964b. Umberatana Group. *Q. geol. Notes, geol. Surv. S. Aust.*, 9: 7-12.

Coats, R. P. (Compiler), 1973. COPLEY, South Australia. *Explanatory Notes*, 1:250 000 *geological series*. Sheet Sh/54-9. Geol. Surv. S. Aust.

Coats, R. P. and Blissett, A. H., 1971. Regional and economic geology of the Mount Painter Province. *Bull. geol. Surv. S. Aust.*, 43.

Coats, R. P. and Forbes, B. G., 1977. Evidence for two Sturtian glaciations in South Australia—a reply. *Q. geol. Notes, geol. Surv. S. Aust.*, 64: 19-20.

Cooper, P. F. and Tuckwell, K., 1971. The Upper Precambrian Adelaidean of the Barrier Ranges, a new subdivision. *Q. geol. Notes, geol. Surv. N.S.W.*, 3: 8-16.

Cooper, R., 1976. Petrographic description of twenty-five samples from the Peake and Denison Ranges. Amdel report MP365/77 (unpublished).

Cooper, R., Couppey, C., Jacque, M., Leslie, W. and Magnier, P., 1963. Mission geologique sur les bordures occidentales du Grand Bassin Artesian, for French Petroleum Company. S. Aust. Dept. Mines and Energy open file Env. 386/2 (unpublished).

Coppin, R. J., Hall, J. McG. and Milton, B. E., 1971. Bouguer gravity anomaly map. *In*: Milton, B. E. and Morony, G. K., 1975. A regional interpretation of 1:1 000 000 gravity and aeromagnetic maps of the Great Artesian Basin in South Australia. *Rep. Invest., geol. Surv. S. Aust.*, 46.

Coppin, R. J., Hall, J. McG. and Milton, B. E., 1972. Contours of magnetic intensity and interpreted depths to magnetic basement. *In*: Milton, B. E. and Morony, G. K., 1975. A regional interpretation of 1:1 000 000 gravity and aeromagnetic maps of the Great Artesian Basin in South Australia. *Rep. Invest., geol. Surv. S. Aust.*, 46.

Crawford, A. R., 1963. The Wooltana volcanic belt, South Australia. *Trans. R. Soc. S. Aust.*, 87: 123-154.

Dalgarno, C. R. and Johnson, J. E., 1968. Diapiric structures in Flinders Ranges, South Australia. *In*: Braunstein, J. and O'Brien, G. D. (Eds), Diapirism and Diapirs. *Mem. Am. Assoc. Pet. Geol.*, 8: 301-314.

Derrick, G. M., Wilson, I. H. and Hill, R. M., 1976. Revision of stratigraphic nomenclature in the Precambrian of northwestern Queensland. *Qd Gov. Min. J.*, 77: 300-306.

Derrick, G. M., Wilson, I. H., Hill, R. M., Glikson, A. Y. and Mitchell, J. E., 1977. Geology of the Mary Kathleen 1:100 000 sheet area, northwest Queensland. *Bull. Bur. Miner. Resour. Geol. Geophys. Aust.*, 193.

Dickinson, S. B., Parkin, L. W., Pitman, R. K., Reyner, M. L. and Hughes, F. E., 1954a. *Algebuckina* map sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1954b. *Nilpinna* map sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1955a. *Anna* map sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1955b. *Boorthanna* map sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1955c. *Umbum* map sheet *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1955d. *Conway* may sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

Dickinson, S. B., Parkin, L. W., Hughes, F. E., Reyner, M. L. and Pitman, R. K., 1955e. *Cadlareena* map sheet, *Geological Atlas of South Australia*, 1:63 000 series. Geol. Surv. S. Aust.

East, J. J., 1889. On the geological structure and physical features of central Australia. *Trans. R. Soc. S. Aust.*, 12: 31-53.

Ewart, A., 1971. Chemical changes accompanying spherulitic crystallization in rhyolitic lavas, central volcanic region, New Zealand. *Mineralog. Mag.*, 38: 424-434.

Fairchild, T. R., 1975. The geological setting and palaeobiology of a late Precambrian stromatolitic microflora from South Australia. University of California Ph.D. thesis (unpublished).

Fander, H. W., 1963. The Wooltana lavas. *Trans. R. Soc. S. Aust.*, 87: 155-157.

Forbes, B. G., 1961. Magnesite of the Adelaide System: a discussion of its origin. *Trans. R. Soc. S. Aust.*, 85:217-222.

Forbes, B. G., 1964. The River Wakefield Group west of Clare. *Q. geol. Notes, geol. Surv. S. Aust.*, 11:6-7.

Forbes, B. G. 1977. Bungaree Quartzite (new name): Lower Adelaidean, southwest of Spalding, South Australia. *Q. geol. Notes, geol. Surv. S. Aust., 63:9-14.*

Forwood, P. S., 1968. Final report on exploration on Special Mining Leases 125 and 134, Peake and Denison Ranges, South Australia, for North Broken Hill Pty Ltd. S. Aust. Dept. Mines and Energy open file Env. 2072 (unpublished).

Freytag, I. B., 1966. Proposed rock units for marine lower Cretaceous sediments in the Oodnadatta region of the Great Artesian Basin. *Q. geol. Notes, geol. Surv. S. Aust.*, 18:3-7.

Freytag, I. B., Heath, G. R. and Wopfner, H., 1967. OODNADATTA map sheet, *Geological Atlas of South Australia*, 1:250 000 series. Geol. Surv. S. Aust.

Hawkes, H. E. and Webb, J. S., 1962. *Geochemistry in Mineral Exploration*. Harper and Row, New York.

Heath, G. R., 1965. Permian sediments of the Mount Dutton Inlier. *Q. geol. Notes, geol. Surv. S. Aust.*, 14:3-5.

Holmes, D., 1970. South Australia potash project, Special Mining Lease 329, for Occidental Mins Corp. (Aust.). S. Aust. Dept. Mines and Energy open file Env. 1313 (unpublished).

Holmes, D. A. and Rayment, P., 1970. Oxymin Boorthanna No. 1 well completion report for Occidental Mins Corp. (Aust.). S. Aust. Dept. Mines and Energy open file Env. *1241 (unpublished)*.

Iliff, G., 1975. Exploration 1974 on EL 100, Peake-Denison and Mt Margaret Ranges, South Australia, for Uranerz (Aust.) Pty Ltd. S. Aust. Dept. Mines and Energy open file Env. 2381 (unpublished).

Iliff, G. D., Robinson, P. and Johnson, J., 1974. Exploration 1973 on EL 33 Mt Margaret Range, Peake and Denison Block, South Australia, for Uranerz (Aust.) Pty Ltd. S. Aust. Dept. Mines and Energy open file Env. 2253 (unpublished).

Jack, R. L., 1930. Geological structure and other factors in relation to underground water supply in portions of South Australia. *Bull. geol. Surv. S. Aust.*, 14.

Laut, P., Keig, G., Lazarides, M., Loffler, E., Margules, C., Scott, R. M. and Sullivan, M.E., 1977. Environment of South Australia—Province 8, northern arid. Division of Land Use Research, Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia, pp. 152-155.

Leeson, B., 1972. Geochemical and geophysical investigations near the Last Chance Mine. *Mineral Resour. Rev., S. Aust.*, 132: 95-102.

Le Maitre, R. W., 1976. The chemical variability of some common igneous rocks. *J. Petrology*, 17:589-637.

Ludbrook, N. H., 1961. Permian to Cretaceous subsurface stratigraphy between Lake Phillipson and the Peake and Denison Ranges, South Australia. *Trans. R. Soc. S. Aust.*, 85: 67-80.

Mawson, D., 1927. Geological notes on an area along the northwestern margin of the Willouran Range. *Trans. R. Soc. S. Aust.*, 51: 386-390.

Mawson, D. and Sprigg, R. C., 1950. Subdivision of the Adelaide System. *Aust. J. Sci.*, 13 (3): 69-72.

Milnes, A. R., Compston, W. and Daily, B., 1977. Pre- to syn-tectonic emplacement of early Palaeozoic granites in southeastern South Australia. *J. geol. Soc. Aust.*, 24:87-106.

Mirams, R. C. and Forbes, B. G., 1964. Burra Group. *Q. geol. Notes, geol. Surv. S. Aust.*, 9: 5-7.

Murrell, B., 1977. The stratigraphy and tectonics across the Torrens Hinge Zone between Andamooka and Marree, South Australia. University of Adelaide Ph.D. thesis (unpublished).

Papalia, N., 1970. Final report on Weedina No. 1 well for Pexa Oil NL. S. Aust. Dept. Mines and Energy open file Env. 1374 (unpublished).

Pearce, J. A., 1976. Statistical analysis of major element patterns in basalts. *J. Petrology*, 17: 15-43.

Preiss, W. V., 1973a. Early Willouran stromatolites from the Peake and Denison Ranges and their stratigraphic significance. S. Aust. Dept. Mines report 73/208 (unpublished).

Preiss, W. V., 1973b. Palaeoecological interpretations of South Australian Precambrian stromatolites. *J. geol. Soc. Aust.*, 19: 501-509.

Preiss, W. V., 1974. The River Broughton Beds—a Willouran sequence in the Spalding Inlier. *Q. geol. Notes, geol. Surv. S. Aust.*, 49: 2-8.

Radke, F., 1973. Fission—track dating. Amdel Project 1/1/148, progress report No. 1 (unpublished).

Radke, F., 1976. Examination of rocks from WARRINA 1:250 000 sheet. Amdel report MP 1580/76 (unpublished).

Radke, F., 1977. Petrography of thirteen rocks from the WARRINA 4-mile sheet, Peake and Denison Ranges. Amdel report MP 1648/77 (unpublished).

Reyner, M. L., 1955. The geology of the Peake and Denison region. *Rep. Invest., geol. Surv. S. Aust.*, 6.

Sargeant, F. J., 1970. Report on exploration during the period 15.2.70 to 15.8.70, SML 270, South Australia, for Australasian Mining Corporation Ltd. S. Aust. Dept. Mines and Energy open file Env. 1015 (unpublished).

Schermerhorn, L. J. G., 1966. Terminology of mixed coarse-fine sediments. *J. sedim. Petrol.*, 36: 831-835.

Schopf, J. W. and Fairchild, T. R., 1973. Late Precambrian micro-fossils: a new stromatolitic biota from South Australia. *Nature*, 242: 537-538.

Scoular, G., 1887. Sketch of the geology of the southern and western parts of the Lake Eyre Basin. *Trans. R. Soc. S. Aust.*, 9:39-54.

Smith, N., 1973. Gravity and magnetic analysis, Lagoon Hill area, South Australia. Company report EL 22, for Chevron Exploration Corporation. S. Aust. Dept. Mines and Energy open file Env. 2182 (unpublished).

Spencer, A. M., 1971. Late Precambrian glaciation in Scotland. *Mem. geol. Soc. Lond.*, 6.

Sprigg, R. C., 1949. Thrust structures in the Witchelina area, South Australia. *Trans. R. Soc. S. Aust.*, 73:40-47.

Sprigg, R. C., 1952. Sedimentation in the Adelaide Geosyncline and the formation of the continental terrace. Sir Douglas Mawson Anniv. Vol., University of Adelaide, pp. 153-159.

Steiger, R. H. and Jager, E., 1977. Subcommission on geochronology: convention on the use of decay constants in geo- and cosmo-chronology. *Earth Planet. Sci. Lett.*, 36:359-362.

Steveson, B. G., 1973. The geochronology of the eastern basement rocks. Amdel project 1/1/140, progress report No. 2 (unpublished).

Steveson, B. G., 1976a. Examination of rocks from the Cadlareena Volcanics. Amdel report MP 224/77 (unpublished).

Steveson, B. G., 1976b. Examination of eleven rocks from WARRINA 1:250 000 sheet. Amdel report MP 335/77 (unpublished).

Steveson, B. G., 1976c. Examination of rocks from WARRINA 1:250 000 sheet. Amdel report MP 1553/76 (unpublished).

Stuart, J. M., 1860. J. M. Stuart's exploration in 1860. *Parl. Pap. S. Aust.*, 65.

Stuart, J. M., 1862. J. M. Stuart's exploration, 1861-1862. *Parl. Pap. S. Aust.*, 21.

Teluk, J. A., 1974. Completion report on EL 22, Lagoon Hill area—South Australia, for Chevron Exploration Corporation. S. Aust. Dept. Mines and Energy open file Env. 2182 (unpublished).

Thomson, B. P., 1966. The lower boundary of the Adelaide System and older basement relationships in South Australia. *J. geol. Soc. Aust.*, 13:203-213.

Thomson, B. P., 1969. The Adelaide System. *In:* Parkin, L. W., (Ed.), *Handbook of South Australian Geology*. Geol. Surv. S. Aust., pp. 69-71.

Thomson, B. P., 1974. Tectonics and regional geology of Willyama, Mount Painter, and Denison Inlier areas. *In:* Knight, C. L. (Ed.), *Economic Geology of Australia and Papua New Guinea*, 1, Metals. Monograph 5, Australas. Inst. Min. Metell., Melbourne, pp. 469-475.

Thomson, B. P. and Coats, R. P., 1964. The Callanna Beds. *Q. geol. Notes, geol. Surv. S. Aust.*, 9:3-5.

Townsend, I. J., 1973. A synthesis of stratigraphic drilling of the Arckaringa Basin 1969-1971. S. Aust. Dept. Mines report 73/87 (unpublished).

Townsend, I. J. and Ludbrook, N. H., 1975. Revision of Permian and Devonian nomenclature of four formations in and below the Arckaringa Basin. *Q. geol. Notes, geol. Surv. S. Aust.*, 54:1-5.

Turekian, K. K. and Wedepohl, K. H., 1961. Distribution of the elements in some major units of the earth's crust. *Bull. geol. Soc. Am.*, 72:175-192.

Turner, A. R., 1969a. Some aspects of the basic lavas of the Gawler Platform. Amdel report MP 809/69 (unpublished).

Turner, A. R., 1969b. The geochronology of stratigraphically significant rocks from South Australia. Amdel Project 1/1/126, progress report No. 2 (unpublished).

Vennum, W. R. and Eberlein, G. D., 1977. Spherulitic rhyolite dyke from Goat Island, southeastern Alaska. *J. Res. U.S. geol. Surv.*, 5 (4): 445-451.

Webb, A. W., 1976. Geochronology of the granitic rocks of southeastern South Australia. Amdel report No. 1138 (unpublished).

Webb, A. W., 1977a. Geochronology of stratigraphically significant rocks from South Australia. Amdel Project 1/1/126, progress report No. 16 (unpublished).

Webb, A. W., 1977b. Geochronology of sample P 266/76. Amdel Project 1/1/126, progress report No. 15 (unpublished).

Webb, A. W. and Lowder, G. G., 1971. The geochronology of stratigraphically significant rocks from South Australia. Amdel Project 1/1/126, progress report No. 5 (unpublished).

Western Mining Corporation Ltd, 1975. Exploration Licence 192, Peake and Denison Ranges. S. Aust. Dept. Mines and Energy open file Env. 2525 (unpublished).

Whitehead, S. 1972a. Metamorphic and sedimentary rocks from Mount Kingston. Amdel report MP 1915/72 (unpublished).

Whitehead, S., 1972b. Petrographic description of eleven rock specimens from WARRINA 1:250 000 sheet. Amdel report MP 2151/72 (unpublished).

Williams, G. E. 1975. Late Precambrian glacial climate and the Earth's obliquity. *Geol. Mag.*, 112: 441-465.

Wilson, J. L., 1975. *Carbonate Facies in Geological History*. Springer-Verlag, New York.

Winton, L. J., 1919. Report on the Last Chance Copper Mine and War Loan Copper Mine. *Min. Rev., Adelaide*, 29: 54-56.

Wopfner, H., 1968. Cretaceous sediments on the Mount Margaret Plateau and evidence for neo-tectonism. *Q. geol. Notes, geol. Surv. S. Aust.*, 28: 7-11.

Wopfner, H., 1970. Permian palaeogeography and depositional environment of the Arckaringa Basin, South Australia. *In: Second Gondwana Symposium*, Natal. Witness press, Natal, pp. 273-291.

Wopfner, H., 1972. Depositional history and tectonics of South Australian sedimentary basins. *Mineral Resour. Rev., S. Aust.*, 133: 32-50.

Wopfner, H., Freytag, I. B. and Heath, G. R., 1970. Basal Jurassic-Cretaceous rocks of the western Great Artesian Basin, South Australia: stratigraphy and environment. *Bull. Am. Ass. Petrol. Geol.*, 54: 383-416.

Wopfner, H. and Heath, G. R., 1963. New observations on the basal Cretaceous-Jurassic sandstone in the Mt Anna region, South Australia. *Aust. J. Sci.*, 26: 57-59.

Young, G. M., 1976. Iron-formation and glaciogenic rocks of the Rapitan Group, Northwest Territories, Canada. *Precambrian Res.*, 3: 137-158.

Youngs, B. C., 1975a. The geology and hydrocarbon potential of the Pedirka Basin. *Rep. Invest., geol. Surv. S. Aust.*, 44.

Youngs, B. C., 1975b. The Early Permian Purni Formation of the Pedirka Basin. *Q. geol. Notes, geol. Surv. S. Aust.*, 54: 5-12.

APPENDIX I

PREVIOUS EXPLORATION
PEAKE AND DENISON RANGES

- Geochemistry
- Geophysics
- Drilling
- Geology

:BP

F Peake and Denison Ranges Area - Geochemistry

Company	Date	Licence	Reference	Stream Sediment	Soil Sampling	Rock Chip	Core/ Cuttings	Water Sampling	Geobotany	Objective Elements	Other Elements	Map Reference
F G.Scouler	1885		Roy Soc 9							Au		
F S.A.D.M.	1886		RB1									
F S.S. East	1889		Roy Soc 12									
F S.A.D.M.	1893/1894		Parl Pap25							Au		
F S.A.D.M.	1915		Bull 5									
F S.A.D.M.	1918		MR 29									
F S.A.D.M.	1930		Bul 14									
F S.A.D.M.	1946		Bull 23					yes				
F Sprigg	1949		Roy Soc 73									
F H. Narain	1951											
F Sprigg	1952		Mawson vol									
F S.A.D.M.	1955		RI 6									
F S.A.D.M.	1957							yes				
F S.A.D.M.	1961		MR 114									
F North Broken Hill Ltd	1966/1967	SML125	Env 694	992		15				Cu,Pb,Zn,Ni		A
F North Broken Hill Ltd	1966/1968	SML 134	Env 941	5800	5280	yes				Cu,Pb,Zn,Co,Mo		N3,B,C
F Australian Mining Corp	1969/1971	SML270	Env 1015	69	30x15	25				U,Cu,Ni	Ag,Au,Bi,Sb	E,F,G,J
F S.A.D.M.E.	1969/1970		RB70/84,MR132	490	1020					Cu,Pb,Zn,Co,Pb,Ni,Sn,Mo	U,Th	D
F C.R.A.E.	1971	SML402/3	Env 1565	43		6	yes			Sr	Ba,U	N6
F AOG Minerals Ltd	1972	SML 718	Env 2142							Au		
F Chevron Minerals Ltd	1973	EL 22	Env 2182					yes	101	U	42 elements	1
F S.A.D.M.E.	1973											
F S.W.Schoff, T.R.Fairchild	1973											
F Uranertz	1974/1975	EL 110	Env 2253							U	Th	
F S.A.D.M.E.	1974					83						
F WMC	1975	EL 192	Env 2525		3489	325	yes			Au,Ni,Co,Zn,Pb,Mn,Ag,As		2,3
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080			12		6		U	Coal	N1,N2,4,5
F Cyprus Aust Coal	1985	EL 5466	Env 4909									
F Savata Pty Ltd	1979/1980	EL 462	Env 3579	8	14	16				Diamonds	8 elements	N7
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288									
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562	yes	yes	yes	yes			21 elements		
F Dampier Mining	1977/1980	EL 369	Env 3754		yes		yes				35 elements	
F Dampier Mining	1977/1980	EL 583	Env 3754		yes		yes				35 elements	
F S.A.D.M.E.	1980		RB 80/70	36						Au		
F Aberfoyle	1980/1987	EL 571	Env 3771	>600	2	359	yes			Diamonda,Au	9 elements	
F Aberfoyle	1980/1987	EL 968	Env 3771	>600	2	359	yes			Diamonda,Au	9 elements	
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027	yes						Diamonds	6 elements	
F Carpentaria Exploration	1981	EL 743	Env 4031			25				Au		N9
F Aberfoyle	1980/1987	EL 968	Env 3771	613	2	354	yes			Diamonds,Au.	9 elements	14
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041	3255						Diamonds	15 Elements	N10
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042	526						Diamonds,Cu,Co,Ni,Nb	15 Elements	W
F Gemex/Western Queen	1980/1981	EL 763	Env 4061							U,Coal,Diamonds		
F Gemex/Western Queen	1980/1981	EL 760	Env 4061							U,Coal,Diamonds		
F C.R.A.E.	1980.1982	EL 761	Env 4138	79	46		yes			Cu,Pb,Zn	13 elements	19
F S.A.D.M.E.	1980		Bull 50			83					20 elements	6
F Ashton	1981.1983	EL 787	Env 4223	52						Diamonds	18 elements	9
F Carpentaria Exploration	1981/1982	EL 888	Env 4496	23		53				Au		N8
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106	yes	yes					Diamonds		
F BHP Minerals	1982/1984	EL 1202	Env 4909	20						Diamonds		NA
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912	3						Diamonds		10
F BHP Minerals	1983/1986	EL 1290	Env 6282							Diamonds		
F BHP Minerals Ltd	1986	EL 1292	Env 6791									
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379							Base Metals		
F BHP Minerals	1986	EL 1292	Env 6541/6379							Base Metals		
F S.A.D.M.E.	1988											
F Newmont			Env 3084									

F Peake and Denison Ranges Area - Geochemistry

	Company	Date	Licence	Reference	Stream Sediment	Soil Sampling	Rock Chip	Core/ Cuttings	Water Sampling	Geobotany	Objective Elements	Other Elements	Map Reference
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562	< 466	< 19					21 elements		
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562	< 466	< 19					21 elements		11
F	BHP Minerals	1983/1984	EL 1029	Env 4858	yes	yes	yes	yes			Diamonds		
F	BHP Minerals	1983/1984	EL 1010	Env 4858	yes	yes	yes	yes			Diamonds		
F	Gemex	1981	EL 760	Env 4061									
F	Getty Oil Development	1980	EL 409	Env 3602									
F	Getty Oil Development	1980		Env 3804					3				
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288	1115								7
F	Uranertz	1974		Env 2381							Diamonds		15,16
F							64	8			U,Th		18
F													

F Peake and Denison Ranges Area - Geophysics

Company	Date	Licence	Reference	IP	Magnetics	Radiometrics	Gravity	Resistivity	SP	VLF	EM	Seismic	Map Reference
F G.Scouler	1885		Roy Soc 9										
F S.A.D.M.	1886		RB1										
F S.S. East	1889		Roy Soc 12										
F S.A.D.M.	1893/1894		Parl Pap25										
F S.A.D.M.	1915		Bull 5										
F S.A.D.M.	1918		MR 29										
F S.A.D.M.	1930		Bul 14										
F S.A.D.M.	1946		Bull 23										
F Sprigg	1949		Roy Soc 73										
F H. Narain	1951						yes						
F Sprigg	1952		Mawson vol										
F S.A.D.M.	1955		RI 6				yes						NF,6
F S.A.D.M.	1957												
F S.A.D.M.	1961		MR 114				yes						NE
F North Broken Hill Ltd	1966/1967	SML125	Env 694										
F North Broken Hill Ltd	1966/1968	SML 134	Env 941	yes	G60m								N5,A,B,C
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes	A500/92,G30	A500/92,G30			yes	yes	yes		N2,1,E-L
F S.A.D.M.E.	1969/1970		RB70/84,MR132			yes							D
F C.R.A.E.	1971	SML402/3	Env 1565										
F AOG Minerals Ltd	1972	SML 718	Env 2142										
F Chevron Minerals Ltd	1973	EL 22	Env 2182			yes		yes	yes			1 line	2
F S.A.D.M.E.	1973												
F S.W.Schoff, T.R.Fairchild	1973												
F Uranertz	1974/1975	EL 110	Env 2253			A2000M,G5000							M,P
F S.A.D.M.E.	1974												
F WMC	1975	EL 192	Env 2525										
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080			yes		yes					3,4
F Cyprus Aust Coal	1985	EL 5466	Env 4909		A300,80,G	A300,80							
F Savata Pty Ltd	1979/1980	EL 462	Env 3579		yes	yes	yes						NH
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288				yes						13
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562		yes	yes	yes				yes		
F Dampier Mining	1977/1980	EL 369	Env 3754		yes		yes						
F Dampier Mining	1977/1980	EL 583	Env 3754		yes		yes						8
F S.A.D.M.E.	1980		RB 80/70										8
F Aberfoyle	1980/1987	EL 571	Env 3771	yes	yes	yes				yes	yes		10,11,Z
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	A125,50,G	A125,50,G				yes	yes		Z,10
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027		yes		yes						
F Carpentaria Exploration	1981	EL 743	Env 4031										
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	A300,80	A300,80				yes	yes		10,11,Z
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041										
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042										
F Gemex/Western Queen	1980/1981	EL 763	Env 4061										
F Gemex/Western Queen	1980/1981	EL 760	Env 4061										
F C.R.A.E.	1980.1982	EL 761	Env 4138		yes	yes			yes				18
F S.A.D.M.E.	1980		Bull 50										
F Ashton	1981.1983	EL 787	Env 4223		A300,80,G200	A300,80							T,9
F Carpentaria Exploration	1981/1982	EL 888	Env 4496										
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106		A300,80	A300,80	yes						NB
F BHP Minerals	1982/1984	EL 1202	Env 4909		A300,80	A300,80	yes						NC
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912										
F BHP Minerals	1983/1986	EL 1290	Env 6282		A300,80	A300,80	yes				yes		
F BHP Minerals Ltd	1986	EL 1292	Env 6791				yes						T
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379		A500,80,G	AR00,80,G	yes						X
F BHP Minerals	1986	EL 1292	Env 6541/6379		A500,80	A500,80	yes						Y
F S.A.D.M.E.	1988												
F Newmont			Env 3084										
F			Env 3602										

F Peake and Denison Ranges Area - Geophysics

	Company	Date	Licence	Reference	IP	Magnetics	Radiometrics	Gravity	Resistivity	SP	VLF	EM	Seismic	Map Reference
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562		yes	yes	yes				yes		11
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562		A150,60,G	A150,60,G	yes			yes			U
F	BHP Minerals	1983/1984	EL 1029	Env 4858		A300,80	A300,80	yes						NB
F	BHP Minerals	1983/1984	EL 1010	Env 4858		A300,80,G	A300,80,G	yes						V
F	Gemex	1981	EL 760	Env 4061										
F	Getty Oil Development	1980	EL 409	Env 3602										
F	Getty Oil Development	1980		Env 3804										
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288				yes						13
F	Uranertz	1974		Env 2381										Q,R
F														
F														

