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EL 2249 AND EL 2966

ROBIN RISE

ANNUAL REPORTS TO LICENCE EXPIRY FOR THE PERIOD 2/1/97 TO 2/6/2004

Submitted by
South Australian Coal Corp. Pty Ltd
2004

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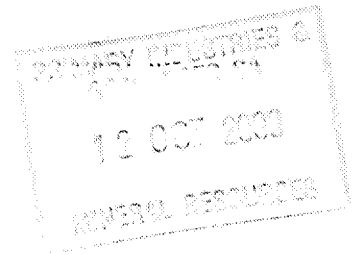


**PRIMARY INDUSTRIES
AND RESOURCES SA**

6 October 2000

The Director General
Primary Industry and Resources South Australia
GPO Box 1671
Adelaide
SA 5001

Attention: Mr. J. Valentine



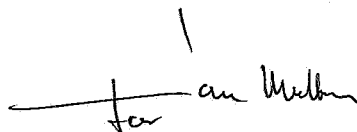
Dear Sir,

**RE: ANNUAL TECHNICAL REPORT – E.L.2249
SOUTH AUSTRALIAN COAL CORPORATION PTY LIMITED**

✓ In accordance with the guidelines for reporting on Exploration Licences we wish to report that **no technical reports** were prepared in relation to EL 2249 during the period 1 January, 1999 to 1 January, 2000.

Please do not hesitate to contact me on the above telephone or fax numbers if you have any queries concerning this matter.

Yours faithfully,
AUIRON ENERGY LIMITED


Neill Arthur
Managing Director & CEO



Client



Meekatharra Minerals Limited

Exploration Report

Regional Calcrete Sampling Program

**EL 2249 - Penrhyn
South Australia**

August, 1998

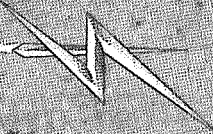
Mines & Energy SA

R98/00499



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Prepared by Rank Geological Services Pty Limited - Sydney, Australia





MEEKATHARRA MINERALS LIMITED

MINERAL EXPLORATION REPORT

CONFIDENTIAL

August, 1998 (WORK DONE)
NOV 97

Exploration Licence 2249

**REGIONAL CALCRETE
SAMPLING PROGRAM**

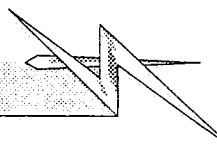


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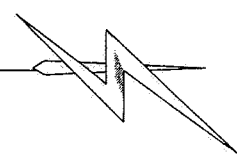
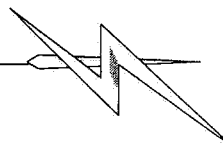


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SUMMARY

- A regional auger based calcrete sampling program was conducted within EL 2249 during November, 1997. Samples were collected over approximately 350 square kilometres at a 1 kilometre grid spacing. A total of 308 samples were collected during the field program.
- Calcrete was intersected at most sites generally at a depth of less than 3 metres.
- Calcrete samples were submitted to a NATA registered laboratory and analysed for Au, Ca, As, Cu, Cr, Ni, and Pb content.
- A number of gold in calcrete anomalies with Au content ranging up to 7ppb have been identified.
- Additional infill sampling at approximately 110 sites is recommended in four areas covering approximately 15 square kilometres.

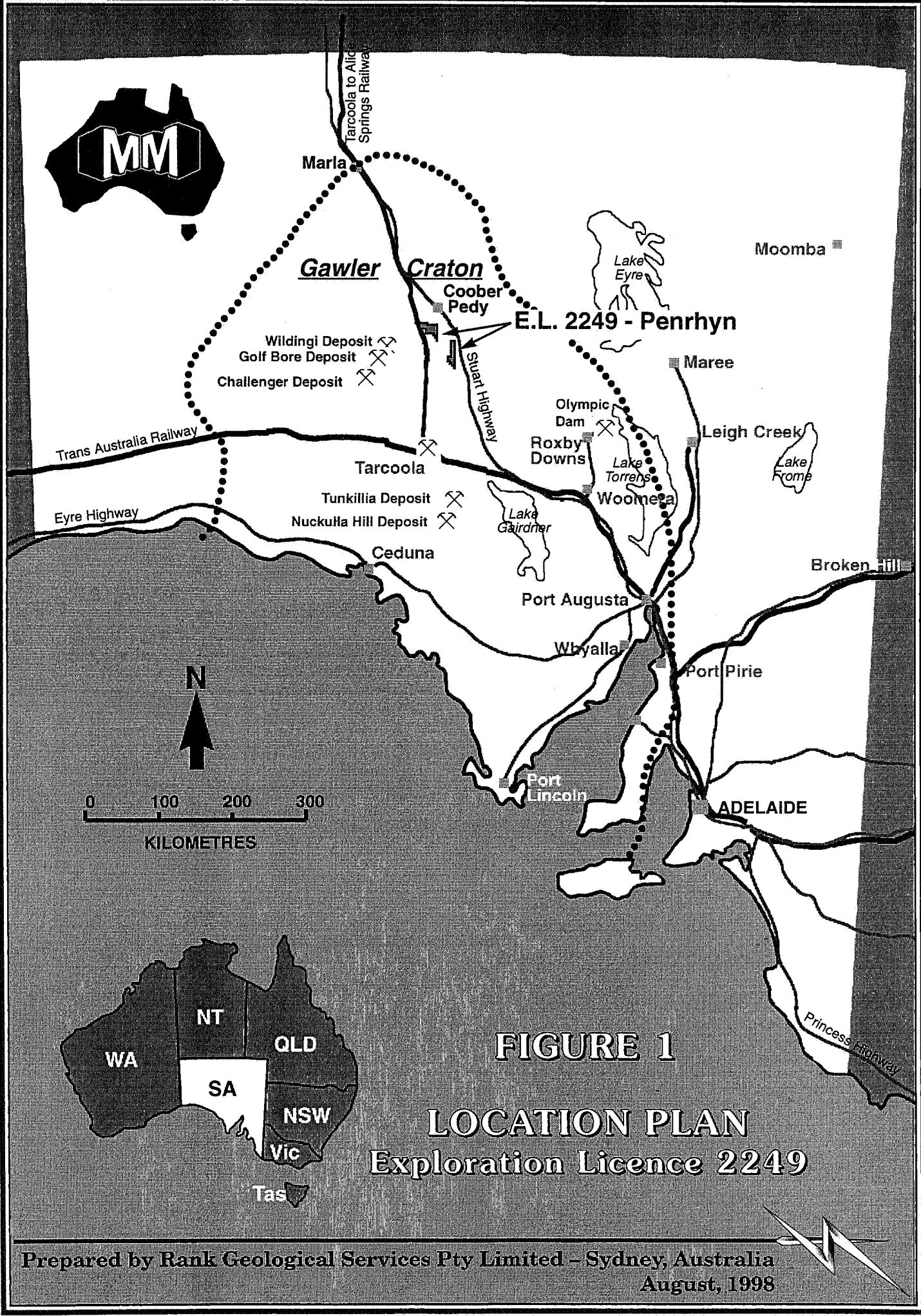
1. INTRODUCTION

South Australian Coal Corporation, a wholly owned subsidiary of Meekatharra Minerals Limited, was granted Exploration Licence (EL 2249) on 2 January, 1997. The exploration licence area is located approximately 40 kilometres south of Coober Pedy (figure 1) in the Gawler Craton Region of South Australia.

Exploration in the area has previously concentrated on the coal resource contained within the Permian Phillipson Coalfield. A new coal resource referred to as the Penrhyn Trough was delineated by exploration conducted by Mines and Energy South Australia during 1995. (Shaw, 1996)

During November, 1997 a regional, auger based calcrete sampling program designed to delineate potential drill targets for shallow Proterozoic rocks prospective for gold exploration was conducted by Rank Geological Services Pty Limited on behalf of Meekatharra Minerals Limited.

This report describes the field procedures adopted for the calcrete sampling program and assesses the geological and analytical data derived from it. Field sampling notes and locations are contained in Appendix 1 and a compilation of all analytical laboratory reports pertaining to samples collected is contained in Appendix 2.



Gawler

Craton

E.L. 2249 - Penrhyn

Cooper Pedy

Wildingi Deposit
Golf Bore Deposit
Challenger Deposit

Trans Australia Railway

Eyre Highway

Tarcoola

Tunkillia Deposit
Nuckulla Hill Deposit

Ceduna

Port Augusta

Whyalla

Port Pirie

ADELAIDE

Broken Hill

Moomba

Woolmeira

Roxby Downs

Olympic Dam

Lake Torrens

Lake Gairdner

Lake Eyre

Leigh Creek

Lake Frome

Princess Highway

FIGURE 1

LOCATION PLAN
Exploration Licence 2249

2. LOCATION AND TOPOGRAPHY

Exploration Licence 2249 covers 758 square kilometres over two separate areas and is defined as;

AREA A - commencing at a point being the intersection of latitude 29°18'S and longitude 134°27'E, thence east to longitude 134°37'E, south to latitude 29°19'S, east to longitude 134°45'E, south to latitude 29°29'S, west to longitude 134°44'E, north to latitude 29°28'S, west to longitude 134°42'E, north to latitude 29°27'S, west to longitude 134°41'E, north to latitude 29°26'S, west to longitude 134°35'E, north to latitude 29°22'S, west to longitude 134°30'E, north to latitude 29°19'S, west to longitude 134°27'E, and north to the point of commencement.

AREA B - commencing at a point being the intersection of latitude 29°28'S and longitude 134°53'E, thence east to longitude 135°00'E, south to latitude 29°47'S, west to longitude 134°57'E, north to latitude 29°46'S, west to longitude 134°55'E, north to latitude 29°45'S, west to longitude 134°52'E, north to latitude 29°43'S, west to longitude 134°50'E, north to latitude 29°41'S, west to longitude 134°49'E, north to latitude 29°37'S, east to longitude 134°53'E, and north to the point of commencement.

The location of the exploration licence area within South Australia is depicted in Figure 1. It is located on the Coober Pedy (SH53-6) 1:250,000 topographic map sheet area. The township of Coober Pedy is situated approximately 40 kilometres to the north (refer Figure 2). The Tarcoola to Alice Springs railway traverses the western part of Area A and the sealed Stuart Highway is adjacent to the eastern boundary of Area B. The old unsealed Stuart Highway runs past "Ingomar Homestead" situated between both portions of the licence area.

Topographically the area is flat ranging from about 140 metres above sea level to 190 metres above sea level. Heavily vegetated dunes up to 6 metres high make access difficult over some of the area.

In Area A Long and Carringallana Creeks drain the area and flow from the northeast into two ephemeral lakes, named Lake Phillipson and Lake Wirrida, which dominant the physiography. In Area B Brumby Creek drains the area to the east and south. All creeks are ephemeral and no permanent surface water exists in the area. The open scrub (mainly mulga) vegetation supports sheep and cattle grazing, the water for which is obtained from sub artesian bores and surface dams. Average annual rainfall is less than 200mm and falls mostly during the summer months of December, January, February and March.

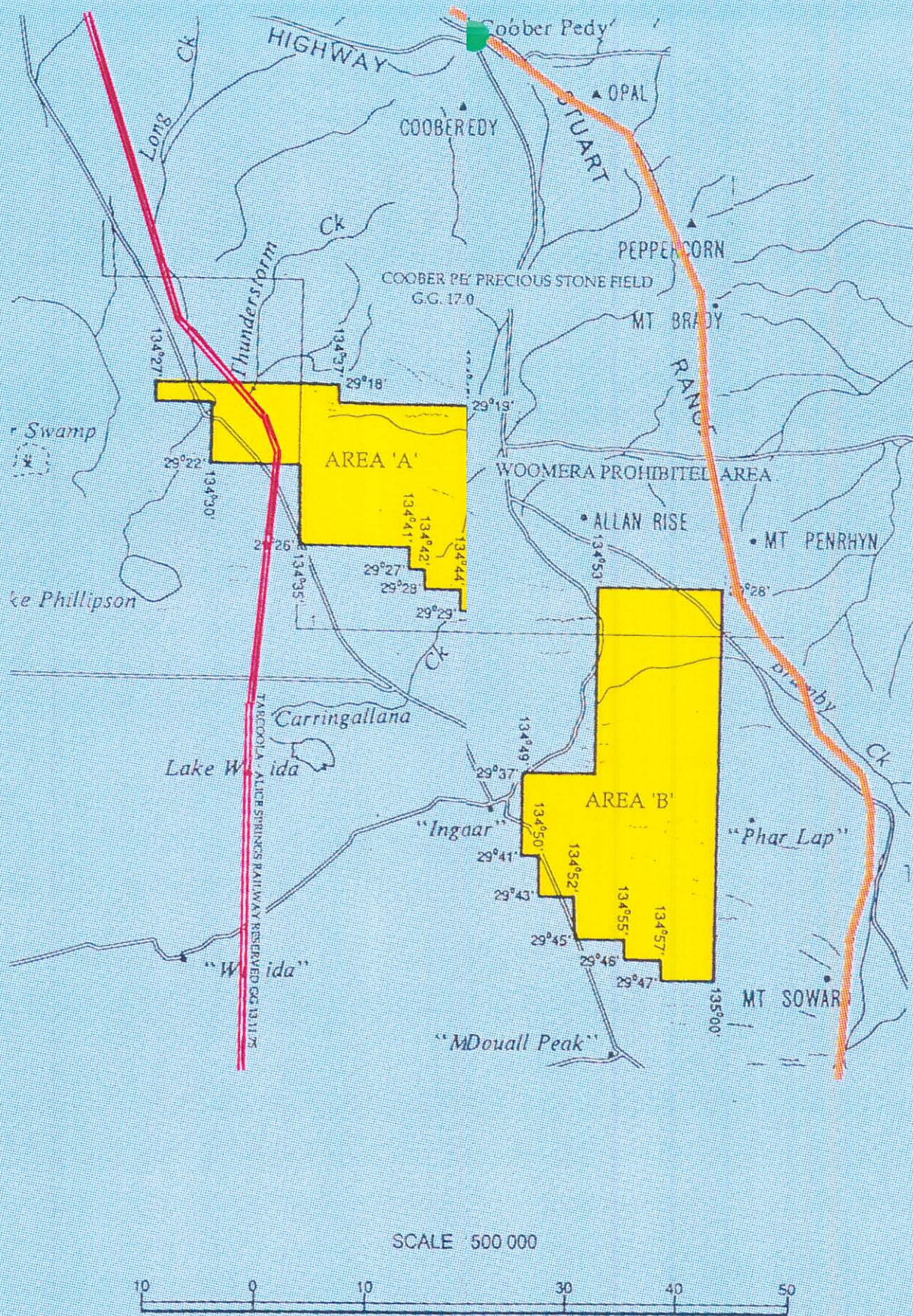


Figure 2 Exploration Licence Area (E.L.) 2249



3. EXPLORATION PROGRAMME

The field calcrete sampling program commenced on 12 November, 1997 and was completed on 22 November, 1997 after samples were collected from 308 sites by Ecotek Drilling Services from Adelaide using an Edson rig mounted on a 4WD Toyota Traytop which was capable of drilling 120mm auger holes.

Field notes and locations of all sample sites are compiled in Appendix 1. Locations are also depicted on Figures 3, 4 and 5. All sites were located using a hand held GPS meter.

Sample sites were drilled on an approximate one kilometre grid.

Approximately 300 to 500 grams of calcrete was collected at each site. Occasionally two or more holes were required to obtain sufficient sample. Generally calcrete was intersected at a depth of less than 3 metres with the occasional hole having to be extended to 5 metres. Samples were more difficult to obtain in Area A with approximately 20% of sites not yielding a calcrete sample.

3.2 ANALYSIS

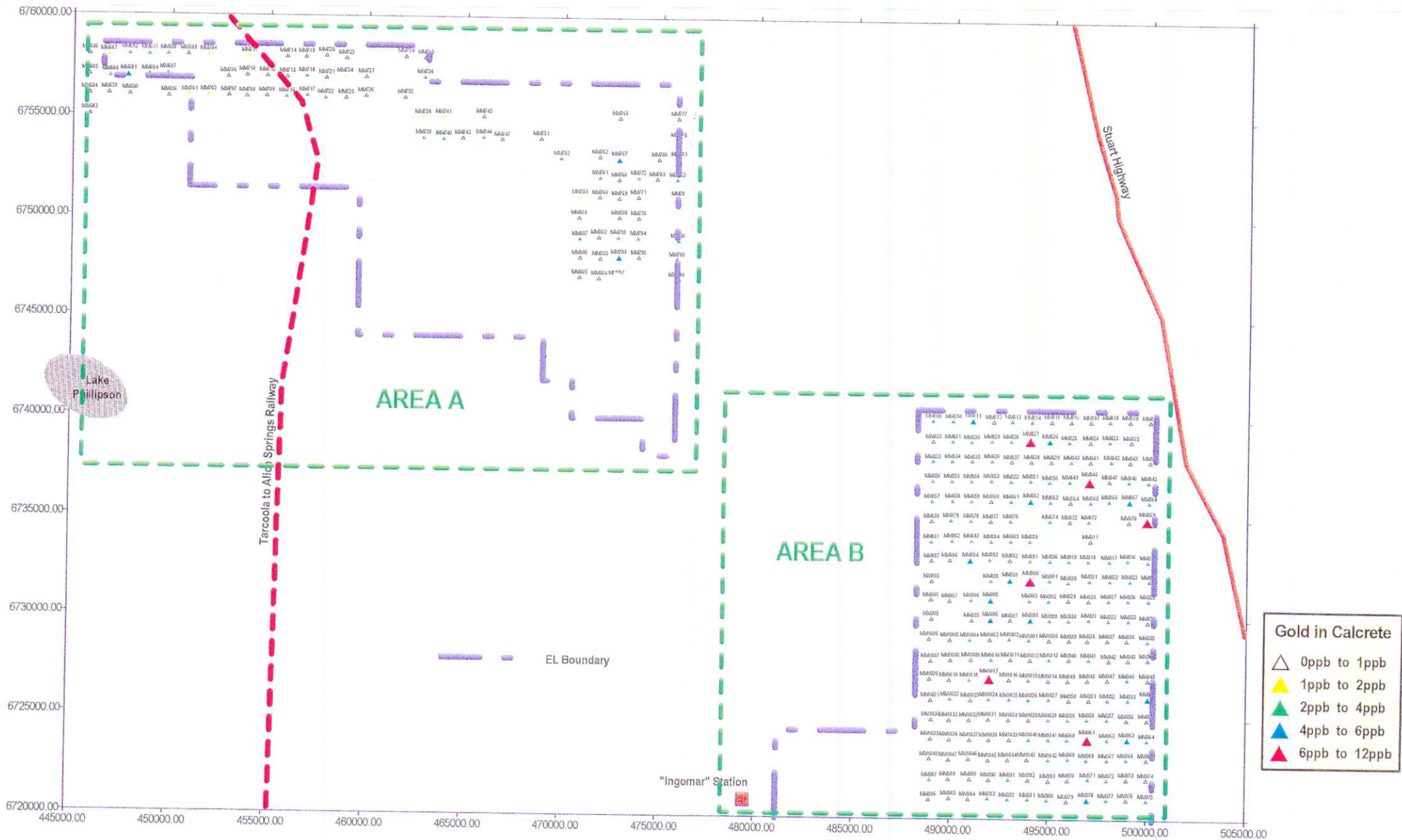
The NATA registered laboratory of Analabs Pty Limited in Adelaide was used to carry out the analyses of calcrete collected during the field program.

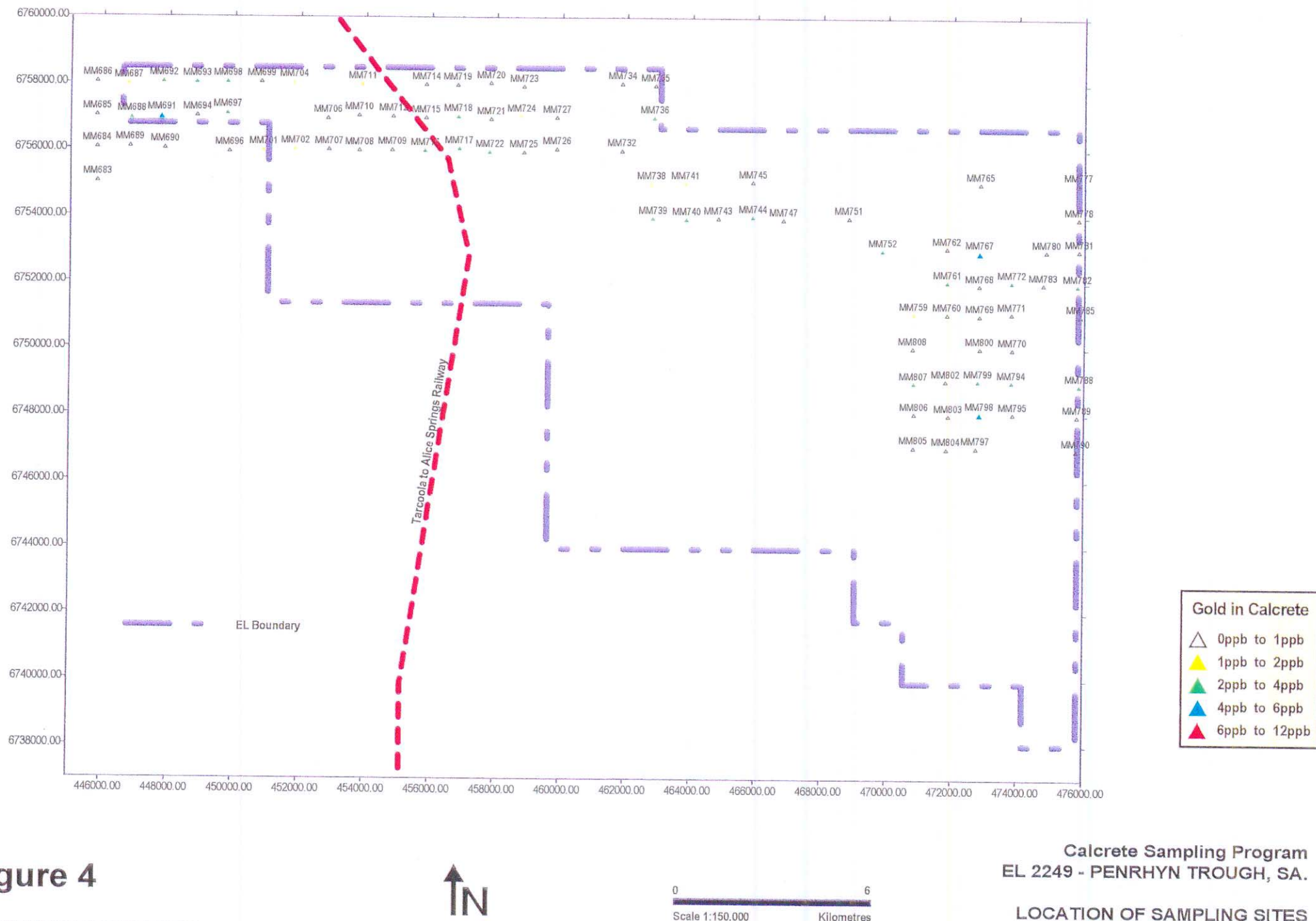
Samples were analysed for Au, Ca, As, Cu, Cr, Ni, and Pb content.

Laboratory reports for all analyses carried out on samples collected during the program are contained within Appendix 2 of this report.

3.3 FIELD SUPERVISION

Supervision of fieldwork was undertaken by personnel of Rank Geological Services Pty Limited. Co-ordination of field access, drilling and analytical testing was supervised by a senior geologist.