F Peake and Denison Ranges Area - Drilling

Company	Date	Licence	Reference	Diamond	Percussion	Rotary	RC	Auger	Map Reference
F G.Scouler	1885		Roy Soc 9						
F S.A.D.M.	1886		RB1						
F S.S. East	1889		Roy Soc 12						
F S.A.D.M.	1893/1894		Parl Pap25						
F S.A.D.M.	1915		Bull 5						
F S.A.D.M.	1918		MR 29						
F S.A.D.M.	1930		Bul 14						
F S.A.D.M.	1946		Bull 23						
F Sprigg	1949		Roy Soc 73						
F H. Narain	1951								
F Sprigg	1952		Mawson vol						
F S.A.D.M.	1955		RI 6						
F S.A.D.M.	1957								
F S.A.D.M.	1961		MR 114						
F North Broken Hill Ltd	1966/1967	SML125	Env 694						
F North Broken Hill Ltd	1966/1968	SML 134	Env 941						4,5
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes	yes	yes			3
F S.A.D.M.E.	1969/1970		RB70/84,MR132						
F C.R.A.E.	1971	SML402/3	Env 1565						
F AOG Minerals Ltd	1972	SML 718	Env 2142					yes	
F Chevron Minerals Ltd	1973	EL 22	Env 2182					yes	8,9
F S.A.D.M.E.	1973								
F S.W.Schoff, T.R.Fairchild	1973								
F Uranertz	1974/1975	EL 110	Env 2253						
F S.A.D.M.E.	1974								
F WMC	1975	EL 192	Env 2525						4,5
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080						1
F Cyprus Aust Coal	1985	EL 5466	Env 4909						
F Savata Pty Ltd	1979/1980	EL 462	Env 3579						
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288						
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562					yes	
F Dampier Mining	1977/1980	EL 369	Env 3754	yes					
F Dampier Mining	1977/1980	EL 583	Env 3754	yes					11
F S.A.D.M.E.	1980		RB 80/70						
F Aberfoyle	1980/1987	EL 571	Env 3771		yes	yes			
F Aberfoyle	1980/1987	EL 968	Env 3771		yes	yes			
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027		yes	yes			
F Carpentaria Exploration	1981	EL 743	Env 4031	yes					
F Aberfoyle	1980/1987	EL 968	Env 3771		yes	yes			16,17
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041						
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042						
F Gemex/Western Queen	1980/1981	EL 763	Env 4061						
F Gemex/Western Queen	1980/1981	EL 760	Env 4061						
F C.R.A.E.	1980.1982	EL 761	Env 4138		yes	yes		yes	12
F S.A.D.M.E.	1980		Bull 50						
F Ashton	1981.1983	EL 787	Env 4223						
F Carpentaria Exploration	1981/1982	EL 888	Env 4496						
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106						
F BHP Minerals	1982/1984	EL 1202	Env 4909						
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912						
F BHP Minerals	1983/1986	EL 1290	Env 6282						
F BHP Minerals Ltd	1986	EL 1292	Env 6791						
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379						
F BHP Minerals	1986	EL 1292	Env 6541/6379						
F S.A.D.M.E.	1988								
F Vermont			Env 3084						
F			Env 3602						

F Peake and Denison Ranges Area - Drilling

	Company	Date	Licence	Reference	Diamond	Percussion	Rotary	RC	Auger	Map Reference
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562					yes	
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562					yes	13
F	BHP Minerals	1983/1984	EL 1029	Env 4858						
F	BHP Minerals	1983/1984	EL 1010	Env 4858						14
F	Gemex	1981	EL 760	Env 4061						
F	Getty Oil Development	1980	EL 409	Env 3602						
F	Getty Oil Development	1980		Env 3804						
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288						
F	Uranertz	1974		Env 2381						
F										
F										

F Peake and Denison Ranges Area - Geology

Company	Date	Licence	Reference	Literature Search	Geological Mapping	Petrology	Mineralogy	Remote Sensing	Photo Interpretation	Trenching Tests	Panning Tests	Objective Elements
F G.Scouler	1885		Roy Soc 9									Au
F S.A.D.M.	1886		RB1									
F S.S. East	1889		Roy Soc 12									
F S.A.D.M.	1893/1894		Parl Pap25	yes							yes	Au
F S.A.D.M.	1915		Bull 5									
F S.A.D.M.	1918		MR 29							yes		
F S.A.D.M.	1930		Bul 14									
F S.A.D.M.	1946		Bull 23									
F Sprigg	1949		Roy Soc 73									
F H. Narain	1951											
F Sprigg	1952		Mawson vol									
F S.A.D.M.	1955		RI 6	yes								
F S.A.D.M.	1957											
F S.A.D.M.	1961		MR 114									
F North Broken Hill Ltd	1966/1967	SML125	Env 694									Cu,Pb,Zn,Ni
F North Broken Hill Ltd	1966/1968	SML 134	Env 941		yes	yes						Cu,Pb,Zn,Co,Mo
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes			yes				yes	U,Cu,Ni
F S.A.D.M.E.	1969/1970		RB70/84,MR132		yes							Cu,Pb,Zn,Co,Pb,Ni,Sn,Mo
F C.R.A.E.	1971	SML402/3	Env 1565		yes							Sr
F AOG Minerals Ltd	1972	SML 718	Env 2142									Au
F Chevron Minerals Ltd	1973	EL 22	Env 2182	yes								U
F S.A.D.M.E.	1973											
F S.W.Schoff, T.R.Fairchild	1973											
F Uranertz	1974/1975	EL 110	Env 2253									U
F S.A.D.M.E.	1974											
F WMC	1975	EL 192	Env 2525	yes								Au,Ni,Co,Zn,Pb,Mn,Ag,As
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080	yes								U
F Cyprus Aust Coal	1985	EL 5466	Env 4909									
F Savata Pty Ltd	1979/1980	EL 462	Env 3579						yes			Diamonds
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288									
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562		yes		yes		yes			21 elements
F Dampier Mining	1977/1980	EL 369	Env 3754			yes						
F Dampier Mining	1977/1980	EL 583	Env 3754			yes						
F S.A.D.M.E.	1980		RB 80/70									Au
F Aberfoyle	1980/1987	EL 571	Env 3771	yes	yes	yes	yes		yes	yes		Diamonda,Au
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	yes	yes	yes		yes	yes		Diamonda,Au
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027	yes		yes	yes					Diamonds
F Carpentaria Exploration	1981	EL 743	Env 4031	yes	yes	yes						Au
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	yes	yes	yes		yes	yes		Diamonds,Au
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041				yes					Diamonds
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042				yes					Diamonds,Cu,Co,Ni,Nb
F Gemex/Western Queen	1980/1981	EL 763	Env 4061	yes								U,Coal,Diamonds
F Gemex/Western Queen	1980/1981	EL 760	Env 4061	yes								U,Coal,Diamonds
F C.R.A.E.	1980.1982	EL 761	Env 4138			yes	yes					Cu,Pb,Zn
F S.A.D.M.E.	1980		Bull 50	yes	yes	yes						
F Ashton	1981.1983	EL 787	Env 4223		yes	yes	yes					Diamonds
F Carpentaria Exploration	1981/1982	EL 888	Env 4496	yes	yes	yes			yes			Au
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106				yes					Diamonds
F BHP Minerals	1982/1984	EL 1202	Env 4909				yes					Diamonds
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912					yes	yes			Diamonds
F BHP Minerals	1983/1986	EL 1290	Env 6282					yes				Diamonds
F BHP Minerals Ltd	1986	EL 1292	Env 6791									
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379									Base Metals
F BHP Minerals	1986	EL 1292	Env 6541/6379									Base Metals
F S.A.D.M.E.	1988				yes							
F Newcont			Env 3084									
F			Env 3602									

F Peake and Denison Ranges Area - Geology

	Company	Date	Licence	Reference	Literature Search	Geological Mapping	Petrology	Mineralogy	Remote Sensing	Photo Interpretation	Trenching Tests	Panning Tests	Objective Elements
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562		yes		yes		yes			21 elements
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562		yes		yes		yes			21 elements
F	BHP Minerals	1983/1984	EL 1029	Env 4858			yes		yes				Diamonds
F	BHP Minerals	1983/1984	EL 1010	Env 4858			yes		yes				Diamonds
F	Gemex	1981	EL 760	Env 4061									
F	Getty Oil Development	1980	EL 409	Env 3602									
F	Getty Oil Development	1980		Env 3804									
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288									Diamonds
F	Uranertz	1974		Env 2381									U,Th
F													
F													

Peake and Denison Ranges

Surveys which sampled and analyzed for gold

LEGEND The map overlays the geological map as before.

Operator	Year	Map Ref	Survey Type	Ref
AMC	1969	1	Drilling	Env1015
Chevron	1973	2	Geobotanic	Env2182
WMC	1975	3	Rock	Env2525
WMC	1975	5	NBH Drilling	Env2525
WMC	1975	6	NBH Drilling	Env2525
SADME	1980	7	Stream Sedim.	RB70/80
SADME	1981	8	Rock	Bull 50
BHP	1980	9	Drilling	Env3754
CRAE	1980	10	Drilling	Env4138
CRAE	1980	19	St. Sed Pan C.	Env4138
Carpentaria	1981	11	Rock Quartz re.	Env4496
Carpentaria	1981	12	Rock BIF	Env4496
Carpentaria	1981	13	Rock Conglomer	Env4496
Carpentaria	1981	14	Rock Conglomer	Env4431
Carpentaria	1981	15	Soil Sampling	Env4496
Oilmin	1981	16	Stream Sedim.	Env4041
Utah	1984	17	Drilling	Env3771
Utah	1984	18	Stream Sedim.	Env3771
Utah	1984	18	Soil Sampling	Env3771
Utah	1984	18	Rock chip	Env3771

Notes: The volcanics have only been sampled in three areas. All samples have returned above backround values, both from Tuffs as well as basalt!

The BLEG sampling was undertaken bu UTAH Env 3771 and is the only BLEG work undertaken to date. The area concerned is well to the west of the EL application area. I have included a microfiche of these results.

Once again the attached map demonstrates the paucity and incidental nature of gold geochem.

APPENDIX II

PEAKE AND DENISON RECONNAISSANCE TRIP

cc
cc PS
9/8/1989

Ref: 32.5/GC/SGS

MEMORANDUM

TO: Peter Scott
cc Garth Wilson

FROM: Genesio Circosta

DATE: 3 August, 1989

SUBJECT: Peake and Denison Reconnaissance

The following summarises my notes from the reconnaissance visit to the Peake and Denison Ranges undertaken July 16th to July 19th. The trip was organised by Jim Allender who has an ELA (Figure 1) over the area. We were accompanied by Russell Fountain of Nord Resources.

The Peake and Denison Rnages are approximately 1000km north of Adelaide trending northerly for 130km parallel to the old Central Australian Railway and Marree - Oodnadatta Road.

Gold has been reported in several areas of the Peake and Denison Ranges in South Australia's far north (Figures 2 and 3). Gold occurs with conglomerates of Jurassic-Cretaceous and Tertiary age exposed in areas close to Precambrian Basement Highs. Whilst several companies have carried out exploration over areas of known Au mineralisation no systematic search has been undertaken to test for new payable occurrences in the large areas covered by Jurassic-Cretaceous and Tertiary sediments. It can be assumed that the gold has a hard rock source within either the Early Proterozoic Peake Matamorphics or the Late Proterozoic Adelaidean sequence. No hard rock source to the gold mineralisation has yet been found.

The location and regional geological setting of the Peake and Denison Ranges is shown on Figure 2 and 3. Figure 4 shows the tectonic setting of the Peake and Denison Ranges.

Notes on each location visited and samples collected are summarised below. Sample locations are shown on Figures 5 and 6.

War Loan Mine

Mineralisation consists of a iron-rich quartz breccia sub-parallel to layering of the surrounding Callanna Beds shales. Mineralogy includes limonite-malachite-chalcocite-siderite in a 1-2 metres wide zone striking 130/310^{o} (m) dipping 70^{o} SW. Pits are over a strike length of 80-100 metres.

The host Callanna Beds consist of blue-grey-siltstones which are bleached and contorted near the mineralised zone.

Samples 105251 - quartz-rich lode material
105252 - quartz-poor malachite staines
Callanna Beds.

Tonnage potential of such mineralisation is considered to be poor.

Road to Peak Ruins

A small copper mine within basaltic volcanics of the Cadlareena Volcanics (Callanna Beds) was examined. Mineralisation was observed to consist of malachite + native copper in a 30-40 cm wide siliceous zone parallel to foliation within the volcanics. Oriented at $80^{o}/60^{o}$ (m). Basalts appear altered adjacent to the lode.

Samples 105253 - lode material
105254 - sample of unmineralised balatic rock to check background levels.

Again tonnage potential is considered to be poor.

Peake Ruins - Freeling Spring Area

This is very interesting area where Middle Proterozoic Winniecurrie Granite is faulted by a major N-S trending fault.

The fault zone adjacent to the spring contains abundant quartz-specular hematite breccia in a zone >10 metres. This style of mienralisation was observed for 200 metres north and approxiamtely 500 metres south of the spring.

The Wirriecurrie Granite adjacent to the fault zone appears sheared and veined for 40-50 metres west of the fault. Common slickensides are observed. Shears in basic rocks through the granite are common striking $110/290^{o}$ (m) dipping 60^{o} north-east.

A small copper pit is observed to contain quartz-malachite mineralisation. The quartz has been brecciated and subsequently cemented by copper-bearing material.

Samples 105255 - Quartz - specular hematite fault zone material.
105256 - Quartz - malachite mineralisation within small pit.

The area examined contains the ruins of the Peake Overland Telegraph Station as is a designated Historic Reserve which limits access to exploration here.

The fault zone in question is however very extensive (>15km in this northern inlier) and could prove to be a very interesting target.

Small Copper Workings

Numerous small copper workings to the west of the main Peake Ruins appear to be associated with the contact between sheared Wirriecurrie Granite and basic volcanics. Most mineralisation occurs within the basic volcanics and includes malachite, atacamite and chrysacolla.

Sample 105257 - sheared basic volcanic with some copper staining.

Although widespread the mineralisation is thought to have limited potential. Some potential for low-grade high tonnage material exists.

Mines in Peake Metamorhics

Some 2-300 metres south several small workings were observed within phyllites of the Peake Metamorphics. The working observed consisted of a shallow N-S trending open-cut sunk on a malachite-rich gossan. The gossan has very-well developed boxworks and contains some siderite. A 6-7 metre deep shaft with a small drive was sunk to the eastern side of the pit in an attempt to test the lode at depth.

The host phyllites are very well layered and can be sheared.

Samples 105258 - gossanous - copper-rich material
105259 - host phyllite collected to check background levels.

Algebuckinga Mine Area

This area has two varying types of mineralisation i.e.

1) Sheared gossanous zones within amphibolites of the Peake Metamorhics and

2) Alluvial gold within the basal Jurassic Algebuckina Sandstone.

Time did not allow us to examine the mineralisation within the Algebuckina Sandstone. This style of mineralisation is of interest in that it must have a source somewhere within the inliers of the Peake and Denison Ranges which formed a Basement High at the time of Algebuckina deposition.

A small copper prospect was examined within the Peake Metamorphics. The metamorphics here seem much higher grade than those observed near the Peake Ruins containing common pegmatites and sheared basic volcancis.

Mineraliation observed appeared to consist of copper staining within high-grade metamorphosed basic volcanics. A series of pits striking 055/235^{0} (m) (dipping 75-80^{0} SE) lie along one such basic unit which can be capped by a well developed limonite-specular hematite gossan.

Samples 105260 - Copper mineralisation in meta-basic rock
105261 - Hematite-limonite gossan.

Melon Spring

At Melon Spring an outcrop of sheared, contorted, dense, undifferentiated amphibolite of the Peake Metamorphics was observed. A sample of this unit (105262) was collected to determine background.

Edith Spring

Near Edith Spring we walked up a gorge (± 2 1/2 km) in an attempt to reach outcrop of the Ordovician Bungadillina Monzonite. Although we did not reach outcrop of the main monzonite body extensive float and several smaller plugs were observed.

The traverse through the gorge went accross a sequence of well layered to structurally contorted Burra Group meta-dolomitic beds. This passes into contorted breccia mapped as "diapiric breccia" which is made up of clasts of Adelaidean sediments (Callanna Beds dominantly) sometimes cemented by Carbonate breccia.

Samples 105263 - med-coarse grained Monzonite from stream float.

105264 - boulder of very gossanous - limonite - specular hematite rock. Good boxworks develops.

Assay Results

The table on the following page list the assay results obtained from the fourteen samples described above.

As expected copper is anomalous and is responsible for any gold anomalies that are present.

Sample 105254 - unmineralised basaltic volcanic of the Callanna Beds has high copper (2600ppm), chromium (160ppm) and Manganese (1980ppm).

Sample 105262 - unmineralised basic amphibolites of the Peake metamorphics has high background for copper (400ppm), zinc (84ppm) and nickel (200ppm).

Conclusions and Recommendations

The area is of sufficient interest to warrant some systematic worked aimed purely at exploration for gold.

There still remain a lot of unanswered questions as to the source of the fine gold within the Algebuckina Sandstone. Where is the hard rock source?

Targets of interest are:

1) The basal Algebuckina Sandstone with its known gold mineralisation.

2) The Peake Metamorphics and associated basic volcanics especially in the Algebuckina Hill area.

3) The series of major faults bounding the eastern side of the ranges which at Peake Ruins are observed to contain abundant quartz + specular hematite ± secondary copper mineralisation. This fault is a major structure and appears to have an offset of 5 kilometres.

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Job: 9
O/N: F

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Bi	Fe	Cr	Ni	As	Mo	Sb	U	Mn	Au Avg	Au Dp1	Au Dp2	Au Dp3
Cu-Qtz lode	105251	6.00%	<4	6	<10	8800	135	22	13	4	6	<4	96	0.07	0.08	0.04	0.08
Schists-Callanna	105252	12.6%	15	40	<10	23.8%	105	310	28	9	10	20	190	0.49	0.26	0.72	--
lode in basalts	105253	1.36%	260	9	75	4.15%	105	12	16	5	8	42	300	0.02	--	--	--
Callanna Basalts	105254	2600	5	16	<10	4.50%	160	16	3	5	<4	<4	1980	<0.01	--	--	--
Qtz-hem-lode	105255	650	<4	13	<10	11.4%	105	<4	24	7	8	<4	100	<0.01	--	--	--
Qtz-malachite	105256	4.40%	<4	14	<10	4.90%	120	35	10	10	8	4	170	<0.01	--	--	--
Sheared basic volc.	105257	1.36%	5	28	50	7.60%	32	18	5	9	6	<4	200	0.12	0.16	0.08	--
Cu-rich gossan	105258	3150	15	20	15	48.5%	52	<4	7	11	<4	<4	660	0.04	--	--	--
Felsic vn/m phyllite	105259	110	<4	19	<10	3.40%	42	22	<2	2	8	5	185	0.01	--	--	--
Metabasic-Cu	105260	6.80%	12	62	<10	12.9%	82	64	36	13	8	18	420	0.05	0.03	0.06	--
hem/lim gossan	105261	500	4	19	<10	37.0%	46	4	<2	7	4	<4	360	0.02	--	--	--
Felsic vn/m basics	105262	400	8	84	10	5.75%	32	200	4	<2	<4	<4	590	<0.01	--	--	--
Monzonite	105263	55	4	18	10	2.00%	40	18	<2	2	8	8	230	<0.01	--	--	--
hem-gossan	105264	85	18	18	<10	47.3%	30	4	<2	45	<4	12	220	<0.01	--	--	--
UNITS		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME		AAS1	AAS1	AAS1	AAS1	AAS1	AAS1	AAS1	XRF1	XRF1	XRF1	XRF1	AAS1	FA1	FA1	FA1	FA1
UPPER SCHEME		AAS1C				AAS1C											

ANALYTICAL REPORT

ANALYTICAL REPORT

042

It is recommended that:

1) Photo coverage of the area be purchased and 1:100,000 base plans be obtained from the Mines Department. This will enable planning of any sampling programme to be undertaken.

2) BLEG sampling is probably the best method to assess the area as a whole. It will however run into problems in the Algebuckina Hill area where the Proterozoic is surrounded by the Jurassic Algebuckina Sandstone which is known to contain fine gold mineralisation.

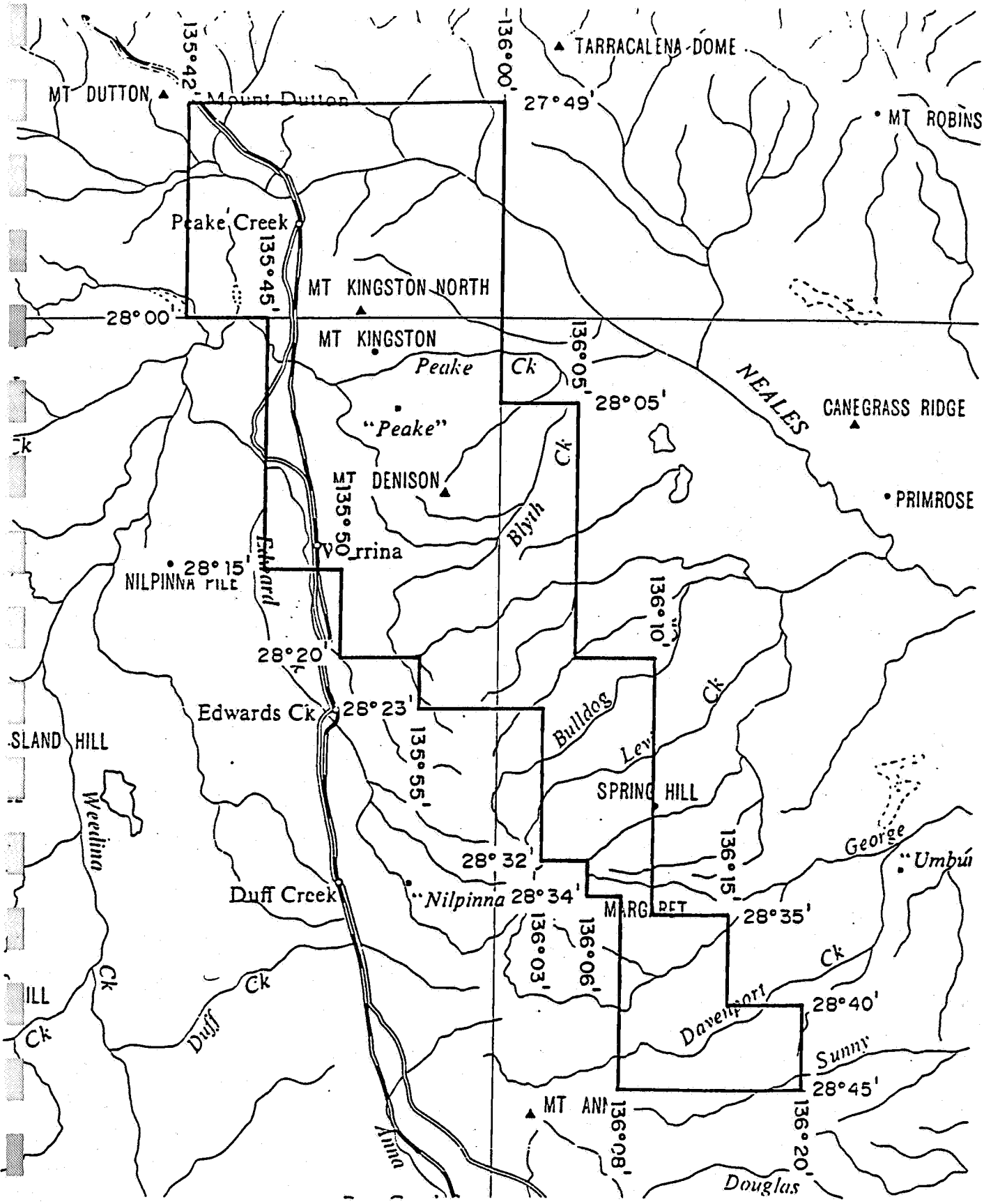
3) Assessment of the Algebuckina Sandstone should involve:

   a) Rock chip geochemistry.

   b) Stream samples from streams draining it.

   c) Outcrop seems quite good in places so it may be possible to carry out some mapping that will enable a plaaeogeograhic study of the Algebuckina Sandstone to me made. Palaeo-current data may give clues to the source direction of sediments.

4) Rock chip traverses over different lithologies will be a help in evaluating areas of interest.



SCALE 1:500,000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

APPLICANT: JAMES FRASER ALLENDER & ANTHONY FRANCIS GREVE LEBRUN

D : 153/89 AREA: 2298 square kilometres (approx.)