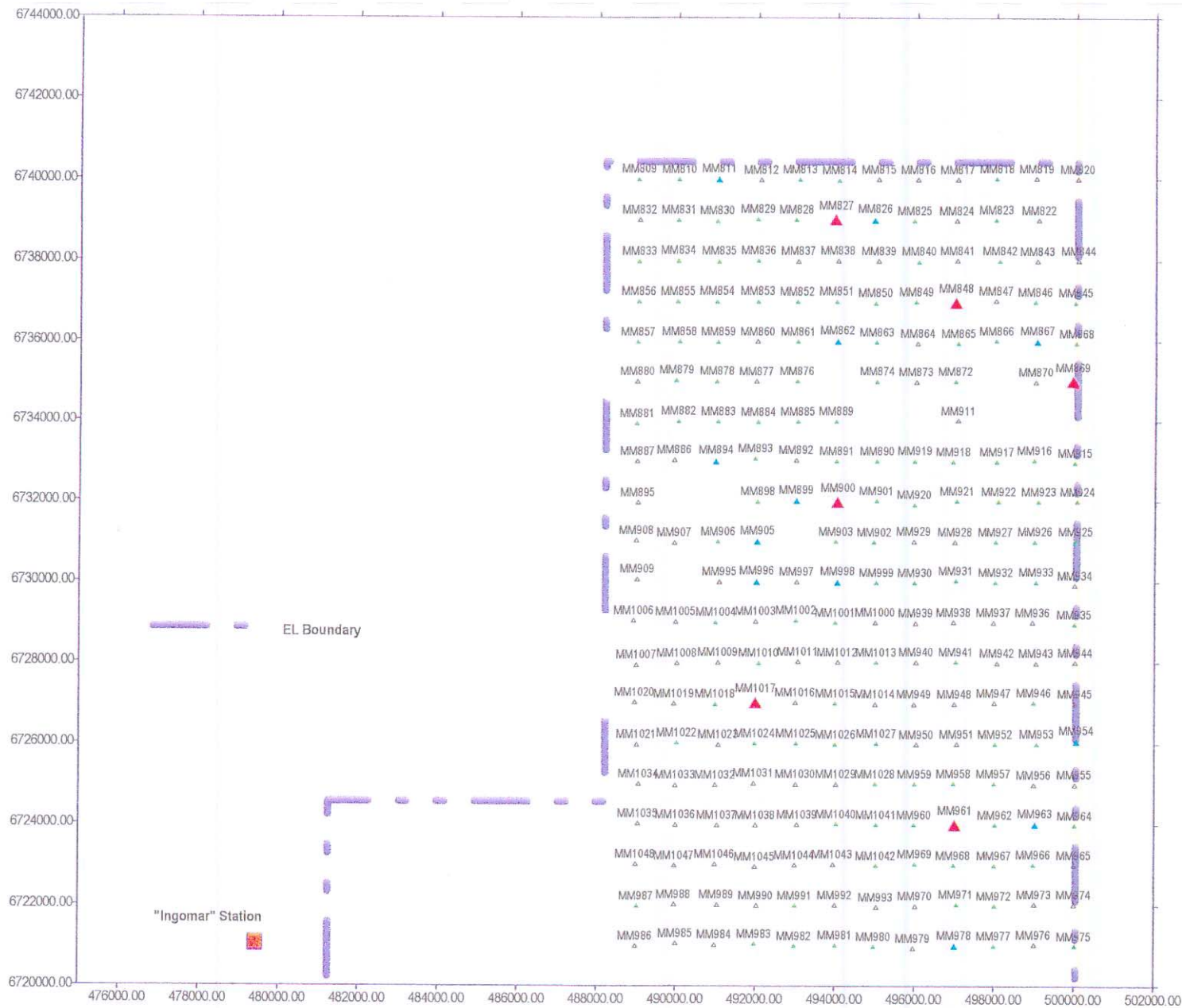


Figure 5

**Calcrete Sampling Program
EL 2249 - PENRHYN TROUGH, SA.**

**LOCATION OF SAMPLING SITES
AREA B**

4. GEOLOGY

The dominant geological structure within the licence area is an elongate Permian coal basin approximately 25 kilometres long and 2 kilometres wide located approximately 15 kilometres northeast of the Philipson Coalfield. The basin trends northwest southeast and occupies most of Area A of the Licence Area (refer figure 6). It correlates with coincident magnetic and gravity lows representing a sediment filled depression in the Archaean/Proterozoic bedrock.

The regional magnetic and gravity data suggests Proterozoic and Archaean lithologies prospective for mineral exploration may occur at shallow depths on the periphery of the coal basin in Area A and over much of Area B.

Proterozoic and Archaean lithologies represent some of the most prospective rocks for mineral exploration and are currently being investigated by a number of companies in the Gawler Craton region.

In July, 1995 Resolute/Dominion Joint Venture discovered the Challenger Gold Prospect approximately 90 kilometres to the southwest of E.L. 2249. The prospect is located in a shear system containing multiple, high grade, en echelon shoots. Grades of 19m @ 22.5g/tonne have been reported.

Since the discovery of Challenger, Resolute/Dominion have been investigating the extension of the shear system to the northeast towards E.L. 2249. Two other significant deposits have been found at Campfire Bore 60 kilometres southwest of E.L. 2249 and Golf Bore 40 kilometres southwest of E.L. 2249.

Equinox Resources NL have defined an extension of the Golf Bore Prospect in their licence area 30 kilometres from the boundary of E.L. 2249.

4. DISCUSSION and RECOMMENDATIONS

The discovery of Challenger and other gold prospects such as Golf Bore and Campfire Bore has demonstrated gold in calcrete anomalies may reflect gold mineralisation at depth in prospective basement lithologies. The strength of the anomaly is dependent on a number of criteria including depth of basement and ground water movement. Within EL 2249 a reading of the order of 6ppb to 7ppb could be considered worthy of further investigation.

To better define those areas potentially containing drill targets for gold exploration, infill calcrete sampling is recommended for an area of approximately 15 square kilometres in Area B of the exploration licence as indicated in Figure 9.

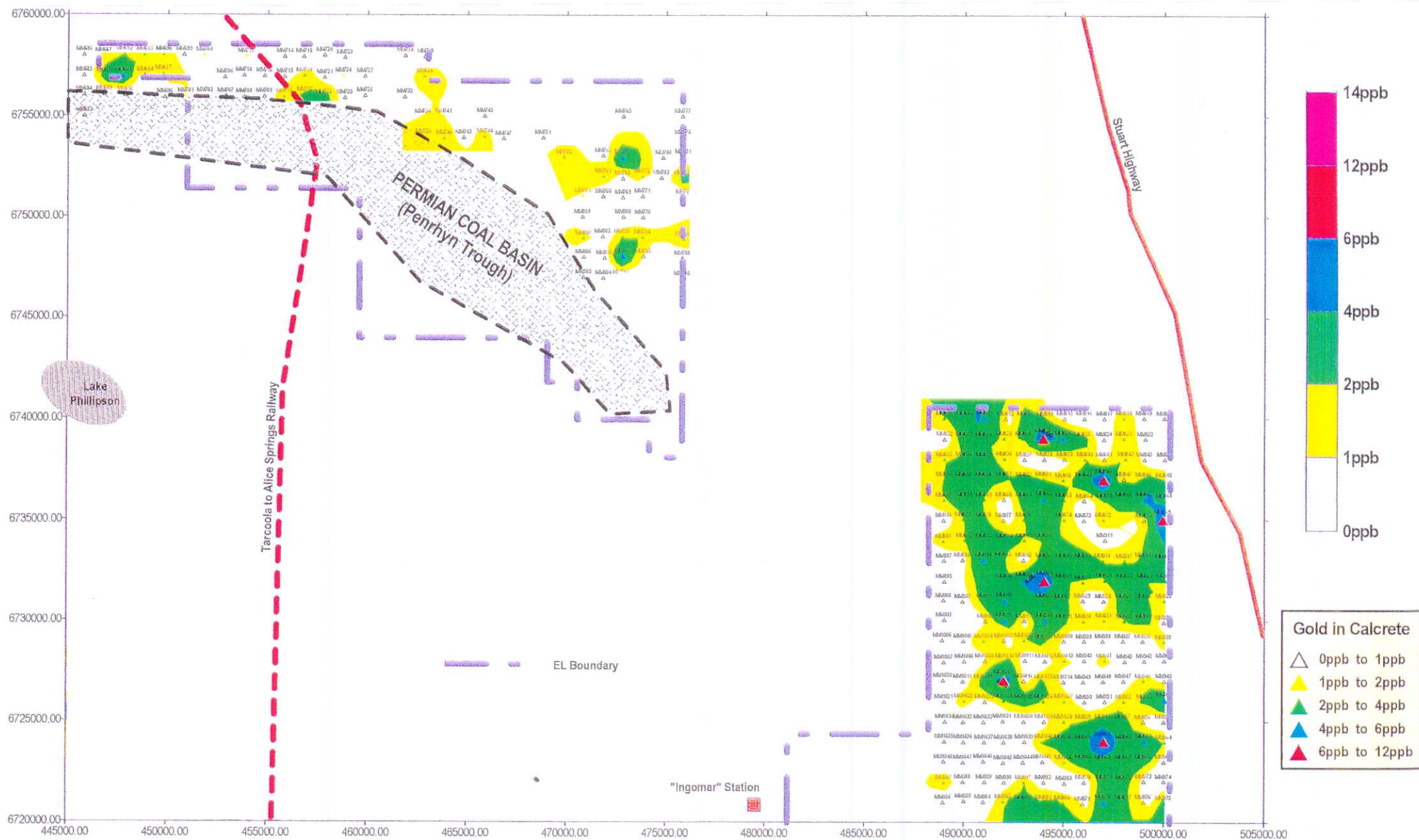


Figure 6

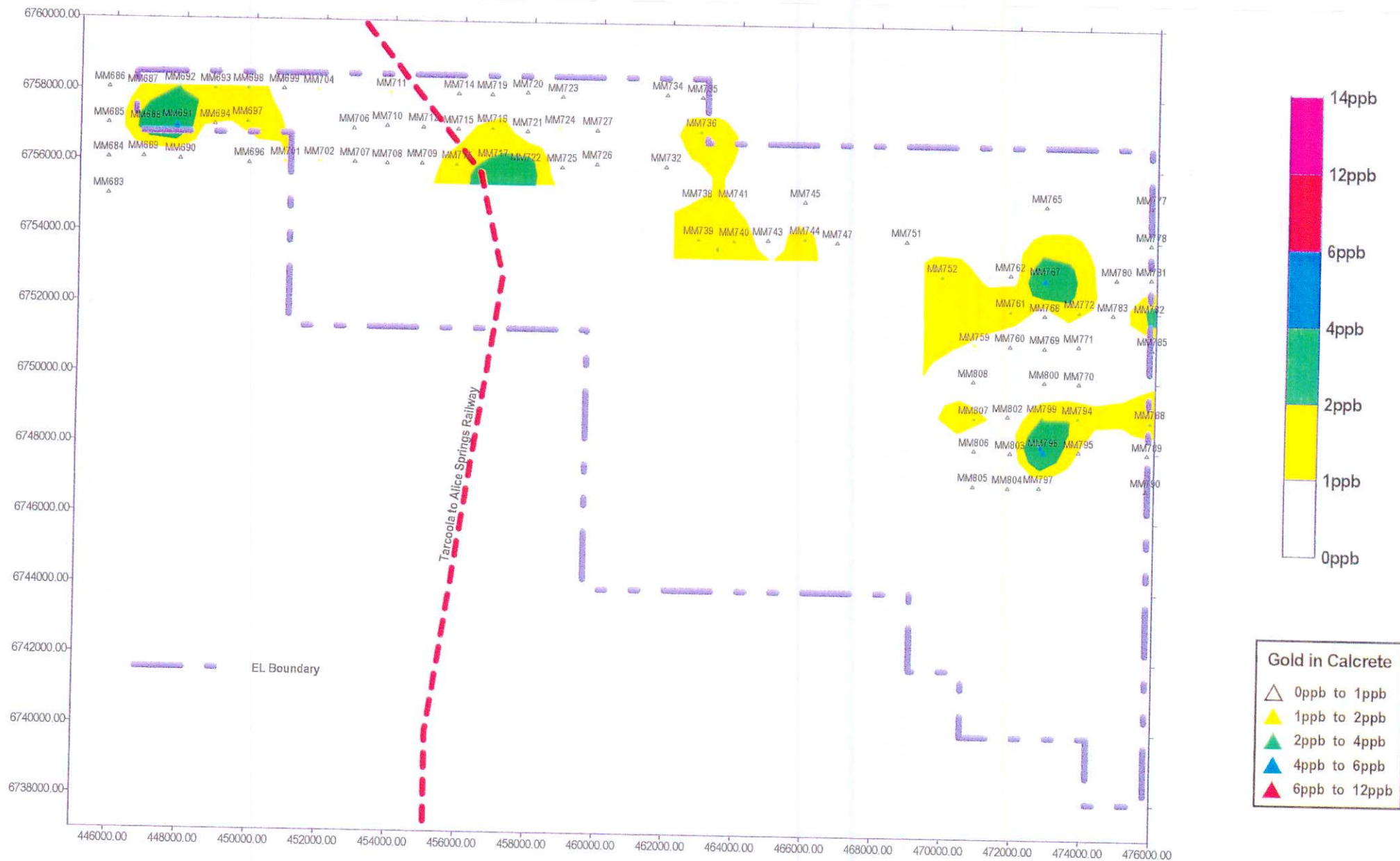


Figure 7



0 6
Scale 1:150,000 Kilometres

**Calcrete Sampling Program
EL 2249 - PENRHYN TROUGH, SA.**

**GOLD IN CALCRETE CONTOURS
AREA A**

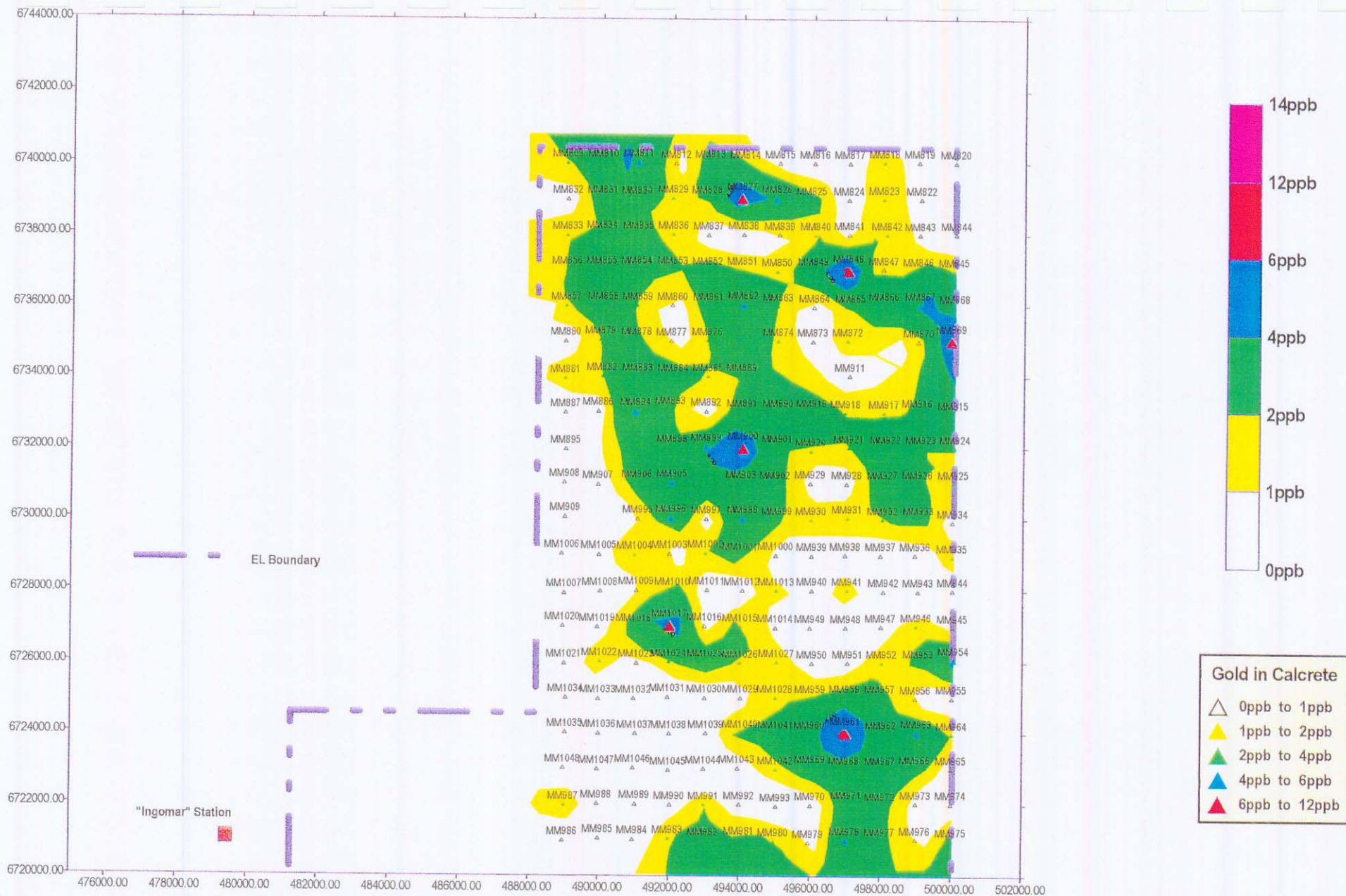


Figure 8

**Calcrete Sampling Program
EL 2249 - PENRHYN TROUGH, SA.**

**GOLD IN CALCRETE CONTOURS
AREA B**

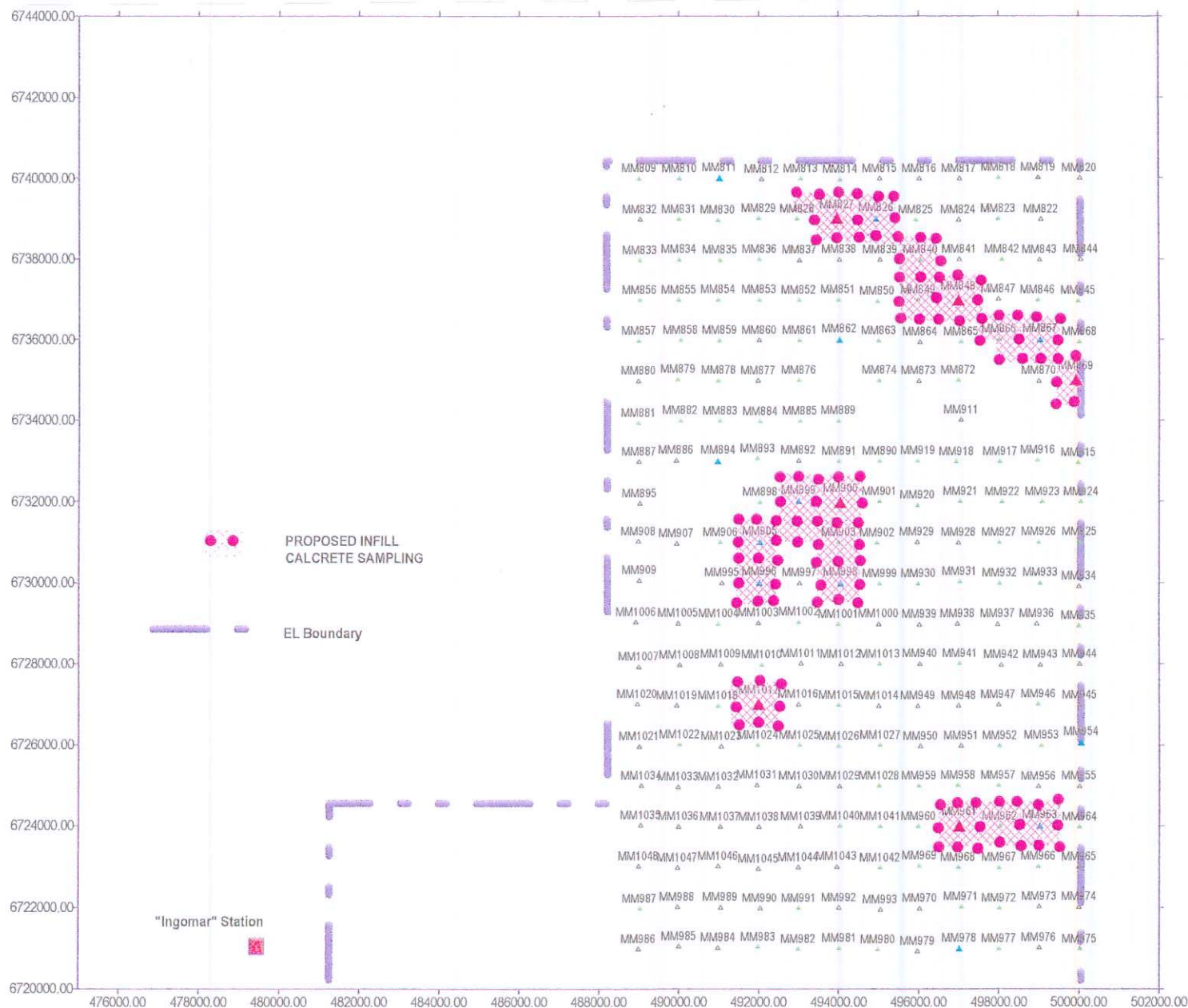


Figure 9

**Calcrete Sampling Program
EL 2249 - PENRHYN TROUGH, SA.**

**LOCATION OF PROPOSED
INFILL SAMPLING**

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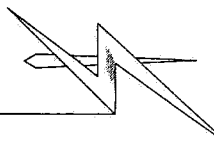
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APPENDIX 1

REGIONAL CALCRETE SAMPLING PROGRAM SAMPLING DETAILS



Regional Calcrete Sampling Program

Borehole	Easting	Northing	Depth(m)	Type	Comments
MM690	447865	6756028	3.00	N	(gypsum)
MM691	447766	6756970	2.00	N	other stone
MM692	447818	6758039	4.00	S	(gypsum) + other stone
MM693	448828	6758029	3.00	S	(gypsum)
MM694	448840	6757012	3.00	S	(gypsum)
MM695	448872	6755926	no sample		
MM696	449835	6755942	5.00	S	low fizz
MM697	449769	6757093	3.00	S	(gypsum)
MM698	449771	6758039	1.50	S	(gypsum)
MM699	450795	6758043	4.00	S	low fizz (gypsum) heaps stones
MM700	450785	6756996	no sample		
MM701	450874	6755981	0.50	N	at last
MM702	451837	6756007	2.50	N	other stones
MM703	451881	6757021	no sample		
MM704	451788	6758021	2.00	S	(gypsum)
MM705	452840	6758024	no sample		
MM706	452835	6756939	0.50	N	
MM707	452869	6756000	1.50	N	
MM708	453793	6755967	2.50	N	(gypsum)
MM709	454798	6755987	2.00	S	(silc)
MM710	453787	6757031	1.00	S	(gypsum)
MM711	453885	6757970	2.50	S	low fizz (gypsum)
MM712	454819	6757009	2.50	S	(gypsum)
MM713	454844	6757910	no sample		swamp
MM714	455826	6757964	2.50	S	(gypsum)
MM715	455830	6756958	3.00	S	(gypsum)
MM716	455807	6755970	2.50	S	(silc)
MM717	456850	6756032	2.50	N	poor sample - other stones
MM718	456814	6757008	1.50	N	
MM719	456785	6757961	1.20	N	
MM720	457812	6758020	1.50	N	
MM721	457818	6756919	2.00	N	
MM722	457788	6755932	1.50	N	
MM723	458826	6757910	2.00	S	gypsum (lake)
MM724	458744	6757014	2.00	S	gypsum (lake)

Type N = calcrete nodules

Type S = sheet calcrete

MM725	458830	6755927	2.50	S	(gypsum)
MM726	459841	6756028	1.00	S	low fizz (gypsum)
MM727	459839	6756980	2.50	S	(gypsum)
MM728	459856	6757971	no sample		
MM729	460842	6758034	no sample		
MM730	460824	6756931	no sample		
MM731	460862	6755964	no sample		
MM732	461842	6755978	2.00	S	(silc)
MM733	461857	675739	no sample		
MM734	461850	6758007	2.50	S	(gypsum)
MM735	462855	6757951	5.00	S	low fizz
MM736	462834	6756981	3.00	N	poor sample
MM737	462800	6755911	no sample		
MM738	462746	6754986	2.50	S	(silc)
MM739	462800	6753949	3.00	S	(gypsum) silc
MM740	463829	6753920	1.20	N	poor sample
MM741	463789	6755003	4.00	S	(gypsum)
MM742	464879	6754993	no sample		
MM743	464798	6753955	1.50	S	low fizz (gypsum)
MM744	465861	6754003	1.20	N	good sample
MM745	465859	6755046	5.00	S	low fizz
MM746	466819	6755021	no sample		
MM747	466801	6753909	4.50	S	(gypsum) low fizz
MM748	467850	6754004	no sample		
MM749	467758	6755051	no sample		
MM750	468835	6754998	no sample		
MM751	468798	6753967	3.00	S	(gypsum)
MM752	469839	6752989	2.50	S	(gypsum)
MM753	469780	6754061	no sample		
MM754	469864	6755035	no sample		
MM755	470783	6754991	no sample		
MM756	470843	6753929	no sample		
MM757	470753	6752965	no sample		
MM758	470835	6751972	no sample		
MM759	470793	6751067	3.00	S	
MM760	471810	6751047	1.50	S	(gypsum)
MM761	471820	6752036	2.50	S	
MM762	471796	6753062	1.50	S	low fizz - very poor sample

MM763	471791	6754020	no sample		
MM764	471804	6755032	no sample		
MM765	472820	6755009	3.00	S	low fizz - very poor sample
MM766	472831	6753937	no sample		
MM767	472797	6752926	1.50	N	
MM768	472790	6751927	1.50	N	+ covered stone
MM769	472806	6751007	2.00	S	(gypsum)
MM770	473805	6750003	2.00	S	(gypsum)
MM771	473784	6751064	2.00	S	(gypsum)
MM772	473786	6752041	1.50	S	(gypsum)
MM773	473814	6752986	no sample		
MM774	473758	6754039	no sample		
MM775	473780	6755028	no sample		
MM776	474827	6754970	no sample		
MM777	475806	6755013	2.50	S	
MM778	475816	6753964	5.00	S	
MM779	474722	6753972	no sample		
MM780	474834	6752975	2.00	S	low fizz (gypsum)
MM781	475826	6752997	1.50	S	low fizz
MM782	475784	6751942	1.50	S	low fizz
MM783	474740	6751973	1.50	S	low fizz
MM784	474789	6750983	no sample		
MM785	475879	6751008	1.50	S	
MM786	475798	6749977	no sample		
MM787	474759	6749993	no sample		
MM788	475856	6748911	1.50	S	low fizz
MM789	475793	6747977	3.00	S	
MM790	475766	6746958	2.50	S	low fizz
MM791	474812	6746975	no sample		
MM792	474750	6748056	no sample		
MM793	474767	6749008	no sample		
MM794	473790	6749010	1.50	S	
MM795	473831	6748043	2.00	S	(gypsum)
MM796	473827	6746921	no sample		
MM797	472711	6747022	1.50	S	(gypsum)
MM798	472816	6748035	1.00	S	stones
MM799	472771	6749041	1.00	S	stones
MM800	472812	6750028	1.50	S	(gypsum)