250000 PLANS: OODNADATTA, WARRINA

OCALITY: NORTHERN PEAKE AND DENISON RANGES – Approx. 80km SOUTH of OODNADATTA

TE GRANTED: DATE EXPIRED: EL No: FIGURE 1

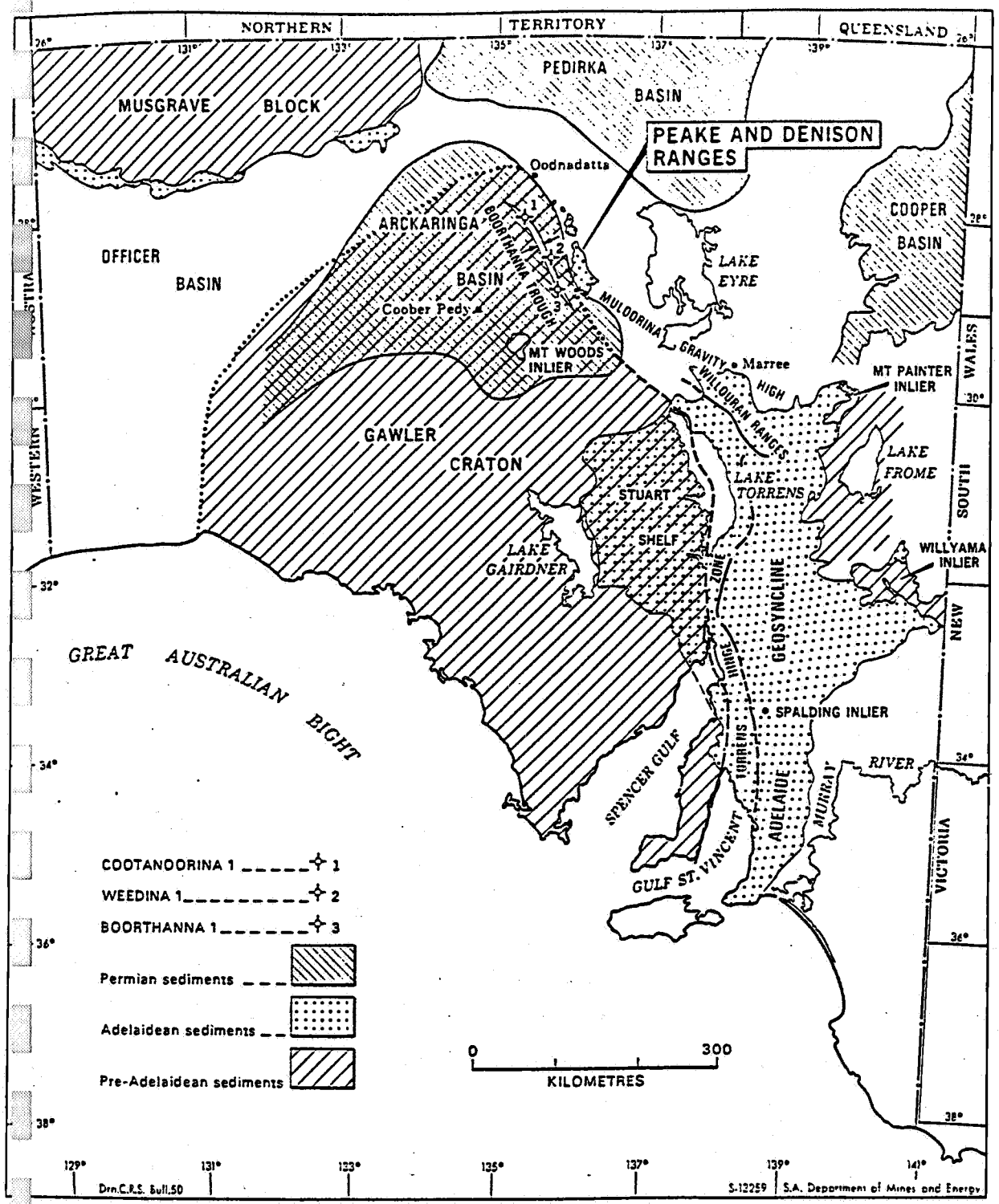


Fig. 2. Peake and Denison Ranges, regional geological setting

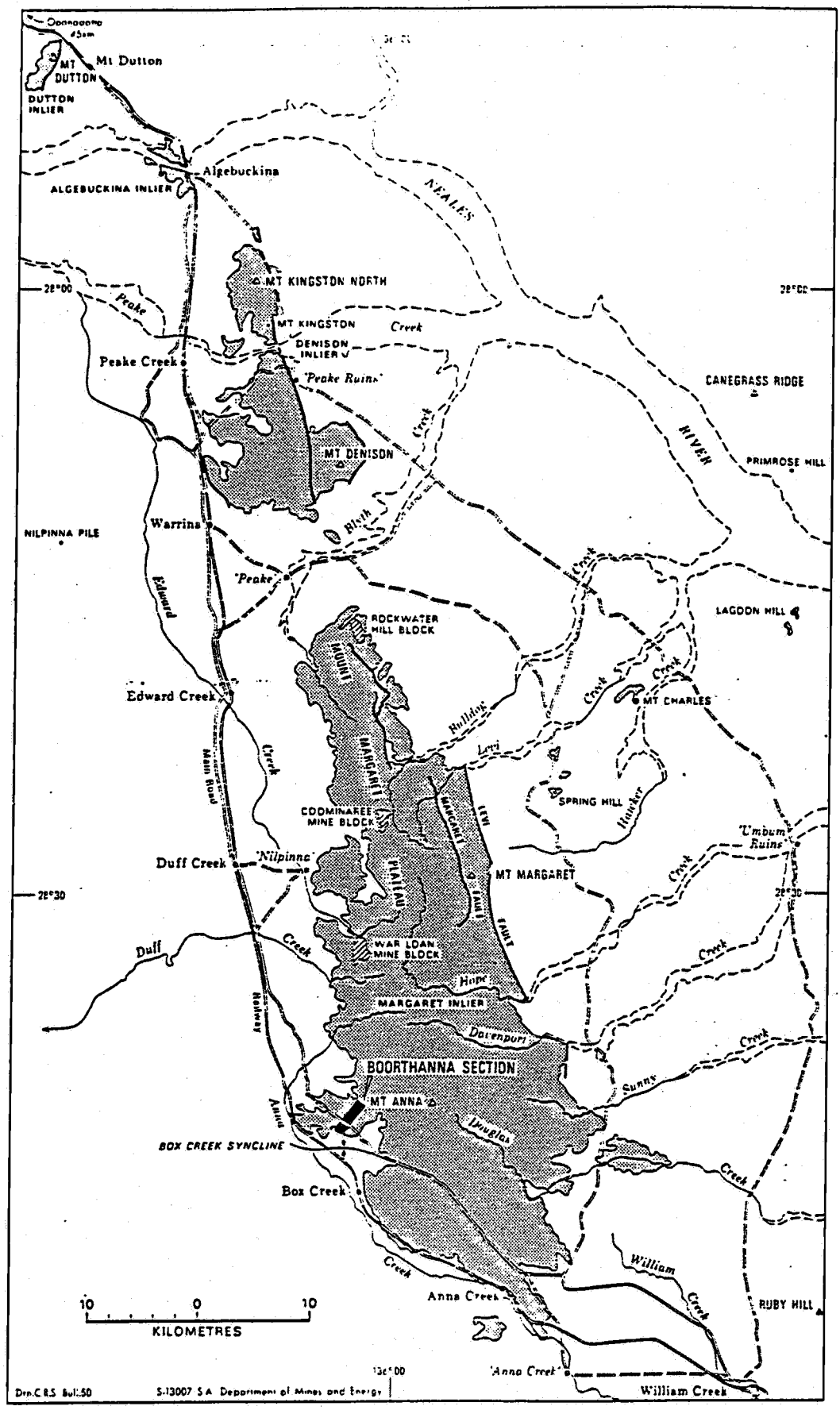


Fig. 3. Locality plan, Peake and Denison Ranges

PEAKE

048

FIGURE 5

RIVER

Algebuckina Mine

Algebuckina

ALGEBUCKINA HILL

105260
105261

Kingston Prospect

MT KINGSTON NORTH

Priorities Mine

Kerlatroaboontallinna Bore

MT KINGSTON

Wilparoona W.H.

Peake

Baltucoodna W.H.

Tidnamunkuna Spring & W.H.

Salt W.H.

Wairawaroona W.H.

Peake Creek

105255
105256

105253
105254

105257
105258
105259

Breakneck Bore

Sandy Creek Springs

Blood Springs

COPPERTOP HILL

Coppertop Springs (P.D.)

Mud Springs (P.D.)

Coppertop Mine

MT YOUNGHUSBAND

MT DENISON

Government Well (P.D.)

Brumby House (ruins)

Warrina

ELA

Lower Blyth Bore

Murra Murrana Bore

Thoua Soakage

Blyth

Peake

Wonmathilgaenjmana Bore

Mordoorana Well

Peechenburrinna W.H.

Bungadillina W.H.

EL 1295

Kalkamunna W.H.

Big Blyth Bore

Creek

136°05'

28°00'

05'

55'

10'

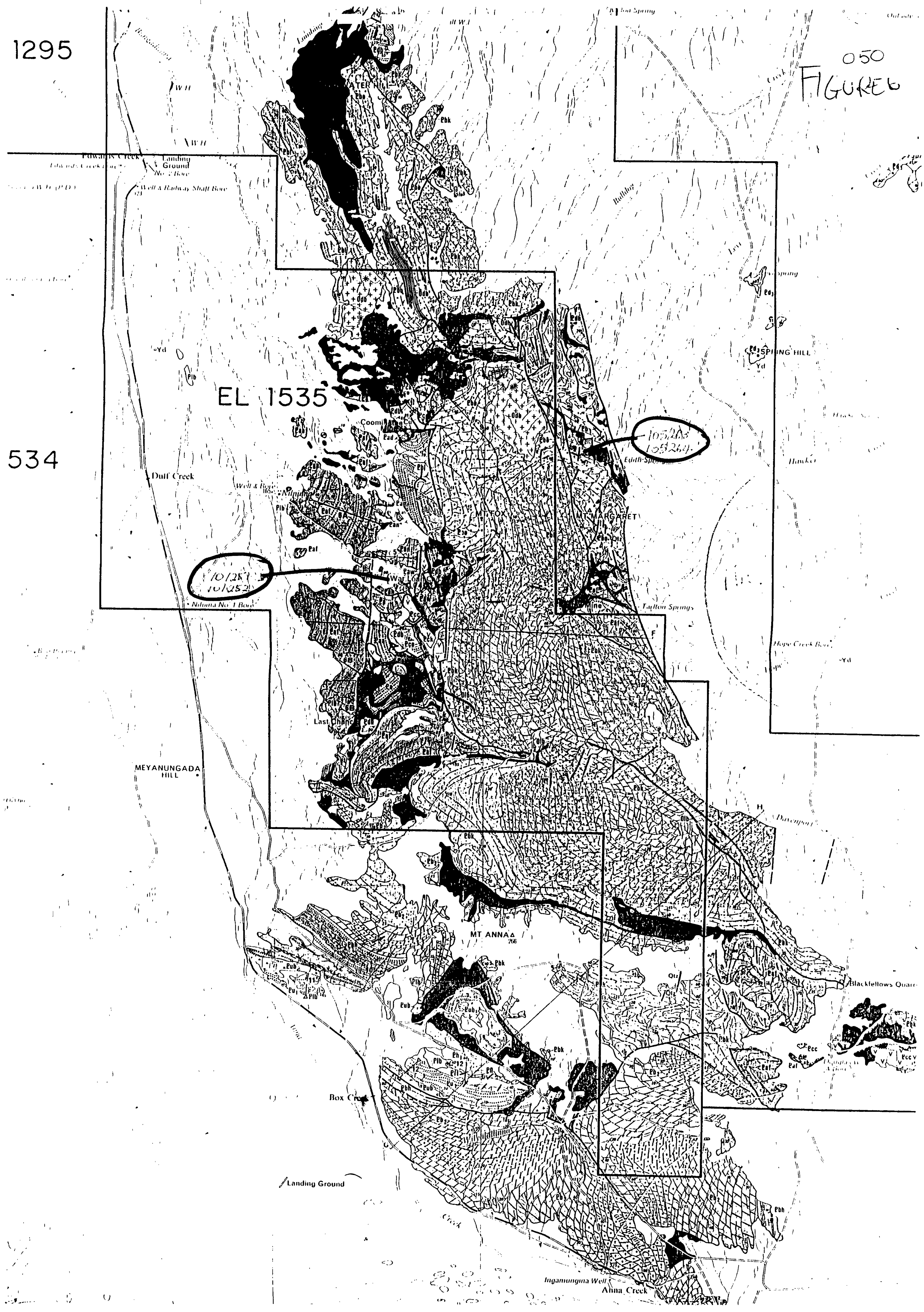
15'

BOUG

136° 1(

Figure 4

MANN FAULT
MUSGRAVE FAULT
LEVENGER GRABEN
WOODROFFE
MUSGRAVE BLOCK
FERDINAND F.
ALBERGA
MOORILYANNA GRABEN
EVERARD
MUNYARA TROUGH
LINDSAY
EVERARD
HIGHWAY
AMMAROODINNA INLIER
WINTINNA
WINTINNA TROUGH
CRATON
ABMINGA
RAGOT RA
DALHOUSIE
SIMPSON DESERT
POOLOWANNA
PANDIE PANDIE
PEDIRKA BASIN
ODNADATTA
NOOLYEANA
GASON
TIRARI
LAKE EYRE
LAKE EYRE NORTH
KOPPERAMANNA
DESERT
PEAKE AND DENISON INLIERS
BOORTHANNA TROUGH
ARCKARINGA BASIN
MURLOOCOPPIE
PWARRINA
WELLS
GAWLER RA
OBSERVATORY HILL
MABEL CREEK HIGH
COOBER PEDY RIDGE
MULOORINA RIDGE
Lake Eyre South
MAURICE
MARGIN
TALLARINGA TROUGH
TALLARINGA
WALLIRA FAULT
WALLIRA TROUGH
COOBER PEDY
MILLIPSON TROUGH
MT WOODS INLIERS
BILLAKALINA
GORDMURKA
MARREE
NORTH WEST FAULT
KARARI
MULGATHING TROUGH
Olympic Dam
COLDEA
RANGE
BARTON
TARCOOLA
KINGOONYA
ANDAMOOKA
TORRENS
GAWLER
COLONA F.
ORABBIE F.


1295
050
FIGURE 6
Edwards Creek
Landing Ground
No 2 Bore
Well & Railway Shaft Bore
Bulldog
SPRING HILL
EL 1535
534
Duff Creek
Well & Bore
Edith Springs
MT FOX
MT MARGARET
War Loan
Nilpinna No 1 Bore
Tarlton Springs
Hope Creek Bore
Last Chance
MEYANUNGADA HILL
Davenport
MT ANNA
266
Blackfellows Quarr
Box Creek
Landing Ground
Ingamungina Well
Anna Creek

APPENDIX III

PEAKE AND DENISON RANGES RECONNAISSANCE SAMPLES

Comlabs Job 9AD 1194

CLASSIC COMLABS LTD
Analytical Laboratories (INC IN W.A.)

305 South Road, Mile End South, South Australia. 5031
Telephone: (08) 43 5722 Fax: (08) 234 0321 Telex: LABCOM AA89323

052

053

Mr Genesio Circosta
Placer Exploration Limited
69 King William Street
Kent Town
SA 5067 AUSTRALIA

Job Number: 9AD1194

Your Reference: PEL 1249
Number of Samples: 14
Extra Samples : 0

Date Received: 20-JUL-1989
Date Reported: 25-JUL-1989

This report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source. Please address any enquiries to Mr. Trevor Francis.

Approved Signature:

for

Dr. John Kikkert
General Manager - Adelaide.
CLASSIC COMLABS LTD

Report Analyte Codes:
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
I.S. - Insufficent Sample for Analysis.

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

053

Job: 9AD1194
O/N: PEL 1249

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Bi	Fe	Cr	Ni
105251	6.00%	<4	6	<10	8800	135	22
105252	12.6%	15	40	<10	23.8%	105	310
105253	1.36%	260	9	75	4.15%	105	12
105254	2600	5	16	<10	4.50%	160	16
105255	650	<4	13	<10	11.4%	105	<4
105256	4.40%	<4	14	<10	4.90%	120	35
105257	1.36%	5	28	50	7.60%	32	18
105258	3150	15	20	15	48.5%	52	<4
105259	110	<4	19	<10	3.40%	42	22
105260	6.80%	12	62	<10	12.9%	82	64
105261	500	4	19	<10	37.0%	46	4
105262	400	8	84	10	5.75%	32	200
105263	55	4	18	10	2.00%	40	18
105264	85	18	18	<10	47.3%	30	4
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS1	AAS1	AAS1
UPPER SCHEME	AAS1C				AAS1C		

Job: 9AD1194
O/N: PEL 1249

[redacted]

ANALYTICAL REPORT

SAMPLE	Mn	Au Avg	Au Dp1	Au Dp2	Au Dp3
105251	96	0.07	0.08	0.04	0.08
105252	190	0.49	0.26	0.72	--
105253	300	0.02	--	--	--
105254	1980	<0.01	--	--	--
105255	100	<0.01	--	--	--
105256	170	<0.01	--	--	--
105257	200	0.12	0.16	0.08	--
105258	660	0.04	--	--	--
105259	185	0.01	--	--	--
105260	420	0.05	0.03	0.06	--
105261	360	0.02	--	--	--
105262	590	<0.01	--	--	--
105263	230	<0.01	--	--	--
105264	220	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

055

Job: 9AD1194
O/N: PEL 1249

ANALYTICAL REPORT

SAMPLE	As	Mo	Sb	U
105251	13	4	6	<4
105252	28	9	10	20
105253	16	5	8	42
105254	3	5	<4	<4
105255	24	7	8	<4
105256	10	10	8	4
105257	5	9	6	<4
105258	7	11	<4	<4
105259	<2	2	8	5
105260	36	13	8	18
105261	<2	7	4	<4
105262	4	<2	<4	<4
105263	<2	2	8	8
105264	<2	45	<4	12
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

APPENDIX IV

PEAKE AND DENISON RANGES
BLEG ASSAYS

Assay Research Australia Pty Ltd
Report AA334

ANALYSIS REPORT

Assay Research Australia Pty. Ltd.
Assay Research Australia
2/15A Kirke Street
BALCATTA W.A. 6021
Phone (09) 344 4566
Fax (09) 345 3023

057

PLACER EXPLORATION LIMITED

REPORT : AA334 4 Pages Date : 15/09/89

lient reference : PEL 1250

Cost code :

opies to : G.CIRIOSTA
P.SCOTT

amples : Type Preparation code
eceived : 11/09/89 ----------

nalysis	Code	Quality Parameter	Detection	Units
Au	Au-BLEG	Prec. 10 %	0.1	ppb
Ag	Ag-BLEG	Prec. 10 %	0.1	ppb
Cu	Cu-BLEG	Prec. 10 %	0.01	ppm

nior Chemist : Brian Givens

REPORT NO. AA334

Assay Research Australia Pty. Ltd.

5kg BULK CYANIDE LEACH
ORDER NO. PEL 1250

Assay Research Australia
2/15A Kirke Street
BALCATTA W.A. 6021
Phone (09) 344 4566
Fax (09) 345 3023

SAMPLE NUMBER	Au ppb DL 0.1	Ag ppb DL 0.1	Cu ppm DL 0.01
105301	0.1	0.9	1.1
105302	0.1	0.6	0.99
105303	0.1	0.5	1.1
105304	0.1	0.3	2.5
105305	0.1	0.7	2.0
105306	0.1	0.8	2.2
105307	0.1	2.1	1.0
105308	<0.1	1.0	0.68
105310	<0.1	1.9	1.6
105311	0.1	1.8	0.67
105312	0.1	1.5	0.58
105313	0.3	1.8	0.73
105314	0.7	1.5	0.62
105315	0.2	2.1	0.75
105316	0.1	0.5	0.43
105317	0.3	0.5	0.38
105318	0.6	0.8	0.68
105323	<0.1	0.3	0.27
105326	0.1	0.4	0.42
105327	0.1	0.3	0.32
105328	0.4	0.6	0.74
105330	0.2	0.3	0.43
105331	0.2	0.4	0.52
105333	0.3	0.3	0.70
105335	0.3	0.5	0.86

Assay Research Australia Pty. Ltd.

SAMPLE NUMBER	Au ppb DL 0.1	Ag ppb DL 0.1	Cu ppm DL 0.01
105337	0.2	0.4	0.32
105338	0.2	0.8	0.73
105339	4.8	1.4	0.90
105340	0.2	0.3	0.33
105341	27.6	1.4	0.28
105342	<0.1	0.2	0.14
105343	<0.1	0.2	0.14
105344	<0.1	0.4	0.14
105345	<0.1	0.6	0.32
105346	0.1	1.0	0.60
105347	<0.1	0.5	0.19
105348	<0.1	0.8	0.29
105349	<0.1	1.0	0.25
105350	<0.1	0.7	0.23
105351	<0.1	0.2	0.29
105352	<0.1	0.1	0.09
105353	<0.1	0.2	0.23
105354	<0.1	0.2	0.21
105355	<0.1	0.1	0.20
105356	<0.1	0.3	0.23
105357	<0.1	0.9	0.56
105358	<0.1	0.2	0.31
105359	0.3	0.5	0.39
105360	<0.1	0.2	0.26
105361	<0.1	0.2	0.18

Assay Research Australia Pty. Ltd.

060

SAMPLE NUMBER	Au ppb DL 0.1	Ag ppb DL 0.1	Cu ppm DL 0.01
105362	<0.1	0.2	0.06
105363	<0.1	1.0	0.24
105364	0.6	1.0	0.31
105365	0.1	1.6	0.72
105366	0.1	0.8	0.53
105367	0.4	0.4	0.49
105376	SNR	SNR	SNR
105377	<0.1	0.8	0.21
105378	0.1	1.2	0.90
105401	0.2	1.1	0.21
105402	<0.1	1.3	0.29
105403	<0.1	0.8	0.37
105404	<0.1	0.6	0.26
105405	<0.1	0.7	0.25
105406	<0.1	0.7	0.16
105407	SNR	SNR	SNR
105408	0.1	0.7	0.38
105409	<0.1	0.9	0.30
105410	0.1	0.7	0.32
105411	0.1	0.3	0.21
105412	0.1	0.5	0.21
105445	0.1	0.7	0.33
105446	<0.1	1.0	0.30
105447	<0.1	0.8	0.22
105448	<0.1	1.6	0.38

AA334

Assay Research Australia Pty. Ltd.

061

SAMPLE NUMBER	Au ppb DL 0.1	Ag ppb DL 0.1	Cu ppm DL 0.01
105323A	0.1	0.7	0.33

TE. ** Result 100ppb or greater. SNR denotes sample not received. DTF denotes
ata to follow. DL denotes detection limit. Senior Chemist : Brian Givens

APPENDIX V

PEAKE AND DENISON RANGES
ROCK CHIP SAMPLES

Comlabs Job No. 9AD 1697

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

305 South Road, Mile End South, South Australia, 5031
Telephone: (08) 43 5722 Fax: (08) 234 0321 Telex: LABCOM AA89323

[redacted]

Mr Genesio Circosta
Placer Exploration Limited
69 King William Street
Kent Town
SA 5067

Job Number: 9AD1679

Your Reference: 1263
Number of Samples: 53
Extra Samples : 0

Date Received: 06-SEP-1989
Date Reported: 27-SEP-1989

This report comprises a cover sheet and pages 1 to 4

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source. Please address any enquiries to Mr. Trevor Francis.

Approved Signature:

for

Dr. John Kikkert
General Manager - Adelaide.

Report Analyte Codes:
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
I.S. - Insufficent Sample for Analysis.

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

064

Job: 9AD1679
O/N: 1263

[redacted]

ANALYTICAL REPORT

Sample	Cu	Pb	Zn	Sb	As	U	Au	
105309	35	24	48	4	4	<4	0.43	Sheared, basaltic rock.
105319	14	15	30	4	3	5	0.01	Siliceous, qtz veined schist.
105320	20	18	40	6	3	<4	0.01	Basaltic rock
105321	14	22	50	5	3	<4	<0.01	Basaltic rock
105322	5300	26	52	4	<2	6	0.02	Cu in sheared basalt. Quarry.
105324	74	8	13	4	3	6	<0.01	Granite -
105325	20	5	7	8	3	4	<0.01	Siliceous veined, rhyolite
105329	20	16	36	8	10	8	0.01	Basal, Algebuckina conglomerate
105332	11	10	16	6	5	4	0.01	Schistose basaltic rock
105334	22	6	24	8	<2	<4	0.01	Quartz scree - fault zone.
105336	5	<4	11	4	2	15	<0.01	Qtz - limonite - fault zone.
105368	54	12	17	<4	<2	8	0.01	
105369	200	18	45	<4	9	8	<0.01	
105370	9200	<4	12	6	14	<4	<0.01	
105371	9600	10	30	5	14	8	0.01	
105372	620	10	30	8	3	<4	<0.01	
105373	48	4	6	6	2	<4	0.02	
105374	24	<4	4	8	<2	<4	<0.01	
105375	11	<4	7	<4	2	<4	<0.01	
105413	12	<4	20	6	4	<4	<0.01	Qtz - conglomerate. Au mine?
105414	9	<4	12	6	2	<4	<0.01	" " "
105415	7	8	8	8	<2	4	<0.01	Algebuckina Sandstone
105416	14	<4	62	6	22	4	0.09	" - conglomerate
105417	12	<4	8	8	<2	<4	0.01	quartz-fe veins - Basement
105418	20	6	12	4	6	<4	<0.01	" " " " "
105419	18	<4	170	12	19	<4	<0.01	" " " " "
105420	11	<4	26	8	4	<4	<0.01	" " " " "
105421	7	12	6	8	6	6	0.01	" " " " "
105422	7	10	5	6	7	<4	0.01	" " " " "
105423	6	6	4	8	<2	<4	<0.01	" " " " "
105424	710	16	13	4	4	<4	0.02	Qtz - hem - lim - malachite vein
105425	44	15	9	5	4	8	0.01	Sheared qtz-mica schist
105426	290	8	38	6	6	<4	<0.01	Qtz & qtz kaolinite/clay
105427	14	6	9	6	<2	<4	0.01	Qtz - feld - vein
105428	10	16	17	10	3	<4	0.01	Qtz - hematite vein. Brec
105429	10	8	15	5	2	<4	<0.01	Mesozoic - silc - conglom
105430	8	14	30	4	7	<4	0.01	As above - mullock dump
105431	15	12	12	6	7	<4	0.01	Basal Algebuckina ss.
105432	9	<4	10	6	<2	<4	0.01	Quartz veining - Basement
105433	13	6	14	6	7	<4	0.01	quartz - tourmaline veins
105434	9	<4	10	5	3	<4	0.01	Qtz vein
105435	12	<4	8	8	2	<4	0.01	" "
105436	800	35	58	4	5	10	0.06	Qtz - hem - malachite vein
105437	3000	18	98	5	8	<4	0.03	Host schist - no mineralisation
105438	5100	34	115	<4	<2	10	0.02	Host - basic volcanic.
105439	72	8	38	5	<2	<4	0.01	Qtz - limonite vein
105440	390	14	38	4	<2	4	0.02	Qtz - tourmaline vein
105441	26	14	17	6	5	<4	0.01	Qtz - limonite
105442	20	16	13	8	2	<4	0.01	Basal Algebuckina SS
105443	14	28	11	5	3	4	0.01	" " "
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detn Limit	2	4	2	4	2	4	0.01	
Scheme	AAS1	AAS1	AAS1	XRF1	XRF1	XRF1	FA1	

Algebuckina Area.

CLASSIC COMLABS LTD
Analytical Laboratories (INC IN W.A.)

065

Job: 9AD1679
O/N: 1263

ANALYTICAL REPORT

Sample	Cu	Pb	Zn	Sb	As	U	Au	
105444	9	12	13	8	2	<4	0.01	Qz-feld-tourmal-mica pegmatite
105376	13	6	4	<4	<2	<4	0.01	
105407	20	20	68	4	12	4	0.01	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detn Limit	2	4	2	4	2	4	0.01	
Scheme	AAS1	AAS1	AAS1	XRF1	XRF1	XRF1	FA1	

Job: 9AD1679
O/N: 1263

[redacted]

ANALYTICAL REPORT

Sample	Ag
105309	2
105319	<1
105320	1
105321	1
105322	1
105324	1
105325	1
105329	1
105332	1
105334	<1
105336	1
105368	1
105369	3
105370	1
105371	1
105372	1
105373	1
105374	1
105375	<1
105413	<1
105414	1
105415	<1
105416	1
105417	<1
105418	1
105419	1
105420	<1
105421	<1
105422	1
105423	<1
105424	1
105425	1
105426	1
105427	<1
105428	1
105429	<1
105430	<1
105431	1
105432	<1
105433	1
105434	<1
105435	<1
105436	2
105437	1
105438	2
105439	1
105440	1
105441	<1
105442	1
105443	<1
Units	ppm
Detn Limit	1
Scheme	AAS2

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

067

Job: 9AD1679
O/N: 1263

[redacted]

ANALYTICAL REPORT

Sample	Ag
105444	1
105376	<1
105407	1
Units	ppm
Detn Limit	1
Scheme	AAS2

135°40'
580 000mE
590 000mE
135°50'
600 000mE
27°50'
6920000mN
6910000mN
28°00'
6900000mN
6890000mN
28°10'
6880000mN
AMG NORTH
MT DUTTON
MT HARVEY
Ockenden Creek
Watsons Creek
RIVER
NEALES
ALGEBUCKINA HILL
MT KINGSTON NORTH
MT KINGSTON
PEAKE HILL
COPPERTOP HILL
MT DENISON
"Peake" (ruins)
Brumby House (ruins)
Warrina
"Peake"

LEGEND

349 ● BLEG Sample Location
433 × Rockchip Sample Location
(all numbers prefixed by 105)

Outline of Proterozoic basement outcrop

Everything outside the outline is Mesozoic Cover

Main road
Track
Railway

0 5 10 kms
SCALE 1:100,000

NOTE: BLEG sample locations 445 to 448 located near Tarlton Springs.

8254-1

PLACER

NORTHERN PEAKE & DENISON RANGES SOUTH AUSTRALIA

Reconnaissance Stream & Rockchip Sample Locations

Date: September , 1989	Geologist: P.Williamson
Revisions:	Drawn: K.Ryder
	Plan No.SH53.3 - 3293

BHP

F Peake and Denison Ranges Area - Geochemistry

Company	Date	Licence	Reference	Stream Sediment	Soil Sampling	Rock Chip	Core/ Cuttings	Water Sampling	Geobotany	Objective Elements	Other Elements	Map Reference
F G.Scouler	1885		Roy Soc 9							Au		
F S.A.D.M.	1886		RB1									
F S.S. East	1889		Roy Soc 12									
F S.A.D.M.	1893/1894		Parl Pap25							Au		
F S.A.D.M.	1915		Bull 5									
F S.A.D.M.	1918		MR 29									
F S.A.D.M.	1930		Bul 14									
F S.A.D.M.	1946		Bull 23					yes				
F Sprigg	1949		Roy Soc 73									
F H. Narain	1951											
F Sprigg	1952		Mawson vol									
F S.A.D.M.	1955		RI 6									
F S.A.D.M.	1957							yes				
F S.A.D.M.	1961		MR 114									
F North Broken Hill Ltd	1966/1967	SML125	Env 694	992		15				Cu,Pb,Zn,Ni		A
F North Broken Hill Ltd	1966/1968	SML 134	Env 941	5800	5280	yes				Cu,Pb,Zn,Co,Mo		N3,B,C
F Australian Mining Corp	1969/1971	SML270	Env 1015	69	30x15	25				U,Cu,Ni	Ag,Au,Bi,Sb	E,F,G,J
F S.A.D.M.E.	1969/1970		RB70/84,MR132	490	1020					Cu,Pb,Zn,Co,Pb,Ni,Sn,Mo	U,Th	D
F C.R.A.E.	1971	SML402/3	Env 1565	43		6	yes			Sr	Ba,U	N6
F AOG Minerals Ltd	1972	SML 718	Env 2142							Au		
F Chevron Minerals Ltd	1973	EL 22	Env 2182					yes	101	U	42 elements	1
F S.A.D.M.E.	1973											
F S.W.Schoff, T.R.Fairchild	1973											
F Uranertz	1974/1975	EL 110	Env 2253							U	Th	
F S.A.D.M.E.	1974					83						
F WMC	1975	EL 192	Env 2525		3489	325	yes			Au,Ni,Co,Zn,Pb,Mn,Ag,As		2,3
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080			12		6		U	Coal	N1,N2,4,5
F Cyprus Aust Coal	1985	EL 5466	Env 4909									
F Savata Pty Ltd	1979/1980	EL 462	Env 3579	8	14	16				Diamonds	8 elements	N7
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288									
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562	yes	yes	yes	yes			21 elements		
F Dampier Mining	1977/1980	EL 369	Env 3754		yes		yes				35 elements	
F Dampier Mining	1977/1980	EL 583	Env 3754		yes		yes				35 elements	
F S.A.D.M.E.	1980		RB 80/70	36						Au		
F Aberfoyle	1980/1987	EL 571	Env 3771	>600	2	359	yes			Diamonda,Au	9 elements	
F Aberfoyle	1980/1987	EL 968	Env 3771	>600	2	359	yes			Diamonda,Au	9 elements	
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027	yes						Diamonds	6 elements	
F Carpentaria Exploration	1981	EL 743	Env 4031			25				Au		N9
F Aberfoyle	1980/1987	EL 968	Env 3771	613	2	354	yes			Diamonds,Au	9 elements	14
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041	3255						Diamonds	15 Elements	N10
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042	526						Diamonds,Cu,Co,Ni,Nb	15 Elements	W
F Gemex/Western Queen	1980/1981	EL 763	Env 4061							U,Coal,Diamonds		
F Gemex/Western Queen	1980/1981	EL 760	Env 4061							U,Coal,Diamonds		
F C.R.A.E.	1980.1982	EL 761	Env 4138	79	46		yes			Cu,Pb,Zn	13 elements	19
F S.A.D.M.E.	1980		Bull 50			83					20 elements	6
F Ashton	1981.1983	EL 787	Env 4223	52						Diamonds	18 elements	9
F Carpentaria Exploration	1981/1982	EL 888	Env 4496	23		53				Au		N8
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106	yes	yes					Diamonds		
F BHP Minerals	1982/1984	EL 1202	Env 4909	20						Diamonds		NA
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912	3						Diamonds		10
F BHP Minerals	1983/1986	EL 1290	Env 6282							Diamonds		
F BHP Minerals Ltd	1986	EL 1292	Env 6791									
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379							Base Metals		
F BHP Minerals	1986	EL 1292	Env 6541/6379							Base Metals		
F S.A.D.M.E.	1988											
F Newmont			Env 3084									
F			Env 3602									

F Peake and Denison Ranges Area - Geochemistry

	Company	Date	Licence	Reference	Stream Sediment	Soil Sampling	Rock Chip	Core/ Cuttings	Water Sampling	Geobotany	Objective Elements	Other Elements	Map Reference
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562	< 466	< 19					21 elements		11
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562	< 466	< 19					21 elements		
F	BHP Minerals	1983/1984	EL 1029	Env 4858	yes	yes	yes	yes			Diamonds		
F	BHP Minerals	1983/1984	EL 1010	Env 4858	yes	yes	yes	yes			Diamonds		
F	Gemex	1981	EL 760	Env 4061									7
F	Getty Oil Development	1980	EL 409	Env 3602					3				15,16
F	Getty Oil Development	1980		Env 3804							Diamonds		18
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288	1115		64	8			U,Th		
F	Uranertz	1974		Env 2381									
F													
F													

F Peake and Denison Ranges Area - Geophysics

Company	Date	Licence	Reference	IP	Magnetics	Radiometrics	Gravity	Resistivity	SP	VLF	EM	Seismic	Map Reference
F G.Scouler	1885		Roy Soc 9										
F S.A.D.M.	1886		RB1										
F S.S. East	1889		Roy Soc 12										
F S.A.D.M.	1893/1894		Parl Pap25										
F S.A.D.M.	1915		Bull 5										
F S.A.D.M.	1918		MR 29										
F S.A.D.M.	1930		Bul 14										
F S.A.D.M.	1946		Bull 23										
F Sprigg	1949		Roy Soc 73										
F H. Narain	1951						yes						
F Sprigg	1952		Mawson vol										
F S.A.D.M.	1955		RI 6				yes						NF,6
F S.A.D.M.	1957												
F S.A.D.M.	1961		MR 114				yes						NE
F North Broken Hill Ltd	1966/1967	SML125	Env 694										
F North Broken Hill Ltd	1966/1968	SML 134	Env 941	yes	G60m								N5,A,B,C
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes	A500/92,G30	A500/92,G30			yes	yes	yes		N2,1,E-L
F S.A.D.M.E.	1969/1970		RB70/84,MR132			yes							D
F C.R.A.E.	1971	SML402/3	Env 1565										
F AOG Minerals Ltd	1972	SML 718	Env 2142										
F Chevron Minerals Ltd	1973	EL 22	Env 2182			yes		yes	yes			1 line	2
F S.A.D.M.E.	1973												
F S.W.Schoff, T.R.Fairchild	1973												
F Uranertz	1974/1975	EL 110	Env 2253			A2000M,G5000							M,P
F S.A.D.M.E.	1974												
F WMC	1975	EL 192	Env 2525										
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080			yes		yes					3,4
F Cyprus Aust Coal	1985	EL 5466	Env 4909		A300,80,G	A300,80							
F Savata Pty Ltd	1979/1980	EL 462	Env 3579		yes	yes	yes						NH
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288				yes						13
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562		yes	yes	yes				yes		
F Dampier Mining	1977/1980	EL 369	Env 3754		yes		yes						
F Dampier Mining	1977/1980	EL 583	Env 3754		yes		yes						8
F S.A.D.M.E.	1980		RB 80/70										8
F Aberfoyle	1980/1987	EL 571	Env 3771	yes	yes	yes				yes	yes		10,11,Z
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	A125,50,G	A125,50,G				yes	yes		2,10
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027		yes		yes						
F Carpentaria Exploration	1981	EL 743	Env 4031										
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	A300,80	A300,80				yes	yes		10,11,Z
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041										
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042										
F Gemex/Western Queen	1980/1981	EL 763	Env 4061										
F Gemex/Western Queen	1980/1981	EL 760	Env 4061										
F C.R.A.E.	1980.1982	EL 761	Env 4138		yes	yes			yes				18
F S.A.D.M.E.	1980		Bull 50										
F Ashton	1981.1983	EL 787	Env 4223		A300,80,G200	A300,80							T,9
F Carpentaria Exploration	1981/1982	EL 888	Env 4496										
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106		A300,80	A300,80	yes						NB
F BHP Minerals	1982/1984	EL 1202	Env 4909		A300,80	A300,80	yes						NC
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912										
F BHP Minerals	1983/1986	EL 1290	Env 6282		A300,80	A300,80	yes				yes		
F BHP Minerals Ltd	1986	EL 1292	Env 6791				yes						T
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379		A500,80,G	AR00,80,G	yes						X
F BHP Minerals	1986	EL 1292	Env 6541/6379		A500,80	A500,80	yes						Y
F S.A.D.M.E.	1988												
F Newmont			Env 3084										
F			Env 3602										

F Peake and Denison Ranges Area - Geophysics

Company	Date	Licence	Reference	IP	Magnetics	Radiometrics	Gravity	Resistivity	SP	VLF	EM	Seismic	Map Reference
F Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562		yes	yes	yes				yes		11
F Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562		A150,60,G	A150,60,G	yes			yes			U
F BHP Minerals	1983/1984	EL 1029	Env 4858		A300,80	A300,80	yes						NB
F BHP Minerals	1983/1984	EL 1010	Env 4858		A300,80,G	A300,80,G	yes						V
F Gemex	1981	EL 760	Env 4061										
F Getty Oil Development	1980	EL 409	Env 3602										
F Getty Oil Development	1980		Env 3804										
F Stockdale Prospecting ltd	1984	EL 1179	Env 5288				yes						13
F Uranertz	1974		Env 2381										Q,R
F													
F													

F Peake and Denison Ranges Area - Drilling

Company	Date	Licence	Reference	Diamond	Percussion	Rotary RC	Auger	Map Reference
F G.Scouler	1885		Roy Soc 9					
F S.A.D.M.	1886		RB1					
F S.S. East	1889		Roy Soc 12					
F S.A.D.M.	1893/1894		Parl Pap25					
F S.A.D.M.	1915		Bull 5					
F S.A.D.M.	1918		MR 29					
F S.A.D.M.	1930		Bul 14					
F S.A.D.M.	1946		Bull 23					
F Sprigg	1949		Roy Soc 73					
F H. Narain	1951							
F Sprigg	1952		Mawson vol					
F S.A.D.M.	1955		RI 6					
F S.A.D.M.	1957							
F S.A.D.M.	1961		MR 114					
F North Broken Hill Ltd	1966/1967	SML125	Env 694					
F North Broken Hill Ltd	1966/1968	SML 134	Env 941					4,5
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes	yes	yes		3
F S.A.D.M.E.	1969/1970		RB70/84,MR132					
F C.R.A.E.	1971	SML402/3	Env 1565					
F AOG Minerals Ltd	1972	SML 718	Env 2142				yes	
F Chevron Minerals Ltd	1973	EL 22	Env 2182				yes	8,9
F S.A.D.M.E.	1973							
F S.W.Schoff, T.R.Fairchild	1973							
F Uranertz	1974/1975	EL 110	Env 2253					
F S.A.D.M.E.	1974							
F WMC	1975	EL 192	Env 2525					4,5
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080					1
F Cyprus Aust Coal	1985	EL 5466	Env 4909					
F Savata Pty Ltd	1979/1980	EL 462	Env 3579					
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288					
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562				yes	
F Dampier Mining	1977/1980	EL 369	Env 3754	yes				
F Dampier Mining	1977/1980	EL 583	Env 3754	yes				11
F S.A.D.M.E.	1980		RB 80/70					
F Aberfoyle	1980/1987	EL 571	Env 3771		yes	yes		
F Aberfoyle	1980/1987	EL 968	Env 3771		yes	yes		
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027		yes	yes		
F Carpentaria Exploration	1981	EL 743	Env 4031	yes				
F Aberfoyle	1980/1987	EL 968	Env 3771		yes	yes		16,17
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041					
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042					
F Gemex/Western Queen	1980/1981	EL 763	Env 4061					
F Gemex/Western Queen	1980/1981	EL 760	Env 4061					
F C.R.A.E.	1980.1982	EL 761	Env 4138		yes	yes	yes	12
F S.A.D.M.E.	1980		Bull 50					
F Ashton	1981.1983	EL 787	Env 4223					
F Carpentaria Exploration	1981/1982	EL 888	Env 4496					
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106					
F BHP Minerals	1982/1984	EL 1202	Env 4909					
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912					
F BHP Minerals	1983/1986	EL 1290	Env 6282					
F BHP Minerals Ltd	1986	EL 1292	Env 6791					
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379					
F BHP Minerals	1986	EL 1292	Env 6541/6379					
F S.A.D.M.E.	1988							
F Newmont			Env 3084					
F			Env 3602					

F Peake and Denison Ranges Area - Drilling

	Company	Date	Licence	Reference	Diamond	Percussion	Rotary	RC	Auger	Map Reference
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562					yes	
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562					yes	13
F	BHP Minerals	1983/1984	EL 1029	Env 4858						
F	BHP Minerals	1983/1984	EL 1010	Env 4858						14
F	Gemex	1981	EL 760	Env 4061						
F	Getty Oil Development	1980	EL 409	Env 3602						
F	Getty Oil Development	1980		Env 3804						
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288						
F	Uranertz	1974		Env 2381						
F										
F										

F Peake and Denison Ranges Area - Geology

Company	Date	Licence	Reference	Literature Search	Geological Mapping	Petrology	Mineralogy	Remote Sensing	Photo Interpretation	Trenching Tests	Panning Tests	Objective Elements
F G.Scouler	1885		Roy Soc 9									Au
F S.A.D.M.	1886		RB1									
F S.S. East	1889		Roy Soc 12									
F S.A.D.M.	1893/1894		Parl Pap25	yes							yes	Au
F S.A.D.M.	1915		Bull 5									
F S.A.D.M.	1918		MR 29							yes		
F S.A.D.M.	1930		Bul 14									
F S.A.D.M.	1946		Bull 23									
F Sprigg	1949		Roy Soc 73									
F M. Narain	1951											
F Sprigg	1952		Mawson vol									
F S.A.D.M.	1955		RI 6	yes								
F S.A.D.M.	1957											
F S.A.D.M.	1961		MR 114									
F North Broken Hill Ltd	1966/1967	SML125	Env 694									Cu,Pb,Zn,Ni
F North Broken Hill Ltd	1966/1968	SML 134	Env 941		yes	yes						Cu,Pb,Zn,Co,Mo
F Australian Mining Corp	1969/1971	SML270	Env 1015	yes			yes				yes	U,Cu,Ni
F S.A.D.M.E.	1969/1970		RB70/84,MR132		yes							Cu,Pb,Zn,Co,Pb,Ni,Sn,Mo
F C.R.A.E.	1971	SML402/3	Env 1565		yes							Sr
F AOG Minerals Ltd	1972	SML 718	Env 2142									Au
F Chevron Minerals Ltd	1973	EL 22	Env 2182	yes								U
F S.A.D.M.E.	1973											
F S.W.Schoff, T.R.Fairchild	1973											
F Uranertz	1974/1975	EL 110	Env 2253									U
F S.A.D.M.E.	1974											
F WMC	1975	EL 192	Env 2525	yes								Au,Ni,Co,Zn,Pb,Mn,Ag,As
F MINAD/Teton Drilling	1977/1978	EL 336	Env 3080	yes								U
F Cyprus Aust Coal	1985	EL 5466	Env 4909									
F Savata Pty Ltd	1979/1980	EL 462	Env 3579						yes			Diamonds
F Stockdale Prospecting Ltd	1987	EL 4179	Env 5288									
F Stockdale/Britas/Cons. Gold	1979/1984	EL 491	Env 3562		yes		yes		yes			21 elements
F Dampier Mining	1977/1980	EL 369	Env 3754			yes						
F Dampier Mining	1977/1980	EL 583	Env 3754			yes						
F S.A.D.M.E.	1980		RB 80/70									Au
F Aberfoyle	1980/1987	EL 571	Env 3771	yes	yes	yes	yes		yes	yes		Diamonda,Au
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	yes	yes	yes		yes	yes		Diamonda,Au
F Western Nuclear/Oilmin/Transoi	1980/1982	EL 709	Env 4027	yes		yes	yes					Diamonds
F Carpentaria Exploration	1981	EL 743	Env 4031	yes	yes	yes						Au
F Aberfoyle	1980/1987	EL 968	Env 3771	yes	yes	yes	yes		yes	yes		Diamonds,Au
F Oilmin/Transoil/Petromin	1981/1982	EL 750	Env 4041				yes					Diamonds
F Oilmin/Transoil/Petromin	1981/1982	EL 751	Env 4042				yes					Diamonds,Cu,Co,Ni,Nb
F Gemex/Western Queen	1980/1981	EL 763	Env 4061	yes								U,Coal,Diamonds
F Gemex/Western Queen	1980/1981	EL 760	Env 4061	yes								U,Coal,Diamonds
F C.R.A.E.	1980.1982	EL 761	Env 4138			yes	yes					Cu,Pb,Zn
F S.A.D.M.E.	1980		Bull 50	yes	yes	yes						
F Ashton	1981.1983	EL 787	Env 4223		yes	yes	yes					Diamonds
F Carpentaria Exploration	1981/1982	EL 888	Env 4496	yes	yes	yes			yes			Au
F BHP Minerals	1982/1984	EL 1133	Env 4858/5106				yes					Diamonds
F BHP Minerals	1982/1984	EL 1202	Env 4909				yes					Diamonds
F Stockdale Prospecting	1983/1984	EL 1030	Env 4912					yes	yes			Diamonds
F BHP Minerals	1983/1986	EL 1290	Env 6282					yes				Diamonds
F BHP Minerals Ltd	1986	EL 1292	Env 6791									
F BHP Minerals	1985/1986	EL 1293	Env 6542/6379									Base Metals
F BHP Minerals	1986	EL 1292	Env 6541/6379									Base Metals
F S.A.D.M.E.	1988				yes							
F Newmont			Env 3084									
F			Env 3602									

F Peake and Denison Ranges Area - Geology

	Company	Date	Licence	Reference	Literature Search	Geological Mapping	Petrology	Mineralogy	Remote Sensing	Photo Interpretation	Trenching Tests	Panning Tests	Objective Elements
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 899	Env 3562		yes		yes		yes			21 elements
F	Stockdale/Britas/Cons. Gold	1979/1984	EL 1187	Env 3562		yes		yes		yes			21 elements
F	BHP Minerals	1983/1984	EL 1029	Env 4858			yes		yes				Diamonds
F	BHP Minerals	1983/1984	EL 1010	Env 4858			yes		yes				Diamonds
F	Gemex	1981	EL 760	Env 4061									
F	Getty Oil Development	1980	EL 409	Env 3602									
F	Getty Oil Development	1980		Env 3804									
F	Stockdale Prospecting ltd	1984	EL 1179	Env 5288									Diamonds
F	Uranertz	1974		Env 2381									U,Th
F													
F													

Peake and Denison Ranges

Surveys which sampled and analyzed for gold

LEGEND The map overlays the geological map as before.

Operator	Year	Map Ref	Survey Type	Ref
AMC	1969	1	Drilling	Env1015
Chevron	1973	2	Geobotanic	Env2182
WMC	1975	3	Rock	Env2525
WMC	1975	5	NBH Drilling	Env2525
WMC	1975	6	NBH Drilling	Env2525
SADME	1980	7	Stream Sedim.	RB70/80
SADME	1981	8	Rock	Bull 50
BHP	1980	9	Drilling	Env3754
CRAE	1980	10	Drilling	Env4138
CRAE	1980	19	St. Sed Pan C.	Env4138
Carpentaria	1981	11	Rock Quartz re.	Env4496
Carpentaria	1981	12	Rock BIF	Env4496
Carpentaria	1981	13	Rock Conglomer	Env4496
Carpentaria	1981	14	Rock Conglomer	Env4431
Carpentaria	1981	15	Soil Sampling	Env4496
Oilmin	1981	16	Stream Sedim.	Env4041
Utah	1984	17	Drilling	Env3771
Utah	1984	18	Stream Sedim.	Env3771
Utah	1984	18	Soil Sampling	Env3771
Utah	1984	18	Rock chip	Env3771

Notes: The volcanics have only been sampled in three areas. All samples have returned above backround values, both from Tuffs as well as basalt!

The BLEG sampling was undertaken bu UTAH Env 3771 and is the only BLEG work undertaken to date. The area concerned is well to the west of the EL application area. I have included a microfiche of these results.

Once again the attached map demonstrates the paucity and incidental nature of gold geochem.

PEAKE AND DENISON RANGES AREA

REFERENCE ABSTRACTS

#CNO=0000217 DOCTYPE: Company rep
#DOE=24:09:85
TI Algebuckina. Progress and final reports from 18.7.83 to 18.4.84.
TN #TN=EL1133;
CO Broken Hill Pty Co Ltd; (Code: BHP)
AU Aerodata McPhar Pty Ltd; (Code: AED-1)
SO SADME:open:file, #RE2=(Env 5106); 2 fiche, 19 pages, 1 map; 2 fig, 4 reps, #DATE=1984
AB No potential kimberlites indicated.
SU #BR=1345; #BR=1230; Diamond exploration; Base metal exploration; TMI maps; Aerial magnetic surveys; #TECT=(Adelaide Geosyncline); #TECT=(Denison Inlier); #TECT=(Algebuckina Inlier); #BASIN=(Eromanga Basin);
LO #AMAG=(Algebuckina Aerial Mag. Svy); Peake and Denison Ranges;
MA #250=SG5315 #250N=OODNADATTA; #100=6042II;

#CNO=0000279 DOCTYPE: Company rep
#DOE=24:09:85
TI Mount Kingston area. Progress and final reports from 10.10.79 to March 1984.
TN #TN=EL0491; #TN=EL0899; #TN=EL1187;
CO Stockdale Prospecting Ltd; Britas Diamonds NL; Consolidated Gold Mining Areas NL; (Code: STD, BDN, CGA)
AU Pacific Exploration Consultants Pty Ltd; Geoex Pty Ltd; Gem Exploration and Minerals Ltd; Robinson, H R; Podolsky, M H; Emslie, D P; Beckett, T S; Burton, P E; (Code: PEX, GOX, GEX)
SO SADME:open:file, #RE2=(Env 3562); 13 fiche, 400 pages, 19 plans; 11 appx, 39 fig, 6 plates, 12 ref, 20 reps, 4 vol, #DATE=1984
AB Work included 2400 line km low level aerial survey, and 452 reconnaissance geochemical samples. High magnesium picro-ilmenite province, Bungadillina Creek, was downgraded by follow up sampling.Follow up of 14 potential kimberlite targets was ineffective due to overlying Cainozoic sediments. Stockdale drilled 2 kimberlite targets from 19 potential sources in surrounding Mesozoic cover. 5 holes (371 metres) confirmed 1 anomaly was due to finely disseminated sulphide in lens of quartzite clay from 20 - 30 metres and the other was due to ferruginized gravels at shallow depth.
Subeconomic alluvial gold deposit was delineated within thin conglomerate bed in the Mount Kingston Peake area. 2 uranium anomalies in basalts of the Willouran Cadlareena Volcanics were associated with low grade mineralization attributed

to secondary alteration products derived from primary uranium phosphate minerals. Third anomaly was associated with carnotite mineralization in calcrete travertine deposit derived from leaching of the adjacent primary 'hot' Wirriecurrie Granite.

SU #BR=1345; #BR=1230; #BR=1090; #BR=1190; Diamond exploration; Gold exploration; Uranium exploration; Stream sediment sampling; Soil sampling; Rock chip sampling; Aerial magnetic surveys; Ground magnetic surveys; Aerial radioactivity surveys; Ground radioactivity surveys; Gravity surveys; EM surveys; Rotary drilling; Auger drilling; Drill cuttings analysis; Multielement analysis; Heavy media separation; Magnetic susceptibility; Geological mapping; Photogeology; Landsat; Geological logs; Mineralogy; Assay value; #TECT=(Peake and Denison Inliers); #TECT=(Adelaide Geosyncline); #BASIN=(Eromanga Basin);

AS Cr; Si; Mg; Mn; Ca; Al; Fe; Ti; Cu; Pb; Zn; Ni; Co; Ag; Sr; Mo; As; Ba; U; Nb; Ce;

LO #AMAG=(Mount Kingston Aerial Mag. Svy); #ARAD=(Mount Kingston Aerial Rad. Svy); Peake Creek; Peake and Denison Ranges; Blyth Creek;

MA #250=SH5303 #250N=WARRINA; #100=6041I;

AD Cyl. 3562/1; Aeromagnetic and radiometric profile data held in Geophs.

#CNO=0000280 DOCTYPE: Company rep
#DOE=24:09:85

TI Interpretation of airborne geophysical data.

TN #TN=EL0491;

CO Britas Diamonds NL; (Code: BDN)

AU Ashley, J;

SO SADME:open:file, #RE2=(Env 3562); vol 1, fiche: 4, p: 184-194, 1 plan; #DATE=1981

AB 14 kimberlite targets were delineated, 6 meriting ground investigation, 3 in favourable structural setting associated with major NNW fault. Kimberlite targets may have been missed over high magnetic relief Peake Metamorphics and Wirricurrie Granite. 3 uranium anomalies including 1 of excellent potential just to the north of outcropping Wirricurrie Granite which is possibly related to uranium concentration in spring.

SU #BR=1230; #BR=1345; Diamond exploration; Uranium exploration; Magnetic interpretation; Radiometric interpretation; #TECT=(Peake and Denison Inliers);

LO #AMAG=(Mount Kingston Aerial Mag. Svy); #ARAD=(Mount Kingston Aerial Rad. Svy); Peake and Denison Ranges;

MA #250=SH5303 #250N=WARRINA; #100=6041I;

#CNO=0000281 DOCTYPE: Company rep
#DOE=24:09:85

TI Alluvial gold testing programme.
TN #TN=EL0491;
CO Britas Diamonds NL; (Code: BDN)
AU Mackay and Schnellmann Pty Ltd; Watts, J A; (Code: MKS)
SO SADME:open:file, #RE2=(Env 3562); vol 4, fiche: 6, p: 368-394; 3 fig, 6 plates, 12 ref, #DATE=1984 August
AB Sampling in thin gently dipping quartz pebble conglomerate in the Mount Kingston - Peake area (13 samples totalling 3 400 kg) gave values ranging from 0 - 0.036 g/t (mean value 0.015 g/t). 5 samples from 2 other areas did not contain gold. There is no concentration in particular sections of the conglomerate profile. Tertiary age is suggested (basal conglomerate of Murnpeowie Formation) in preference to Jurassic - Cretaceous Algebuckina Sandstone. Recommends concentrates be examined from diamond exploration viewpoint.