MM801	471806	6750009	no sample		
MM802	471781	6749040	1.50	S	(gypsum)
MM803	471867	6747992	1.50	S	(gypsum)
MM804	471808	6746995	2.50	N	
MM805	470810	6747036	3.00	S	(gypsum)
MM806	470821	6748041	2.50	S	
MM807	470808	6748975	2.00	N	
MM808	470768	6750029	2.00	S	stones (sypsum)
MM809	488994	6740011	1.00	N	other stones
MM810	490008	6740002	1.00	N	other stones
MM811	491019	6740003	1.00	N	calc covered stone
MM812	492070	6739991	1.50	S	poor sample (near flood area)
MM813	493041	6740005	1.00	N	
MM814	494033	6739985	1.00	N	+ other stone
MM815	495029	6739999	1.50	S	plenty other stone
MM816	496016	6740002	1.00	S	plenty other stone
MM817	497016	6740008	2.00	S	plenty other stone
MM818	497995	6740029	2.00	S	other stones
MM819	498991	6740034	2.00	N	other stone
MM820	500025	6740018	1.50	S	(gypsum)
MM821	500005	6738990	no sample		
MM822	499057	6739005	1.50	S	(gypsum)
MM823	497991	6739014	1.50	N	+ other stones
MM824	496989	6738989	1.50	N	other stones
MM825	495929	6738987	1.00	N	other stones
MM826	494940	6739004	1.00	N	other stones
MM827	493964	6739010	1.00	N	other stones
MM828	492963	6739010	1.20	N	+ other stones
MM829	491994	6739025	1.50	S	
MM830	490967	6738980	1.00	N	other stone
MM831	489996	6738998	1.00	N	other stone
MM832	489016	6738999	1.50	S	
MM833	489006	6737986	0.80	N	
MM834	489992	6738002	0.80	N	
MM835	491011	6737990	1.00	N	poor sample - plenty other stone
MM836	492010	6738011	1.00	N	+ other stone
MM837	493008	6737990	1.50	S	
MM838	494007	6738004	1.00	N	

MM839	495022	6737998	0.80	N	
MM840	496047	6737992	1.20	N	+ other stones
MM841	497011	6738009	1.50	S	stones
MM842	498079	6738013	1.50	S	stones
MM843	499014	6737995	3.00	S	low fizz
MM844	500041	6738007	3.00	S	stones
MM845	499983	6736986	2.50	S	stones
MM846	498971	6737005	1.50	S	stones
MM847	497986	6737029	2.00	S	stones
MM848	496988	6736987	1.00	N	other stones
MM849	495981	6737009	1.00	N	calc covered stone
MM850	494958	6736972	2.00	N	+ other stone
MM851	493977	6737014	1.50	N	poor sample
MM852	492989	6737001	1.20	N	+ other stone
MM853	491996	6737013	1.50	N	
MM854	490970	6737012	1.00	N	
MM855	489984	6737007	1.00	N	poor sample
MM856	489002	6737002	1.50	S	poor sample
MM857	488986	6735992	1.00	N	poor sample
MM858	490030	6736000	1.00	N	+ other stone
MM859	491002	6735997	1.00	N	+ other stone
MM860	491993	6736000	1.20	N	
MM861	493011	6736004	1.00	N	
MM862	494006	6736009	1.20	N	
MM863	494994	6735991	1.20	N	
MM864	496022	6735957	2.50	S	low fizz
MM865	497048	6735966	2.00	S	low fizz
MM866	497996	6736026	2.00	N	poor sample
MM867	499022	6736005	1.00	N	
MM868	500004	6735965	1.50	N	
MM869	499921	6735002	0.80	N	
MM870	498990	6734995	2.50	S	low fizz
MM871	497953	6735000	no sample		
MM872	496976	6735008	1.50	S	
MM873	495986	6734994	1.50	S	
MM874	494999	6735003	2.00	S	low fizz
MM875	493982	6735009	no sample		
MM876	492988	6735013	1.50	S	

MM877	491972	6734999	1.50	N	calc covered stones
MM878	490982	6735004	1.50	N	
MM879	489964	6735029	1.00	N	
MM880	488970	6734991	2.00	S	
MM881	488969	6733948	1.00	N	
MM882	490015	6734002	1.00	N	+ other stones
MM883	491013	6733994	1.00	N	
MM884	492020	6733981	1.00	N	+ other stones
MM885	493017	6733995	2.00	S	
MM886	489918	6733026	1.50	N	+ other stone
MM887	488989	6732990	1.00	N	poor sample
MM888	494979	6733994	no sample		
MM889	493977	6734002	2.00	S	low fizz
MM890	495015	6733009	1.00	S	low fizz
MM891	494003	6733002	1.50	S	
MM892	492979	6733021	1.50	S	med fizz
MM893	491956	6733066	1.00	N	calc covered stones + other stone
MM894	490962	6732996	1.00	N	
MM895	489003	6731966	1.50	S	
MM896	490014	6731969	no sample		
MM897	491074	6731982	no sample		
MM898	492018	6731995	2.00	S	
MM899	492989	6732010	1.50	N	+ other stones
MM900	494032	6731984	1.50	N	poor sample - stones
MM901	495006	6732012	2.50	S	
MM902	494955	6730985	1.50	S	
MM903	493988	6730999	1.50	S	
MM904	492995	6731020	no sample		
MM905	492017	6730996	1.50	N	+ other stones
MM906	491023	6731001	1.00	N	+ other stones
MM907	489930	6730966	2.50	S	low fizz
MM908	488969	6731020	2.50	S	low fizz
MM909	489001	6730064	2.50	S	
MM910	496021	6734003	no sample		
MM911	497049	6734021	2.00	S	low fizz
MM912	498002	6734017	no sample		
MM913	499068	6733991	no sample		
MM914	500021	6733937	no sample		

MM915	499975	6732971	2.00	S	med fizz
MM916	498964	6733033	4.00	S	
MM917	498023	6732991	4.00	S	
MM918	496937	6732995	2.00	S	
MM919	495972	6733011	1.00	N	+ other stones
MM920	495959	6731916	1.50	N	+ other stones
MM921	497030	6732015	4.00	S	
MM922	498070	6732003	2.00	S	
MM923	499078	6732001	2.50	S	
MM924	500050	6732005	1.00	N	+ other stones
MM925	500011	6731014	1.50	S	
MM926	498984	6731007	1.00	N	+ other stones
MM927	498007	6731000	1.00	N	+ other stones
MM928	496981	6730992	1.50	N	poor sample
MM929	495949	6731005	2.50	S	
MM930	495975	6729984	1.50	N	
MM931	497015	6730035	1.00	N	+ calc covered stones
MM932	498010	6729999	1.00	N	+ other stones
MM933	499028	6730000	1.00	N	+ other stones
MM934	499991	6729921	2.00	S	
MM935	499987	6728951	1.20	N	
MM936	498944	6729002	0.80	N	+ other stone
MM937	497961	6728995	1.20	N	+ other stone
MM938	496953	6729002	1.50	N	+ other stone
MM939	496003	6728988	1.50	N	+ other stones
MM940	496018	6728020	2.00	N	
MM941	497022	6728023	1.20	N	
MM942	498050	6727995	1.50	N	poor sample
MM943	499022	6727996	1.50	N	+ other stone
MM944	500005	6728015	1.20	N	
MM945	500009	6727000	1.50	N	
MM946	498981	6727019	1.50	N	
MM947	497981	6727007	1.00	N	
MM948	496980	6726984	2.00	N	+ other stones
MM949	495968	6726976	2.00	N	+ other stones
MM950	496032	6725982	1.50	N	+ other stones
MM951	497050	6725998	3.00	N	good sample
MM952	498011	6725990	0.80	N	good sample

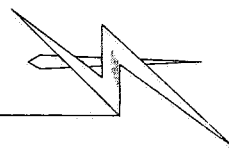
MM953	499050	6725999	0.80	N	good sample
MM954	500044	6726064	0.50	N	good sample
MM955	499997	6724995	1.00	N	+ other stone
MM956	498976	6724988	0.80	N	
MM957	497979	6725014	0.80	N	
MM958	496971	6725016	1.20	N	+ other stone
MM959	495992	6725003	0.80	N	
MM960	495977	6723998	0.80	N	
MM961	497007	6723999	1.00	N	
MM962	498015	6723997	0.80	N	
MM963	499019	6724003	0.50	N	
MM964	500004	6723990	1.00	N	+ other stones
MM965	499994	6723010	1.50	S	stones
MM966	498979	6723012	0.50	N	
MM967	498001	6722991	0.80	N	
MM968	496978	6722992	1.00	N	
MM969	496005	6723028	1.50	N	other stones
MM970	496012	6721988	1.50	N	other stones
MM971	497055	6722022	0.80	N	other stones
MM972	498007	6721996	0.80	N	
MM973	499006	6722032	0.80	N	+ other stone
MM974	499991	6722023	2.50	S	
MM975	500012	6720984	1.00	N	+ other stones
MM976	498995	6721025	1.50	N	+ other stones
MM977	498004	6720998	1.00	N	+ other stones
MM978	497008	6720985	0.80	N	
MM979	495968	6720939	2.50	N	+ other stones
MM980	494977	6720977	2.50	N	+ other stones
MM981	494008	6721006	1.00	N	+ other stones
MM982	492982	6720992	1.00	N	+ other stones
MM983	491981	6721037	2.00	S	
MM984	490978	6721021	2.50	N	other stones
MM985	489996	6721052	2.00	S	(gypsum)
MM986	488979	6720989	2.50	S	(gypsum)
MM987	489013	6721978	2.00	S	
MM988	489957	6722017	2.50	S	
MM989	491032	6722010	2.00	S	(gypsum)
MM990	492024	6721990	2.00	S	(gypsum)

MM991	493001	6721997	2.50	S	(gypsum)
MM992	494003	6722001	2.50	S	(gypsum)
MM993	495035	6721956	2.00	S	
MM994	490004	6729998	no sample		
MM995	491064	6730002	2.00	S	gypsum
MM996	492007	6729998	1.00	N	
MM997	493005	6730005	1.00	N	calc covered stones
MM998	494040	6729986	1.00	N	
MM999	495019	6729984	1.50	S	
MM1000	494988	6728999	2.00	S	
MM1001	493978	6728989	2.00	N	
MM1002	492994	6729047	1.00	N	
MM1003	491984	6729025	1.50	N	
MM1004	490981	6728999	0.80	N	good sample
MM1005	489970	6729009	2.50	S	
MM1006	488911	6729045	2.00	S	
MM1007	488986	6727943	2.00	S	
MM1008	490012	6727989	2.00	S	
MM1009	491035	6728007	2.00	S	
MM1010	492066	6727996	1.00	N	
MM1011	493047	6728021	2.50	S	
MM1012	494042	6728009	2.50	S	
MM1013	495017	6728017	2.00	N	+ other stones
MM1014	494984	6726975	2.00	S	
MM1015	493991	6726992	1.20	N	
MM1016	492985	6727015	2.00	N	+ other stones
MM1017	491992	6727018	1.00	N	
MM1018	490974	6726980	0.80	N	+ other stones
MM1019	489938	6726983	2.50	S	(gypsum)
MM1020	488937	6727024	1.50	S	
MM1021	489000	6725974	2.00	S	
MM1022	490006	6726020	2.00	N	
MM1023	491047	6725977	2.50	S	(gypsum)
MM1024	491969	6726010	3.00	S	(gypsum)
MM1025	493010	6726004	1.50	N	+ other stones
MM1026	493992	6725983	1.50	N	+ other stones
MM1027	495021	6726010	1.20	N	+ other stones
MM1028	494999	6725008	1.00	N	

MM1029	494011	6724996	1.50	N	
MM1030	492995	6724997	2.50	S	gypsum
MM1031	491939	6725021	2.00	S	gypsum
MM1032	490971	6724981	2.50	S	gypsum
MM1033	489969	6724972	2.50	S	(gypsum)
MM1034	489047	6725003	4.00	S	
MM1035	489032	6724027	2.50	N	
MM1036	489979	6723995	2.50	S	
MM1037	491021	6723990	5.00	S	
MM1038	491995	6723990	2.00	N	+ other stone
MM1039	493037	6723997	2.00	S	(gypsum)
MM1040	494026	6724014	1.20	N	
MM1041	495025	6724001	1.00	N	
MM1042	495028	6722983	1.00	N	
MM1043	493939	6723014	4.00	S	all stones
MM1044	492976	6722997	2.50	N	(gypsum)
MM1045	491973	6722961	2.50	N	
MM1046	490977	6723025	3.00	N	
MM1047	489960	6722983	2.50	S	(gypsum)
MM1048	488980	6723018	4.00	S	

APPENDIX 2

ANALYTICAL LABORATORY REPORTS





Our reference
Your reference
Project code
Report date
Report Number
Report status
Page

AD017963
REC 25/12/97
02/12/97
00003019
Final
5 of 14

Analabs Pty. Ltd.
ACN 004 591 664
16 Sunbeam Road, Glynde
South Australia 5070
Telephone : (08) 8336 5099
Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM651	16.48	<30	4	5.8	5.8	2.2
MM652	3.01	<30	6	7.9	8.8	3.0
MM653	15.01	<30	9	5.5	7.3	3.9
MM654	22.44	<30	4	5.2	6.6	1.9
MM655	25.48	<30	1	6.7	8.7	2.3
MM656	18.99	<30	5	5.7	6.4	2.8
MM657	29.51	<30	3	6.5	6.0	3.0
MM658	11.88	<30	4	7.4	7.4	2.5
MM659	17.48	<30	4	9.0	8.0	2.4
MM660	32.40	<30	<1	5.6	4.6	2.1
MM661	12.91	<30	9	7.8	11.5	3.5
MM662	16.83	<30	<1	6.2	7.8	3.1
MM663	28.29	<30	5	8.1	9.4	3.4
MM664	30.24	<30	3	6.1	6.1	3.4
MM665	5.87	<30	9	7.3	8.3	2.9
MM666	8.34	<30	1	6.0	5.7	2.1
MM667	2.22	<30	5	3.7	10.6	4.7
MM668	5.77	<30	6	13.4	17.0	9.6
MM669	8.15	<30	7	6.1	7.0	2.6
MM670	18.10	<30	7	7.4	7.9	3.7
MM671	3.03	<30	10	7.8	8.9	5.0
MM672	2.97	<30	8	8.6	9.4	6.5
MM674	21.52	<30	1	5.5	5.2	4.5
MM675	33.98	<30	1	5.0	4.2	3.5
MM676	9.92	<30	2	6.0	5.4	5.5
MM677	8.08	<30	5	5.5	3.9	3.1
MM678	7.58	<30	1	6.5	9.2	5.8
MM679	5.40	<30	6	6.8	10.2	5.8
MM680	5.29	<30	3	5.1	7.1	3.9
MM681	17.72	<30	<1	6.8	6.8	3.0
MM682	24.69	<30	1	4.5	5.4	3.8
MM683	6.15	<30	4	8.4	8.7	2.9
MM684	25.11	<30	6	3.5	3.5	2.4
MM685	24.19	<30	6	5.8	6.8	3.1
MM686	4.45	<30	9	6.1	8.6	5.4
MM687	4.64	<30	12	8.0	9.4	4.5
MM688	29.60	<30	5	4.1	4.4	4.0
MM689	34.31	<30	<1	5.5	5.2	3.2
MM690	15.59	<30	2	2.9	3.4	2.1
MM691	10.69	<30	5	8.1	5.8	2.8
MM692	1.75	<30	15	12.7	10.0	7.7
MM693	7.26	<30	17	9.5	7.6	9.0
MM694	1.81	<30	9	8.0	7.8	8.6
MM696	<0.01	<30	19	8.5	6.9	11.0
MM697	6.54	<30	17	11.6	10.1	5.4
MM698	3.41	<30	30	9.6	10.0	7.3
MM699	1.76	<30	32	12.7	14.4	8.9
MM701	34.26	<30	<1	5.2	5.3	6.3
MM702	26.58	<30	5	6.4	7.4	3.8
MM704	3.71	<30	7	8.7	13.0	8.3
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	30	1	0.5	0.5	0.5

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Your reference : AD017963
 Your reference : REC 25/12/97
 Project code :
 Report date : 02/12/97
 Report Number : 00003019
 Report status : Final
 Page : 6 of 14

Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM706	34.13	<30	<1	4.8	7.0	4.7
MM707	31.26	<30	3	4.6	3.0	2.6
MM708	23.40	<30	4	7.0	5.4	4.3
MM709	9.96	<30	9	6.8	8.4	6.8
MM710	6.41	<30	4	7.3	5.2	3.9
MM711	1.84	<30	1	8.3	10.6	6.8
MM712	9.86	<30	5	9.9	13.4	5.1
MM714	5.60	<30	4	6.3	9.3	5.0
MM715	6.46	<30	9	11.0	10.9	6.4
MM716	3.70	<30	9	7.6	11.5	5.7
MM717	3.59	<30	7	13.0	13.4	5.3
MM718	33.34	<30	1	4.5	3.7	2.3
MM719	34.15	<30	3	4.7	4.0	2.5
MM720	32.14	<30	3	4.4	3.9	2.1
MM721	30.26	<30	3	5.4	4.2	3.2
MM722	6.36	<30	10	13.5	20.2	6.2
MM723	1.75	<30	14	13.1	15.3	8.4
MM724	2.73	<30	11	8.5	11.5	7.1
MM725	20.53	<30	6	6.8	8.9	5.3
MM726	1.77	<30	6	9.5	12.6	8.4
MM727	5.36	<30	19	11.0	17.2	8.0
MM732	<0.01	<30	18	7.9	11.7	6.3
MM734	6.17	<30	15	9.9	14.8	6.4
MM735	0.92	<30	17	8.6	11.0	6.4
MM736	18.21	<30	13	9.7	10.9	5.8
MM738	4.09	<30	9	8.8	12.0	6.0
MM739	10.16	<30	5	9.1	14.5	5.8
MM740	4.83	<30	7	12.7	16.5	4.7
MM741	4.01	<30	11	8.3	14.6	5.8
MM743	8.66	<30	5	8.7	11.9	4.6
MM744	13.18	<30	4	14.9	18.2	3.4
MM745	2.99	<30	1	12.7	15.3	9.4
MM747	4.04	<30	12	9.2	12.4	4.1
MM751	9.28	<30	10	8.5	14.5	4.9
MM752	5.30	<30	10	11.2	18.7	5.9
MM759	3.01	<30	6	6.2	6.8	1.6
MM760	8.96	<30	9	7.1	7.5	5.7
MM761	5.69	<30	9	10.4	19.3	4.5
MM762	2.01	<30	9	9.1	13.5	4.8
MM765	1.96	<30	47	10.7	9.2	13.1
MM767	13.11	<30	7	15.0	16.6	4.5
MM768	5.89	<30	12	9.8	8.3	6.3
MM769	7.97	<30	3	6.4	4.8	2.2
MM770	9.71	<30	<1	9.5	10.7	1.7
MM771	7.96	<30	6	6.8	10.3	3.6
MM772	20.24	<30	1	9.5	11.1	3.9
MM777	4.04	<30	30	9.4	12.1	9.1
MM778	9.26	<30	5	10.5	13.7	8.7
MM780	8.95	<30	7	6.7	9.0	4.6
MM781	2.95	<30	13	11.2	14.5	7.0
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	20	1	0.5	0.5	0.5

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Our reference : AD017963
 Your reference : REC 25/12/97
 Project code :
 Report date : 02/12/97
 Report Number : 00003019
 Report status : Final
 Page : 7 of 14

Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM782	4.70	<30	9	13.6	16.5	7.0
MM783	8.29	<30	7	9.6	10.6	4.1
MM785	3.04	<30	12	8.5	13.1	8.5

Method Units Detection Limit	GA115 % 0.01	GA115 ppm 30	GA115 ppm 1	GA115 ppm 0.5	GA115 ppm 0.5	GA115 ppm 0.5
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Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Your reference : AD017963
 Your reference : REC 25/12/97
 Project code :
 Report date : 02/12/97
 Report Number : 00003019
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glyde
 South Australia 5070
 Telephone : (08) 8326 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Au	ALR	AUS
MM651	1	--	--
MM652	1	--	--
MM653	1	--	--
MM654	3	2	--
MM655	<1	<1	--
MM656	<1	--	--
MM657	<1	--	--
MM658	<1	--	--
MM659	<1	--	--
MM660	<1	--	--
MM661	<1	--	--
MM662	<1	--	--
MM663	<1	--	--
MM664	<1	--	--
MM665	<1	--	--
MM666	1	--	--
MM667	<1	--	--
MM668	<1	--	--
MM669	<1	--	--
MM670	<1	--	<1
MM671	<1	--	--
MM672	<1	--	--
MM674	<1	--	--
MM675	<1	<1	--
MM676	<1	--	--
MM677	<1	--	--
MM678	1	--	--
MM679	<1	--	--
MM680	<1	--	--
MM681	<1	--	--
MM682	<1	1	--
MM683	<1	--	--
MM684	<1	--	--
MM685	<1	--	--
MM686	<1	--	--
MM687	1	<1	--
MM688	3	--	--
MM689	<1	--	--
MM690	<1	--	--
MM691	3	--	4
MM692	2	--	--
MM693	2	--	--
MM694	<1	--	--
MM696	<1	--	--
MM697	2	2	--
MM698	2	--	--
MM699	<1	--	--
MM701	1	--	--
MM702	1	--	--
MM704	1	--	--
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Your reference : AD017963
 Your reference : REC 25/12/97
 Project code :
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 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM706	<1	--	--
MM707	<1	--	--
MM708	<1	--	--
MM709	<1	--	--
MM710	<1	--	--
MM711	1	--	--
MM712	<1	--	--
MM714	<1	--	--
MM715	<1	--	--
MM716	1	--	2
MM717	2	--	--
MM718	2	--	--
MM719	<1	--	--
MM720	<1	<1	--
MM721	<1	--	--
MM722	2	3	--
MM723	<1	--	--
MM724	1	--	--
MM725	<1	--	--
MM726	<1	--	--
MM727	<1	--	--
MM732	<1	--	--
MM734	<1	--	--
MM735	<1	--	--
MM736	2	1	--
MM738	1	--	--
MM739	2	--	--
MM740	2	--	--
MM741	1	--	--
MM743	<1	<1	<1
MM744	2	--	--
MM745	<1	--	--
MM747	<1	--	--
MM751	<1	--	--
MM752	2	--	--
MM759	1	--	--
MM760	<1	--	--
MM761	2	--	--
MM762	<1	--	--
MM765	<1	--	--
MM767	4	4	4
MM768	<1	--	--
MM769	<1	--	--
MM770	<1	--	--
MM771	<1	--	--
MM772	2	--	--
MM777	<1	--	--
MM778	<1	--	--
MM780	<1	--	--
MM781	<1	--	<1
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Reference : AD017963
 Client reference : REC 25/12/97
 Project code :
 Report date : 02/12/97
 Report Number : 00003019
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM782	5	3	--
MM783	<1	--	--
MM785	<1	--	--

Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : AD017964
Your reference : REC 25/11/97
Project code :
Date received : 25/11/97
Date reported : 03/12/97

Analabs Pty. Ltd.
ACN 004 591 664
16 Sunbeam Road, Glynde
South Australia 5070
Telephone : (08) 8336 5099
Facsimile : (08) 8336 5564

NORMAN KENNEDY

Meekathara Minerals
Level 3
134 William St
SYDNEY
NSW 2011
AUSTRALIA

Number of pages of results : 10
Number of Samples : 244
First Sample : MM788
Last Sample : MM1048

Invoice to:
NORMAN KENNEDY

Electronic Data Transmission :
Modem : / /
Facsimile : / /
Disk Report : / /

Meekathara Minerals
ATTENTION MR N KENNEDY
PO BOX 4278
SYDNEY
NSW 2001
AUSTRALIA

Results to:

Results to:

Remarks :

Authorised by :
On behalf of:

David Nelson
Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory
for preparation and/or analysis as requested by the client.