SU #BR=1345; Gold exploration; Stratigraphy; Heavy mineral sampling; Magnetic separation; Gold placer deposits; #TECT=(Adelaide Geosyncline); #BASIN=(Eromanga Basin);
LO Peake and Denison Ranges; Brumby House; Mount Younghusband;
MA #250=SH5303 #250N=WARRINA; #100=6041I;

#CNO=0000641 DOCTYPE: Company rep
#DOE=15:10:85
TI Mount Kingston. Progress and relinquishment reports from 6.12.82 to September 1984.
TN #TN=EL1030;
CO Stockdale Prospecting Ltd; (Code: STD)
AU Robison, H R; Newell, B H;
SO SADME:open:file, #RE2=(Env 4912); 2 fiche, 33 pages, 2 maps; 4 fig, 1 ref, 8 reps, #DATE=1984
AB Kimberlitic minerals were present in small quantities in only 1 of 4 bulk samples. Remote sensing study mapped out the extent of the Cadna-owie Formation where it might occur as inliers within Bulldog Shale. The thickness of Cretaceous sediments and the lack of surface expressions of kimberlite indicates area has little diamond potential.
SU #BR=1345; Diamond exploration; Heavy mineral sampling; Landsat; Photointerpretation; Interpretive maps; #TECT=(Peake and Denison Inliers); #BASIN=(Eromanga Basin);
LO Mount Kingston;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6142; #100=6141; #100=6042I; #100=6042III; #100=6042I; #100=6042IV;

#CNO=0001086 DOCTYPE: Company rep
#DOE=02:10:85
TI Algebuckina. Progress and final reports from 27.12.81 to 21.7.82.
TN #TN=EL0888;

CO Carpentaria Exploration Co Pty Ltd; (Code: CEX)
AU Owen, P; Lucas, M D; Binks, P J;
SO SADME:open:file, #RE2=(Env 4496); 2 fiche, 50 pages, 2 maps; 1 fig, 12 ref, #DATE=1982
AB No significant gold values from sampling of basal conglomerate of Algebuckina Sandstone, quartz reefs and an iron formation.
SU #BR=1345; #BR=1190; Gold exploration; Base metal exploration; Rock chip sampling; Stream sediment sampling; Geological mapping; Photointerpretation; Petrology; Early Proterozoic; Jurassic; Cretaceous; Banded iron formation; Assay value; #TECT=(Peake and Denison Inlier); #BASIN=(Eromanga Basin);
ST Algebuckina Sandstone;
AS Au; Cu; Pb; Zn; Ni; Co; Bi; Cd; Fe; Mn; Ag; Ce; La; Yt; As; Ba; V; Sb; Cr; Mo; Sn;
MI Algebuckina mine;
LO Algebuckina Siding; Neales River;
MA #250=SG5315 #250N=OODNADATTA; #100=6042II;
AD #SADMEB=014111;

#CNO=0001544 DOCTYPE: Company rep
#DOE=19:08:86
TI Kurillina. Progress and final reports from 29.7.85 to March 1986.
TN #TN=EL1297;
CO BHP Minerals Ltd; (Code: BHI)
AU Taylor, R J;
SO SADME:open:file, #RE2=(Env 6380); 1 fiche, 20 pages; 3 fig, 3 reps, #DATE=1986
CM Data tapes unavailable until termination of EL 1292.
AB Target was Olympic Dam type mineralization. An aeromagnetic survey was flown over the whole area by Geoterrex. Follow up of broad magnetic anomaly by gravity indicates anomaly is due to buried metamorphic basement. The regional gravity gradient sloping to the east is confirmed.
SU #BR=1345; #BR=1230; Base metal exploration; Aerial magnetic surveys; Gravity surveys; Bouguer gravity maps; TMI maps; #TECT=(Peake and Denison Inliers);
LO #AMAG=(Kurillina Aerial Mag. Svy);
MA #250=SG5315 #250N=OODNADATTA; #100=6142II; #100=6142III; #250=SH5303 #250N=WARRINA; #100=6141I; #100=6141IV;
AD Cyl.6378/1. Data tapes held in Geophs.

#CNO=0001545 DOCTYPE: Company rep
#DOE=19:08:86
TI Woodmurra. Progress and final reports from 29.7.85 to March 1986.
TN #TN=EL1290;
CO BHP Minerals Ltd; (Code: BHI)

AU Taylor, R J;
SO SADME:open:file, #RE2=(Env 6282); 2 fiche, 20 pages, 3 plans; 1 fig, 3 reps, #DATE=1986
AB Target was Olympic Dam type mineralization. An aeromagnetic survey was flown over the whole area by Geoterrex. Follow up work over 8 magnetic anomalies were inconclusive.
SU #BR=1345; #BR=1230; Base metal exploration; Ground magnetic surveys; Gravity surveys; Bouguer gravity maps; TMI maps; #TECT=(Adelaide Geosyncline);
LO #AMAG=(Woodmurra Aerial Mag. Svy);
MA #250=SG5315 #250N=OODNADATTA; #100=6142; #100=6143II; #100=6143III; #100=6042I; #100=6043II;
AD Cyl.6282/1. Data tapes held in Geophs.

#CNO=0001299 DOCTYPE: Company rep
#DOE=01:02:86
TI Nilpinna Springs. Progress and final reports from 12.7.82 to 11.1.85.
TN #TN=EL1010; #TN=EL1029; #TN=EL1133;
CO BHP Minerals Ltd; (Code: BHI)
AU Aerodata McPhar Pty Ltd; Taylor, R J; Davies, M; Forwood, K; (Code: AED)
SO SADME:open:file, #RE2=(Env 4858); 3 fiche, 75 pages, 1 plan; 3 appx, 6 fig, 10 reps, #DATE=1985
AB Follow up of 3 low order anomalies downgraded them as potential kimberlite targets. 3 drill holes (276.4 metres) over Roxby Downs type anomaly show source of gravity anomaly to be shallow Early Proterozoic basement and magnetic anomaly to be chlorite rich schist containing disseminated magnetite grains.
SU #BR=1345; #BR=1230; #BR=1190; #BR=1090; Diamond exploration; Base metal exploration; Aerial magnetic surveys; Aerial radioactivity surveys; Ground magnetic surveys; Gravity surveys; Stream sediment sampling; Soil sampling; Rotary drilling; Geological logs; Drill core analysis; Drill cuttings analysis; Magnetic susceptibility; TMI maps; Petrology; #TECT=(Peake and Denison Inlier);
LO #AMAG=(Nilpinna Springs Aerial Mag. S)vy); #ARAD=(Nilpinna Springs Aerial Rad.) Svy); Nilpinna Creek;
MA #250=SH5303 #250N=WARRINA; #100=6041II; #100=6041III; #100=6041IV; #250=SG5315 #250N=OODNADATTA; #100=6042II; #100=6042III;
AD Tapes held in Geophs.

#CNO=0001698 DOCTYPE: Company rep
#DOE=01:07:83
TI Umbum. Progress and final reports from 12.2.81 to 11.8.83.
TN #TN=EL0787;
CO Aberfoyle Exploration Pty Ltd; Ashton Mining Ltd; (Code: AEP, AMN-1)
AU Geometrics International Corporation; (Code: GIC)

SO SADME:open:file, #RE2=(Env 4223); 3 fiche, 75 pages, 3 maps; 5 appx, 7 fig, 7 reps, #DATE=1983
AB Exploration for kimberlite pipes east of the Proterozoic Margaret Inlier in the Peake and Denison Ranges, consisted of gravel sampling and aerial and ground magnetic surveys. Magnetic highs in the Spring Hill area appear to be related to dolerite dykes, banded iron formations or hematite / magnetic blocks.
SU #BR=1345; #BR=1230; Diamond exploration; Heavy mineral sampling; Multielement analysis; Petrology; Assay value; #TECT=(Peake and Denison Inlier);
LO #AMAG=(Umbum Aerial Mag. Svy); Lagoon Hill;
MA #250=SH5303 #250N=WARRINA; #100=6140I; #100=6141IV;
AD Cyl.3771/5. Tapes held in Geophs. #SADMEB=015429

#CNO=0002253 DOCTYPE: Company rep
#DOE=01:03:87
TI Nilpinna; Edward Creek; Progress and final reports from 16.1.80 to 22.5.84 and 22.11.85 to 6.4.87.
TN #TN=EL0968; #TN=EL0571;
CO Aberfoyle Exploration Pty Ltd; Ashton Mining Ltd; Utah Development Co; Stockdale Prospecting Ltd; (Code: AEP, AMN-1, UDC, STD)
AU Geometrics Ltd; Freytag, I B; Jarvis, D M; Brady, S A; Dugmore, M A; Newell, B H; Stracke, K J; Robison, H R; Mann, S T; (Code: GOM)
SO SADME:open:file, #RE2=(Env 3771); 14 fiche, 300 pages, 47 plans; 6 appx, 28 fig, 33 reps, #DATE=1984
AB Diamond exploration in the Peake and Denison Ranges included aerial magnetic, radiometric and VLF EM surveys, ground magnetic and Sirotem surveys, gravel, loam and bulk sampling and 6 drill holes (totalling 236 metres). Numerous kimberlitic indicator minerals including pyrope, picroilmenite and chromite and 8 diamonds from 3 samples from the Edward Creek area were recovered. Base metal exploration comprised extensive sediment and rock chip sampling, geological mapping and 1 drill hole (180 metres). Low order gold, copper and zinc anomalies were recorded from geochemical sampling.
SU #BR=1345; #BR=1230; #BR=1090; #BR=1190; Diamond exploration; Base metal exploration; Heavy mineral sampling; Geological logs; TMI maps; Geochemical maps; Drill cuttings analysis; Petrology; Microprobe analysis; Stratigraphic section; Diapirs; Assay value; #TECT=(Adelaide Geosyncline); #TECT=(Margaret Inlier);
ST Duff Creek Beds; Murrana Beds; Coominaree Dolomite; Fountain Spring Beds; Mount Margaret Quartzite; Skillogalee Dolomite; Burra Group; Callanna Beds;
AS Cu; Pb; Zn; Ag; Au; As; Ba;
MI Coominaree mine; Hope Creek asbestos workings;

LO #AMAG=(Nilpinna Aerial Mag. Svy); #ARAD=(Nilpinna Aerial Rad. Svy); #AEM=(Nilpinna Aerial EM Svy); Spring Hill; Levi Creek; Box Creek;
MA #250=SH5303 #250N=WARRINA; #100=6041II; #100=6141III; #100=6040I; #100=6040II; #100=6040III; #100=6140IV;
AD Cyl.3771/1, 3771/5. Tapes held in Geophs.

#CNO=0001556 DOCTYPE: Company rep
#DOE=19:08:86
TI Umbum. Partial relinqishment report, April 1986.
TN #TN=EL1292;
CO BHP Minerals Ltd; (Code: BHI)
AU Geoterrex Pty Ltd; Taylor, R J; (Code: GEL-1)
SO SADME:open:file, #RE2=(Env 6541); 2 fiche, 9 pages, 2 plans; 1 fig, #DATE=1986
CM Data tapes unavailable until termination of EL 1292.
AB Exploration for Olympic Dam type mineralization west of Lake Eyre comprised an aeromagnetic survey and follow up optical gravity surveys. No significant gravity anomalies were encountered.
SU #BR=1345; #BR=1230; Base metal exploration; TMI maps; Bouguer gravity maps; #TECT=(Adelaide Geosyncline);
LO #AMAG=(Umbum Aerial Mag. Svy);
MA #250=SH5304 #250N=(LAKE EYRE); #100=6241; #100=6240IV; #250=SH5303 #250N=WARRINA; #100=6141;
AD Cyl.6378/1. Tapes held in Geophs.

#CNO=0001557 DOCTYPE: Company rep
#DOE=01:02:87
TI Piarooka. Progress and final reports from 29.7.85 to 20.8.86.
TN #TN=EL1293;
CO BHP Minerals Ltd; (Code: BHI)
AU Geoterrex Pty Ltd; Taylor, R J; (Code: GEL-1)
SO SADME:open:file, #RE2=(Env 6542); 2 fiche, 17 pages, 2 plans; 4 fig, #DATE=1986
CM Data tapes unavailable until termination of EL 1292.
AB Exploration for Olympic Dam type mineralization west of Lake Eyre comprised an aeromagnetic survey and follow up optical gravity survey of magnetic anomalies and ground magnetic survey over 'Bullseye' anomaly. Detailed follow up of a significant gravity low anomaly gave negative results.
SU #BR=1345; #BR=1230; Base metal exploration; TMI maps; Bouguer gravity maps; #TECT=(Adelaide Geosyncline);
LO #AMAG=(Piarooka Aerial Mag. Svy);
MA #250=SH5304 #250N=(LAKE EYRE); #100=6241II; #100=6241III; #100=6240I; #100=6240IV; #250=SH5303 #250N=WARRINA; #100=6141II; #100=6140I;
AD Cyl.6378/1. Tapes held in Geophs.

#CNO=1014670 DOCTYPE: Company rep
#DOE=31:12:83
TI El 761 ruby hill South Australia. progress & final reports from 24-3-81 to 2-6-82 (6 reps, 4 vols).
TN #TN=EL761;
CO C.r.a. explor;
AU Andrews, D L;
SO SADME:open:file, #RE2=(Env 4138); 53 pages; maps, #DATE=1982 1982
SU #BR=1250; Metalliferous minerals; Non-metalliferous mins; Mineral exploration; Diamonds; Geochemistry; Stream sediment sampling; Geophysics; Aerial magnetic surveyys; Assay value; Multielement analysis; Aerial radioactivity; Survey; Magnetic anomalies; Soil sampling; Indicator minerals; Heavy mineral analysis; Ground magnetic surveys; Aerial magnetic maps; Residual magnetic maps; Auger drilling; Percussion drilling; Volcanic rocks; Geophysical logs; Geological logs; Magnetic susceptibility; Oil analysis; Radioactivity logs; Neutron logs; Gamma gamma logs; Caliper logs; Native copper;
ST Banded Iron Formation; Cadlareena Volcanics; Bulldog Shale;
LO Ruby hill; Peake and denison range;
MA #250=SH5303 #250N=WARRINA; #100=6140;
AD Tapes held in Geophs.

#CNO=1003345 DOCTYPE: Company rep
#DOE=31:12:83
TI SML492 Peake and Denison Ranges area SA. Report on exploration three monthly period to 5-2-71.
TN #TN=SML492;
AU Clarke, D B;
SO SADME:open:file, #RE2=(Env 1015); 4 pages; maps, #DATE=1971
SU #BR=1230; Geophysics; Metalliferous minerals; Mineral exploration; Mines; Copper deposits; Ground magnetic surveys; Radioactivity surveys; IP surveys; Time domain; SP surveys; Electrical surveys; Copper;
MI Last Chance mine;
LO Peake and Denison Range;
MA #250=SH5303 #250N=WARRINA; #100=6040;

#CNO=1003346 DOCTYPE: Company rep
#DOE=31:12:83
TI Report on airborne magnetic survey of the Peake and Denison Range area.
TN #TN=SML270;
CO Australasian Mining Corp Ltd; (Code: AAS)
AU Webb, J E;
SO SADME:open:file, #RE2=(Env 1015); 9 pages; maps, #DATE=1969
SU #BR=1230; Geophysics; Metalliferous minerals; Mineral exploration; Aerial surveys; Aerial magnetic surveys; Aerial

radioactivity spectrometer survey; Magnetic interpretation; Total magnetic intensity; Uranium;
LO Peake and Denison Range;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6040; #100=6041; #100=6042; #100=6140; #100=6141;

#CNO=1003347 DOCTYPE: Company rep
#DOE=31:12:83
TI SML270 Peake and Denison Ranges six monthly report to 19-2-71.
TN #TN=SML270;
AU Clarke, D B;
SO SADME:open:file, #RE2=(Env 1015); 11pages; maps, #DATE=1971
SU #BR=1345; Metalliferous minerals; Mineral exploration; Mines; Copper deposits; Geological maps; Geophysics; Ground magnetic surveys; EM surveys; Vlf EM surveys; SP surveys; Electrical surveys; Copper; Asbestos;
MI Coominaree mine; War Loan mine; Printa mine; Enrico mine;
LO Peake and Denison Range; Algebuckina;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6040; #100=6140; #100=6041; #100=6042;

#CNO=1003348 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress reports SML270 Peake and Denison Ranges SA.
TN #TN=SML270;
CO Australasian Mining Corp Ltd; (Code: AAS)
AU Hillwood, E R; Westoff, J B;
SO SADME:open:file, #RE2=(Env 1015); maps, #DATE=1971
SU #BR=1345; Metalliferous minerals; Mineral exploration; Uranium; Copper; Mines; Copper deposits; Geological surveys; Geophysics; Radiometric anomalies; Gold; Diamonds; Radioactivity surveys; Chemical analysis; Uranium; Thorium; Copper; Nickel; Nuclear radiation; Pre-Adelaidean;
ST Peake Metamorphics;
LO Peake and Denison range;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6040; #100=6041; #100=6042; #100=6140; #100=6141;

#CNO=1003349 DOCTYPE: Company rep
#DOE=31:12:83
TI Report on exploration during period 15-2-70 to 15-8-70 SML270 Peake and Denison Ranges SA.
TN #TN=SML270;
CO Australasian Mining Corp Ltd; (Code: AAS)
AU Sargeant, F J;
SO SADME:open:file, #RE2=(Env 1015); 25 pages; maps, #DATE=1970
SU #BR=1345; Metalliferous minerals; Mineral exploration;

Drilling; Percussion drilling; Radiometric anomalies; IP anomalies; Diamond drilling; Geological logs; Geochemical logs; Chemical analysis; Copper; Uranium; Silver; Bismuth; Antimony; Mines; Copper deposits; Petrology; Mineralogy; Diamonds; Sapphire; Metamorphic rocks;
MI Copper Top mine; Printa mine;
LO Peake and Denison Range; Algebuckina; Mount Kingston;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6041; #100=6042;

#CNO=1003350 DOCTYPE: Company rep
#DOE=31:12:83
TI Report on induced polarization surveys at the Oodnadatta area.
TN #TN=SML270;
CO Australasian Mining Corp Ltd;
AU Webb, J E; Iredale, J A;
SO SADME:open:file, #RE2=(Env 1015); 9 pages; maps, #DATE=1970
SU #BR=1230; Geophysics; Mineral exploration; Metalliferous minerals; Electrical surveys; IP surveys; Dipole dipole array; Drilling proposals;
MI Printa mine; Copper Top mine;
LO Peake and Denison Range; Algebuckina; Mount Kingston; Oodnadatta;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041;

#CNO=1003916 DOCTYPE: Company rep
#DOE=31:12:83
TI Final report on exploration of SML12K, SML134 Peake and Denison Ranges northern SA.
TN #TN=SML134;
CO North Broken Hill Ltd; (Code: NBH)
AU Forwood, P S;
SO SADME:open:file, #RE2=(Env 941); 17 pages; maps, #DATE=1968
SU #BR=1345; Metalliferous minerals; Mineral exploration; Geological mapping; Plane table mapping; Geological maps; Regional geology; Pre-Adelaidean; Geochemistry; Stream sediment sampling; Soil sampling; Rock (chip) sampling; Chemical analysis; Copper; Lead; Zinc; Nickel; Geophysics; Ground magnetic surveys; Electrical surveys; IP surveys; Frequency domain; IP anomalies; Drilling; Diamond drilling; Core logs; Pyrite; Mines; Copper deposits;
MI Peake mines; Coominaree mine; War Loan mine; Last Chance mine;
LO Peake and Denison Range; Mount Kingston;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6040; #100=6041; #100=6042; #100=6140; #100=6141;

#CNO=1003917 DOCTYPE: Company rep
#DOE=31:12:83
TI Report on visit to Peake and Denison Range (rep.1968/5) rocks from the Peake and Denison Range (rep 1968/10).
TN #TN=SML134;
AU Whittle, A W G;
SO SADME:open:file, #RE2=(Env 941); 8 pages; illust, #DATE=1968

SU #BR=1345; Metalliferous minerals; Mineral exploration; Rock (chip) sampling; Petrology; Mineralization; Mineral deposits; Mineralogy;
LO Peake and Denison Range;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6040; #100=6041; #100=6042; #100=6140; #100=6141;

#CNO=1000743 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress reports exploration licence 192 peake-denison Ranges South Australia (3 vols).
TN #TN=EL192;
CO Western mining;
AU Western-mining;
SO SADME:open:file, #RE2=(Env 2525); maps, #DATE=1975
SU #BR=1345; Metalliferous minerals; Mineral exploration; Literature reviews; Gold; Copper; Geological surveys; Geochemistry; Drill core; Rock (chip) sampling; Stream sediment sampling; Soil sampling; Atomic absorption spectroscopy; Nickel; Copper; Cobalt; Chromium; Silver; Manganese; Lead; Zinc; Arsenic; Adelaidean; Geochemical exploration; Pre-adelaidean; Geological mapping; Drill core analysis; Gold;
ST Peake Metamorphics; Duff Creek Beds;
LO Peake and denison range;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6042;

#CNO=1000459 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress and completion reports lagoon hill area, South Australia,exploration licence 22 (3 vols.).
TN #TN=EL22;
CO Chevron exploration;
AU Teluk, J A;
SO Sadme unpublished report #RE2=(Env 2182); 44 pages; maps,illust, #DATE=1974
SU #BR=1345; Metalliferous minerals; Mineral exploration; Uranium exploration; Literature reviews; Geological survey Geological mapping; Stratigraphy; Structural geology; Geobotany; Auger drilling; Geochemistry; Water analysis; Uranium; Rotary drilling; Geophysical logs; Radioactivity logs; Sp logs; Chemical analysis; Mesozoic; Mesozoic; Isopach maps; Basement depth; Assay value;

#BASIN=(Great Artesian Basin); #BASIN=(Cadlareena Basin); #BASIN=(Lake Eyre Basin);
ST Algebuckina Sandstone; Cadna-owie Formation; Bulldog Shale;
MI Last chance mine;
LO Lagoon hill; Peake and denison range;
MA #250=SH5303 #250N=WARRINA; #100=6141; #100=6140;

#CNO=1000474 DOCTYPE: Company rep
#DOE=31:12:83
TI Final report s.m.l. 718 -oodnadatta area,South Australia.
TN #TN=SML718;
CO A.o.g.minerals;
AU Boyd, B R;
SO Sadme unpublished report #RE2=(Env 2142); maps, #DATE=1972
SU #BR=1345; Metalliferous minerals; Mineral exploration; Gold; Geological surveys; Jurassic; Mesozoic;
MI Algebuckina prospect;
LO Oodnadatta; Peake and denison range; Neales river;
MA #250=SH5303 #250N=WARRINA; #250=SG5315 #250N=OODNADATTA; #100=6041; #100=6042;

#CNO=1001377 DOCTYPE: Company rep
#DOE=31:12:83
TI Final report e.l.110 peake-denison and Mt kingston Ranges South Australia + progress reps (formerly el 33).
TN #TN=EL110;
CO Uranerz;
AU Iliff, G D;
SO SADME:open:file, #RE2=(Env 2381); maps, #DATE=1975
SU #BR=1345; Metalliferous minerals; Mineral exploration; Uranium; Geophysics; Radiometric anomalies; Trenching; Drilling; Diamond drilling; Radioactivity surveys; Core logs; Petrology; Geochemistry; Rock (chip) sampling; Geochemical logs; Chemical analysis; Uranium; Thorium; Geological maps; Pre-adelaidean; Granite; Adelaidean; Mesozoic; Jurassic; Migmatite;
ST Peake Metamorphics; Duff Creek Beds;
LO Mount kingston; Peake and denison range;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041 ;

#CNO=1001968 DOCTYPE: Company rep
#DOE=31:12:83
TI Strontium investigations in toolebuc-wooldridge limestone S.A. s.m.l.402 Fossil Creek & s.m.l.403 Mt arthur cyl 1565/1 transparencies.
TN #TN=SML402;
CO C.r.a. explor;
AU Rudd, P I;
SO SADME:open:file, #RE2=(Env 1565); 17 pages; maps, #DATE=1971

1971

SU #BR=1190; Geochemistry; Geochemical sampling; Mineral exploration; Strontium; Celestite; Mesozoic; Stream sediment sampling; Size screening; Drilling; Percussion drilling; Ground water sampling; Water analysis; Carbonates; Cretaceous; Geological logs; Geological logs; Metalliferous minerals; #BASIN=(Great Artesian Basin);
ST Wooldridge Limestone Member; Toolebuc Member;
LO Fossil creek; Mount arthur; Oodnadatta;
MA #250=SG5315 #250N=OODNADATTA; #100=5942; #100=5943; #100=6042;

#CNO=1002196 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress notes (4) s.m.l. 125 algebuckina-peake area peake and Denison Ranges S.A.
TN #TN=SML125;
CO Nth broken hill;
SO SADME:open:file, #RE2=(Env 694); maps, #DATE=1967
SU #BR=1190; Geochemistry; Mineral exploration; Stream sediment sampling; Mines; Copper deposits; Chemical analysis; Copper; Lead; Zinc; Nickel; Rock (chip) sampling; Grab sample; Pre-adelaidean; Metalliferous minerals;
MI Coominaree mine; Copper top mine; Peake mines; War loan mine; Last chance mine;
LO Peake and denison range;
MA #250=SH5303 #250N=WARRINA; #100=6041; #100=6040;

#CNO=1006082 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress reports el 336 warrina S.A. (4 reps)(mines admin & teton expln.drilling) 2 figs.
TN #TN=EL336;
CO Mines admin;
AU Ellis, G K; Wecker, R;
SO SADME:open:file, #RE2=(Env 3080); 6 pages; maps, #DATE=1978 1978
SU #BR=1345; Metalliferous minerals; Mineral exploration; Uranium exploration; Coal; Coal exploration; Ground water sampling; Water analysis; Copper; Vanadium; Molybdenum; Uranium; Drilling; Rotary drilling; Permian; Jurassic; #BASIN=(Great Artesian Basin);
ST Algebuckina Sandstone;
LO Warrina;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041; #100=6040;

#CNO=1006086 DOCTYPE: Company rep
#DOE=31:12:83
TI A resistivity survey at warrina,S.A.,fore mines

administration(3 figs).
TN #TN=EL336;
CO Mines admin;
AU Murdoch, R;
SO SADME:open:file, #RE2=(Env 3080); 12 pages; maps, #DATE=1977 1977
SU #BR=1230; Geophysics; Resistivity sounding; Schlumberger array; Geophysical interpretation; Metalliferous minerals; Mineral exploration; Coal exploration; Permian; Mesozoic; Coal; Resistivity profiling; #BASIN=(Great Artesian Basin);
LO Warrina;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041; #100=6040;

#CNO=1008896 DOCTYPE: Company rep
#DOE=31:12:83
TI El 583 West Lake Eyre S.A. report for the quarter ended 25th April 1980.
CO Dampier;
AU Bhp;
SO SADME:open:file, #RE2=(Env 3754); 4 pages; maps, #DATE=1980 1980
SU #BR=1345; Metalliferous minerals; Mineral exploration; Drilling; Rotary drilling; Geological logs; Geophysical logs; Radioactivity logs; Electrical well logs; Metamorphic petrology; Multielement analysis; Sulphide minerals; Chalcopyrite; Basement;
LO Lake eyre; Umbum;
MA #250=SH5303 #250N=WARRINA; #250=SH5304 #250N=(LAKE EYRE); #100=6140; #100=6241 ;

#CNO=1011276 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress and final reports e.l.no 462 algebuckina area S.A..

CO Savata;
AU Layton-assoc;
SO SADME:open:file, #RE2=(Env 3579); 37 pages; maps, #DATE=1980 1980
SU #BR=1250; Non-metalliferous mins; Metalliferous minerals; Mineral exploration; Diamonds; Geophysics; Ground magnetic surveys; Magnetic anomalies; Radioactivity surveys; Photointerpretation; Lineaments; Geochemistry; Soil sampling; Stream sediment sampling; Geochemical anomaly; Chemical analysis; Chromium; Copper; Nickel; Niobium; Magnesium; Strontium;
LO Algebuckina;
MA #250=SG5315 #250N=OODNADATTA; #100=6042;

#CNO=1011379 DOCTYPE: Company rep
#DOE=31:12:83

TI Progress and final reports el 469 ruby hill South Australia(3 reps).
TN #TN=EL469;
CO Newmont;
AU Dow, J A S; getty-oil;
SO SADME:open:file, #RE2=(Env 3602); 6 pages; maps, #DATE=1980 1980
SU #BR=1345; Metalliferous minerals; Mineral exploration; Satellite imagery; #TECT=(Stuart Shelf);
LO Ruby hill; Torrens hinge zone;
MA #250=SH5303 #250N=WARRINA; #250=SH5304 #250N=(LAKE EYRE); #100=6140; #100=6240 ;

#CNO=1011389 DOCTYPE: Company rep
#DOE=31:12:83
TI Progress reports e.l.341 william Creek, South Australia.(7 reps.,later el 564, env.3804) newmont-dampier-getty venture..
CO Newmont;
AU Wright, R G; Clarke, N G; Dow, J A S;
SO SADME:open:file, #RE2=(Env 3092); 22 pages; maps, #DATE=1979 1979
SU #BR=1345; Metalliferous minerals; Mineral exploration; Geophysics; Gravity surveys; Gravity anomalies; Ground magnetic surveys; Gravity data; Diamond drilling; Geological logs; Mound springs; Geochemistry; Water analysis; Sodium carbonates; Copper; Uranium; Molybdenum; Fluorine; #TECT=(Stuart Shelf);
LO William creek; Anna creek; Boorthanna trough;
MA #250=SH5307 #250N=BILLAKALINA; #250=SH5303 #250N=WARRINA; #100=6139; #100=6140 ;

#CNO=1013554 DOCTYPE: Company rep
#DOE=31:12:83
TI E.l.760(canegrass) and e.l.763(nilpinna)sth Aust. progress & final reports. for gem exploration & minerals ltd & Western queen(sa)p.l.
TN #TN=EL760;
CO Gem explor+mins;
AU Sas, Z; Gates, A H; pacific-expln-consultant; s;
SO SADME:open:file, #RE2=(Env 4061); 22 pages; #DATE=1981 1981
SU #BR=1250; Non-metalliferous mins; Mineral exploration; Diamonds; Coal exploration; Uranium exploration; Literature reviews; #BASIN=(Great Artesian Basin); #BASIN=(Arckaringa Basin); #BASIN=(Pedirka Basin);
ST Oil Shale;
LO Boorthanna trough; Nilpinna; Canegrass lobe;
MA #250=SH5303 #250N=WARRINA; #100=6041; #100=6141;

#CNO=1013656 DOCTYPE: Company rep

#DOE=31:12:83
TI Ps).
TN #TN=EL743;
CO Carpentaria;
AU Lucas, M D; Simpson, P G; Boyer, D D;
SO SADME:open:file, #RE2=(Env 4031); 13 pages; maps, #DATE=1981
1981
SU #BR=1345; Metalliferous minerals; Mineral exploration; Gold; Volcanic rocks; Trachyte; Geological mapping; Chemical analysis; Petrology; Conglomerate; #TECT=(Mount Dutton Inlier);
ST Algebuckina Sandstone; Duff Creek Beds; Murrana Beds;
LO Peake and denison range;
MA #250=SG5315 #250N=OODNADATTA; #100=6042;

#CNO=1014920 DOCTYPE: Company rep
#DOE=31:12:83
TI Gravity and magnetic analysis lagoon hill area, South Australia.
TN #TN=EL22;
CO Chevron exploration;
AU Smith, N;
SO SADME:open:file, #RE2=(Env 2182); 4 pages; #DATE=1973 1973
SU #BR=1230; Geophysics; Mineral exploration; Uranium; Geophysical interpretation; Gravity interpretation; Magnetic interpretation; Density; Permian; Adelaidean; #BASIN=(Great Artesian Basin);
ST Bulldog Shale; Cadna-owie Formation; Algebuckina Sandstone; Peake Metamorphics;
LO Lagoon hill; Peake and denison range;
MA #250=SH5303 #250N=WARRINA; #100=6140; #100=6141;

#CNO=1014937 DOCTYPE: Company rep
#DOE=31:12:83
TI Combined gravity and optical levelling survey nilpinna.
TN #TN=EL924;
CO C.r.a. explor;
AU Solo-geophysics;
SO SADME:open:file, #RE2=(Env 4562); 69 pages; maps, #DATE=1981
1981
SU #BR=1230; Geophysics; Gravity surveys; Gravity data; Coal exploration; #BASIN=(Arckaringa Basin);
LO Nilpinna;
MA #250=SH5303 #250N=WARRINA; #100=5940; #100=5941;

#CNO=1015174 DOCTYPE: Company rep
#DOE=31:12:83
TI El 750,hanns hill,sa. progress reports from 19-1-81 to 6-12 -82.(139 p.data,4 maps).
TN #TN=EL750;
CO Oilmin;

AU Youles, I P; Duncan, N;
SO SADME:open:file, #RE2=(Env 4041); 63 pages; maps, #DATE=1982 1982
SU #BR=1250; Non-metalliferous mins; Mineral exploration; Diamond exploration; Heavy mineral sampling; Gold exploration; Metalliferous minerals; Mineralogy; Stream sediment sampling; Geochemical exploration; Heavy mineral analysis; Assay value; Multielement analysis; Niobium; Cobalt; Chromium; Sampling; Nickel; Geochemical anomaly; Photointerpretation;
LO Mount toodla; Hanns hill;
MA #250=SG5315 #250N=OODNADATTA; #100=6042; #100=6043;

#CNO=1015175 DOCTYPE: Company rep
#DOE=31:12:83
TI El 751 Mt.Robinson,S.A. progress reports from 19-1-81 to 6-12-82(65p.data, 3 maps).
TN #TN=EL751;
CO Oilmin;
AU Youles, I P; Duncan, N;
SO SADME:open:file, #RE2=(Env 4042); 25 pages; maps, #DATE=1982 1982
SU #BR=1250; Non-metalliferous mins; Mineral exploration; Diamond exploration; Heavy mineral sampling; Geochemical exploration; Stream sediment sampling; Gold exploration; Multielement analysis; Mineralogy; Assay value; Niobium; Cobalt; Chromium; Nickel; Geochemical anomaly; Sampling; Metalliferous minerals; Heavy mineral analysis;
LO Mount robinson;
MA #250=SG5315 #250N=OODNADATTA; #100=6042; #100=6142;

#CNO=1009259 DOCTYPE: SADME rep
#DOE=16:03:88
TI Geochemical exploration for gold, Peake and Denison Ranges.
AU Martins, J J;
SO SADME:Unpublished:Report, #RE1=(RB 80/070); 2 fiche, 15 pages, 2 plans; 1 appx, 1 fig, references, #DATE=1980 September
AB Reconnaissance stream sediment sampling of the creeks on the western side of the Peake and Denison Ranges aimed to locate old reported alluvial gold occurrences and to test the creeks for significant distribution of gold eroding out of the Jurassic sandstones (Algebuckina Sandstone?). No anomalous base metal or gold values were detected.
SU #BR=1345; #BR=1190; Gold exploration; Multielement analysis; Jurassic; #BASIN=(Eromanga Basin);
AS Au; Pb; Cu; Zn; As; Mo; Co; Mn; Ni; Ba;
LO Peake Creek; Neales River;
MA #250=SG5315 #250N=OODNADATTA; #100=6042II; #250=SH5303 #250N=WARRINA; #100=6041I;
AD #DOCKET=263/77

#CNO=1009259 DOCTYPE: SADME rep
#DOE=31:12:83
TI Geochemical exploration for gold peake and denison Ranges.
AU Martins, J J;
SO SADME:Unpublished:Report, #RE1=(RB 80/070); 5 pages; maps, #DATE=1980
SU #BR=1190; Geochemistry; Mineral exploration; Gold; Jurassic; Multielement analysis; Stream sediment sampling; #BASIN=(Great Artesian Basin);
ST Algebuckina Sandstone;
LO Peake and denison range; Peake creek; Neales river;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041 ;

#CNO=1014937 DOCTYPE: Company rep
#DOE=31:12:83
TI Combined gravity and optical levelling survey nilpinna.
TN #TN=EL924;
CO C.r.a. explor;
AU Solo-geophysics;
SO SADME:open:file, #RE2=(Env 4562); 69 pages; maps, #DATE=1981 1981
SU #BR=1230; Geophysics; Gravity surveys; Gravity data; Coal exploration; #BASIN=(Arckaringa Basin);
LO Nilpinna;
MA #250=SH5303 #250N=WARRINA; #100=5940; #100=5941;

#CNO=1015174 DOCTYPE: Company rep
#DOE=31:12:83
TI El 750,hanns hill,sa. progress reports from 19-1-81 to 6-12 -82.(139 p.data,4 maps).
TN #TN=EL750;
CO Oilmin;
AU Youles, I P; Duncan, N;
SO SADME:open:file, #RE2=(Env 4041); 63 pages; maps, #DATE=1982 1982
SU #BR=1250; Non-metalliferous mins; Mineral exploration; Diamond exploration; Heavy mineral sampling; Gold exploration; Metalliferous minerals; Mineralogy; Stream sediment sampling; Geochemical exploration; Heavy mineral analysis; Assay value; Multielement analysis; Niobium; Cobalt; Chromium; Sampling; Nickel; Geochemical anomaly; Photointerpretation;
LO Mount toodla; Hanns hill;
MA #250=SG5315 #250N=OODNADATTA; #100=6042; #100=6043;

#CNO=1015175 DOCTYPE: Company rep
#DOE=31:12:83
TI El 751 Mt.Robinson,S.A. progress reports from 19-1-81 to

6-12-82(65p.data, 3 maps).
TN #TN=EL751;
CO Oilmin;
AU Youles, I P; Duncan, N;
SO SADME:open:file, #RE2=(Env 4042); 25 pages; maps, #DATE=1982 1982
SU #BR=1250; Non-metalliferous mins; Mineral exploration; Diamond exploration; Heavy mineral sampling; Geochemical exploration; Stream sediment sampling; Gold exploration; Multielement analysis; Mineralogy; Assay value; Niobium; Cobalt; Chromium; Nickel; Geochemical anomaly; Sampling; Metalliferous minerals; Heavy mineral analysis;
LO Mount robinson;
MA #250=SG5315 #250N=OODNADATTA; #100=6042; #100=6142;

#CNO=1009259 DOCTYPE: SADME rep
#DOE=16:03:88
TI Geochemical exploration for gold, Peake and Denison Ranges.
AU Martins, J J;
SO SADME:Unpublished:Report, #RE1=(RB 80/070); 2 fiche, 15 pages, 2 plans; 1 appx, 1 fig, references, #DATE=1980 September
AB Reconnaissance stream sediment sampling of the creeks on the western side of the Peake and Denison Ranges aimed to locate old reported alluvial gold occurrences and to test the creeks for significant distribution of gold eroding out of the Jurassic sandstones (Algebuckina Sandstone?). No anomalous base metal or gold values were detected.
SU #BR=1345; #BR=1190; Gold exploration; Multielement analysis; Jurassic; #BASIN=(Eromanga Basin);
AS Au; Pb; Cu; Zn; As; Mo; Co; Mn; Ni; Ba;
LO Peake Creek; Neales River;
MA #250=SG5315 #250N=OODNADATTA; #100=6042II; #250=SH5303 #250N=WARRINA; #100=6041I;
AD #DOCKET=263/77

#CNO=1009259 DOCTYPE: SADME rep
#DOE=31:12:83
TI Geochemical exploration for gold peake and denison Ranges.
AU Martins, J J;
SO SADME:Unpublished:Report, #RE1=(RB 80/070); 5 pages; maps, #DATE=1980
SU #BR=1190; Geochemistry; Mineral exploration; Gold; Jurassic; Multielement analysis; Stream sediment sampling; #BASIN=(Great Artesian Basin);
ST Algebuckina Sandstone;
LO Peake and denison range; Peake creek; Neales river;
MA #250=SG5315 #250N=OODNADATTA; #250=SH5303 #250N=WARRINA; #100=6042; #100=6041 ;

Peake and Denison

Sample No.	Au Assay	Top assay = fire assay, lower assay = AAS
13518	0.16/0.35	Jasper rich vein within m.g. basic rock
13523	0.05	Massive haematite lode,trending NS with quartz veining
13528	0.80/1.20	War Loan Mine open cut; ferruginous, siliceous malachite lode up to 2 m wide
13529	1.49/0.9	Ferruginous, siliceous malachite lode
13542	0.40	Malachite rich ore after C.C.?
13687	0.05	Malachite in oxidised ferruginous zones with calcite/siderite patches
13688	0.05	Disseminated malachite in m.g. semi or basic volcanics
13731	0.05	Quartz-calcite vein, transgressive in Duff Creek dolomite
13789	0.72/0.65	Ferruginous quartz vein wiyh fresh pyrite, haematite present, Floater in creek
13791	0.05	Ferruginous quartz vein, floater in creek
16203	0.05	100m east of workings, oxidised quartz vein with malachite
16206	3.60	Quartz with malachite from dump
16207	0.05	Quartz with gossanous material from dump
16209	0.05	Ferruginous breccia with abundant vesicular ironstone
16210	0.05	Disseminated malachite in biotite schist from small pit nr. DH
16219	0.40	Quartz with malachite from 3 small pits
16221	0.05	Quartz with malachite from small pit
16222	0.25	Quartz-haematite vein 5m along strike from shaft
16224	0.15	Quartz with malachite
16225	0.05	Gossanous material in quartz blow
16226	0.20	Haematitic gossan with malachite
16227	0.20	Haematitic gossan with malachite and chalcopyrite
16228	0.70	Haematitic gossan with malachite
16229	0.05	Quartz with malachite and pyrite
16230	0.48/0.10	Haematitic gossan with malachite from shale
16231	1.24/1.35	Quartz with malachite, calcite and chrysocolla from small pit
16232	0.05	Malachite (stained oxidised dolerite?) from base of cliff
16233	0.10	Malachite (stained oxidised dolerite?) from base of cliff
16234	0.45	Quartz with malachite, tenovite, cuprite and chalcocite from pits at Printa Mine
16235	0.15	Quartz with malachite from dump at shafts
16236	0.20	Quartz with malachite from small pit
16237	0.15	Quartz with malachite from 2 small pits
16238	0.05	Pegmatite with quartz and malachite and chrysocolla from 2 small pits
16239	0.25	Quartz with malachite in pegmatite in small pit
16241	0.05	Quartz with malachite, tenorite and chrysocolla
16242	0.10	Quartz with malachite from pits
16243	0.15	Quartz with malachite and tenorite from pit
16244	0.20	Pegmatite and malachite from small pit
16245	0.20	Quartz and malachite in pegmatite
16246	0.15	Malachite and haematite in pegmatite
16247	0.20	Quartz with malachite and cuprite
16248	0.05	Haematite quartz veins with malachite and chalcopyrite
16253	0.05	Haematite quartz gossan from deep shaft
16254	0.10	Haematite quartz gossan with malachite and colloform quartz in pit
16255	0.05	Haematite quartz gossan float with malachite
16256	0.25	Haematite quartz gossan float with chrysocolla in pit
16258	0.10	Jasper quartz with chrysocolla from above pit
16259	0.05	Haematite quartz gossan from small pit
16260	0.10	Haematite quartz gossan with chalcopyrite
16261	0.05	Haematite quartz gossan with malachite from pit
16263	0.10	Haematite quartz calcite vein with malachite from small pits
16266	0.05	Haematite quartz vein with malachite

16267	0.10	Haematite quartz vein with malachite from shaft
16268	0.05	Haematite quartz with malachite from small pit
16269	0.56/1.10	Haematite quartz gossan
16270	0.05	Haematite quartz gossan with malachite from shaft
16271	1.08/1.10	Haematite quartz vein with malachite from pit
16275	0.25	Haematite quartz vein with malachite from pit
16276	0.05	Calcite quartz haematite vein with malachite from small quarries
16281	0.35	Quartz with malachite and chalcopyrite from 3 pits
16283	0.30	Quartz veins with malachite and chalcopyrite in shallow shaft
16284	0.05	Quartz haematite vein with malachite from long shallow trench
16286	0.05	Haematite gossan from small pit
16287	0.20	Quartz vein with malachite, pyrite and chalcopyrite. Deep shaft
16288	0.10	Quartz haematite vein with malachite and tenorite
16289	0.05	Quartz slate malachite breccia with veinlets in slate from small pit
16293	0.05	Quartz vein with abundant malachite in slate from pit
16300	0.05	Quartz slate breccia with malachite
16301	0.10	Quartz haematite vein in oxidised slate with minor malachite
16302	0.05	Quartz and malachite in crenulated schists from small cutting
16303	0.50	Quartz with malachite , covellite and chalcopyrite in schists
16304	0.10	Ferruginous quartz with malachite and bright red mineral. deep shaft
16306	0.20	Ferruginous quartz with pyrite, chalcopyrite, covellite, bornite, malachite etc. deep shaft
16309	0.05	Quartz heamatite veins in crenulated schists in small cuttings
16310	0.05	Haematite quartz vein with malachite from small pit
16316	0.10	Quartz vein with chlorite and siderite
16317	0.15	Jasper quartz vein with malachite
16319	0.05	Quartz haematite veins in granite gneiss
16321	0.05	Quartz haematite veins in granite gneiss
16352	0.05	Oxidised vesicular ironstone
16357	0.05	Pyritic black shale breccia
16361	0.05	Pyritic black shale breccia with quartz veining
16440	0.05	Siderite malachite with minor quartz from small pits
16442	0.10	Malachite siderite with minor quartz from small shaft
16444	0.05	Siliceous (shale?) with abundant malachite
16446	0.05	Siliceous (cherty) dolomite with abundant malachite and ferruginous quartz vein
16449	2.0/2.2	Strongly ferruginous quartz vein with abundant malachite
16461	0.60	Siliceous ironstone with malachite from pits
16462	0.05	Well bedded ferruginous sediments
16465	0.05	Quartz vein with oxidised pyrite structure
16466	0.05	transgressive quartz carbonate vein 0.5 m wide
16500	0.10	Brecciated quartz ironstone vein
16502	1.50/1.55	Quartz ironstone vein in spotted shales and dolomites
16509	0.10	Quartz ironstone with malachite from small pit
16511	0.10	Quartz vesicular ironstone vein uphill from main workings
16512	0.05	Green amphibole rich rock with cube of enclosed pyrite . Host rock ?
16516	0.05	Abundant gossanous haematite float in creek
16520	0.05	Quartz vesicular ironstone vein with pyrite
16541	0.05	Quartz pyrite gossan vein in silicified quartzite

3200
3250
3300
3400
3400

27°45'
135°30'
136°00'
28°00'
28°15'
28°30'
28°45'
136°30'
29°00'

To Coondadatta
Mt.Dutton
Mt.Dutton Siding
Algebuckina prospect (Cu)
Algebuckina Siding
Mt.Kingston
Mt.Kingston prospect (Cu)
Printa mine (Cu)
U
Bi, Cu in quartz
Peake mine (Cu)
Peake H.S.
Cu
New mine (Cu)
Jaybee mine (Cu)
Copper Top mines (Cu)
No.5
Mt.Denison
No.6
No.7
Warrina R.S.
Railway
Edward Creek R.S.
Mt.Margaret Fault
Levi Fault
Lagoon Hill
Mt.Charles
Spring Hill
Coominaree mine (Cu) No.1
No.2
Nilpinna H.S.
Duff Creek Siding
Mt.Fox
Mt.Margaret
War Loan mine (Cu)
(Asbestos, Cu)
Pompeys Reward (Au)
McLeods Reward (Cu)
Last Chance mine (Cu, U)
Copper Hill mine (Cu)
Boorthanna R.S.
Mt.Anna
Box Creek Siding
Anna Creek R.S.
Anna Creek H.S.
William Creek R.S.
To Marree

LEGEND

POST ADELAIDEAN

PALAEOZOIC GRANITE
(Sodic granite, monzonite, syenite)

DIAPIRIC BRECCIA

BASIC VOLCANICS AND DYKES

UPPER PROTEROZOIC

ADELAIDEAN (Undifferentiated)

Peake Metamorphics

METASEDIMENTS (Quartzite, mica schist, gneiss, slates and phyllites)

Metabasalts, amphibolites

? LOWER PROTEROZOIC

GRANITE PORPHYRY, GRANITE GNEISS

REFERENCE

Faults

Fold axes in Adelaidean: Synclinal; Anticlinal

Mine or prospect

Mineral occurrence

Copper — Cu

Uranium — U

Gold — Au

Bismuth — Bi

After M.L.Reyner, R.P.Coats, B.Leeson, B.P.Thomson, J.B.Westhoff.

0 KILOMETRES 30

M70 Del.C.R.S. 73—159 A.H.Blissett S.A. Department of Mines

8254-2

Reduce to 11 inches

QS 16366	0·06	0·04
QS 16367	0·04	N.D.
QS 16368	0·04	0·08
QS 16369	0·02	0·04
QS 16370	0·02	0·02

552176	0·030	0·030
552177	0·020	0·020
552178	0·010	0·010

QS 16371	0·02	0·04
QS 16372	0·04	0·08
QS 16373	0·04	0·06
QS 16374	0·04	0·10
QS 16375	0·06	0·02
QS 16376	N.D.	0·02

552175	0·050	0·050

QS 16377	0·04	0·06
QS 16378	0·02	0·04

552172	0·010	0·010
552173	0·035	0·035
552174	0·010	0·010

552186	0·05	
552195	0·05	
552196	0·20	

552181	0·010	0·010
552182	0·010	0·020
552183	0·010	0·010

552179	0·095	0·020
552180	0·005	0·005

16209	0·05	

16210	0·05	
16219	0·40	
16221	0·05	

16203	0·05	
16206	3·60	
16207	0·05	

MZ 119	0·1	
KZ 124G	0·5	
KZ 125G	0·4	
KZ 126G	1·4	
KZ 127	0·2	

1631	0·05	

16316	0·10	

13688	0·05	

16222	0·25	
16224	0·15	
16225	0·05	
16226	0·20	
16227	0·20	
16228	0·70	
16229	0·05	
16230	0·48	0·10
16231	1·24	1·35
16232	0·05	
16233	0·10	

16234	0·45	
16235	0·15	
16236	0·20	
16237	0·15	
16238	0·05	
16239	0·25	
16241	0·05	
16242	0·10	
16243	0·15	
16244	0·20	
16245	0·20	
16246	0·15	
16247	0·20	
16248	0·05	

104 B (H)	0·025	
104 B (L)	0·007	
TJ-1B (H)	0·010	
TJ-2B (H)	0·011	
TJ-3B (H)	0·011	
TJ-4B (H)	0·012	
TJ-5B (H)	0·026	
TJ-7B (H)	0·015	
TJ-8B (H)	0·008	
TJ-9B (H)	0·006	
TJ-10B (H)	0·009	
TJ-11B (H)	0·036	
TJ-12B (H)	0·015	
TJ-13B (H)	0·015	
TJ-14B (H)	0·015	

16253	0·05	
16254	0·10	
16255	0·05	
16256	0·20	
16257	0·25	
16258	0·10	
16259	0·05	
16260	0·10	
16261	0·05	
16263	0·10	
16266	0·05	
16267	0·10	
16268	0·05	
16269	0·56	1·10
16270	0·05	
16271	1·08	1·10
16275	0·25	
16276	0·05	
16281	0·35	
16283	0·30	
16284	0·05	
16286	0·05	
16287	0·20	
16288	0·10	
16289	0·05	
16293	0·05	
16300	0·05	
16301	0·10	
16302	0·05	
16303	0·50	
16304	0·10	
16306	0·20	
16309	0·05	
16310	0·05	
16317	0·15	
16321	0·05	

DRILL HOLE N.P. 001		
30 - 32m	0·01	

16440	0·05	
16442	0·10	
16444	0·05	
16446	0·05	
16449	2·00	2·20
16461	0·60	
16462	0·05	
16465	0·05	
16466	0·05	

99	0·0143	

CM125R	0·05	

16352	0·05	
16357	0·05	
16361	0·05	

142	0·10	

WL001C	1·40	

DRILL HOLE W.L.2		
0-7·6m	0·05	
68·6-72·8m	0·05	
74·5-76·2m	0·05	

13528	0·80	1·20
13529	1·49	0·90

PKT0081·0R	1·46	
PKT0082·0R	0·10	

PX 838328 593888R	0·75	

179	0·07	

13542	0·40	

13731	0·05	
16500	0·10	
16502	1·50	1·55
16509	0·10	
16511	0·10	
16512	0·05	
16516	0·05	
16520	0·05	

PKT005 3·0R	0·70	

LVO 61 A	0·05	
LVO 61 B	0·34	

LVT008 [redacted]	0·04	

13789	0·72	0·65
13791	0·05	

16541	0·05	

CM 049R	0·05	

LVO 18 R	0·03	

17	0·0128	
19	0·0114	
LVO 24 R	0·04	
LVO 11 R	0·05	
LVO 12 R	0·06	
32 R	0·05	

6	0·011	
CM044 R	0·10	
CM044 R	0·0123	
CM032 R	0·05	

793154	0·05	
888431	0·05	

773171	0·05	
888409	0·05	

13523	0·05	

7	0·10	
8	0·05	

13518	0·16	0·35

6104 RS 23	0·15	
6104 RS 24	0·05	
6104 RS 25	0·05	

773150	0·05	
888404	0·05	

N

SCALE 1:150000

KILOMETRES 5 0 5 10 15 20 KILOMETRES

HISTORY OF EXPLORATION

PLAN No.	OPERATOR	YEAR	REFERENCE	TYPE OF SURVEY
1	AUSTRALIAN MINING CORPORATION	1969	ENV 1015	DRILLING
2	CHEVRON EXPLORATION CORPORATION	1973	ENV 2182	BIOGEOCHEMICAL
3	WESTERN MINING CORPORATION LTD	1975	ENV 2525	ROCK CHIP
4	CONSOLIDATED GOLD MINING AREAS N.L. AND KIMBERLEY DIAMOND QUEST N.L.	1979	ENV 3562	STREAM SEDIMENT
5	WESTERN MINING CORPORATION LTD	1975	ENV 2525	DRILLING
6	" " " "	"	"	"
7	S.A.D.M.E.	1978	RB 70/80	STREAM SEDIMENT
8	"	1981	BULL. 50	ROCK
9	BHP CO. LTD	1980	ENV 3754	DRILLING
10	CRA EXPLORATION PTY LTD	1980	ENV 4138	DRILLING
11	CARPENTARIA EXPLORATION CO. PTY LTD	1981	ENV 4496	ROCK CHIP
12	" " " " "	"	"	"
13	" " " " "	"	"	"
14	" " " " "	"	ENV 4031	SOIL
15	" " " " "	"	ENV 4496	ROCK CHIP
16	OILMIN N.L., TRANSOIL N.L., PETROMIN N.L.	1981	ENV 4041	STREAM SEDIMENT
17	UTAH DEVELOPMENT CO. LTD	1984	ENV 3771	DRILLING
18	" " " "	"	" "	STREAM SEDIMENT
18	" " " "	"	" "	ROCK CHIP
18	" " " "	"	" "	SOIL
19	CRA EXPLORATION PTY LTD	1980	ENV 4138	STREAM SEDIMENT
20	CARPENTARIA EXPLORATION CO. PTY LTD	1981	ENV 4496	ROCK CHIP
21	BRITAS DIAMONDS N.L.	1984	ENV 3562	STREAM SEDIMENT

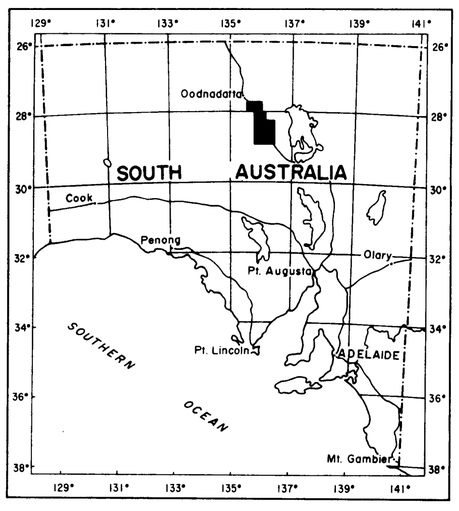
REFERENCE

16440 | 0·05

ASSAY (Grams/Tonne)

SAMPLE No.