A subsidiary of Scientific Services Limited



Our reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 03/12/97
 Report Number : 00003021
 Report status : Final
 Page : 1 of 10

Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM788	1.00	17	48	15.5	10.3	9.8
MM789	1.98	23	39	13.8	11.2	8.0
MM790	2.97	22	36	9.8	8.9	6.1
MM794	6.08	25	25	9.5	10.4	5.2
MM795	2.78	23	31	11.7	9.4	6.2
MM797	4.83	21	31	11.7	7.2	3.5
MM798	7.21	27	21	10.0	7.6	7.1
MM799	8.74	10	22	10.7	7.2	5.4
MM800	2.90	16	19	10.4	6.1	4.3
MM802	5.01	19	28	11.0	7.3	5.2
MM803	4.00	24	21	7.5	6.6	4.0
MM804	20.23	31	15	7.6	4.7	4.0
MM805	4.80	15	20	8.5	5.7	3.3
MM806	1.87	15	21	10.2	6.0	3.5
MM807	23.40	17	12	6.9	3.7	2.3
MM808	2.01	21	13	7.9	4.9	4.7
MM809	15.19	14	12	10.6	6.8	2.5
MM810	7.11	22	15	12.0	6.9	6.8
MM811	8.97	28	25	13.8	6.9	1.2
MM812	1.00	27	27	15.3	11.8	4.5
MM813	14.26	25	14	11.6	8.4	1.7
MM814	16.46	24	7	13.5	7.9	1.2
MM815	4.03	28	17	13.9	9.2	4.7
MM816	3.92	25	35	15.9	8.3	5.0
MM817	0.97	12	30	15.9	10.0	6.5
MM818	0.95	9	43	13.8	8.6	6.8
MM819	10.04	33	30	14.0	4.5	5.3
MM820	4.07	26	33	14.7	7.8	4.8
MM822	3.98	19	23	10.8	7.3	3.8
MM823	5.01	28	32	16.3	11.7	6.6
MM824	3.87	28	16	16.6	9.9	2.6
MM825	10.24	26	22	13.3	6.9	2.9
MM826	8.15	28	34	15.5	7.2	5.3
MM827	15.15	27	11	16.3	8.9	2.6
MM828	4.89	22	17	12.1	8.7	3.9
MM829	1.01	25	22	9.9	11.8	5.4
MM830	6.97	31	20	14.4	11.8	4.7
MM831	9.08	31	11	15.9	9.0	3.2
MM832	1.99	26	22	5.8	12.8	6.4
MM833	12.11	25	9	16.4	9.8	3.2
MM834	9.95	17	27	18.3	11.4	4.3
MM835	10.16	16	16	13.4	9.6	3.3
MM836	5.00	22	22	14.4	8.0	3.9
MM837	1.96	25	28	12.9	11.9	5.9
MM838	8.82	23	19	12.1	7.7	2.1
MM839	4.83	18	12	9.2	4.4	1.9
MM840	6.14	27	58	13.5	9.6	8.4
MM841	3.06	27	21	9.9	6.9	2.6
MM842	3.98	22	25	11.4	10.5	5.3
MM843	1.84	23	31	9.5	7.1	6.5
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	5	1	0.3	0.3	0.3

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 03/12/97
 Report Number : 00003021
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM844	1.89	23	34	8.6	6.8	6.7
MM845	1.97	19	26	11.5	8.7	5.3
MM846	2.00	15	25	11.9	10.7	5.1
MM847	1.00	14	28	10.0	9.1	6.0
MM848	6.91	18	12	14.4	9.3	1.8
MM849	9.25	12	10	8.0	5.7	0.9
MM850	3.05	20	23	7.2	6.1	8.4
MM851	5.97	28	21	6.9	6.8	3.1
MM852	12.14	34	15	10.5	6.5	2.0
MM853	6.00	26	20	12.9	8.0	2.9
MM854	10.04	21	24	14.1	11.9	3.3
MM855	10.64	25	18	18.0	10.3	3.2
MM856	2.02	12	30	13.2	13.5	7.6
MM857	12.84	8	8	12.1	9.0	3.4
MM858	7.84	9	26	12.1	9.7	4.5
MM859	11.07	8	16	10.5	8.7	3.7
MM860	1.02	20	32	9.2	6.3	5.6
MM861	10.08	7	13	10.5	7.6	3.1
MM862	10.14	19	17	10.1	9.1	7.7
MM863	5.18	10	19	10.7	7.5	5.0
MM864	0.93	10	19	7.0	4.1	1.6
MM865	<0.01	14	36	7.1	6.1	5.2
MM866	3.07	15	23	6.2	2.7	4.2
MM867	7.03	13	22	16.1	10.4	4.3
MM868	5.00	15	30	9.3	5.7	3.3
MM869	11.00	15	27	16.7	10.8	3.9
MM870	<0.01	13	47	7.7	5.7	9.1
MM872	1.00	11	45	11.3	10.5	7.4
MM873	1.02	14	52	12.1	10.5	8.5
MM874	<0.01	16	43	11.5	10.7	7.4
MM876	2.05	11	24	7.1	11.3	3.9
MM877	1.98	23	31	9.4	7.3	6.6
MM878	8.00	11	16	8.3	7.3	3.3
MM879	14.95	<5	11	9.0	6.7	2.2
MM880	6.97	14	26	5.8	7.5	4.9
MM881	14.96	14	13	9.7	7.6	2.7
MM882	9.80	10	12	11.9	7.6	2.0
MM883	9.00	12	29	10.0	8.6	5.2
MM884	10.83	18	11	5.5	5.6	2.7
MM885	1.02	21	29	9.5	9.7	6.0
MM886	4.99	18	19	7.7	8.2	4.3
MM887	9.22	14	14	7.1	5.0	1.6
MM889	0.97	19	53	10.2	10.5	7.4
MM890	<0.01	18	61	11.5	10.9	8.4
MM891	1.01	23	67	12.3	10.6	10.5
MM892	<0.01	16	47	9.3	8.5	6.6
MM893	5.95	16	14	12.7	6.5	4.4
MM894	9.76	7	18	20.6	13.8	3.6
MM895	1.03	12	29	7.3	8.0	5.8
MM898	0.97	13	47	13.3	11.6	8.0
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	5	1	0.5	0.5	0.5

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, N.R. = listed not received



Our reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 03/12/97
 Report Number : 00003021
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glyde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM899	5.94	15	-1	15.0	10.5	6.0
MM900	6.62	12	29	17.7	10.7	4.5
MM901	0.99	10	25	7.5	7.3	5.0
MM902	2.01	18	38	11.9	11.1	6.5
MM903	2.03	12	25	9.5	8.4	3.9
MM905	8.22	21	22	11.8	7.0	4.3
MM906	10.07	7	16	9.3	5.8	1.5
MM907	<0.01	9	32	11.6	8.8	5.5
MM908	<0.01	<5	28	9.9	8.1	4.7
MM909	0.93	11	33	10.1	10.9	6.7
MM911	<0.01	8	24	7.8	7.1	5.4
MM915	1.00	10	31	10.3	10.5	6.2
MM916	0.98	15	47	11.7	8.5	8.9
MM917	1.97	10	50	9.6	9.6	7.0
MM918	0.96	15	48	10.7	9.4	6.7
MM919	2.93	12	65	12.6	8.8	9.1
MM920	7.78	<5	28	9.8	9.5	4.7
MM921	1.94	16	39	10.4	9.8	6.6
MM922	1.02	25	74	10.7	8.5	9.0
MM923	2.96	16	40	11.7	10.7	5.7
MM924	6.19	10	15	14.6	9.4	2.7
MM925	6.04	7	21	8.3	7.7	3.3
MM926	6.04	15	20	11.4	10.5	4.2
MM927	10.89	15	13	12.7	9.4	3.0
MM928	4.10	15	27	10.2	10.0	5.9
MM929	<0.01	30	28	12.3	12.3	11.1
MM930	6.56	22	29	15.2	8.9	3.5
MM931	5.79	17	18	10.6	7.1	4.7
MM932	5.82	16	20	16.7	11.5	4.2
MM933	14.73	17	10	10.9	8.5	2.3
MM934	1.99	19	37	10.1	13.5	6.0
MM935	9.93	14	17	15.2	8.6	3.1
MM936	6.95	10	16	8.8	6.8	3.6
MM937	11.98	8	15	7.0	6.3	2.5
MM938	15.52	12	16	7.7	7.6	2.9
MM939	9.02	17	19	8.4	7.7	3.7
MM940	8.00	20	27	7.5	8.5	4.1
MM941	13.02	18	21	6.8	7.4	3.5
MM942	5.71	18	26	5.8	4.7	6.8
MM943	5.10	13	31	5.5	5.9	3.9
MM944	11.15	21	26	13.1	10.0	2.6
MM945	15.10	21	21	8.0	6.3	4.1
MM946	13.58	8	16	8.4	8.1	3.2
MM947	9.00	<5	25	12.6	8.5	3.9
MM948	11.04	13	34	13.6	7.5	5.4
MM949	9.02	14	39	8.7	6.4	6.2
MM950	14.56	7	25	8.5	4.7	4.3
MM951	13.15	7	19	12.7	8.6	2.1
MM952	18.51	<5	14	12.2	8.7	2.4
MM953	10.28	12	27	21.3	11.6	3.2
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	5	5	0.5	0.5	0.5

Notes: N.A. = not analysed, - = element not determined, L.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Your reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 03/12/97
 Report Number : 00003021
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM954	15.89	9	18	22.2	13.0	2.3
MM955	6.85	25	23	16.2	8.2	2.7
MM956	10.66	11	16	14.2	9.1	3.3
MM957	15.80	29	15	9.4	6.3	8.2
MM958	9.23	14	36	12.1	6.3	4.7
MM959	8.91	20	41	13.6	7.1	6.2
MM960	11.90	11	30	10.2	6.3	5.7
MM961	12.89	30	32	10.8	7.8	4.6
MM962	14.74	14	25	10.7	6.9	2.9
MM963	13.14	13	16	13.9	9.1	3.9
MM964	2.87	21	17	9.0	4.3	4.9
MM965	4.01	18	20	9.9	7.4	3.7
MM966	13.22	18	15	13.5	8.9	3.7
MM967	13.85	8	13	12.0	8.3	2.7
MM968	10.14	10	18	7.1	7.1	4.0
MM969	9.24	8	11	8.1	8.1	3.2
MM970	7.98	<5	28	9.1	9.3	4.9
MM971	8.73	45	44	6.5	4.7	9.3
MM972	15.29	38	30	6.5	5.1	10.7
MM973	5.09	22	11	10.4	13.0	5.4
MM974	1.00	26	15	11.6	21.5	10.2
MM975	6.17	14	22	9.4	13.3	7.5
MM976	3.05	18	18	10.1	16.2	3.5
MM977	10.00	6	6	9.0	5.6	2.3
MM978	16.24	6	10	5.8	6.0	3.7
MM979	8.21	<5	25	8.5	11.4	4.4
MM980	7.19	<5	24	7.0	9.2	4.7
MM981	7.16	15	18	9.6	9.8	4.4
MM982	11.05	5	17	6.5	5.6	4.1
MM983	8.96	15	29	7.4	6.6	4.6
MM984	15.36	12	12	2.2	4.9	3.3
MM985	2.99	18	16	8.9	7.0	4.1
MM986	2.92	12	32	9.8	7.5	4.2
MM987	3.72	11	26	6.0	5.0	3.6
MM988	1.84	10	46	8.0	7.9	8.8
MM989	8.06	21	25	6.7	6.6	4.0
MM990	5.97	11	20	7.0	6.4	3.2
MM991	7.96	8	19	7.4	9.2	4.9
MM992	3.00	15	25	11.2	12.0	5.5
MM993	1.95	14	33	10.6	9.4	5.7
MM995	6.68	19	32	7.6	6.2	4.6
MM996	11.97	14	18	11.0	7.3	3.5
MM997	1.98	22	58	5.8	4.2	4.5
MM998	12.21	24	18	12.1	9.2	3.3
MM999	2.06	32	110	12.9	10.6	13.3
MM1000	3.02	16	39	11.2	11.3	6.8
MM1001	4.06	22	42	10.5	6.6	5.8
MM1002	12.91	18	19	7.4	6.2	3.3
MM1003	5.52	9	28	10.4	5.1	4.0
MM1004	21.58	12	11	8.7	5.8	3.1
Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	5	1	0.5	0.5	0.5

Notes: N.A. = not analysed; -- = element not determined; I.S. = insufficient sample; L.N.R. = listed not received

A N A L A B S



Your reference : AD017964
 Your reference : REC 25/11/97
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 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glyde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Ca	As	Cr	Cu	Ni	Pb
MM1005	1.01	15	46	11.5	9.1	6.6
MM1006	1.00	21	40	11.8	7.4	5.8
MM1007	1.00	22	40	8.2	7.5	7.3
MM1008	1.86	24	62	11.6	7.6	9.0
MM1009	2.95	19	38	8.7	6.3	5.7
MM1010	16.43	23	15	6.8	5.6	4.8
MM1011	0.99	32	69	12.6	8.2	7.7
MM1012	1.00	25	48	11.4	12.0	6.4
MM1013	8.68	15	23	9.5	7.6	4.2
MM1014	3.09	12	34	8.5	9.2	6.2
MM1015	8.01	13	77	8.2	7.3	5.1
MM1016	9.17	13	32	8.6	5.6	5.8
MM1017	20.28	13	13	6.4	6.0	3.9
MM1018	14.17	22	30	7.6	5.9	5.0
MM1019	4.19	18	30	7.3	6.7	5.2
MM1020	0.96	26	58	11.3	6.0	9.0
MM1021	1.00	20	35	8.5	9.6	6.7
MM1022	5.98	18	29	8.1	8.1	6.7
MM1023	6.08	23	27	7.4	6.8	5.4
MM1024	3.01	23	47	11.4	17.9	9.0
MM1025	11.16	7	33	10.6	7.7	5.0
MM1026	16.95	7	17	6.0	5.5	4.1
MM1027	19.08	9	12	4.7	4.4	3.3
MM1028	13.08	17	19	6.5	5.2	3.9
MM1029	15.08	12	17	7.8	5.2	4.5
MM1030	7.77	10	32	8.6	8.6	5.7
MM1031	5.99	28	62	12.7	8.1	8.4
MM1032	1.99	12	35	11.4	9.6	5.7
MM1033	8.95	17	25	10.6	6.8	4.8
MM1034	1.99	19	35	11.8	6.0	7.0
MM1035	10.14	26	22	8.8	6.1	6.0
MM1036	4.02	18	22	10.0	8.0	5.5
MM1037	9.02	17	44	11.2	6.7	5.9
MM1038	25.03	21	42	9.1	5.5	7.0
MM1039	13.22	21	29	8.4	8.5	6.6
MM1040	18.15	5	24	6.6	5.8	5.5
MM1041	16.67	16	18	7.7	5.7	5.6
MM1042	25.53	15	15	4.3	4.9	3.0
MM1043	6.94	14	32	5.6	4.9	4.5
MM1044	6.07	13	26	7.1	8.1	4.5
MM1045	10.07	10	23	5.8	4.5	4.4
MM1046	10.92	<5	18	6.5	5.7	3.9
MM1047	7.90	20	21	5.5	4.4	4.0
MM1048	1.01	19	37	7.5	4.2	6.0

Method	GA115	GA115	GA115	GA115	GA115	GA115
Units	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	5	1	0.5	0.5	0.5

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



Our reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 03/12/97
 Report Number : 00003021
 Report status : Final
 Page : 6 of 10

Analabs Pty. Ltd.
 ACN 004 591 664
 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM788	2	--	--
MM789	<1	--	--
MM790	<1	--	--
MM794	2	--	--
MM795	<1	--	--
MM797	<1	--	--
MM798	3	5	--
MM799	2	--	--
MM800	<1	--	--
MM802	<1	--	--
MM803	<1	--	--
MM804	<1	--	--
MM805	<1	--	--
MM806	<1	--	--
MM807	2	--	--
MM808	<1	--	--
MM809	3	--	--
MM810	3	2	--
MM811	5	--	--
MM812	<1	<1	<1
MM813	3	--	--
MM814	2	--	--
MM815	<1	--	--
MM816	<1	--	--
MM817	<1	<1	--
MM818	2	--	--
MM819	<1	--	--
MM820	<1	--	--
MM822	<1	--	--
MM823	2	--	--
MM824	<1	--	--
MM825	3	--	--
MM826	4	3	--
MM827	6	3	--
MM828	2	--	--
MM829	2	--	--
MM830	2	--	--
MM831	3	--	--
MM832	<1	--	--
MM833	2	--	2
MM834	2	--	--
MM835	2	--	--
MM836	2	--	--
MM837	<1	<1	--
MM838	<1	--	--
MM839	<1	--	--
MM840	2	--	--
MM841	<1	--	--
MM842	3	--	--
MM843	<1	--	--
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, N.R. = listed not received



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 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
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ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM844	<1	--	--
MM845	2	--	--
MM846	3	--	--
MM847	<1	--	--
MM848	7	6	--
MM849	3	--	--
MM850	2	--	--
MM851	2	--	--
MM852	3	--	--
MM853	<1	--	2
MM854	3	--	--
MM855	3	--	--
MM856	2	--	--
MM857	2	--	--
MM858	3	--	--
MM859	2	--	--
MM860	<1	--	--
MM861	3	--	--
MM862	4	2	--
MM863	2	--	--
MM864	<1	--	--
MM865	2	--	--
MM866	3	--	--
MM867	5	--	--
MM868	3	--	--
MM869	7	6	--
MM870	<1	--	--
MM872	2	<1	--
MM873	<1	--	--
MM874	2	--	<1
MM876	2	--	--
MM877	<1	--	--
MM878	3	--	--
MM879	2	--	--
MM880	<1	--	--
MM881	2	--	--
MM882	2	--	--
MM883	3	--	--
MM884	3	--	--
MM885	<1	2	--
MM886	<1	--	--
MM887	<1	--	--
MM889	2	--	--
MM890	3	--	--
MM891	3	--	--
MM892	<1	--	--
MM893	2	--	--
MM894	5	--	--
MM895	<1	--	--
MM898	2	--	2
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



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ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM1899	4	--	--
MM1900	6	4	--
MM901	2	--	--
MM902	3	--	--
MM903	3	--	--
MM905	4	3	--
MM906	3	--	--
MM907	<1	--	--
MM908	<1	--	--
MM909	<1	--	--
MM911	<1	<1	--
MM915	3	--	--
MM916	3	--	--
MM917	1	--	--
MM918	2	--	--
MM919	3	--	--
MM920	3	--	--
MM921	3	--	--
MM922	3	--	--
MM923	2	--	2
MM924	3	--	--
MM925	3	--	--
MM926	2	--	--
MM927	3	1	--
MM928	<1	--	--
MM929	<1	--	--
MM930	3	--	--
MM931	3	--	--
MM932	2	--	--
MM933	3	--	--
MM934	<1	--	--
MM935	2	--	--
MM936	<1	<1	--
MM937	<1	--	--
MM938	<1	--	--
MM939	<1	--	--
MM940	<1	--	--
MM941	2	--	--
MM942	<1	--	--
MM943	<1	--	<1
MM944	<1	--	--
MM945	<1	--	--
MM946	2	--	--
MM947	<1	--	--
MM948	<1	--	--
MM949	<1	--	--
MM950	<1	--	--
MM951	<1	--	--
MM952	2	--	--
MM953	2	--	--
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

A N A L A B S



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 16 Sunbeam Road, Glynde
 South Australia 5070
 Telephone : (08) 8336 5099
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ANALYTICAL DATA

Sample	Au	Au:R	Au:S
MM954	3	5	--
MM955	<1	--	--
MM956	<1	--	--
MM957	3	--	--
MM958	3	--	--
MM959	2	--	--
MM960	2	3	--
MM961	7	5	--
MM962	2	--	--
MM963	4	--	3
MM964	2	--	--
MM965	<1	--	--
MM966	3	--	--
MM967	3	--	--
MM968	2	3	--
MM969	3	--	--
MM970	<1	--	--
MM971	3	--	--
MM972	3	--	--
MM973	<1	--	--
MM974	<1	--	--
MM975	3	--	--
MM976	<1	--	--
MM977	3	--	--
MM978	4	2	--
MM979	<1	--	--
MM980	3	--	--
MM981	2	--	--
MM982	3	--	--
MM983	2	--	2
MM984	<1	--	--
MM985	<1	--	--
MM986	<1	--	--
MM987	2	--	--
MM988	<1	--	--
MM989	<1	--	--
MM990	<1	--	--
MM991	2	2	--
MM992	<1	--	--
MM993	<1	--	--
MM995	<1	--	--
MM996	4	--	--
MM997	<1	--	--
MM998	4	2	--
MM999	2	--	--
MM1000	<1	--	--
MM1001	3	--	--
MM1002	2	--	--
MM1003	<1	--	--
MM1004	2	2	3
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1

Notes: N.A. = not analysed, -- = element not determined, L.S. = insufficient sample, L.N.R. = liquid not received



Our reference : AD017964
 Your reference : REC 25/11/97
 Project code :
 Report date : 05/12/97
 Report Number : 00003021
 Report status : Final
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Analabs Pty. Ltd.
 ACN 004 391 664
 16 Sunbeam Road, Glynde
 South Australia 5070
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 Facsimile : (08) 8336 5564

ANALYTICAL DATA

Sample	Au	As	As
MM1005	<1	--	--
MM1006	<1	--	--
MM1007	<1	--	--
MM1008	<1	--	--
MM1009	<1	--	--
MM1010	3	1	--
MM1011	<1	--	--
MM1012	<1	--	--
MM1013	2	--	--
MM1014	<1	--	--
MM1015	3	--	--
MM1016	<1	--	--
MM1017	6	3	--
MM1018	3	3	--
MM1019	<1	--	--
MM1020	<1	--	--
MM1021	<1	--	--
MM1022	2	--	--
MM1023	<1	--	--
MM1024	<1	--	2
MM1025	3	--	--
MM1026	2	--	--
MM1027	2	--	--
MM1028	2	2	--
MM1029	<1	--	--
MM1030	<1	--	--
MM1031	<1	--	--
MM1032	<1	--	--
MM1033	<1	--	--
MM1034	<1	--	--
MM1035	<1	--	--
MM1036	<1	--	--
MM1037	<1	--	--
MM1038	<1	--	--
MM1039	<1	--	--
MM1040	3	--	--
MM1041	2	2	--
MM1042	2	--	--
MM1043	<1	--	--
MM1044	<1	--	<1
MM1045	<1	--	--
MM1046	<1	--	--
MM1047	<1	<1	--
MM1048	<1	--	--

Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit			

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received

JOHN J.B. COOPER (LL.B)
Barrister & Solicitor

262-266 Pirie Street and
Adelaide SA 5000

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18 April 2004

Our Ref:2030006

Mr George Kwitco
P.I.R.S.A
GPO Box
ADELAIDE SA 5001

27 APR 2004


Dear Sir,

Annual Technical Report - Exploration Licence 2966 for the Period ending 2 June 2003

As discussed with your department, no field work was undertaken on this tenement during the relevant period as the company has concentrated its efforts on the most prospective of its suite of coal tenements, EL2717.

This letter constitutes the annual technical report for the said period ending 2 June 2003.

Yours sincerely,


John J B Cooper



Client

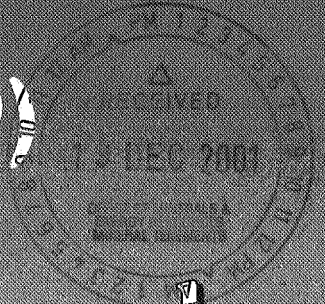
avironenergy

Coal Exploration Report (EL 2249)

Penrhyn Trough

Phillipson Coalfield
South Australia

December, 2001



Rank Geological Services Pty Limited

A.C.N. 003 090 604

96 Babbage Road, Roseville Chase, NSW, 2069 Australia

Telephone: (02) 9417 6212 Fax: (02) 9417 3043 Email: geo@rank.com.au



COAL EXPLORATION REPORT

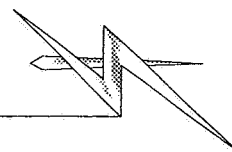
CONFIDENTIAL

December, 2001

Exploration Licence 2249

PENRHYN TROUGH

**PHILLIPSON COALFIELD
SOUTH AUSTRALIA**



COVER PHOTOGRAPH – Drilling EL 2249

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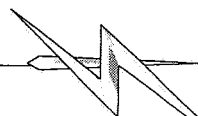


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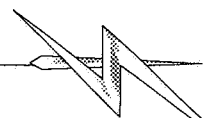
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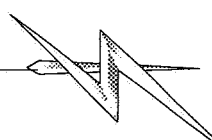
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- APPENDIX 1 Graphic Borehole Logs
- APPENDIX 2 Lithological Logs
- APPENDIX 3 Borehole Geophysical Plots



SUMMARY

- During April 2000 a drilling program of 8 geophysically logged open holes was undertaken within EL 2249 to investigate potential extensions of the Phillipson Coalfield to the southwest and to investigate the potential for shallow coal at the margins of the Penrhyn Trough.
- The coal bearing interval of the Permian Upper Mount Toondina Formation was not intersected in any of the 6 boreholes designed to investigate the southwestern extensions suggesting any coal potential has been eroded by the Mesozoic Unconformity.
- Coal was intersected in only one of the two boreholes drilled to test the margins of the Penrhyn Trough. The shallowest intersection was at 70 metres suggesting the depth of overburden is unlikely to be less than 60 metres as defined by previous drilling.
- Based on the results of the drilling program it is recommended that Area B of EL 2249 be surrendered.



1. INTRODUCTION

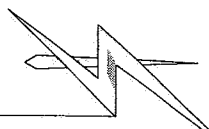
South Australian Coal Corporation, a wholly owned subsidiary of Auiron Energy Limited, was granted an Exploration Licence (EL 2249) located approximately 70 kilometres south of Coober Pedy (figure 1) on 1 January, 1997.