LOCALITY



8254-3

DEPARTMENT OF MINES AND ENERGY SOUTH AUSTRALIA

PEAKE AND DENISON RANGES

GOLD GEOCHEMISTRY

COMPILED	W.P. Fradd
DRAWN	B.P. Donovan
DATE	OCT. 1989
CHECKED	
C.O.O.	DATE
SCALE	As Shown
PLAN NUMBER	89 - 451

8254-4

GEOLOGICAL MAP

PEAKE AND DENISON RANGES

SCALE 1:150 000

KILOMETRES 5 0 5 10 15 20 KILOMETRES

PRINTED IN AUSTRALIA
D. J. WOOLMAN, GOVERNMENT PRINTER
SOUTH AUSTRALIA

Grey numbered lines indicate the 10,000 metre Australian Map Grid.

Geological mapping and compilation by
G. J. Ambrose, B.Sc. (Hons) and R. B. Flint, B.Sc. (Hons)
with contributions by R. P. Coats, B.Sc. and W. V. Preiss, Ph.D.

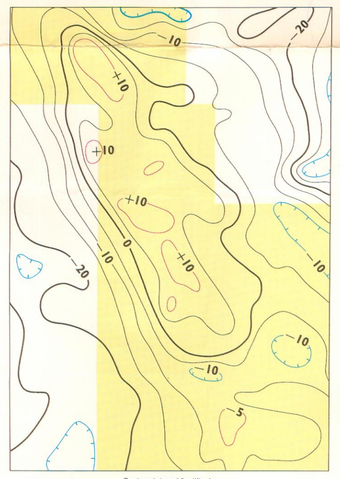
Cartography by the Drafting Branch,
Department of Mines and Energy, S.A.

Compiled under the direction of the Director-General,
Department of Mines and Energy.

Issued under the authority of the Honourable
Minister of Mines and Energy.

Published 1980

BOUGUER GRAVITY ANOMALY MAP



Contour interval 5 milligals.

TOTAL MAGNETIC INTENSITY CONTOUR MAP

Contour interval 50 nano teslas.

SCALE

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA
DEPARTMENT OF MINES AND ENERGY

REFERENCE

MESOZOIC and CAINOZOIC sediments.

PALAEOZOIC

PERMIAN

Plb — BOORTHANNA FORMATION: Brown, gritty dolomites and mixtites with striated and faceted boulders.

Dib — Dolerite dykes. Radiometric age 537 Ma (K/Ar–T.R.).

ORDOVICIAN

Odb — BUNGADILLINA MONZONITE: Coarse-grained, porphyritic monzonites and syenites, minor diorites. Albitites. Radiometric age *c.* 470–500 Ma (K/Ar–hblde & bio).

d — Diapiric breccia with carbonate matrix.

ADELAIDEAN

MAINOIAN — **UMBERATANA GROUP** — **FAUNA SPRING, WILLOCHRA SPRING, WILLOUGHBY FORMATIONS**

Eh1 — Unnamed siltstone: Red-brown silty shales, grey-green shales, silty dolomites, fine-grained sandstones and thin grey-yellow dolomites.

Eh — THORA DOLOMITE: Grey-green and brown dolomites, minor siltstones; large festoon surfaces and algal bedding.

Eff — TAPLEY HILL FORMATION: Laminated grey-green silty shales and silty dolomites; basal, thin sandy dolomites.

Eu — Unnamed sandstone: Quartzitic sandstones, arkoses, argillaceous sandstones; red porphyry granules and large scale cross-bedding; minor microconglomerates.

Ecb — CALTHORINNA TILLITE: Mixtites; conglomeratic dolomites, laminated pale green shales, gritty sandstones, arkoses and quartzites.

Disconformity

STURTIAN

Ekh — KALACHALPA FORMATION: Grey-green and brown siltstones and shales, gritty sandstones and quartzites, conglomeratic dolomites, stromatolitic dolomites, oolitic sediments, black cherts; quartzites and shales at the top.

Eh2 — Unnamed unit: Gritty quartzitic sandstones, stromatolitic dolomites, conglomeratic dolomites, magnesite conglomerates, black and minor red cherts, grey shales and siltstones; mudcracks; ripplemarks, cross-bedding.

TORRENSIAN — **BURRA GROUP**

Ebk — SKILLOGALEE DOLOMITE: Basal member comprises quartzites, sandstones, silty shales and minor pale brown dolomites; middle member comprises sandstones and pale grey to black conglomeratic dolomites, minor magnesite conglomerates and blue-black cherts; upper member is predominantly dark grey-black flaggy conglomeratic dolomites; stromatolites occur in upper two members.

Ebu — MOUNT MARGARET QUARTZITE: White orthoquartzites, slaty quartzitic sandstones, dark grey sandy siltstones, green-grey silty shales, minor dolomitic siltstones near base; thick orthoquartzites at top; clay galls, ripplemarks, cross-bedding.

Eba — FOUNTAIN SPRING BEDS: Laminated grey dolomitic siltstones and interbedded thick grey quartzites with clay gall laminations, green-grey silty shales (salt casts); minor grey silty dolomites and a few quartzites near base.

Eh1 — Unnamed siltstone: Laminated grey pyritic dolomitic siltstones, green shales, pyritic silty dolomites, fine-grained sandstones, minor grey quartzites; ripplemarks, cross-laminations, salt casts.

PROTEROZOIC

Ea — Undifferentiated blocks (in diapirs and faulted sequences): Sequences observed in these blocks include purple shales, maroon shales, sandstones, quartzites and dolomites. Blocks numbered 1–8 described in text.

WILLOURAN OR TORRENSIAN

Eaa — MURRANA BEDS: Laminated gritty quartzitic sandstones, grey-green silty shale interbeds; arkoses, pebbly dolomites, purple and grey silty shales near top; ripplemarks, mudcracks, cross-laminations, flute casts and salt casts.

Eaf — DUFF CREEK BEDS: Laminated olive green silty shales and thin arkose interbeds; flaggy buff weathering pale grey and yellow dolomites, minor dark grey dolomites, flaggy dolomitic siltstones; laminated pyritic fine-grained sandstones; minor quartzitic sandstones; mudcracks, ripplemarks, clay galls and cross-bedding are common; horizons with abundant salt casts and gypsum casts; algal laminations.

Ean — NILPINNA BEDS: Fine-grained cross-laminated sandstones, ripplemarked quartzites (salt casts), grey-green silty shales, minor grey silty dolomites and greenish arkoses; mudcracks, ripplemarks and salt casts are common.

Eaw — WAR LOAN BEDS: Blue-grey shales and siltstones; dark grey silty dolomites, greenish feldspathic sandstones and arkoses.

Ead — ROCKWATER BEDS: Blue-grey and black cherts, black dolomitic limestones with black silty shales and grey quartzites.

WILLOURAN — **CALLANNA BEDS**

Pcc — CADLAREENA VOLCANICS: Vesicular basalts and altered dolerites; minor andesites, dacites and rhyolites; tuffs, lapilli tuffs; minor lenticular reddish mudstones and quartzites with red shale interbeds near base and top.

Ecr — COOMINAREE DOLOMITE: Pale brown and pink stromatolitic dolomites; gritty dolomites.

Ecg — YOUNGHUSBAND CONGLOMERATE: Basal quartzitic breccias; red-purple shales and sandstones at top.

MIDDLE PROTEROZOIC

Diorite and dolerite dykes.

Eyw — WIRRIECURRIE GRANITE: Coarse-grained, porphyritic granites. Radiometric age 1648±21 Ma (Rb/Sr–T.R.); 519–1087 Ma (K/Ar–bio).

EARLY PROTEROZOIC — **PEAKE METAMORPHICS**

Ed3 — Unnamed metamorphics: Grey quartzites, epidote quartzites, arenaceous schists, rare clinopyroxene granulites; minor amphibolites and pegmatites.

Epb — BALTUCOODNA QUARTZITE: Greyish-white quartzites and basalts, amphibolites, minor quartz + muscovite schists, bluish-grey phyllites, sillimanite gneisses, plagioclase + hornblende + epidote calc-silicates and calcite marble.

Ed2 — Unnamed schists: Quartz + muscovite schists, quartz + chlorite phyllites, rare sandstone lenses; minor graded bedding and cross-bedding.

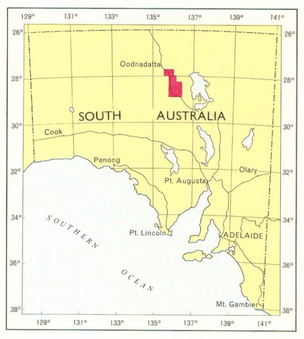
Ed1 — TIDNAMURKUNA VOLCANICS: Flow-banded porphyritic rhyolites, amygdaloidal basalts, rare epidosites and marbles.

Ed1 — Unnamed metamorphics: Quartz + biotite schists, often garnetiferous; muscovite schists, quartz + biotite + feldspar gneisses, white quartzites, rare epidote quartzites; pegmatites and diorite sills common; local migmatites. Radiometric age 1460–1520 Ma (K/Ar–hblde).

MAIN ROAD
SECONDARY ROAD
TRACK
RAILWAY
WITH STATION
WITH SIDING
TRIANGULATION STATION
IDENTIFIED POINT
HOMESTEAD, BUILDING
YARD Yd
EPHEMERAL STREAM
FLOOD PLAIN BOUNDARY
SWAMP
CLAYPAN
SPRING
WATERHOLE W.H.
DAM
BORE, WELL
SAND DUNES
MINE
COPPER Cu

GEOLOGICAL BOUNDARY
OBSERVED
INFERRED
FAULT
OBSERVED
INFERRED
FOLD
ANTICLINAL
SYNCLINAL
BEDDING
INCLINED
VERTICAL
TREND OF BEDDING
FACING
FOLIATION
INCLINED
VERTICAL
GEOLOGICAL BLOCK DIAGRAM A B
TYPE SECTION 7
GEOCHRONOLOGY SAMPLE SITE
TECTONIC BRECCIA

LOCALITY



24 Salisbury Street,
Unley SA 5061

31 October, 1990

Ref: 36.4/CGA/SGS

Director-General,
Department of Mines & Energy,
P.O. Box 151,
Eastwood S.A. 5063

Dear Sir,

Re: Peake and Denison Ranges, E.L. 1621
Quarterly Reports for Periods Ending
June 12th and September 12th, 1990

Exploration Licence No. 1621, in the Peake and Denison Range area, was granted to Messrs. Allender and Le Brun on December 12th, 1989 for a six month term, and subsequently renewed to December 12th, 1990.

In the first term of the licence, an agreement was reached with Placer Exploration Limited, whereby Placer undertook a regional stream sediment sampling programme, with cyanide leach analysis for gold, within the area of EL 1621 and results of this survey have been presented to the Department. Based on these results, Placer concluded that potential for economic gold mineralisation within the area of outcropping Proterozoic sequences in the licence was low, and the company elected not to proceed with any further assessment.

During the present report periods, attention has therefore been directed towards evaluating the possiblity of mineralisation within areas of concealed Proterozoic, relying primarily on existing (open-file) aeromagnetic data.

Contour plans of total magnetic intensity for a number of surveys within and surrounding EL 1621 have been photographically compiled to 1:150,000 scale (Figure 1) to overlay the SADME geological publication for the Peake and Denison ranges. These data were qualitatively reviewed by geophysical consultants Chris Anderson and Associates, and their summary interpretation plan is shown in Figure 2.

CONF. ENV. CYL. 8254/1

It is apparent from this work that magnetic relief within the area can be attritubed to a relatively small number of source lithologies, with relief over much of the area of EL 1621 being relatively featureless. This is particularly true for the majority of Adelaidean age meta-sediments.

ENV-8254/1

Two possible target areas for mineralisation were however indicated in the magnetic assessment -

i) Possible Cu mineralisation associated with "bulls-eye" magnetic highs within Adelaidean sediments and/or intrusives, in the area east of Warrina railway siding (Figure 2).

ii) Possible Au/Cu mineralisation associated with linear magnetic highs (ironstones within meta-sediments?) in the Algebuckina area.

Of these two possiblities, the latter target area was considered to be more viable, and reconnaissance ground magnetic traveres were consequently established to check locations and probable depths of cover for these magnetic source positions. Locations for four traverses are shown in Figure 3 - "Line 1" covering the "Algebuckina East" target and Lines 2, 3 and 4 covering the "Algebucking North" target (total 13.3 line kilometres). Total field magnetic intensity readings were recorded along these lines at 10 metre intervals and profiles for each area are included in Figures 4 and 5 respectively.

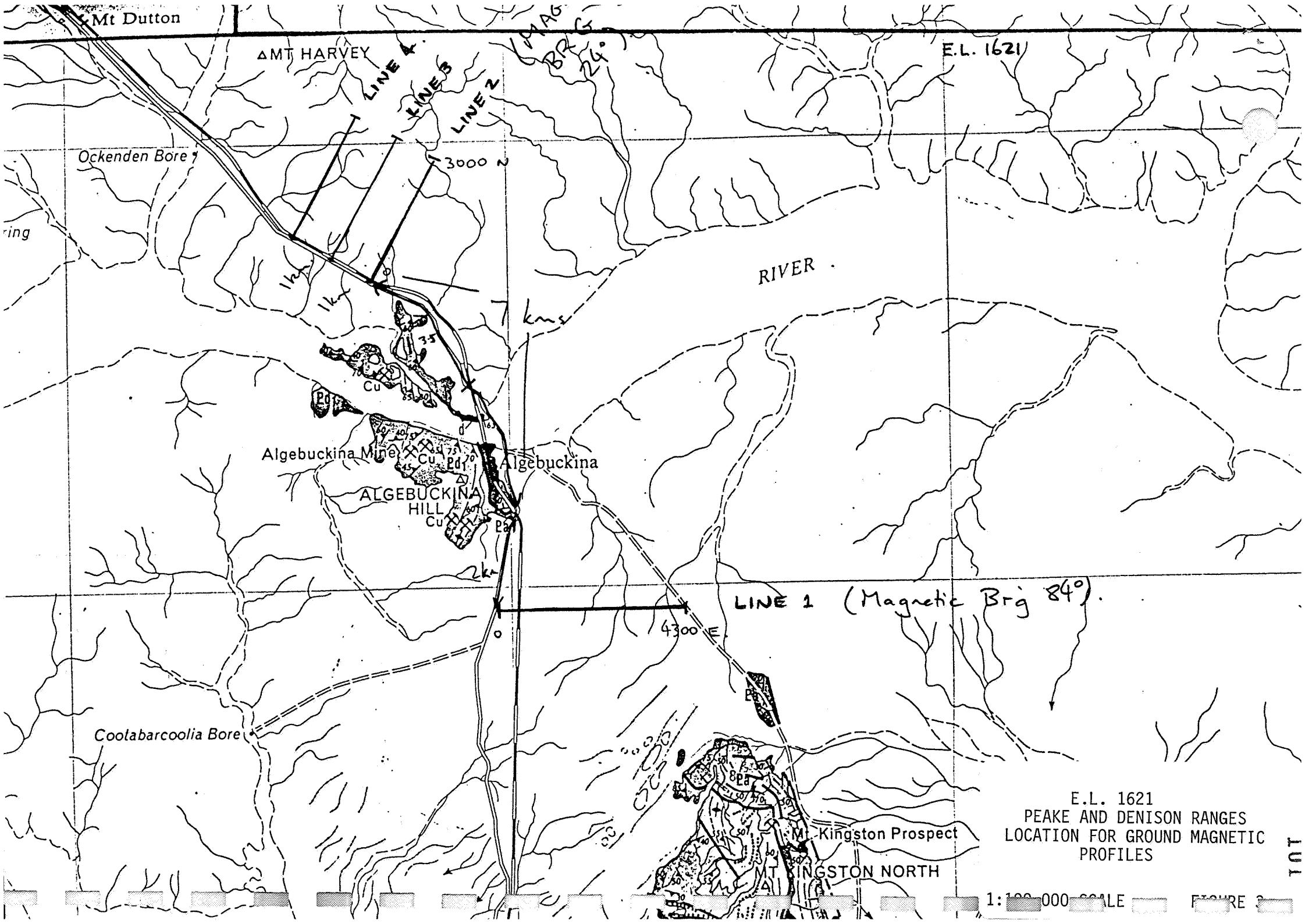
Expenditure during the report periods totalled $6,675, as detailed below:

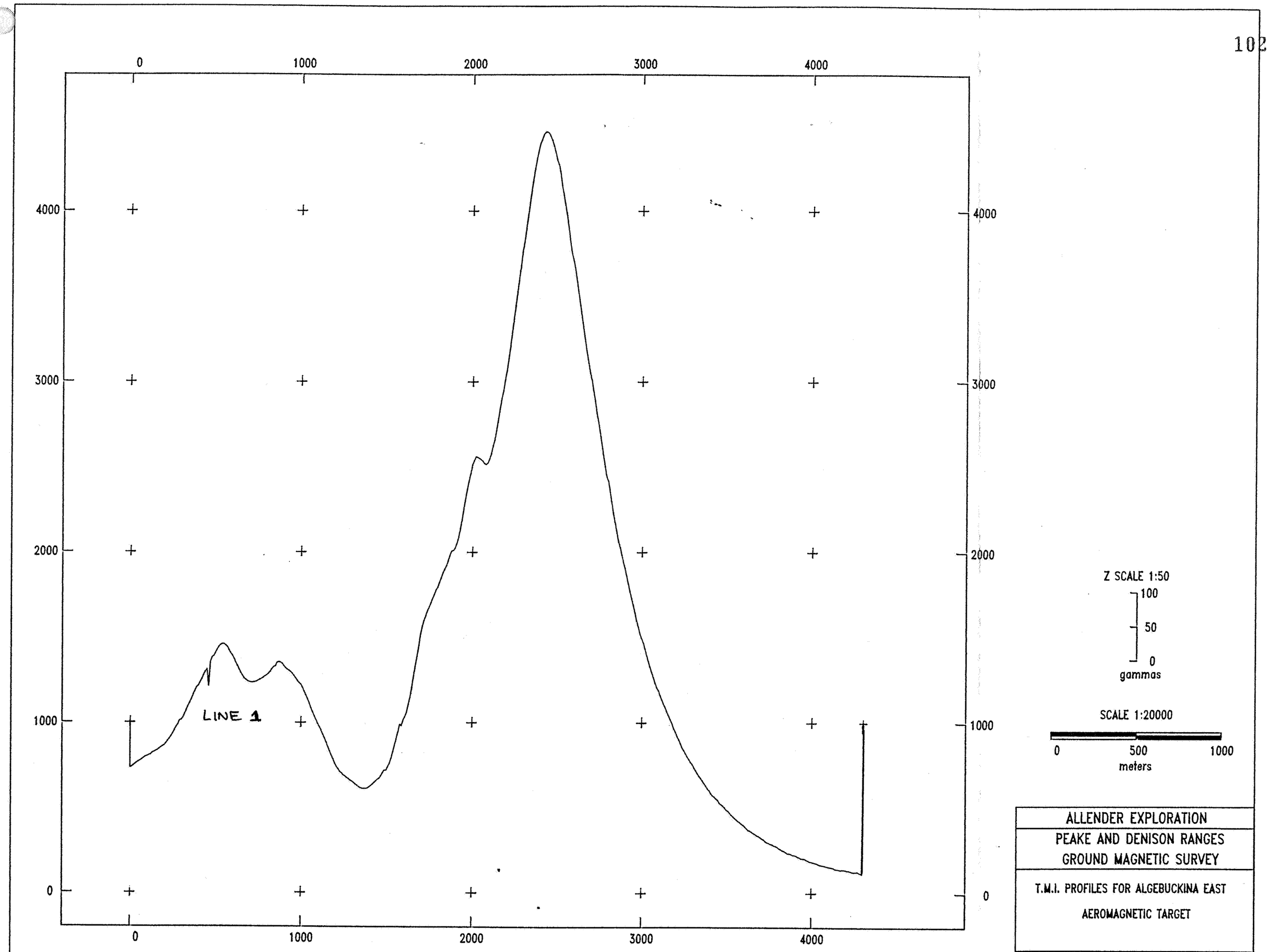
Geophysical data compilation 2 1/2 days at $350.00 per day	$ 875.00
Interpretation (consultant)	$1,500.00
Drafting and plan printing	$ 650.00
Ground magnetic survey (contractor)	$3,300.00
Data processing	$ 350.00

We are currently seeking funds and/or a JV partner to test the delineated magnetic features with shallow RAB drilling.

Yours faithfully,

J. Allender


Mt Dutton
MT HARVEY
LINE 4
LINE 3
LINE 2
(MAG BRG 24°)
E.L. 1621
Ockenden Bore
3000 N
RIVER
1km
1km
7 kms
Cu
Pd
Algebuckina Mine
Cu
Pd
Algebuckina
ALGEBUCKINA HILL
Cu
Pd
2km
LINE 1 (Magnetic Brg 84°)
0
4300 E
Coolabarcoolia Bore
Pd
Pd
Mt Kingston Prospect
MT KINGSTON NORTH
E.L. 1621
PEAKE AND DENISON RANGES
LOCATION FOR GROUND MAGNETIC PROFILES
1:100,000 SCALE
FIGURE 3



Z SCALE 1:50
100
50
0
gammas

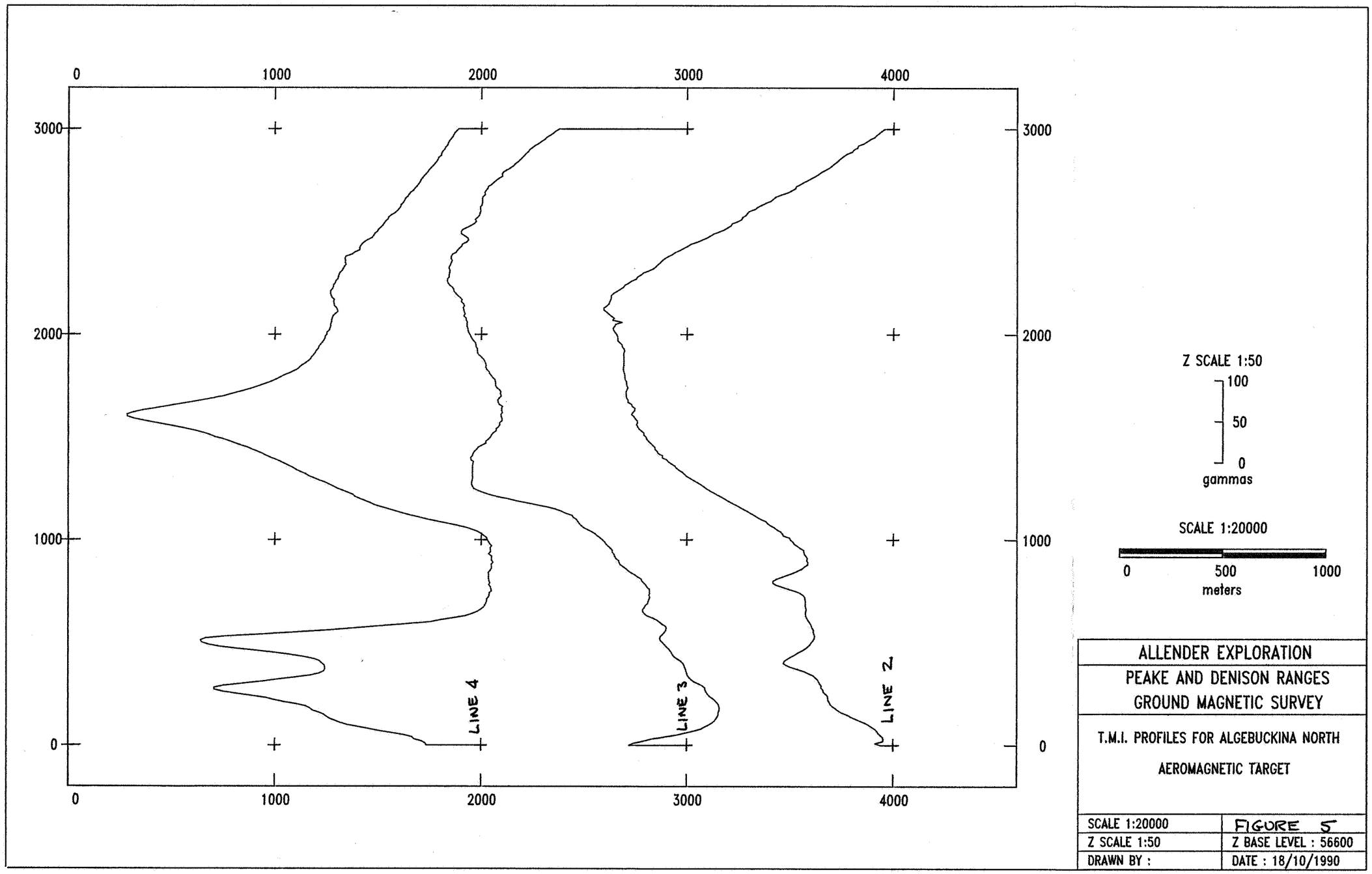
SCALE 1:20000
0 500 1000
meters

ALLENDER EXPLORATION

PEAKE AND DENISON RANGES
GROUND MAGNETIC SURVEY

T.M.I. PROFILES FOR ALGEBUCKINA EAST
AEROMAGNETIC TARGET

SCALE 1:20000	FIGURE 4
Z SCALE 1:50	Z BASE LEVEL : 56700
DRAWN BY :	DATE : 18/10/1990



ALLENDER EXPLORATION

PEAKE AND DENISON RANGES
GROUND MAGNETIC SURVEY

T.M.I. PROFILES FOR ALGEBUCKINA NORTH

AEROMAGNETIC TARGET

SCALE 1:20000	FIGURE 5
Z SCALE 1:50	Z BASE LEVEL : 56600
DRAWN BY :	DATE : 18/10/1990

PLACER EXPLORATION LIMITED

25 February 1991

J.F. Allender Exploration
21 Salisbury Street
UNLEY SA 5061

Dear Jim,

Re: Drilling Algebuckina Magnetic Anomaly
Peake and Denison Ranges

The attached data relates to the short bedrock drilling programme completed in the Algebuckina North area during December, 1990.

The results say it all. Better luck next time.

Yours sincerely,

Genesio Circosta
Senior Geologist

69 KING WILLIAM STREET
KENT TOWN 5067
ADELAIDE
TELEPHONE: (08) 363 1414
FACSIMILE: (08) 363 1654

INCORPORATED IN N.S.W.
REGISTERED OFFICE
GOLD FIELDS HOUSE, 1 ALFRED STREET,
SYDNEY, N.S.W. AUSTRALIA

REPORT ON RAB DRILLING OF A MAGNETIC ANOMALY NEAR ALGEBUCKINA, EL 1621

1. INTRODUCTION

Following the definition of a double-peak anomaly from a ground magnetic survey, described elsewhere, a brief drilling program to determine the source of the anomaly was proposed. The drilling site is located at the southern end of Line 4 of the magnetic survey which is approximately 40km south of Oodnadatta, some 7km north of the Neales River near the disused Oodnadatta to Maree railway (Figure 1).

2. TARGET

The anomaly lies along strike to the north of the mineralised Early Proterozoic Algebuckina Inlier. The magnetics suggest the target may be two parallel iron-rich units or mafic dykes with potential to host gold/copper mineralisation occurring under shallow Mesozoic cover (Figure 2).

3. DRILLING

Thompson Drilling of Adelaide was contracted to carry out a short program of ten vertical RAB holes using a rig with water/mud injection capacity.

Drilling commenced on 12th December, and was completed on 15th December, 1990 for a total of 348m at an average of 35m per hole.

All holes were drilled a few metres into fresh basement and 2m sample intervals collected in a bucket and bagged for geochemical analysis of copper, lead, zinc, manganese, iron, silver and gold by Classic Laboratories of Adelaide.