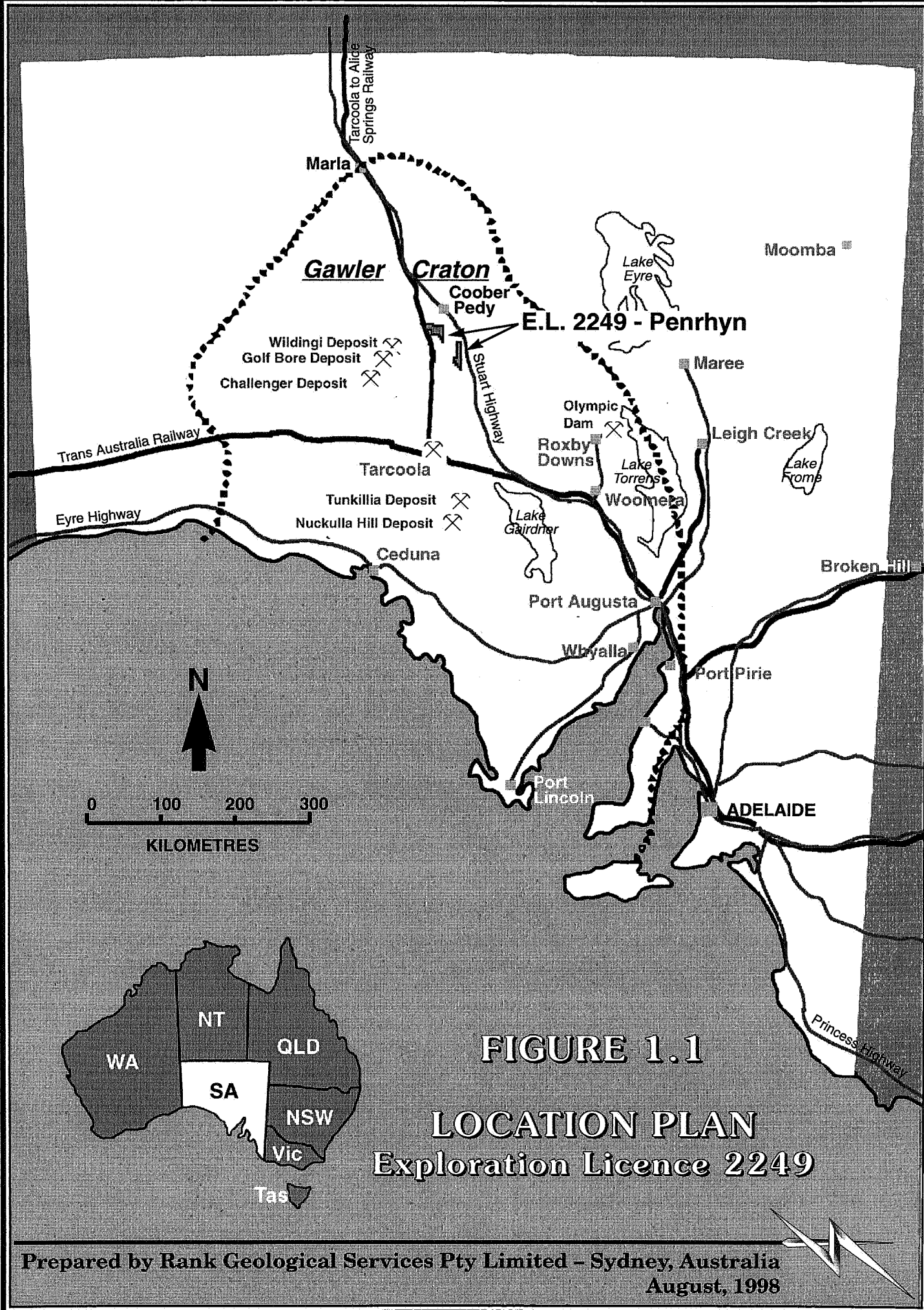
During 1994 and 1995 Primary Industry and Resources South Australia (PIRSA) delineated an extension of the Phillipson Coalfield designated as the Penrhyn Trough in Area A of EL 2249. The coal seams were found to be similar in quality and configuration to those elsewhere in the Phillipson Coalfield but generally had a lower cumulative thickness and a less attractive waste to coal ratio than the Corner Gate Deposit located in EL 2717 also held by South Australian Coal Corporation. The drilling results indicated there may be potential for areas within the Penrhyn Trough to contain coal at more attractive waste to coal ratios, particularly at the Trough margins.

During April, 2000 a regional drilling program was conducted by Rank Geological Services Pty Limited on behalf of AuIron Energy Limited. The drilling program was designed to;

- a) investigate a possible extension of the Phillipson Coalfield southeast of Ingomar and assess potential additional coal resources within area B of EL 2249.
- b) upgrade the level of understanding of the geology of the Penrhyn Trough located in Area A of EL 2249 and in particular investigate potential shallow coal resources at the margins of the currently defined trough.

This report describes the field procedures adopted for the drilling program carried out within EL 2249 and compiles the geological data derived from it. Graphic logs of the 8 boreholes drilled are presented as Appendix 1. Borehole lithological logs are contained in Appendix 2 and geophysical logs of the boreholes are presented as Appendix 3.





2. LOCATION AND TOPOGRAPHY

Exploration Licence 2249 covers 758 square kilometres over two separate areas and is defined as;

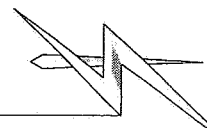
AREA A - commencing at a point being the intersection of latitude 29°18'S and longitude 134°27'E, thence east to longitude 134°37'E, south to latitude 29°19'S, east to longitude 134°45'E, south to latitude 29°29'S, west to longitude 134°44'E, north to latitude 29°28'S, west to longitude 134°42'E, north to latitude 29°27'S, west to longitude 134°41'E, north to latitude 29°26'S, west to longitude 134°35'E, north to latitude 29°22'S, west to longitude 134°30'E, north to latitude 29°19'S, west to longitude 134°27'E, and north to the point of commencement.

AREA B - commencing at a point being the intersection of latitude 29°28'S and longitude 134°53'E, thence east to longitude 135°00'E, south to latitude 29°47'S, west to longitude 134°57'E, north to latitude 29°46'S, west to longitude 134°55'E, north to latitude 29°45'S, west to longitude 134°52'E, north to latitude 29°43'S, west to longitude 134°50'E, north to latitude 29°41'S, west to longitude 134°49'E, north to latitude 29°37'S, east to longitude 134°53'E, and north to the point of commencement.

The location of the exploration licence area within South Australia is depicted in Figure 1. It is located on the Coober Pedy (SH53-6) 1:250,000 topographic map sheet area. The township of Coober Pedy is situated approximately 40 kilometres to the north (refer Figure 2). The Tarcoola to Alice Springs railway traverses the western part of Area A and the sealed Stuart Highway is adjacent to the eastern boundary of Area B. The old unsealed Stuart Highway runs past "Ingomar Homestead" situated between both portions of the licence area.

Topographically the area is flat ranging from about 140 metres above sea level to 190 metres above sea level. Heavily vegetated dunes up to 6 metres high make access difficult over some of the area.

In Area A Long and Carringallana Creeks drain the area and flow from the northeast into two ephemeral lakes, named Lake Phillipson and Lake Wirrida, which dominate the physiography. In Area B Brumby Creek drains the area to the east and south. All creeks are ephemeral and no permanent surface water exists in the area. The open scrub (mainly mulga) vegetation supports sheep and cattle grazing, the water for which is obtained from sub artesian bores and surface dams. Average annual rainfall is less than 200mm and falls mostly during the summer months of December, January, February and March.



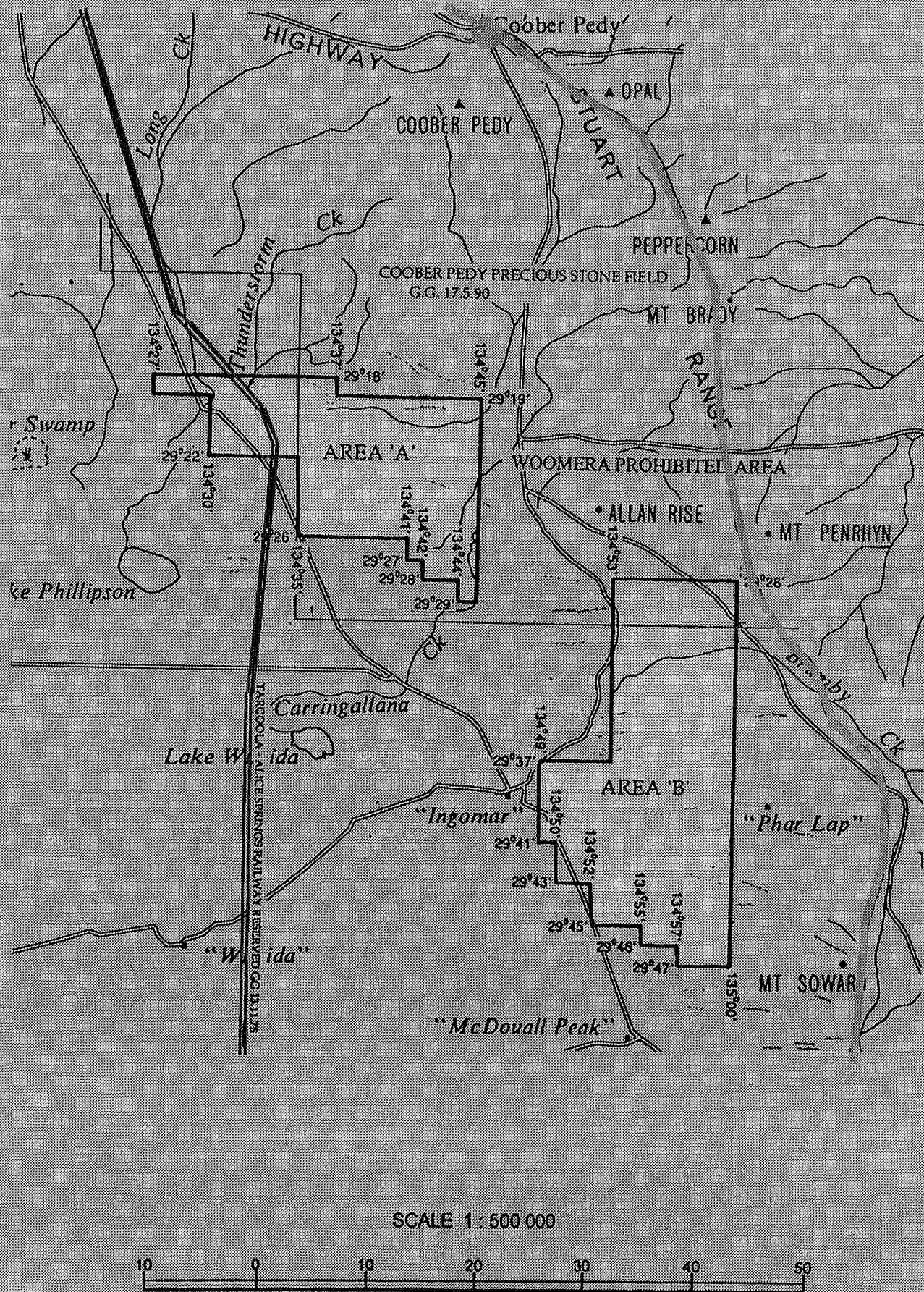


Figure 2.1 Exploration Licence Area (E.L.) 2249

3. EXPLORATION PROGRAM

The regional program of eight open holes designated AEP1 to AEP8 to investigate potential coal occurrences within EL 2249 commenced on 12/4/2000. Two boreholes were completed before wet weather caused the cessation of field activities on 13/4/2000. Field operations were shut down over Easter from 14/4/2000 to 25/4/2000. The regional program resumed on 26/4/2000 and was completed on 29/4/2000.

Statistics of the 8 boreholes drilled in the area are presented in Table 3.1 and locations are shown on Figure 3.1.

Table 3.1 BOREHOLE DETAILS

BOREHOLE	DATE COMMENCED	DATE COMPLETED	LOCATION EASTING	LOCATION NORTHING	SURFACE ELEVATION (m)	TOTAL DEPTH (m)
AEP 1	12/04/00	13/04/00	499040	6709290	165.00	120.00
AEP 2	13/04/00	13/04/00	499840	6714580	165.00	104.00
AEP 3	26/04/00	26/04/00	484480	6718030	150.00	152.00
AEP 4	26/04/00	27/04/00	495440	6714580	165.00	122.00
AEP 5	27/04/00	28/04/00	495260	6734420	175.00	131.00
AEP 6	28/04/00	28/04/00	497760	6738700	175.00	152.00
AEP 7	29/04/00	29/04/00	474840	6746070	160.00	137.50
AEP 8	29/04/00	29/04/00	467690	6754520	160.00	152.00
TOTAL						1,070.50

* borehole locations determined by handheld GPS unit

3.1 DRILLING

All drilling was undertaken by Thompson Drilling of Adelaide, using a truck mounted T1000 mud rotary drilling rig supported by a 9,000 litre capacity water truck.

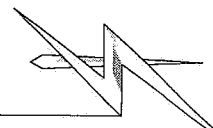
Total metreage drilled was 1,070.50 metres in eight openholes which were drilled using a blade bit to produce a hole of nominal 120mm diameter. A liquid polymer mud was used for hole stability.

3.2 GEOPHYSICAL LOGGING

All boreholes were geophysically logged by Geoscience Associates (Australia) Pty Limited. Downhole surveys carried out included:-

- a) Caliper
- b) Long spaced Density
- c) Short Spaced Density
- d) Gamma
- e) Neutron - Neutron

Tools used for the program were calibrated at the Amdel Test Pit Facility in Adelaide. Digital plots of all surveys were printed in the field at scales of 1:200 and 1:500. Plots of all surveys



completed in each borehole are presented in Appendix 3. Field logging data was digitally recorded on diskette, copies of which are available on request.

3.3 ABORIGINAL SITE INVESTIGATION SURVEY.

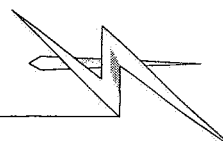
In order to avoid damage to sites of significance to aboriginal heritage a site avoidance survey was conducted on 8 and 9 February, 2000 with a visit to the area by the designated aboriginal custodians, Ian Crombie, David Brown, Billy Mungie, Punch Gibson, David Crombie, Martha Edwards, Eileen Crombie, Kunmara Brown, Edwina Crombie and Pauline Crombie all representing the Antakirinja People.

The survey determined that no sites of aboriginal significance existed in the vicinity of the proposed boreholes and the proposed exploration program would not interfere with the community life of the native title applicants. Accordingly the traditional owners agreed the proposed drilling program could proceed.

3.4 PROJECT SUPERVISION

Supervision of fieldwork was undertaken by Rank Geological Services Pty Limited. All open hole drilling was supervised by a senior geologist. Cuttings, sampled at two metre intervals, were field logged and subsequently validated with geophysical logs. Samples are currently stored at the Aulron field camp at Ingomar Station.

Lithological logs are presented as Appendix 2 of this report. Borehole details and the name of the geologist who carried out the logging are contained in a header sheet preceding each lithological log.



4. REGIONAL GEOLOGY

The Penrhyn Trough is part of the Phillipson Coalfield located in the south of the Arckaringa Basin, an intracratonic Permian basin extending over 82,000 square kilometres in central northern South Australia. (refer Figure 4.1)

4.1 STRATIGRAPHY

The regional stratigraphy of the Arckaringa Basin is summarised in Figure 4.2

Mesozoic sediments of Cretaceous and Jurassic age unconformably overlie the Permian sequence which grades upwards from the basal glacio-marine Boorthanna Formation into the marine Stuart Range Formation which is overlain by the terrestrial sequence of the Mount Toondina Formation, comprising an upper coal bearing interval and a lower barren sandstone sequence. The Permian sediments rest unconformably on Devonian or Cambrian carbonates and quartzites in the Tallaringa, Karkaro, Mt Furner and Northern Boorthanna Troughs. Elsewhere, basement comprises crystalline Precambrian rocks of the Gawler Craton or Precambrian sediments of the Adelaide Geosyncline as is the case at the Phillipson Coalfield.

Stratigraphic drilling within the basin (Townsend, 1976) indicates that basement topography and active faults during deposition had a controlling effect on the deposition of the basal Permian Boorthanna Formation. Deposition of the marine Stuart Range Formation was more widespread. Basement structure virtually had no effect on the deposition of the Mount Toondina Formation which probably extended across the entire basin during Late Permian times. Subsequent erosion, prior to the deposition of the Mesozoic sediments, controls its current extent.

4.2 STRUCTURE

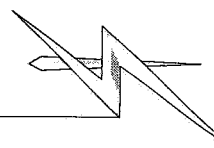
The Arckaringa Basin is a structural depression in the northern part of the Precambrian Gawler Craton. It has been infilled and covered by about 1,000 metres of Permian and Mesozoic sediments. It is contiguous to the north with the deeper Pre-Permian Officer Basin, and to the east, it is fault bounded against the Peake and Denison Inlier. The boundary of the basin is well defined by regional gravity and magnetic surveys.

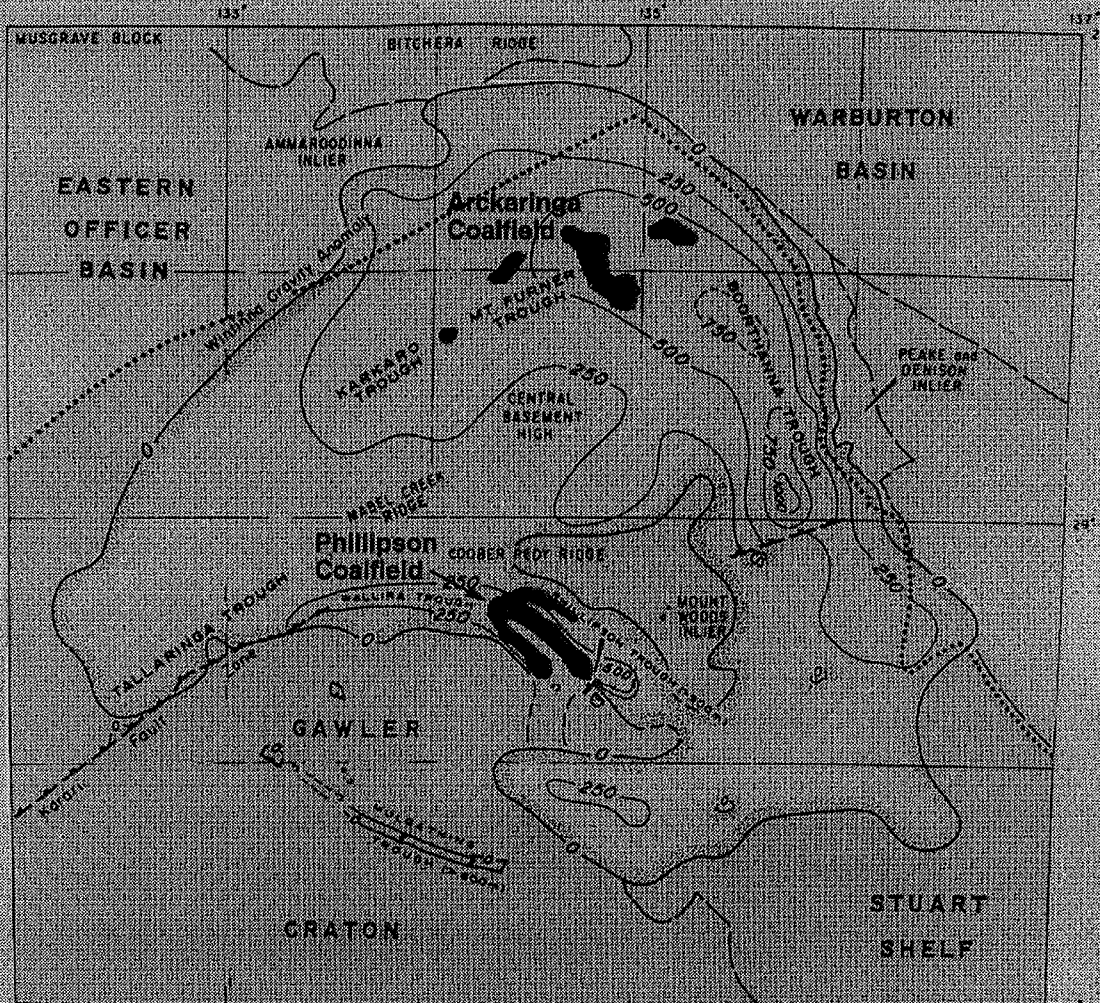
Figure 4.1 presents the principal structural subdivisions of the basin and locates it in relation to other regional structural elements of central South Australia.

A system of well defined structural lineaments (Finlayson, 1981) trending northwest-southeast and northeast-southwest delineate a system of half graben and graben type troughs, including the Phillipson Trough, around a relatively stable central basement high area.

4.3 DEPOSITIONAL HISTORY

Permian deposition within the Arckaringa Basin was probably initiated by renewed faulting along older weaknesses which resulted in the revival of the Boorthanna and Tallaringa grabens, and the formation of the Wallira, Lake Phillipson, Mount Furner and Karkaro Troughs. The central block of the Mabel Creek Ridge, Central Basement High, Mount Woods Inlier and Coober Pedy Ridge remained relatively stable and probably acted as a source of sediments for the surrounding troughs.





(after Hibburt, 1984)

SCALE IN KILOMETRES



LEGEND



250
Permian isopach
contour in metres



Fault



Geological boundary



ARCKARINGA BASIN



GAWLER CRATON

Arckaringa Basin - Regional Structure

Figure 4.1

TIME STRATIGRAPHIC SUBDIVISIONS				ROCK STRATIGRAPHIC UNIT	LITHOLOGY			
ERA	PERIOD	AGE	MICRO-FLORAL STAGE					
MESOZOIC	Tertiary to Quaternary					Dominantly non-marine mud, silt, sand, gravel, carbonate, silcrete and calcrete UNCONFORMITY		
		Early Cretaceous	late Albian	MARREE SUBGROUP	OODNADATTA FORMATION	Marine siltstone, shale and occasional sandstone and limestone		
			early to middle Albian		COORIKIANA SANDSTONE	Marine glauconitic sandstone (fine to gritty) and occasional siltstone and shale		
			Apian		BULLDOG SHALE	Marine fossiliferous shale, mudstone, siltstone and minor sandstone (bouldery) and limestone		
	Late Jurassic	Neocomian		MT. ANNA SANDSTONE MEMBER CADNA-OWIE FORMATION	? DISCONFORMITY Non-marine sandstone, conglomerate (volcanogenic) and occasional siltstone Marginal marine sandstone (fine to pebbly), siltstone and shale ? DISCONFORMITY			
				ALGEBUCKINA SANDSTONE	Non-marine, fine to conglomeratic sandstone and minor mudstone UNCONFORMITY			
	PALAEOZOIC	LATE	Early Permian	Sakmarian	Stage 3	St. 4	MT. TOONDINA FORMATION	Non-marine siltstone, coal, carbonaceous shale, shale, mudstone and occasional sandstone (fine)
								Non-marine sandstone (fine), siltstone, shale, mudstone and occasional carbonaceous shale
							STUART RANGE FORMATION	Marine homogeneous shale, mudstone, occasional siltstone and rare sandstone
EARLY		Permo-Carboniferous	Asselian	Stage 2			BOORTHANNA FORMATION	Marine sandstone, conglomerate and occasional shale Glaciomarine sandy mudstone and siltstone with scattered granule to cobble clasts (diamictite) and shale UNCCNFORMITY
								Carbonate, red beds, evaporites, sandstone and shale
								Metasedimentary or crystalline rock
PROTEROZOIC								

× International correlation, after Archbold (1982)

☆ Permian microfloral biostratigraphy, modified after Evans (1969), Helby (1973) and Gilby (1983)

Arckaringa Basin - Stratigraphy

Figure 4.2

(after Hibburt, 1984)

The Boorthanna Formation was deposited on an irregular basement topography in a relatively high energy marine environment during a glacial period. Basement subsidence diminished and the Stuart Range Formation was deposited in relatively quiet marine conditions. A regression to the west and southwest away from the central "high" region marked the end of marine Permian sedimentation and the commencement of the terrestrial deposition of the Mount Toondina Formation on river flood plains, swamps and lakes. The basal sediments of this unit indicate a high energy shelf and deltaic environment with fluvial sedimentation predominating in marginal areas around the edge of the basin and the central high. Differential compaction of varying lithotypes deposited in the numerous sedimentary regimes of this relatively high energy regressive phase would have generated distinct sub basins. The coal seams of the late Mount Toondina Formation were formed in swamps and lagoons of an extensive deltaic system. Subsidence did not keep pace with the regressing coastline and sedimentation terminated during Late Permian. Erosion occurred throughout the Triassic and gradual uplift and tilting towards the northeast may have been caused in Late Triassic by compressive forces acting against the stable Gawler Platform. This was probably accompanied by deformation along Permian zones of weakness, where greatest subsidence had taken place, and produced a low amplitude fold pattern. The younger Jurassic sediments of the Algebuckina Sandstone were subsequently deposited on the unevenly eroded surface of the Permian strata at the commencement of a marine transgression which culminated in the deposition of the marine Bulldog Shale.

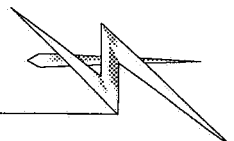
4.4 PHILLIPSON COALFIELD

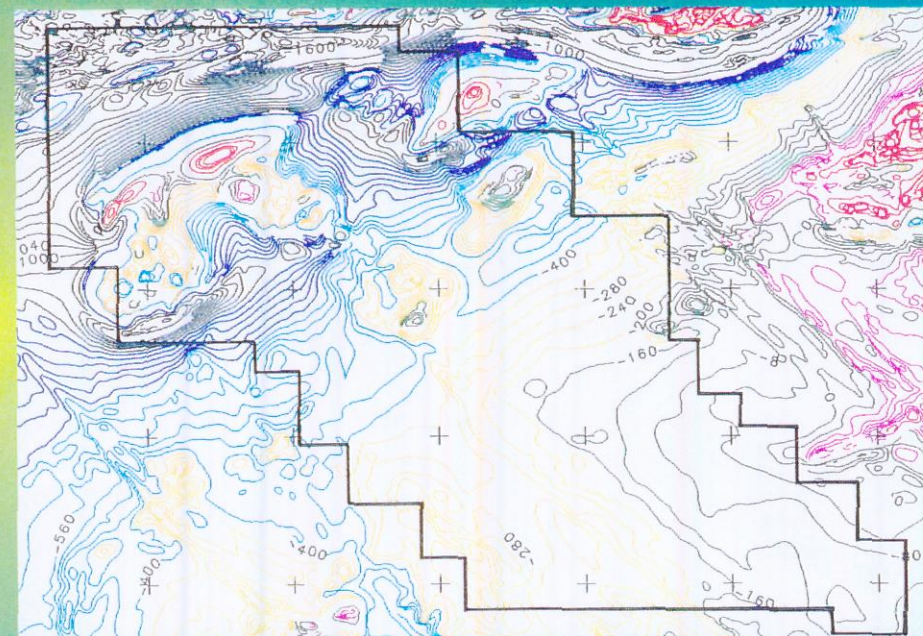
Coal was first discovered in the area during the drilling of the Lake Phillipson water bore between 1902 and 1905. Subsequent exploration, carried out by BHP-Utah between 1971 and 1982, delineated a Permian coal resource of more than 5 billion tonnes contained within two elongate basins each approximately 50 kilometres long and 5 kilometres wide. The two basins which together form the Phillipson Coalfield correlate with distinct lows in the regional gravity data (refer figure 4.3). The regional magnetics indicate that the northwestern part of the coalfield is structurally more complex than the relatively undeformed southeastern portion.