Lithological logs are attached (Appendix 1).

4. RESULTS (FIGURE 3)

4.1 Stratigraphy

As holes were drilled on 20m centres, the lithologies encountered are repetitive.

The upper stratigraphy comprises essentially a fine grained grey sandstone with clay-rich bands and occasional traces of lignite and opaques with a basal unit of clean sands and medium grained grits. The occurrence of a zone of spheres of aggregated quartz grains and fresh interstitial pyrite about 12-13m below surface is noteworthy. These units are interpreted as belonging to the Cadna-owie Formation.

The basement is a biotite-rich granite or granodiorite with up to 10m of slightly weathered material overlying it. Traces of haematite vughs possibly after magnetite were noted. The granite is correlated with the mid-Proterozoic Wirriecurrie Granite.

4.2 Geochemistry

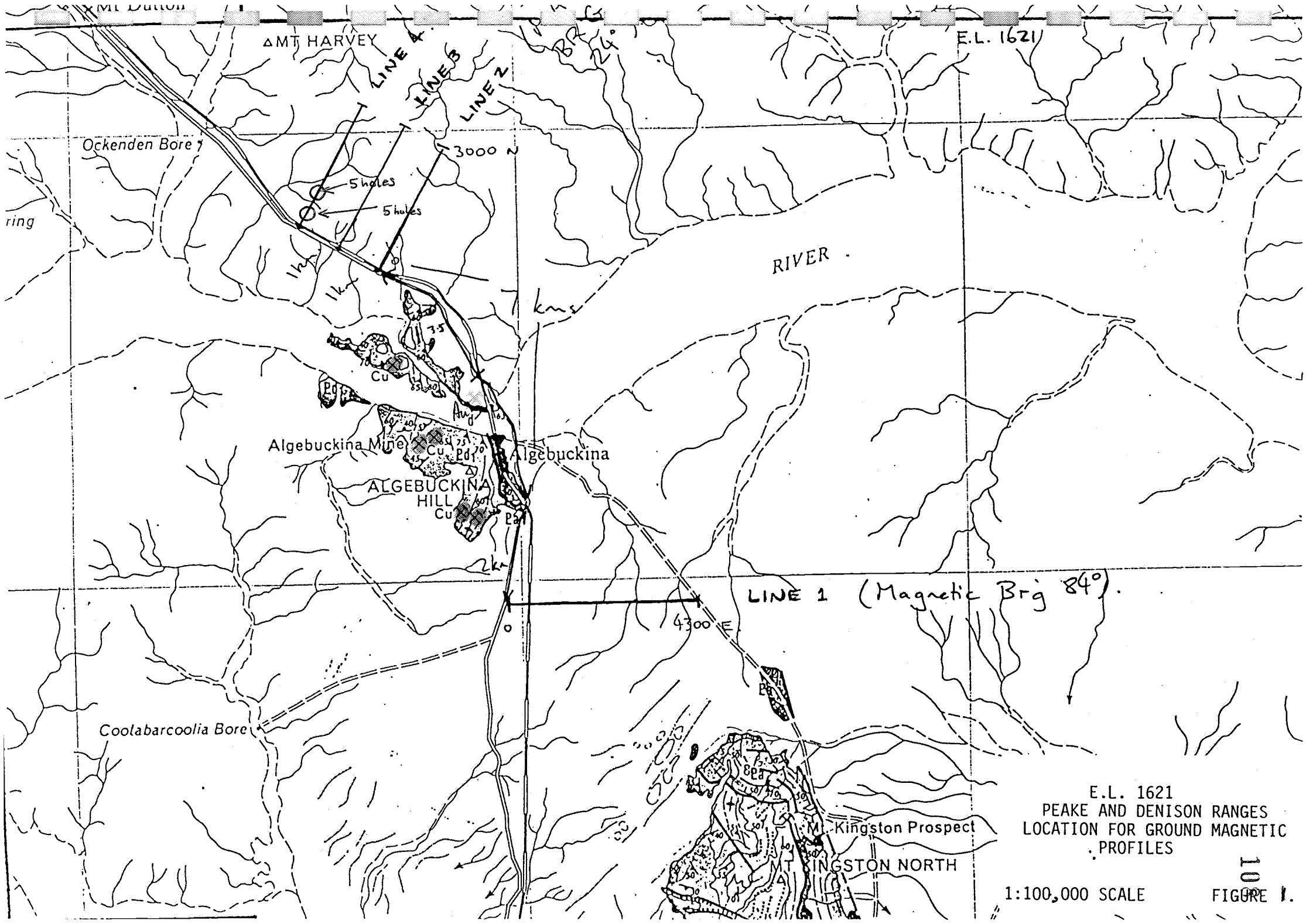
Assays of basement samples showed a lack of anomalism in all elements analysed (Appendix 2). The pyritic spheres were not assayed.

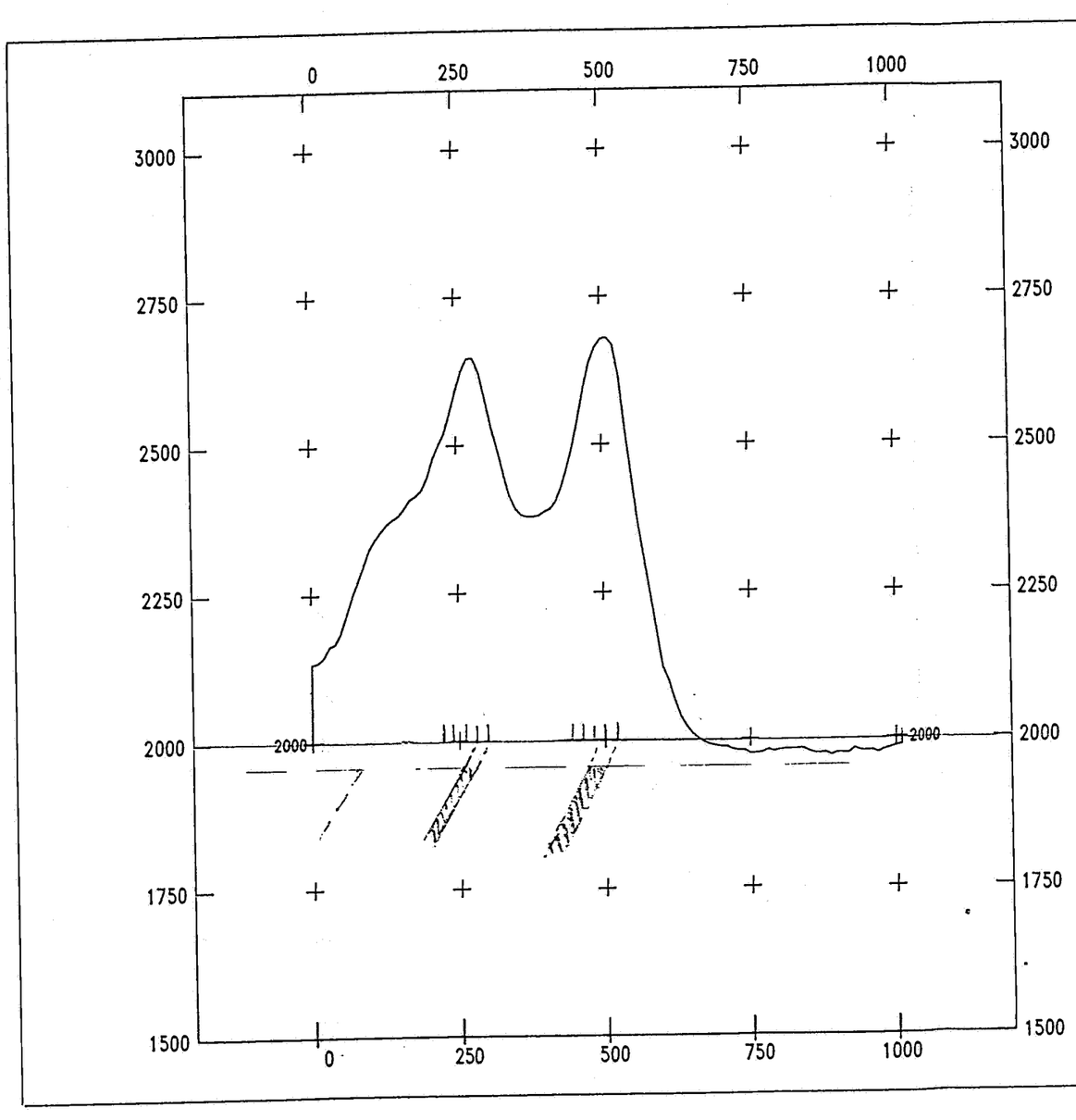
4.3 Water

At approximately 6m, the clay-rich zone was damp and caused drilling problems until water began to flow at 20-22m in the gritty sand unit. The water reached a static level of about 11m R.L. (hole AN1). A sample was collected from AN4 and submitted with a plan to the Hydrological section of the SADME. All holes were back-filled and cemented.

5. CONCLUSIONS

While not intersecting the proposed target lithologies, the presence of possible former magnetite and traces of weak magnetism are concluded to be the source of the subtle ground magnetic expression. The very low geochemical signature of the basement samples negates any potential for mineralisation.


MT HARVEY
LINE 4
LINE 3
LINE 2
E.L. 1621
Ockenden Bore 1
3000 N
5 holes
5 holes
1km
1km
RIVER
7 kms
Cu
Pd
Algebuckina Mine
Cu
Pd
Algebuckina
ALGEBUCKINA HILL
Cu
Pd
2km
LINE 1 (Magnetic Brg 84°).
0
4300 E
Coolabarcoolia Bore
Kingston Prospect
MT KINGSTON NORTH
E.L. 1621
PEAKE AND DENISON RANGES
LOCATION FOR GROUND MAGNETIC
PROFILES
1:100,000 SCALE
FIGURE 1.



Z SCALE 1:50

200

100

0

gammas

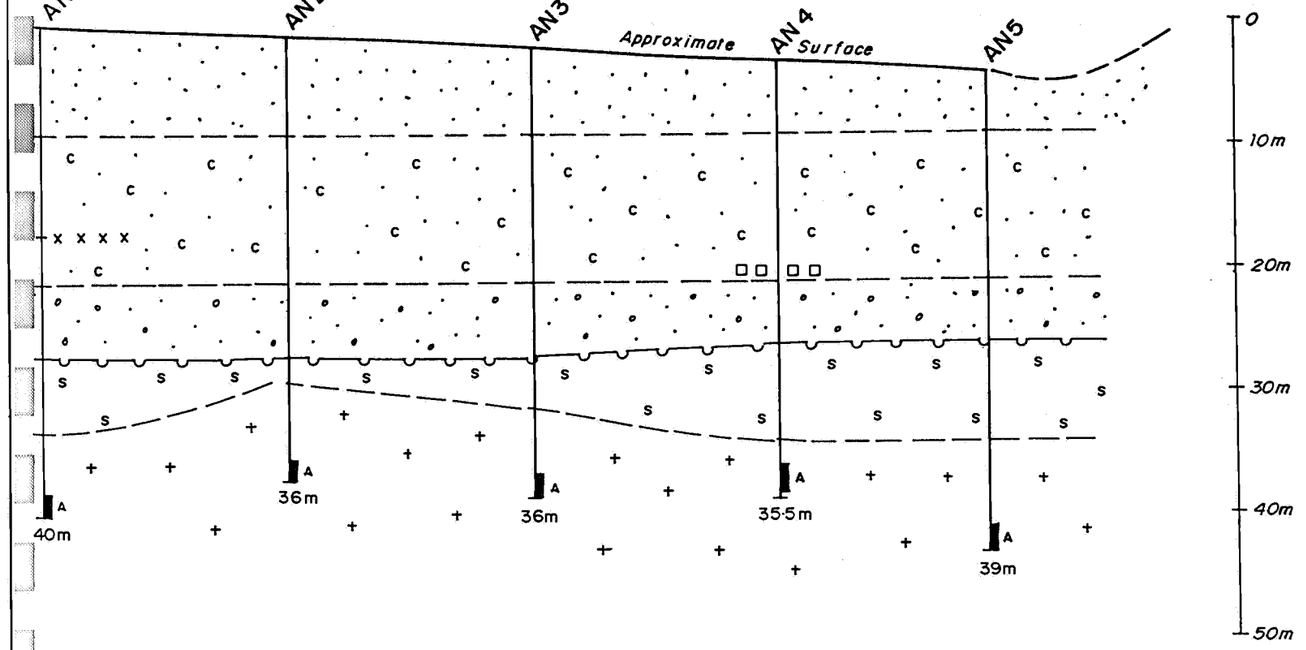
SCALE 1:10000

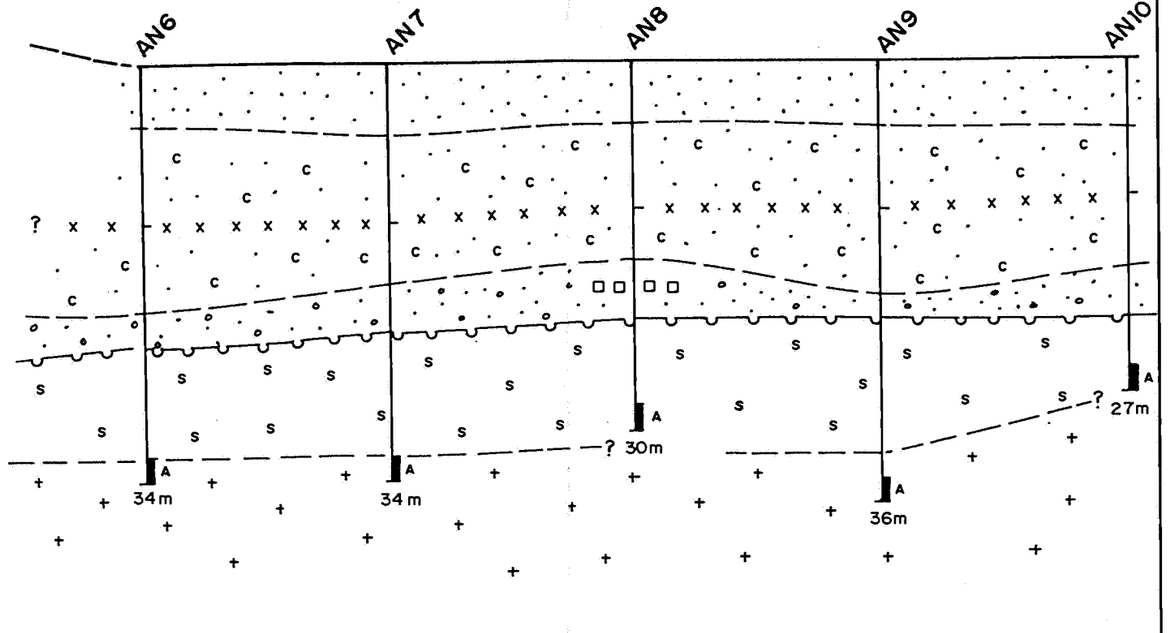
0 200 400 600 800

meters

ALLENDER EXPLORATION	
PEAKE AND DENISON RANGES ALGEBUCKINA NORTH	
GROUND MAGNETIC PROFILE FOR IRONSTONE TARGET .. LINE 4 Figure 2	
SCALE 1:10000	
Z SCALE 1:50	Z BASE LEVEL : 56600
DRAWN BY :	DATE : 20/11/1990

220N 240N 260N 280N 300N 440N 460N 480N 500N 520N





LEGEND

- Sandstone – fine grained (Codna-owie Fm) Buff coloured
- Schist – quartz, chlorite, feldspar (Weathered basement) Grey coloured
- Biotite granite (Peak metamorphics)
- Grits, fine sands
- Clay
- Lignite
- Pyrite spheres
- Assay

10 0 10 20 metres

SCALE 1:500

PLACER EXPLORATION LTD.

PEAKE AND DENISON – E.L. 1621

ALGEBUCKINA NORTH LINE 4
RAB DRILLING- GEOLOGY
SECTION LOOKING WNW

Author: I.R.	Drawn: W.C.A.
Scale: 1:500	Date: DECEMBER 1990
Plan No.	FIGURE 3

APPENDIX 1

Drill Logs - AN1 - AN10

ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. AN 1

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE & DENISON
LOCATION: ALGEBUCKINA
STARTED: 14/12/90
COMPLETED: 14/12/90

DATE STARTED:
COORDINATES: Line 4 ; 220 N (5m SE)
ELEVATION: 0 m
DEPTH: 40 m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 112
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0–9	Fawn to buff Sandstone, fine grained.			
9–27	Grey Sandstone, fine grained with clay horizons. Dirty. Less clay after 21m 11–11.5 } White to grey quartzite (~~clean~~) 20.5–20.7 } with trace opaques First trace of py at 17–18m. Damp at 11m, natural flow at 23m.			
27–33	Mix of quartz grit and quartz chlorite / feldspar grains			
33–40	Qtz / biotite / pink & white feldspar + minor muscovite and free qtz	38–40 129167	2m	
E.O.H.				

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ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. AN 2

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE & DENISON
LOCATION: ALGEBUCKINA
STARTED: 14/12/90
COMPLETED: 14/12/90

DATE STARTED:
COORDINATES: Line 4 : 240 N
ELEVATION: -1 m
DEPTH: 36 m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 113
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-8	Sandstone, fine grained Buff to Folwn			
8-20	Sandstone, fine grained, grey plus bands of grey clay. First water at 12m.			
20-26	Sandstone, fine grained, grey, dirty			
26-28	Weathered zone of qtz chlorite & free quartz.			
28-36	Fresh zone of qtz/biotite ± chlorite, pink and cream feldspar, minor qtz grains.	129168 34-36	2m	
E.O.H.				

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ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. AN3

PAGE 1 OF 1

114

PROJECT: REGIONAL
AREA: PEAKE & DENISON
LOCATION: ALGEBUCKINA
STARTED: 14/12/90
COMPLETED: 14/12/90

DATE STARTED:
COORDINATES: Line 4 260N
ELEVATION: -2m
DEPTH: 36m

TYPE OF DRILL: #4
HOLE SIZE: 4½"
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-7	Sandstone, fine grained Buff to fawn.			
7-19	Sandstone fine grained plus grey clay bands 9 m – Quartzite band Damp at 13m, Water at 22m			
19-25	Sandstone grey, minor clay.			
25-29	Weathered zone of Qtz/chlorite + vein quartz + cm feldspar.			
29-36	Fresh zone of Qtz/biotite cm pink feldspar. Minor qtz and chlorite after 30m Hard at 30m.	129169 34-36m	2m	
E.O.H.	Weathered (chloritic) zone 34-35m Probable trace magnetite 35-36m			

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LACER EXPLORATION LIMITED – DRILL LOG

HOLE No. AN4

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 15/12/90
COMPLETED: 15/12/90

DATE STARTED:
COORDINATES: Line 4 · 280 N
ELEVATION: -3 m
DEPTH: 35.5m

TYPE OF DRILL: #4
HOLE SIZE: 4½"
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

115

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0 – 6	Sandstone, fine grained, buff			
6 – 18	Sandstone, fine grained, grey. with grey clay bands. Traces lignite at 17m. Quartzite band 8m (Silicified S/St) Water at 17m			
18–23	Sandstone, fine grained, dirty, less clay, grey. 20–21 Sandy layer			
23–31	Quartz / Biotite ± Chlorite / cream feldspar rock plus 30% free quartz vein material. 28–29 m Dominantly free qtz			
31–35	Mainly Qtz / Biotite / Feldspar (? gneiss)			
35–35.5	Contaminated sample due to hole cave in just below collar	129170 33–35m	2m	
E.O.H				

CSR/0035

ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. AN 5

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 14/12/90
COMPLETED: 15/12/90

DATE STARTED:
COORDINATES: Line 4 * 292 N
ELEVATION: -4m
DEPTH: 39m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 116
CONTRACTOR: THOMPSON
DRILLER: R BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0–5	Sandstone fine grained buff			
5–17	Sandstone fine grained grey High grey clay content Silicified 6–6.3 m			
17–22	Sandstone dirty fine grained grey, minor clays. 18–20 m Sandy zone			
22–30	Qtz biotite ± chlorite + feldspar Mainly basement, fairly soft Some red vughs at 27 m			
30–39	Qtz/biotite/cm+gn feldspar Harder zone Red vughs increase down hole to 36m then decrease.	129171 37–39m	2m	
E.O.H				

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ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. HN 6

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 14/12/90
COMPLETED: 14/12/90

DATE STARTED:
COORDINATES: Line 4 / 440 N
ELEVATION: -1 m
DEPTH: 34 m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 117
CONTRACTOR: THOMPSON
DRILLER: R BARNETT
LOGGED BY: I ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-5	Sandstone fine grained, fawn to buff.			
5-11	Sandstone v. fine grained, grey plus clay bands. Micaceous.			
	Water at 10-11 metres			
11-20	Sandstone dirty, fine grained, grey + opaques. Thin hard bands Py balls from 13-14 m. Natural H_2O flow from 14 m			
20-23	Sandy grit, micaceous, even grained yellow, cream & clear quartz. Fine to medium grained			
23-32	Weathered basement with chips of QFsMi plus free qtz grains to 30%			
	Roller bit at 32 m – Hard drilling			
32-34	Fresh basement of mainly semi-schistose QMiFs rock	129172 32-34 m	2m	
EOH				

CSR/0035

ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. AN7

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 13/12/90
COMPLETED: 13/12/90

DATE STARTED:
COORDINATES: Line 4 460N
ELEVATION: -1m
DEPTH: 34m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 118
CONTRACTOR: THOMPSON
DRILLER: R BARNETT
LOGGED BY: I ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0–6	Sandstone, fine grained, fawn to buff.			
6–13	Sandstone, fine grained + grey clay			
13–18	Sandstone fawn to grey, dirty + 30% grey clay.			
18–22	Sandy grit.			
22–25	Mix of Sandy grit & chips of QMiSc basement.			
25–32	Pale gn feldspar 45, white & black mica. Red spotted mica feldspar rock. High % age of free qtz probably from sandy grit			
32–34	Mainly Q-Feldspar – mica rock with biotite ± chlorite. Trace of magnetic chips.	129173 32–34m	2m.	
EOH.				

CSR/0035

ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. HN 8

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 13/12/90
COMPLETED: 13/12/90

DATE STARTED:
COORDINATES: Line 4 480 N
ELEVATION: -1m
DEPTH: 30 m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 119
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-1	Quartz, gypsum, mica, fawn sandstone			
1-2	Tan fine grained sandstone, black iron grains			
2-3	Fawn & grey fine grained sandstone and quartz.			
3-5	Medium grained sandstone (light brown with micaceous clays.			
5-6	Grey fine grained sandstone, minor fawn sandstone, weakly silicified.			
6-12	Sandstone fine grained grey (? Carbonaceous) Grey clay			
12-16	Sandstone grey, fine grained Dirty with opaques. Grey clay. Nodular quartz excretions cemented by interstitial fresh pyrite and euhedral forms from 12m.			
16-21	Sandy grit of well rounded equigranular sand-size grains of yellow, clear and milky quartz grains. Minor coarser quartz and muscovite 18-19m approx 2% lignite High water flows.			
21-30	Quartz / biotite / feldspar ± chlorite No magnetism.	129174 28-30m	2m	
E.O.H.				

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ACER EXPLORATION LIMITED – **DRILL LOG**

HOLE No. HTV 4

PAGE 1 OF 1

120

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 13/12/90
COMPLETED: 13/12/90

DATE STARTED:
COORDINATES: Line 4 : 500 N
ELEVATION: -1 m
DEPTH: 27 m

TYPE OF DRILL: # 4
HOLE SIZE: 4½"
CONTRACTOR: THOMPSON
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-5	Sandstone – fine grained. Oxidised yellow to fawn. Gypsum + quartz near surface			
5-12	Sandstone – fine grained grey, clay-rich layers			
12-13	First appearance of quartz-pyrite nodules.			
13-19	Sandstone – fine grained, dirty with <1% opaques and coarse grains muscovite Grey clay matrix			
19-21	Quartz-biotite-feldspar ± chlorite. Occasional gneissic textures.			
19-21	Sandy grit of pale yellow white + clear quartz grains.			
21-30	Mix of quartz grains and Quartz biotite / chlorite and feldspar (Creamy) Minor altered zone.			
30-36	Quartz-biotite-feldspar fresher basement Occasional gneissic textures.	129175 34-36m.	2m	
E.O.H.				

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PLACER EXPLORATION LIMITED — **DRILL LOG**

HOLE No. MN 10

PAGE 1 OF 1

PROJECT: REGIONAL
AREA: PEAKE + DENISON
LOCATION: ALGEBUCKINA
STARTED: 13/12/90
COMPLETED: 13/12/90

DATE STARTED:
COORDINATES: Line 4 ; 520 N
ELEVATION: −1 m
DEPTH: 27 m

TYPE OF DRILL: #4
HOLE SIZE: 4½" 121
CONTRACTOR: THOMPSON B.
DRILLER: R. BARNETT
LOGGED BY: I. ROARK

Metres	DESCRIPTION	SAMPLE No.	Assay Length	ASSAYS
0-5.5	Oxidised fawn to buff fine grained Sandstone.			
5.5-11	~~Gy~~ Sandstone, fine grained with grey ? carbonaceous clay			
11-17	Sandstone, fawn to grey fine grained, dirty with opaques & m.g. muscovite. Pyritic unit <1 m thick + part oxidised.			
17-21	Sandy grit of even grained quartz (white, yellow, clear)			
21-27	Qtz Biotite / Chlorite — gneissic Feldspar / Biotite rock with 5% Red weghs (? after magnetite)	129176 25-27m	2m	
E.O.H.	Too hard for roller + High contamination			

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APPENDIX 2

Bedrock Geochemistry

Classic Laboratories Report OAD4613

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
Osman Place, Thebarton, South Australia 5031
Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Genesio Circosta
Placer Exploration Limited
69 King William Street
KENT TOWN
SA 5067

FINAL ANALYSIS REPORT

Your Order No: PEL 2900 Our Job Number : 0AD4613

Samples received : 19-DEC-1990 Results reported : 31-DEC-1990
No. of samples : 10
Report comprises a cover sheet and pages 1 to 2

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

for

John Waters
Technical Manager - Adelaide

Report Codes:
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
I.S. - Insufficent Sample.

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 0AD4613
O/N: PEL 2900

ANALYTICAL REPORT

Sample	Cu	Pb	Zn	Fe	Mn
129167	3	10	18	4 ?	260
129168	7	12	17	5.25%	440
129169	2	10	13	4.05%	240
129170	19	14	13	5.65%	360
129171	7	10	19	4.50%	220
129172	6	6	14	4.35%	370
129173	13	12	17	4.65%	310
129174	10	16	16	4.00%	260
129175	9	10	13	3.80%	220
129176	6	8	6	1.81%	140
Units	ppm	ppm	ppm	ppm	ppm
DL	2	4	2	4	4
Scheme	AAS1	AAS1	AAS1	AAS1	AAS1
Upper Scheme				AAS1C	

Job: 0AD4613

125

ANALYTICAL REPORT

O/N: PEL 2900

Sample	Au Avg	Au	Au Rp1	Au SS1
129167	<0.01	0.01	--	<0.01
129168	<0.01	<0.01	--	--
129169	<0.01	<0.01	--	--
129170	<0.01	<0.01	--	--
129171	<0.01	<0.01	--	--
129172	<0.01	<0.01	--	--
129173	<0.01	<0.01	--	--
129174	<0.01	<0.01	--	--
129175	<0.01	<0.01	--	--
129176	<0.01	<0.01	--	--
Units	ppm	ppm	ppm	ppm
DL	0.01	0.01	0.01	0.01
Scheme	FA1	FA1	FA1	FA1