The regional stratigraphy of the coalfield is summarised in the graphic borelog of the Lake Phillipson water bore (figure 4.4). A petroleum exploration bore designated Arkeeta No 1 and drilled by CRA Exploration during December, 1986 in the centre of the eastern basin intersected basement of Gawler Volcanics at 1,317 metres. Overlying the basement was the Early Permian sequence from the Boorthanna Formation at the base to the Mount Toondina Formation which was intersected at 47 metres beneath the Algebuckina Sandstone and Cadna-Owie Formation.

Coal occurs in the Permian Upper Mt Toondina Formation in a number of seams between the depths of 30 metres and 150 metres. Cumulative coal thicknesses of up to 21 metres have been intersected with individual seam thicknesses ranging up to 4.5 metres.

During a drilling program carried out in 1994 and 1995 Primary Industry and Resources South Australia delineated a new coal basin designated the Penrhyn Trough to the east of the Phillipson Coalfield (refer figure 4.5).





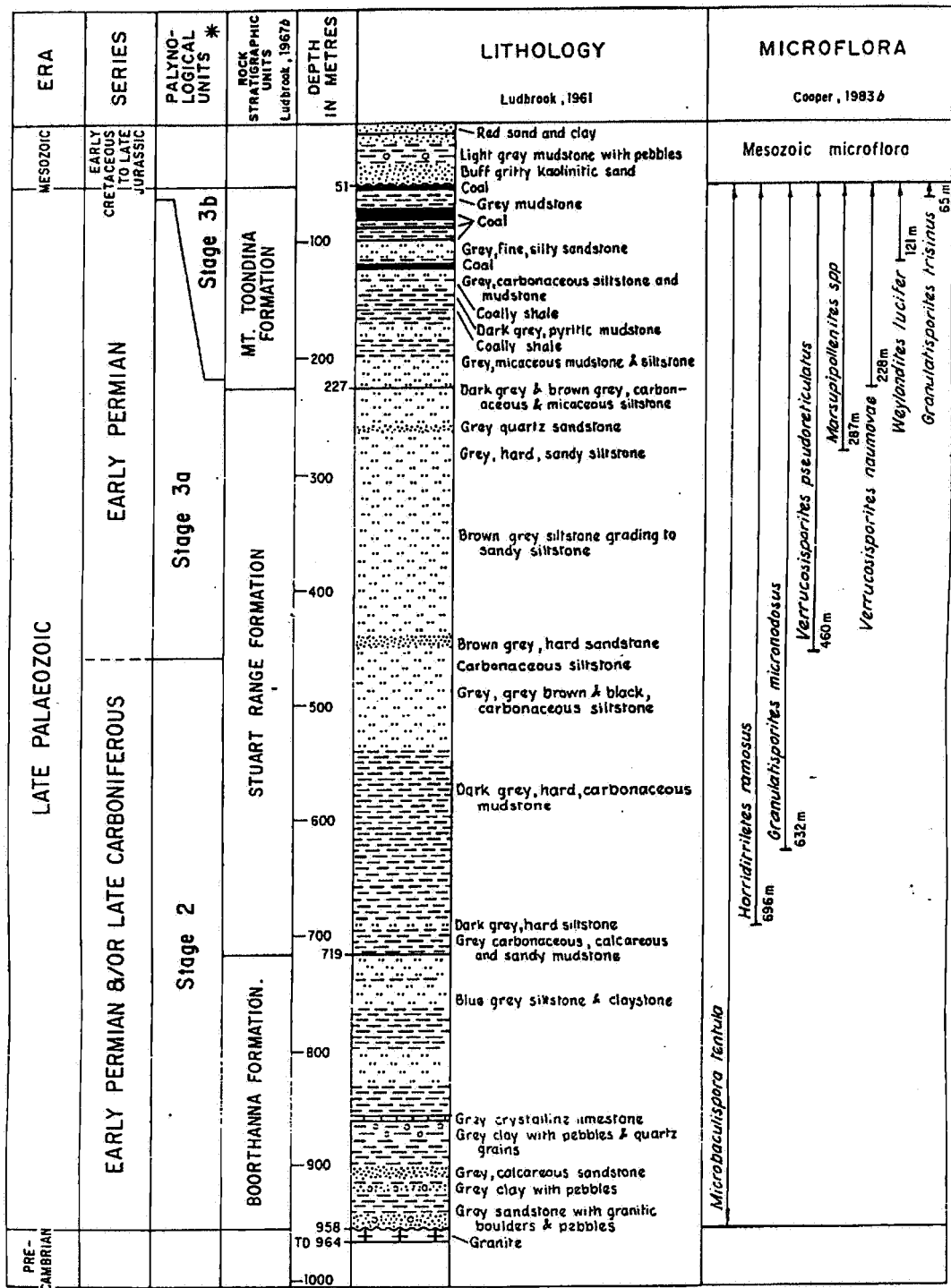
High Intensity = Red (15 to 38 Mgals)

High Intensity = Red (296 to 10044 nano Tesla's)



Figure 4.3





* Biostratigraphic correlation after Cooper, 1983b (figs. 4 B 5)

Lake Phillipson Water Bore - Graphic Log

(after Hibburt, 1984)

Figure 4.4

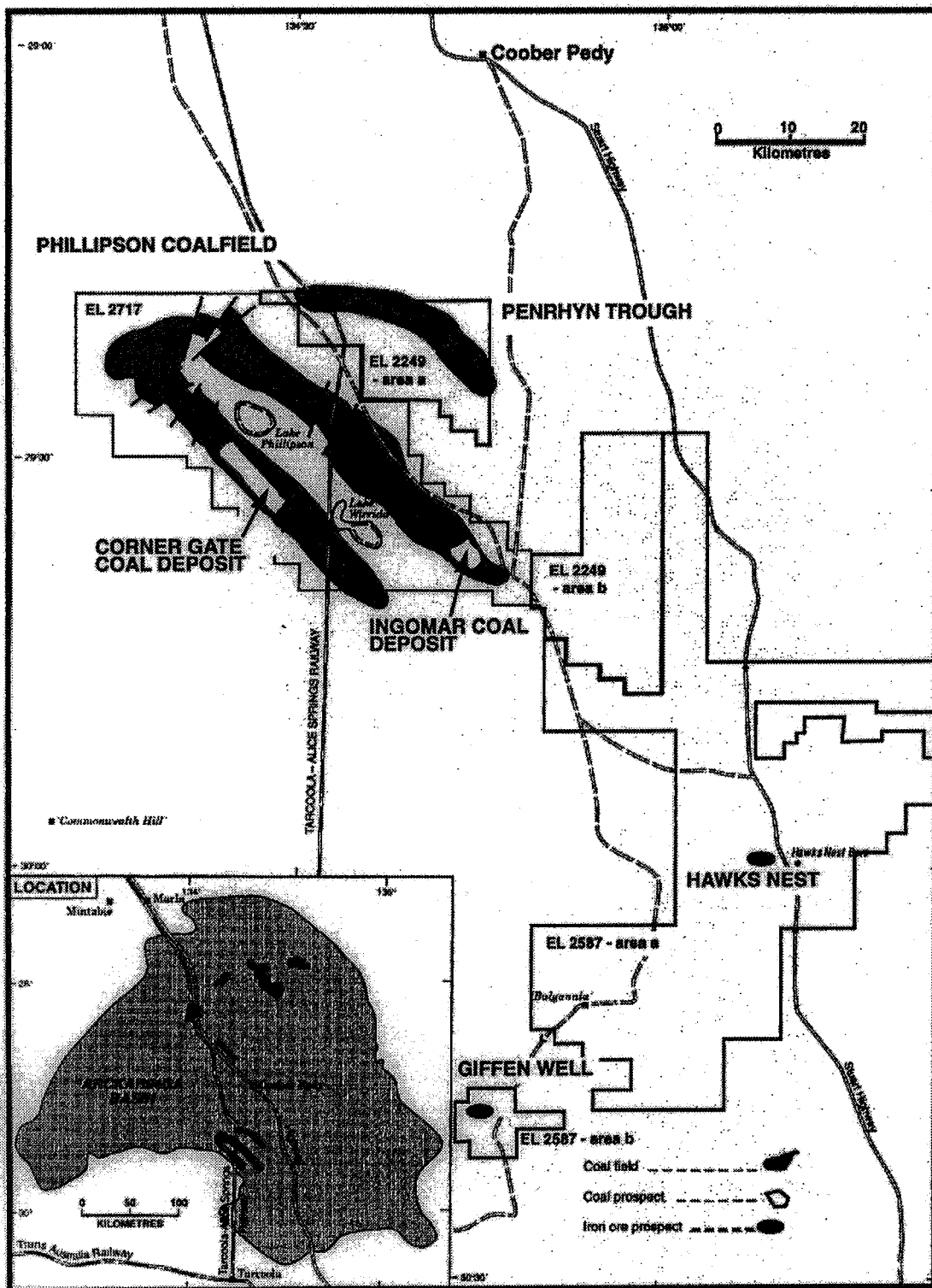


FIGURE 4.5 - Location of Phillipson Coalfield and Penrhyn Trough

5. THE PENRHYN TROUGH

Nineteen geophysically logged boreholes including two cored at 100mm diameter were drilled by PIRSA during 1994 and 1995 within area A of EL 2249 to investigate a regional gravity low with the potential for containing significant coal resources to the east of the Phillipson Coalfield. The area has since become known as the Penrhyn Trough. Coal bearing sediments of the Permian Mount Toondina Formation were intersected in eight of the boreholes drilled. The coal measures of the Penrhyn Trough appear to consist of up to six major and a number of minor relatively flat lying seams up to 4 metres thick with a cumulative thickness of coal of up to 15.5 metres. Overburden thicknesses range from 60 to 80 metres. The cross section of figure 5.1 (courtesy MESA) summarises the stratigraphy and structure of the deposit.

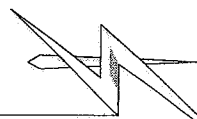
Indicative average in situ quality of a raw coal from the Penrhyn Deposit (based on weighted average of all seams analysed) is:

Total Moisture32%
Ash9%
Volatile Matter27%
Fixed Carbon32%
Specific Energy	17.6Mj/Kg
Total Sulphur0.6%
Sodium1.3%
Chlorine1.6%

The coal seams are similar in quality and configuration to those elsewhere in the Phillipson Coalfield but generally have a lower cumulative thickness and a less attractive waste to coal ratio than the Corner Gate Deposit located in adjacent EL 2717. The limited amount of drilling carried out to date suggests there may be potential for areas within the Penrhyn Trough to contain coal at more attractive waste to coal ratios, particularly at the Trough margins.

Based on an average cumulative coal thickness of approximately 10 metres, over an area of 25kms x 2 kms (defined by regional geophysics and drilling) and an average relative density for the coal of 1.40, PIRSA estimated that an Inferred Coal Resource within the Penrhyn trough is likely to be in the order of 700 million tonnes.

Within area B of EL 2249 regional geophysical data suggests the eastern basin of the Phillipson Coalfield may extend southwest of Ingomar Homestead. Prior to the current drilling program there has been no drilling undertaken to investigate the potential of this area.



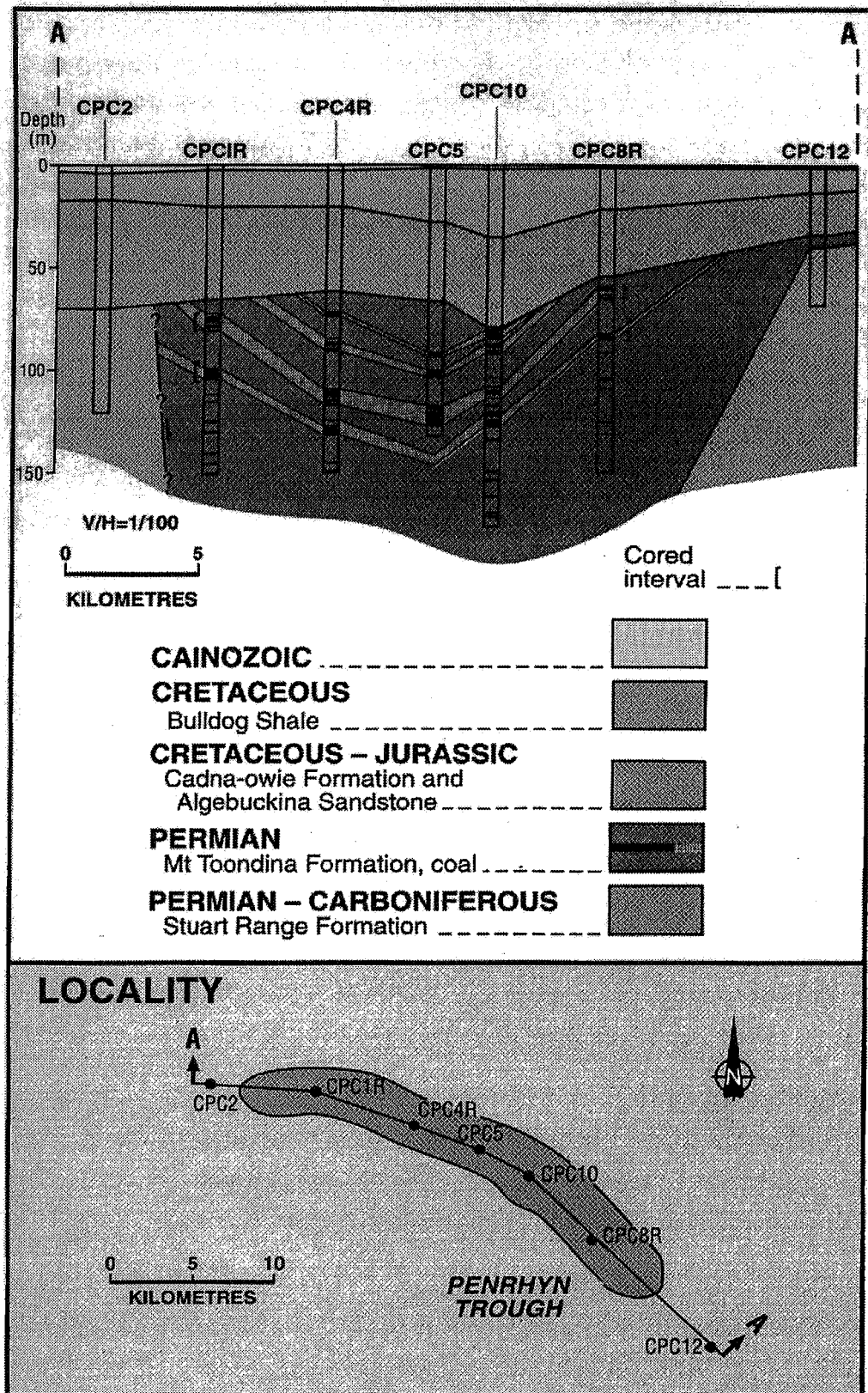


Figure 5.1 Cross Section and Borehole Locations Penrhyn Trough

6. RESULTS OF THE EXPLORATION PROGRAM

Six boreholes were drilled to investigate potential additional extensions of the Phillipson Coalfield within area B of EL 2249. The coal bearing interval of the Upper Mount Toondina Formation was not intersected suggesting it has been eroded by the Mesozoic Unconformity. It is unlikely that significant coal potential exists within area B and it is therefore recommended to relinquish this area from the exploration licence.

An additional two boreholes were drilled close to the margins of the currently defined trough to investigate the potential for shallow coal. The coal interval was intersected in only one borehole at a depth of approximately 70 metres suggesting the depth of overburden is unlikely to be less than 60 metres as defined by previous drilling.

6. BIBLIOGRAPHY

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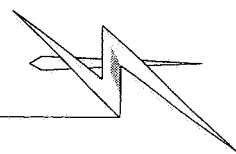
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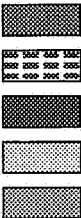
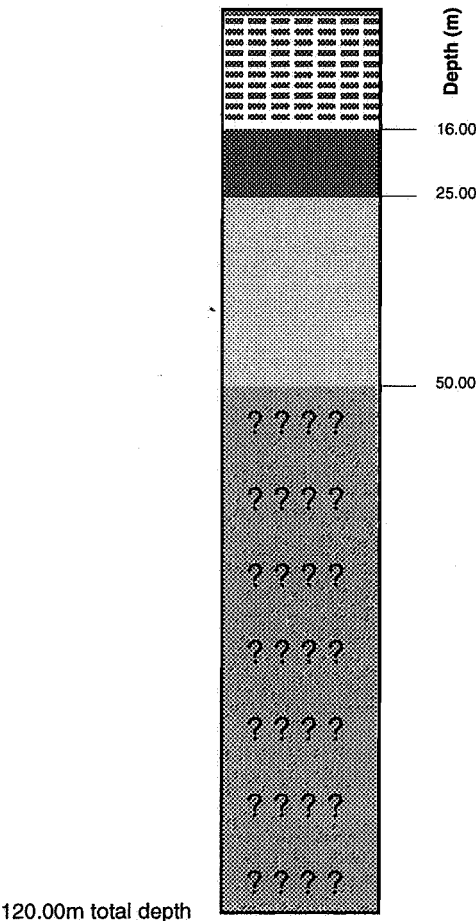
APPENDIX 1

GRAPHIC BOREHOLE LOGS



GRAPHIC BOREHOLE LOG

BOREHOLE AEP 001



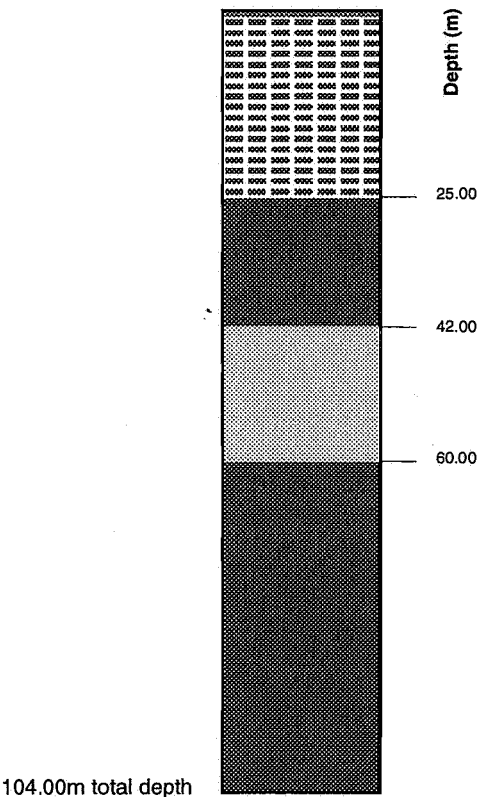
- Recent Sediments
- Bulldog Shale
- Cadna-Owie Fm.
- Algebuckina Sandstone
- Mt. Toondina Fm.

AUIRON ENERGY LIMITED
 PHILLIPSON PROJECT
 PENRHYN TROUGH
BOREHOLE AEP 001

Scale 1:1,000
 RANK GEOLOGICAL SERVICES PTY LIMITED

GRAPHIC BOREHOLE LOG

BOREHOLE AEP 002



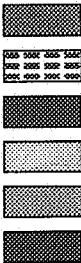
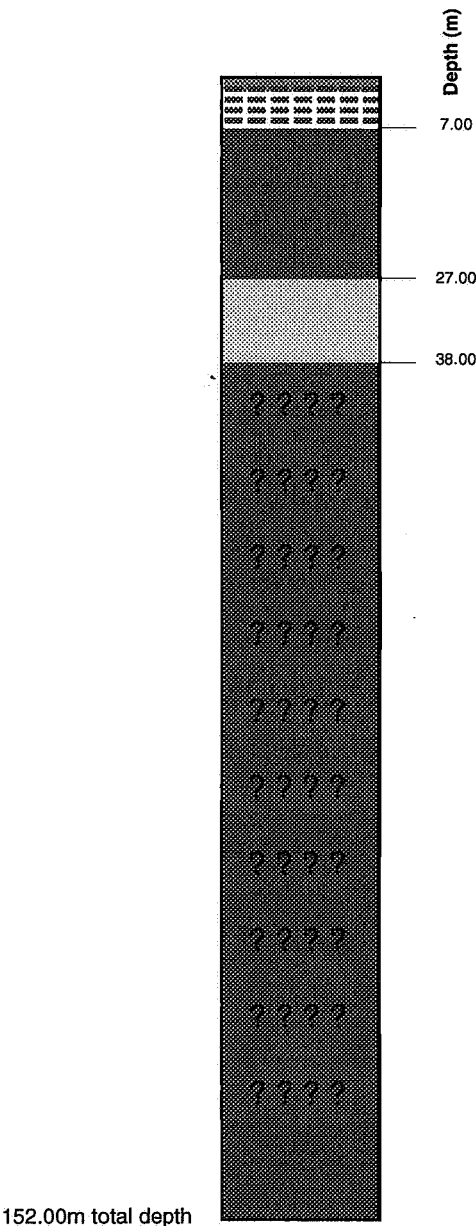
- Recent Sediments
- Bulldog Shale
- Cadna-Owie Fm.
- Algebuckina Sandstone
- Mt. Toondina Fm.
- Stuart Range Fm.

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BOREHOLE AEP 002

Scale 1:1,000
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GRAPHIC BOREHOLE LOG

BOREHOLE AEP 003



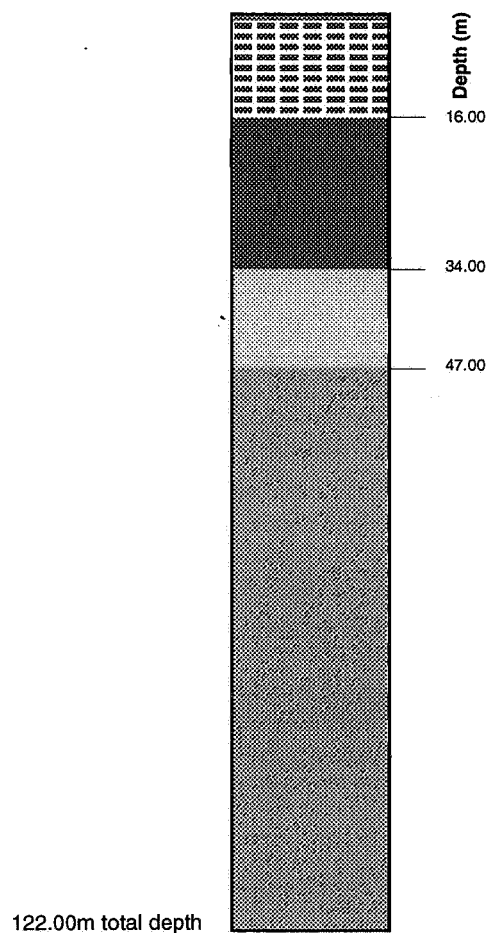
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- Cadna-Owie Fm.
- Algebuckina Sandstone
- Mt. Toondina Fm.
- Stuart Range Fm.






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PHILLIPSON PROJECT
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BOREHOLE AEP 003

Scale 1:1,000
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GRAPHIC BOREHOLE LOG

BOREHOLE AEP 004



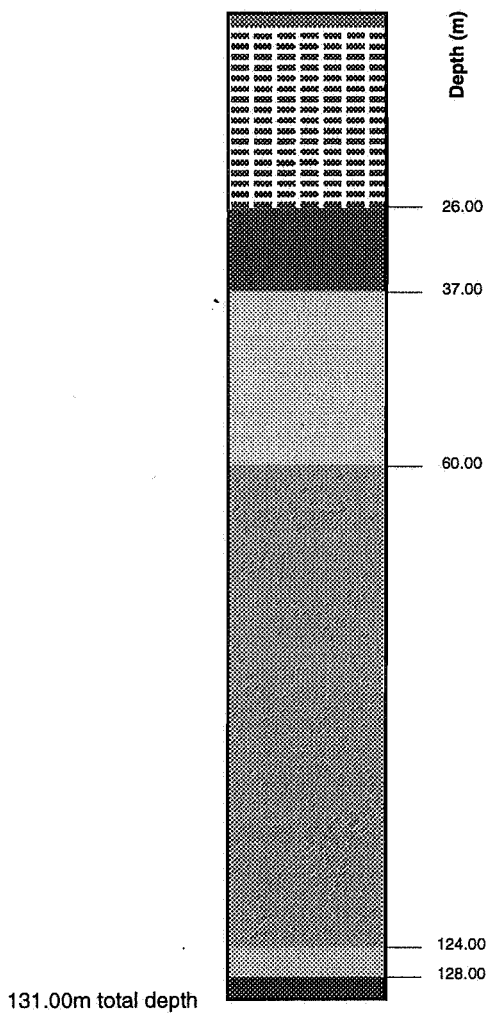
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-  Cadna-Owie Fm.
-  Algebuckina Sandstone
-  Mt. Toondina Fm.








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BOREHOLE AEP 004

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GRAPHIC BOREHOLE LOG

BOREHOLE AEP 005



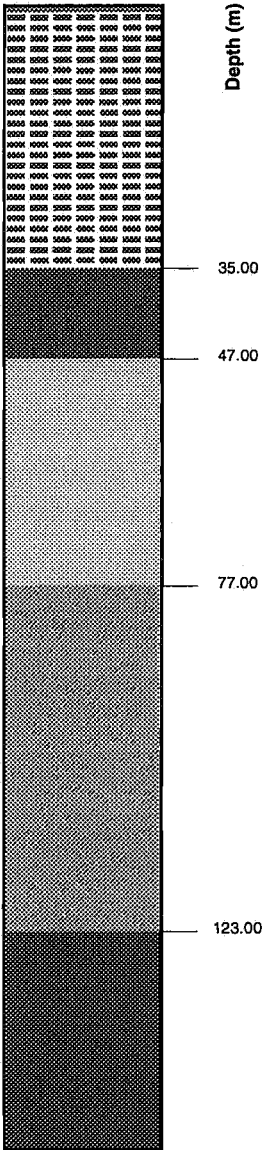
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-  Bulldog Shale
-  Cadna-Owie Fm.
-  Algebuckina Sandstone
-  Mt. Toondina Fm.
-  Proterozoic?
-  Hiltaba Granite ?

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GRAPHIC BOREHOLE LOG

BOREHOLE AEP 006



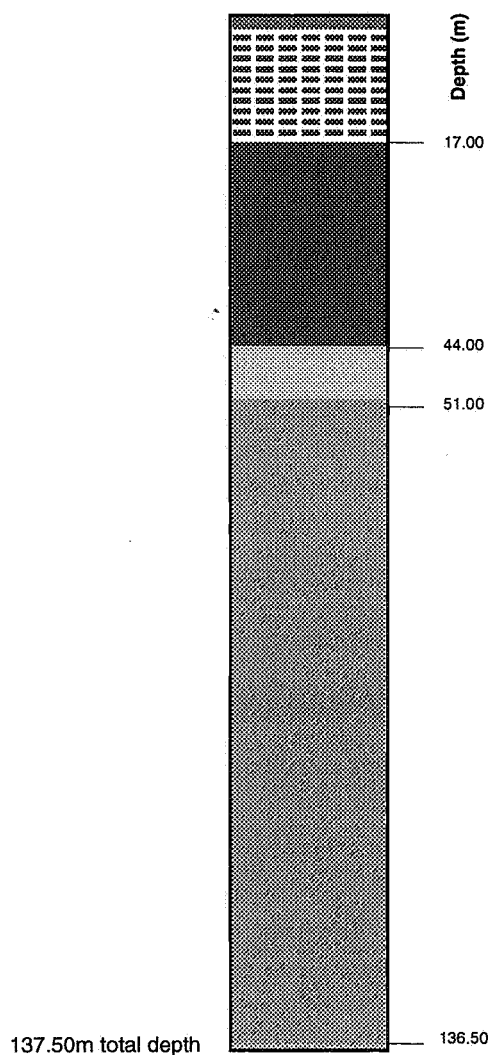
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- Cadna-Owie Fm.
- Algebuckina Sandstone
- Mt. Toondina Fm.
- Stuart Range Fm..

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BOREHOLE AEP 006

Scale 1:1,000
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GRAPHIC BOREHOLE LOG

BOREHOLE AEP 007



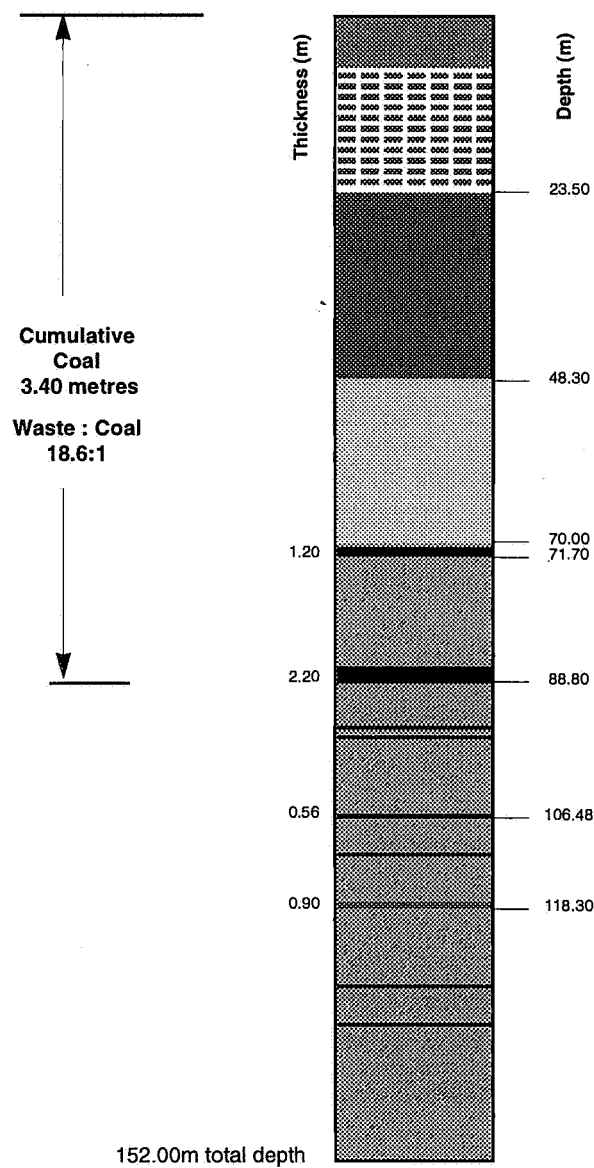
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- Cadna-Owie Fm.
- Algebuckina Sandstone
- Mt. Toondina Fm.
- Proterozoic ?.

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PHILLIPSON PROJECT
PENRHYN TROUGH
BOREHOLE AEP 007

Scale 1:1,000
RANK GEOLOGICAL SERVICES PTY LIMITED

GRAPHIC BOREHOLE LOG

BOREHOLE AEP 008

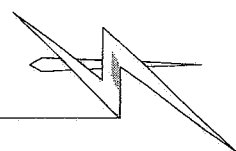


- | | | | |
|--|-----------------------|--|---------------|
| | Recent Sediments | | Coal |
| | Bulldog Shale | | Inferior Coal |
| | Cadna-Owie Fm. | | |
| | Algebuckina Sandstone | | |
| | Mt. Toondina Fm. | | |

AUIRON ENERGY LIMITED
 PHILLIPSON PROJECT
 PENRRHYN TROUGH
BOREHOLE AEP 008
 Scale 1:1,000
 RANK GEOLOGICAL SERVICES PTY LIMITED

APPENDIX 2

BOREHOLE LITHOLOGICAL LOGS





Rank Geological Services - Field Logging Title Sheet

CLIENT -Aulron Energy

PROJECT - Ingomar

Exploration Licence: 2249

Page 1 of 2

BOREHOLE AEP 001

Commenced:12/4/00

Completed:13/4/00

Drilled by: Thompson Drilling

Geologist: D.Edgecombe

Sampled by: D.Edgecombe

Driller: K. McDonald Rig Type: T1000

Easting: 499040

Northing: 6709290

Cored: Diameter:

Elevation:

Total Depth: 120m

Open Hole: 120m Diameter: 130mm

Logged: 12-13/4/00

Sampled: 12-13/4/00

Borehole Medium: Water, polymer

Geophysical

Date logged:13/4/00

Company: Geoscience Associates

Logger: G. Koch

Depth logged: 119.8m

Probes: Caliper, Dual density, Neutron, Natural gamma

Comments:



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	0.50	0.50				Y	Sand, gravel		Strong	Rd	m-cb	Aeolian quartz sand/silt wih pebble-cobble gibber.
R2																Poorly sorted. Sub-rounded to rounded.
R3		Kmb		0.50	16.00	15.50				Y	Shale		Pale	Gn/wh	cy	Shale (Bulldog Shale) - hard at top, softer below, but still consolidated.
R4														to Yw/Bn		Moderate to strong FeOxide mottling to 12 metres.
R5		Klc		16.00	25.00	9.00				Y	Sandstone		Mid	Yw/Bn	c-g	Coarse moderately sorted quartz>>>lithic sandstone. Angular-subrounded.
R6																StrongYw/Bn FeOx stain at top (16-18m). Thin clay band at ~25 m.
R7		Jua		25.00	50.00	25.00				Y	Sandstone		Mid	Yw-Gy	e-g	Well sorted quartz sandstone. V.minor clay matrix, rare thin clay bands. S/angular-S/round.
R8																Slightly more clayey at base withvariable oxidation at contact. Semi-consolidated.
R9		Pit/Pis		50.00	120.00	>70				Y	Mudstone		Dark	Gy	cy	Consolidated but plastic clay/mudstone. Very uniform, massive. Dull and monotonous.
R10																Trace carbonaceous matter. Inferred to be lower Mt Toondina Fmn. Or (more likely) Stuart
R11																Range Formation.
R12																
R13											EOH : 120 metres					
R14																
R15																
R16																
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																



Rank Geological Services - Field Logging Title Sheet

CLIENT -Aulron Energy

PROJECT - Ingomar

Exploration Licence: 2249

Page 1 of 2

BOREHOLE AEP 002

Commenced:13/4/00

Completed:13/4/00

Drilled by: Thompson Drilling

Geologist: D.Edgecombe

Sampled by: D.Edgecombe

Driller: K. McDonald Rig Type:T1000

Easting: 499840

Northing: 6714580

Cored: Diameter:

Elevation:

Total Depth: 104m

Open Hole: 104m Diameter: 130mm

Logged: 13/4/00

Sampled: 13/4/00

Borehole Medium: Water, polymer

Geophysical

Date logged: 13/4/00

Company: Geoscience Associates

Logger: G. Koch

Depth logged: 103.9m

Probes: Caliper, Dual density, Neutron, Natural gamma

Comments:



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	0.50	0.50				Y	Sand, lag				slt-pb	Aeolian sand/silt, lag of silicified shale.
R2		Kmb		0.50	25.00	24.50				Y	Shale		Mid	Wh-Rd-	cy	Shale/mudstone. Hard/silicified at top (to 8m), then soft but consolidated. Variable FeOx
R3														Gy		mottling/staining: rather pallid but mottled 0.5-15m, mid-strong Rd/Bn 15-22m, greyish but
R4																Yw/Bn mottled 22-25m.
R5		Klc		25.00	40.00	15.00				Y	Sandstone		Mid	Gy-	m-g	Moderately sorted coarse quartz>>>lithic sandstone, locally pebbly. Minor clay bands and
R6														Yw/Bn		clay matrix at top. S/angular-S/round. Moderate FeOx stain.
R7		Klc		40.00	42.00	2.00				Y	Clay		Mid	Wh/Gy	cy	Soft unconsolidated clay
R8		Jua		42.00	60.00	18.00				Y	Sandstone		Mid	Gy	f-vc	Moderately well sorted medium/coarse quartz sandstone. S/angular-S/round. Minor white
R9																clay matrix. Oxidation persists to ~60 m with strong Yw/Bn stain 56-60m.
R10		Pls		60.00	104.00	44.00				Y	Mudstone/clay		Dark	Gy	cy	Soft, plastic grey clay/mudstone as in AEP 001. Probably organic rich.
R11																Massive, monotonous
R12																
R13											EOH : 104m					
R14																
R15																
R16																
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																



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BOREHOLE AEP 003

Commenced:26/4/00

Completed:26/4/00

Drilled by: Thompson Drilling

Geologist: D.Edgecombe

Sampled by: D.Edgecombe

Driller: K. McDonald Rig Type:T1000

Easting: 484480

Northing: 6718030

Cored: Diameter:

Elevation:

Total Depth: 152m

Open Hole: 152m Diameter: 130mm

Logged: 26/4/00

Sampled: 26/4/00

Borehole Medium: Water, polymer

Geophysical

Date logged: 26/4/00

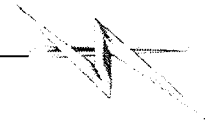
Company: Geoscience Associates

Logger: G. Koch

Depth logged: 151.5m

Probes: Caliper, Dual density, Neutron, Natural gamma

Comments:



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0	2	2				Y	Sand, lag		Strong	Rd/Bn	silt-g	Aeolian silt/sand. Strong FeOx stain. Poorly sorted. Subordinate ironstone and silcrete lag.
R2																Abundant gypsum.
R3		Kmb		2	7	5				Y	Shale		Mid	Gy-	cy	Massive shale weathered to clays. FeOx stained.
R4														Yw/Bn		
R5		Klc		7.00	25.00	18.00				Y	Sandstone		Mid	Yw/Bn	m-p	Quartz>>>lithic sandstone. Moderately sorted. S/round-S/angular. Clay matrix and minor
R6																clay bands. Pebbly at top and 20-22m. Semi-consolidated. Base generally finer and
R7																better sorted than top.
R8		Klc		25.00	27.00	2.00				Y	Clay		Pale	Wh/Gy	cy	Soft consolidated clay.
R9		Jua		27.00	38.00	11.00				Y	Sandstone		Pale	Wh/Gy	m-p	Coarse quartz sandstone. Mod. Well sorted. Minor clay bands. Pebbly at top and base.
R10																Semi-consolidated. Moderate FeOx stain throughout. Base of oxidation 38m.
R11		Pls/Plt		38.00	48.00	10.00				Y	Mudstone/siltstone	80	Dark	Gy	cy-slt	Interlaminated carbonaceous shale/siltstone and fine quartz sandstone
R12											Sandstone	20	Pale	Gy/Wh	vf-f	
R13		Pls/Plt		48.00	89.00	41.00				Y	Mudstone/siltstone	95	Dark	Gy	cy-slt	As above but sandstone laminae much less common. Dull and monotonous massive
R14											Sandstone	5	Pale	Gy/Wh	vf-f	mudstone dominated unit. Trace white ?evaporite 84-86m.
R15		Pls/Plt		89.00	90.00	1.00				Y	Sandstone		Mid	Gy	f	Well sorted fine micaceous quartz sandstone. Consolidated, cemented.
R16		Pls/Plt		90.00	102.00	12.00				Y	Mudstone		Dark	Gy	cy-slt	Massive grey carbonaceous mudstone. Rare fine quartz sandstone laminae.
R17																
R18		Pls/Plt		102.00	110.00	8.00				Y	Sandstone	50	Pale	Gy	f	Fine micaceous quartz sandstone.
											Mudstone	50	Dark	Gy	cy-slt	Massive carbonaceous mudstone.
R19		Pls/Plt		110.00	152.00	42.00				Y	Mudstone/siltstone		Dark	Gy	cy-slt	Massive carbonaceous mudstone/siltstone. Occasional fine quartz sandstone laminae.
R20																
R21											EOH : 152m					
R22																
R23																
R24																
R25																

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BOREHOLE AEP 004

Commenced:26/4/00	Completed:27/4/00	Drilled by: Thompson Drilling
Geologist: D.Edgecombe	Sampled by: D.Edgecombe	Driller: K. McDonald Rig Type:T1000
Easting: 495440	Northing: 6714580	Cored: Diameter:
Elevation:	Total Depth: 122m	Open Hole: 122m Diameter: 130mm
Logged: 27/4/00	Sampled: 27/4/00	Borehole Medium: Water, polymer

Geophysical

Date logged:27/4/00	Company: Geoscience Associates
Logger: G. Koch	Depth logged: 121.8m
Probes: Caliper, Dual density, Neutron, Natural gamma	

Comments: Hole terminated after intersecting 75 metres monotonous mudstone - either lower Mt Toondina Formation or topmost Stuart Range Formation



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	0.50	0.50				Y	Sand	90	Strong	Rd/Bn	slt-m	Aeolian quartz sand, strong FeOx stain. Minor silcrete lag.
R2											Lag	10				
R3		Kmb		0.50	14.00	13.50				Y	Shale/Clay		Mid	Yw/Bn	cy	Weathered massive shale. Silcreted at top (0.5-4m), soft/clayey below. Gypsiferous 4-8m.
R4																Feox stained. Consolidated.
R5		Klc		14.00	32.00	18.00				Y	Sandstone		Mid	Bn-Gy	m-p	Coarse-granule quartz>>>lithic sandstone. Moderately sorted. S/angular-S/round. Coarser
R6																bands below 20m with interbedded fine silty sands. Semi-consolidated to consolidated.
R7		Klc		32.00	34.00	2.00				Y	Mudstone		Pale	Gy/Wh	cy-f	Soft clay with scattered fine quartz grains.
R8		Jua		34.00	47.00	13.00				Y	Sandstone		Pale	Gy	cy-p	Coarse well sorted quartz sandstone. Interbedded soft shale/clay. S/angular-S/round.
R9																Weak FeOx mottling throughout.
R10		Plt		47.00	104.00	57.00				Y	Mudstone/Siltstone		Dark	Gy	cy-slt	Soft consolidated carbonaceous mudstone/siltstone. FeOx mottling to 50m,=base of oxidation.
R11																Very uniform and monotonous. Very rare fine silty quartz sandstone laminae.
R12		Plt		104.00	106.00	2.00				Y	Sandstone		Mid	Gy	vf-f	Hard fine quartz/lithic sandstone. Moderately well sorted. Occasional clots white ?evaporite.
R13		Plt		106.00	122.00	16.00				Y	Mudstone		Dark	Gy	cy	Monotonous massive soft mudstone. Rare clots white ?evaporite.
R14																
R15											EOH: 122m					
R16																
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																



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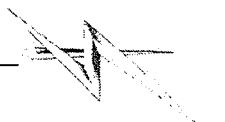
BOREHOLE AEP 005

Commenced:27/4/00	Completed:28/4/00	Drilled by: Thompson Drilling
Geologist: D.Edgecombe	Sampled by: D.Edgecombe	Driller: K. McDonald Rig Type:T1000
Easting: 495260	Northing: 6734420	Cored: Diameter:
Elevation:	Total Depth: 131m	Open Hole: 131m Diameter: 130mm
Logged: 27-28/4/00	Sampled: 27-28/4/00	Borehole Medium: Water, polymer

Geophysical

Date logged: 28/4/00	Company: Geoscience Associates
Logger: G. Koch	Depth logged: 129.8m
Probes: Caliper, Dual density, Neutron, Natural gamma	

Comments:



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	2.00	2.00				Y	Sand/Silt	50	Strong	Rd/Bn	silt-m	Aeolian sand and silt. Strong FeOx stain.
R2											Lag	50	Strong	Rd, Wh	p-cb	Silcrete and ironstone lag.
R3		Kmb		2.00	26.00	24.00				Y	Shale		Mid	Yw-Gn-	cy	Massive shale, silcreted and hard at top (to ~6m). Highly variable FeOx staining from Gy/Yw
R4														Rd		to purple (10-14m). No pallid zone. Consolidated.
R5		Klc		26.00	37.00	11.00				Y	Sandstone		Mid	Gy/Bn	f-p	Moderately sorted coarse quartz>>>lithic sandstone. Semi-consolidated. S/angular-S/round.
R6																Occasional pebbles. Very little clay.
R7		Jua		37.00	60.00	23.00				Y	Sandstone		Mid	Gy	c-g	Very coarse quartz sandstone. Moderately well sorted. S/round. Minor white clay matrix and
R8																local clay bands.
R9		Plt		60.00	84.00	24.00				Y	Mudstone		Dark	Gy	cy-slt	Massive carbonaceous mudstone. Dull, uniform and monotonous.
R10		Plt		84.00	86.00	2.00				Y	Sandstone		Mid	Gy	vf	Silicified fine pyritic quartz sandstone.
R11		Plt		86.00	104.00	18.00				Y	Mudstone		Dark	Gy	cy-slt	Massive monotonous carbonaceous mudstone. Minor pyritic sandstone 100-102m.
R12		Plt		104.00	124.00	20.00				Y	Mudstone	95	Mid	Gy	cy-m	Pale grey mudstone with scattered matrix supported quartz grains.
R13											Sandstone	5	Mid	Gy	vf-f	Fine quartz sandstone. Moderately well sorted. Rounded. Probably thin bands within
R14																mudstone sequence. Pyritic.
R15		?Prot.		124.00	128.00	4.00				Y	Sandstone		Strong	Wh	f	Well sorted, cemented, fine quartz sandstone. Rounded, hard. Possibly Proterozoic.
R16		?Pgh		128.00	~131	3.00				Y	Granite		Strong	Rd	c	Brick red granite. Porphyritic, non-foliated. Possibly Hiltaba Suite.
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																



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BOREHOLE AEP 006

Commenced:28/4/00

Completed:28/4/00

Drilled by: Thompson Drilling

Geologist: D.Edgecombe

Sampled by: D.Edgecombe

Driller: K. McDonald Rig Type:T1000

Easting: 497760

Northing: 6738700

Cored: Diameter:

Elevation:

Total Depth: 152m

Open Hole: 152m Diameter: 130mm

Logged: 28/4/00

Sampled: 28/4/00

Borehole Medium: Water, polymer

Geophysical

Date logged: 28/4/00

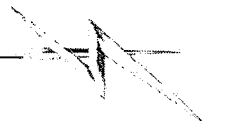
Company: Geoscience Associates

Logger: G. Koch

Depth logged: 152.5m

Probes: Caliper, Dual density, Neutron, Natural gamma

Comments:



Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	0.50	0.50				Y	Silt	50	Mid	Bn	cy-m	Aeolian silt/clay, minor sand.
R2											Lag	50				Lag silcrete, irinstone, rock fragmenst.
R3		Kmb		0.50	35.00	34.50				Y	Shale		Mid	Gy-Rd	cy	Weathered shale. Hard at top with minor silcrete, softer below. Consolidated throughout.
R4																Variable FeOx stain. Variably pallid 4-12m.
R5		Klc		35.00	44.00	9.00				Y	Sandstone		Mid	Yw/Rd	f-g	Poor-moderately sorted medium-coarse quartz>>>lithic sandstone. Subangular.
R6																Semi-consolidated. Variable Yw/Bn FeOx stain.
R7		Klc		44.00	47.00	3.00				Y	Clay		Dark	Bk	cy	Soft consolidated clay. Carbonaceous.
R8		Jua		47.00	77.00	30.00				Y	Sandstone		Pale	Gy/Yw	c-p	Very coarse well sorte dquartz sandstone. S/angular-S/round. Locally pebbly. Minor white clay
R9		Plt		77.00	122.00	45.00				Y	Mudstone		Dark	Gy	cy-(slt)	bands. Minor Yw/Bn FeOx stain throughout. Semi-consolidated to consolidated.
R10																Massive, monotonous ceous mudstone. Soft but consolidated.
R11		Plt		122.00	123.00	1.00				Y	Sandstone		Mid	Gy	f	Fine pyritic quartz sandstone. Moderately well sorted. Rounded.
R12		Pls		123.00	152.00	29.00				Y	Mudstone		Mid	Gy	cy-m	Massive grey mudstone with scattered matrix supported quartz grains.
R13																
R14											EOH: 152m					
R15																
R16																
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																



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BOREHOLE AEP 007

Commenced:29/4/00	Completed:29/4/00	Drilled by: Thompson Drilling
Geologist: D.Edgecombe	Sampled by: D.Edgecombe	Driller: K. McDonald Rig Type:T1000
Easting: 474840	Northing: 6746070	Cored: Diameter:
Elevation:	Total Depth: 137.5m	Open Hole: 137.5m Diameter: 130mm
Logged: 29/4/00	Sampled: 29/4/00	Borehole Medium: Water, polymer

Geophysical

Date logged: 29/4/00	Company: Geoscience Associates
Logger: G. Koch	Depth logged: 137.3m
Probes: Caliper, Dual density, Neutron, Natural gamma	

Comments: Poor sample quality and quantity 88-104 metres.



RANK GEOLOGICAL SERVICES - FIELD LOGGING SHEET

BOREHOLE AEP 007

Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	2.00	2.00				Y	Silt, Sand		Mid	Bn	cy-m	Sheetwash/claypan silt, aeolian sand/silt.
R2											Lag				vc-g	Lag-silcrete, ironstone, quartz.
R3		Kmb		2.00	17.00	15.00				Y	Clay/Shale		Mid	Gy/Bn	cy	Weathered shale, now clay. Consolidated but soft. Variable Yw/Bn to Rd/Bn FeOx stain.
R4																No pallid zone. Gypsiferous at top.
R5		Klc		17.00	42.00	25.00				Y	Sandstone		Mid	Gy/Bn	cy-g	Very coarse, moderately sorted quartz>>>lithic sandstone. Minor white clay bands.
R6																S/angular-S/round. Unconsolidated to semi-consolidated. Base of oxidation 42m.
R7		Klc		42.00	44.00	2.00				Y	Clay		Mid	Gy-Wh	cy	Soft clay, locally carbonaceous.
R8		Jua		44.00	51.00	7.00				Y	Sandstone		Mid	Gy	m-g	Moderately well sorted coarse quartz sandstone. S/angular-S/round. Unconsolidated to
R9																semi-consolidated. Pyrite cemented nodules.
R10		Plt		51.00	90.00	39.00				Y	Shale/Clay		Dark	Gy	cy-slt	Dark carbonaceous mudstone with fine white mica. Minor fine quartz sandstone laminae
R11																at top. Consolidated, soft.
R12		Plt		90.00	102.00	12.00				Y	Mudstone		Mid	Gy	cy-slt	Micaceous mudstone, minor pyritic sandstone.
R13		Plt		102.00	118.00	16.00				Y	Mudstone		Dark	Gy	cy-slt	Carbonaceous micaceous mudstone
R14		Plt		118.00	136.50	18.50				Y	Mudstone	90	Mid	Gy	cy-slt	Micaceous mudstone,carbonaceous mudstone.
R15											Sandstone	10	Pale	Gy	vf-f	Fine silty quartz sandstone.
R16		Pq		136.50	137.50	1.00				Y	Quartzite		Mid	Gy	f	Hard, brittle, well cemented quartzite. Probably Proterozoic - ?Tarcoola Beds or Mt Eba
R17																Quartzite equivalent.
R18																
R19											EOH: 137.5m					
R20																
R21																
R22																
R23																
R24																
R25																



Rank Geological Services - Field Logging Title Sheet

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BOREHOLE AEP 008

Commenced:29/4/00	Completed:29/4/00	Drilled by: Thompson Drilling
Geologist: D.Edgecombe	Sampled by: D.Edgecombe	Driller: K. McDonald Rig Type:T1000
Easting: 467690	Northing: 6754520	Cored: Diameter:
Elevation:	Total Depth: 152m	Open Hole: 152m Diameter: 130mm
Logged: 29/4/00	Sampled: 29/4/00	Borehole Medium: Water, polymer

Geophysical

Date logged: 29/4/00	Company: Geoscience Associates
Logger: G. Koch	Depth logged: 152m
Probes: Caliper, Dual density, Neutron, Natural gamma	

Comments: Sample quality below first coal varies from poor to reasonable. Substantial contamination, mainly from Bulldog Shale.

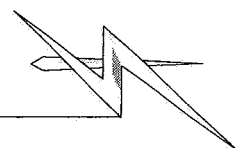


Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Qua		0.00	2.00	2.00				Y	Silt	50	Mid	Bn	cy-slt-f	Claypan/sheetwash silt/clay, aeolian sand.
R2											Lag	50				Silcrete lag.
R3				2.00	4.00	2.00				Y	Gypcrete		Pale	Bn		Coarse crystalline gypcrete.
R4				4.00	7.00	3.00				Y	Silcrete		Pale	Gy/Wh		Hard rubbly silcrete. Probably developed in top of Kmb.
R5		Kmb		7.00	23.50	16.50				Y	Shale/Clay		Pale	Gy-Yw	cy-slt	Weathered shale. Soft, clayey at top. Gy at top, Yw FeOx stain 15-19m, dark GY and
R6																carbonaceous 19-23m. Base of oxidation 19m.
R7		Klc		23.50	27.00	3.50				Y	Sandstone		Mid	Gy/Wh	c-p	Moderately sorted quartz>lithic sandstone. Minor clay bands. Some silcrete at top.
R8																Pebbles include quartzite, biotite gneiss, porphyritic rhyolite.
R9		Klc		27.00	46.00	19.00				Y	Sandstone		Mid	Gy	c-p	Well sorted coarse quartz sandstone. S/angular-S/round. Minor clay bands. Unconsolidated.
R10		Klc		46.00	48.30	2.30				Y	Clay		Mid	Gy	cy	Soft carbonaceous clay. Consolidated.
R11		Jua		48.30	70.00	21.70				Y	Sandstone		Mid	Gy	f-vc	Well sorted coarse quartz sandstone. S/angular-rounded. Trace pyrite cemented nodules
R12																below 66m
R13		Plt		70.00	70.50	0.50				Y	Mudstone		Mid	Gy	cy-slt	Massive micaceous mudstone, locally carbonaceous.
R14		Plt		70.50	71.70	1.20	1			Y	Coal			Bk		Dull black coal.
R15		Plt		71.70	86.40	14.70				Y	Mudstone		Mid	Gy	cy-slt	Massive micaceous mudstone, locally carbonaceous.
R16		Plt		86.60	88.80	2.20	2			Y	Coal			Bk		Dull black coal.
R17		Plt		88.60	94.32	5.72				Y	Mudstone		Mid	Gy	cy-slt	Massive micaceous mudstone, locally carbonaceous.
R18		Plt		94.32	94.68	0.36	3			Y	Coal			Bk		Dull black coal.
				94.68	95.52	0.84				Y	Mudstone		Mid	Gy	cy-slt	Massive micaceous mudstone, locally carbonaceous.
				95.52	95.74	0.22	4			Y	Coal			Bk		Dull black coal.
R19		Plt		95.74	105.70	9.96				Y	Mudstone	75	Dark	Gy	cy-slt	Mudstone, locally carbonaceous.
R20											Sandstone, Mudstone	25	Pale	Gy	slt-f	Fine silty quartz sandstone, mudstone.
R21		Plt		105.92	106.48	0.56	5			Y	Coal			Bk		Dull black coal.
R22		Plt		106.40	110.90	3.50				Y	Mudstone	50	Dark	Gy	cy-slt	Mudstone, locally carbonaceous.
R23											Sandstone, Mudstone	50	Pale	Gy	slt-f	Fine silty quartz sandstone, mudstone.
R24		Plt		111.10	111.44	0.34	6			Y	Coal			Bk		Dull black coal.
R25																

Row#	DRILL RUN	STRAT	SEAM NAME	TOP metres	BASE metres	THICKN metres	SEAM#	SMPL PLY#	CORE rec%	CHIP Y/N	LITHOLOGY	INTER BED %	SHADE	COLOUR	GR/SZ	COMMENTS
R1		Pit		111.44	117.40	6.00				Y	Sandstone, Mudstone		Mid	Gy	cy-f	Interlaminated fine silty sandstone, mudstone, carbonaceous mudstone.
R2		Pit		117.40	118.30	0.90	7			Y	Coal			Bk		Dull coal, includes 0.5m parting.
R3		Pit		118.30	128.50	10.20				Y	Sandstone, Mudstone		Mid	Gy	cy-f	Interlaminated fine micaceous silty sandstone, mudstone, carbonaceous mudstone.
R4		Pit		128.50	128.80	0.30	8			Y	Coal		Dark	Bk		Dull coal.
R5		Pit		128.80	133.10	4.30				Y	Sandstone, Mudstone		Mid	Gy	cy-f	Interlaminated fine micaceous silty sandstone, mudstone, carbonaceous mudstone.
R6		Pit		133.10	133.40	0.30	9			Y	Coal		Dark	Bk		Dull coal.
R7		Pit		133.40	152.00	18.60				Y	Sandstone, Mudstone		Mid	Gy	cy-f	Interlaminated fine micaceous silty sandstone, mudstone, carbonaceous mudstone.
R8																
R9											EOH: 152m					
R10																
R11																
R12																
R13																
R14																
R15																
R16																
R17																
R18																
R19																
R20																
R21																
R22																
R23																
R24																
R25																

APPENDIX 3

BOREHOLE GEOPHYSICAL PLOTS



BOREHOLE AEP 001

CALIPER

LONG SPACED
DENSITY

SHORT SPACED
DENSITY

GAMMA

NEUTRON

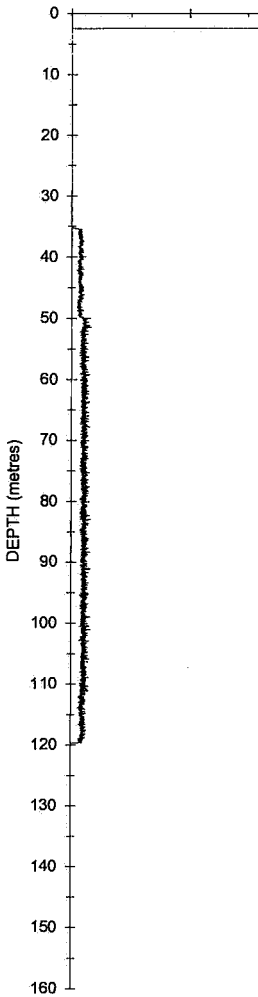
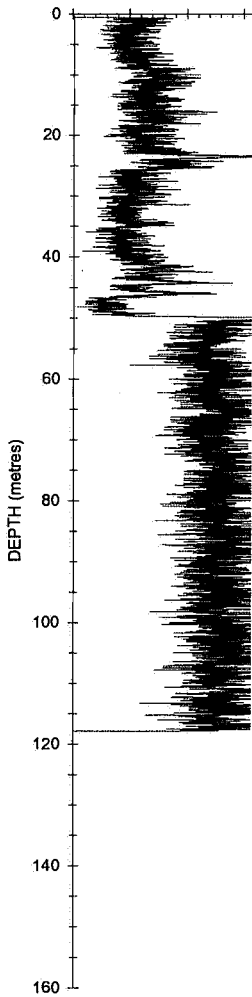
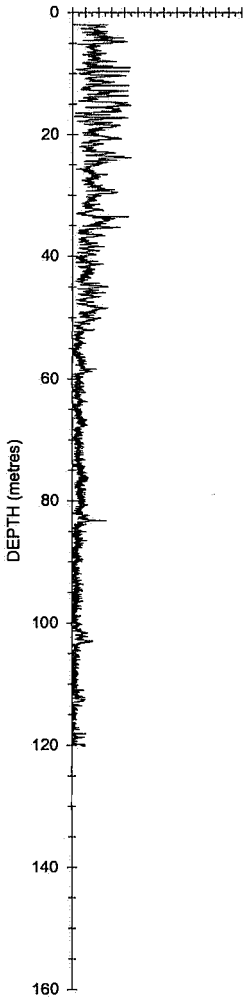
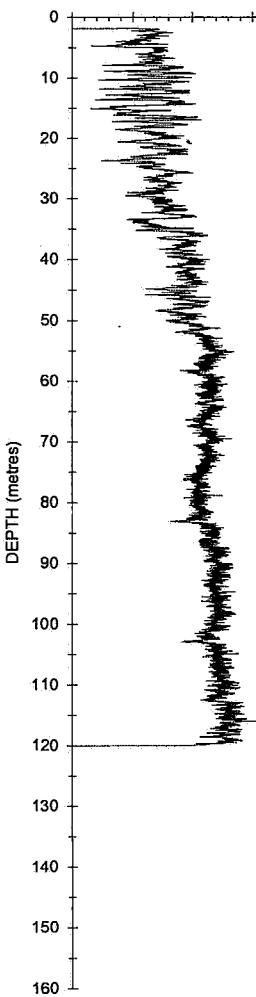
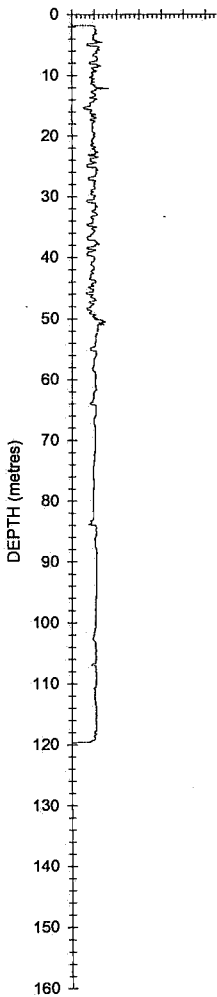
width (mm)

gm/cc

CPS

API

CPS



BOREHOLE AEP 002

CALIPER

LONG SPACED
DENSITY

SHORT SPACED
DENSITY

GAMMA

NEUTRON

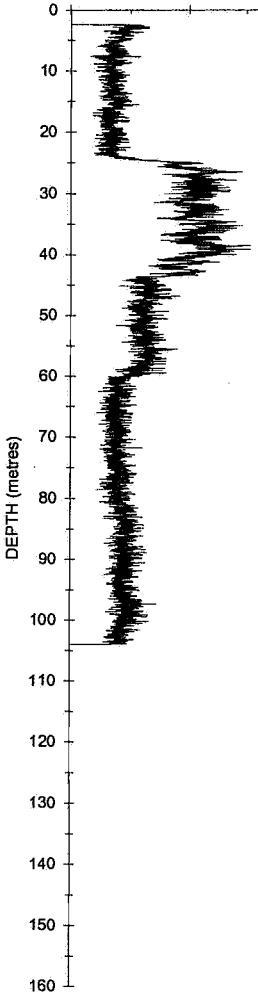
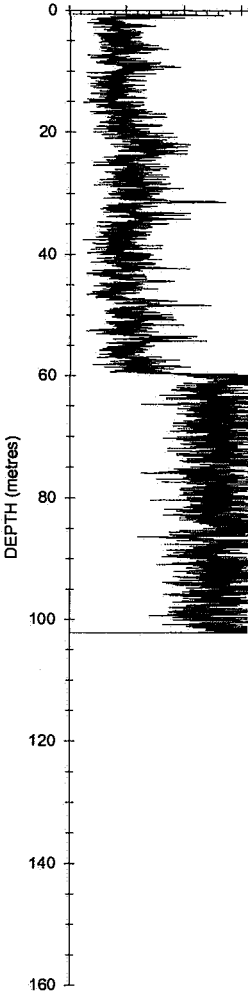
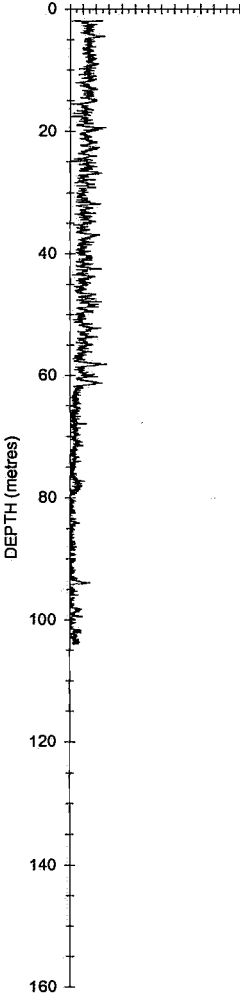
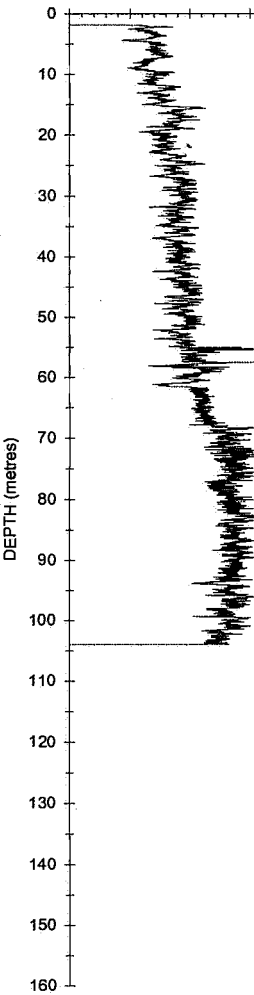
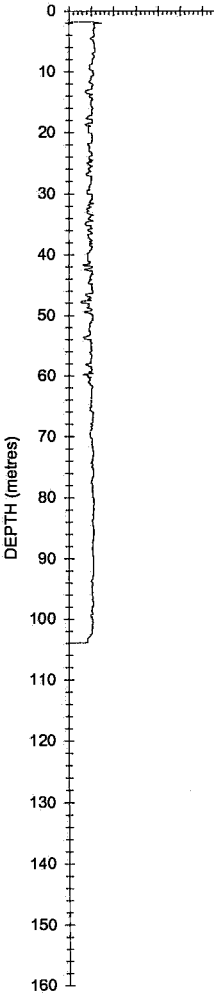
width (mm)

gm/cc

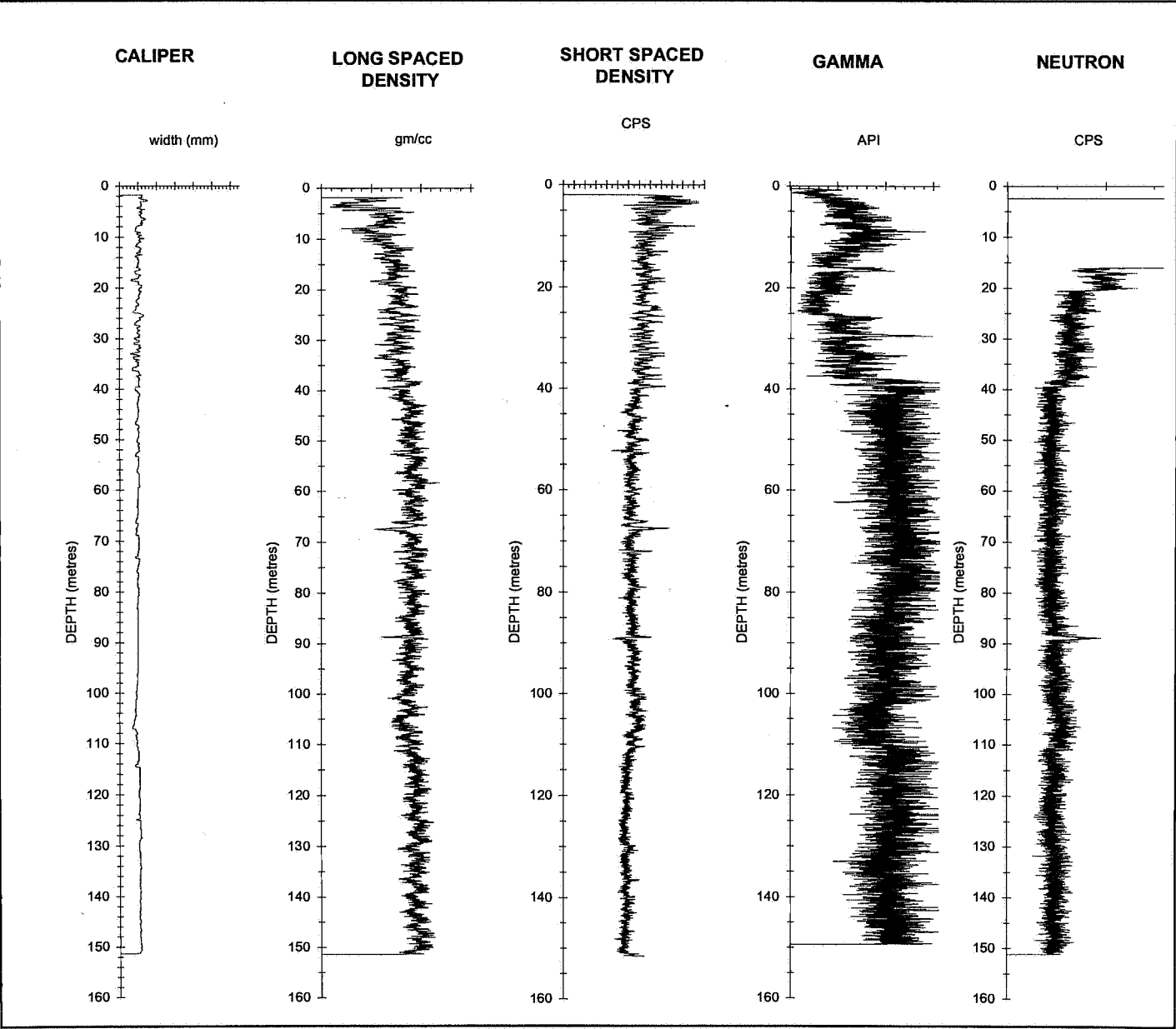
CPS

API

CPS



BOREHOLE AEP 003



BOREHOLE AEP 004

CALIPER

LONG SPACED
DENSITY

SHORT SPACED
DENSITY

GAMMA

NEUTRON

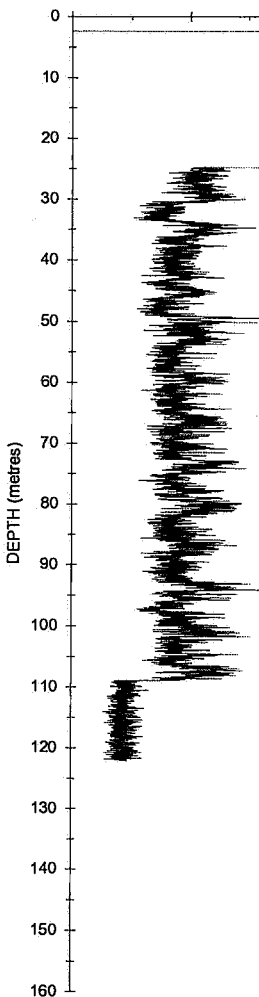
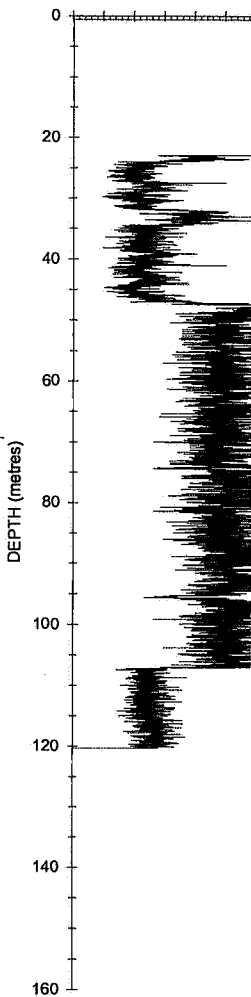
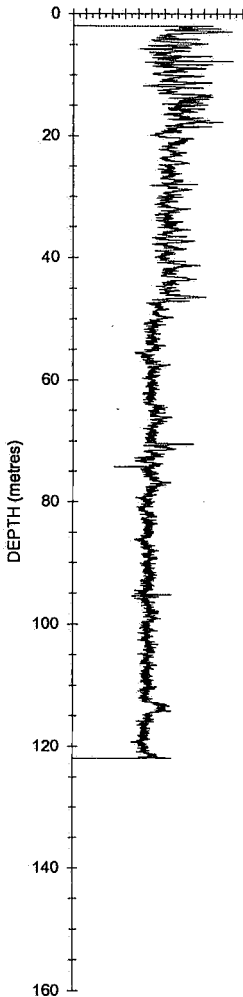
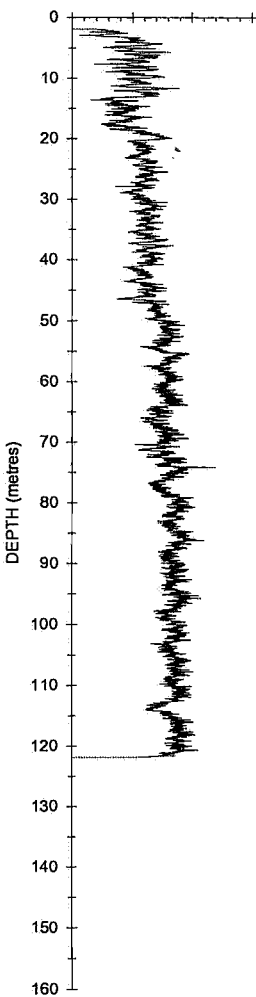
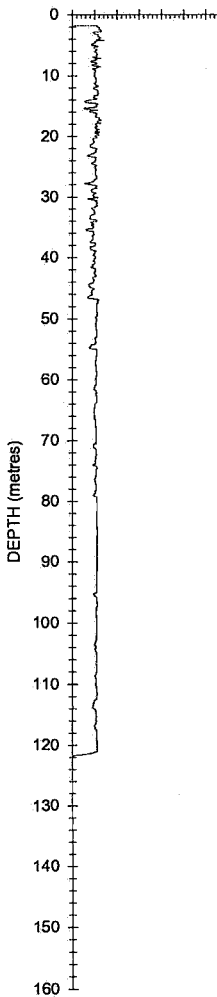
width (mm)

gm/cc

CPS

API

CPS



BOREHOLE AEP 005

CALIPER

LONG SPACED
DENSITY

SHORT SPACED
DENSITY

GAMMA

NEUTRON

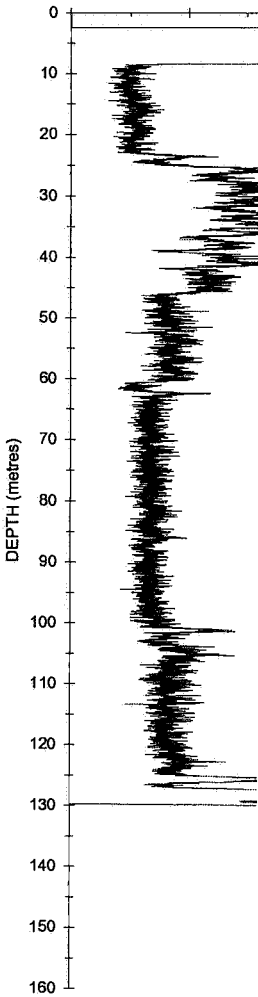
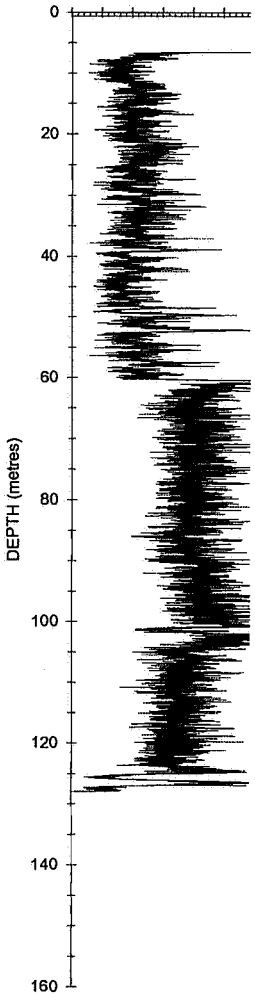
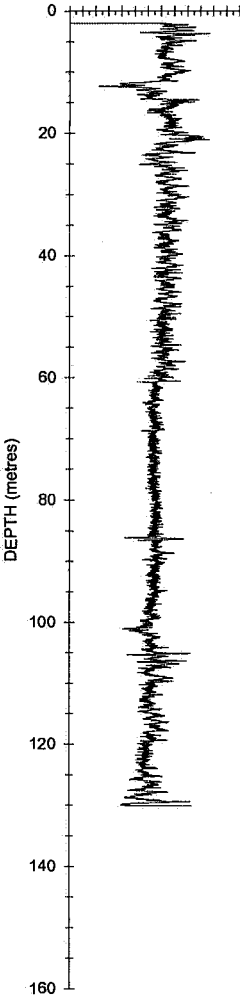
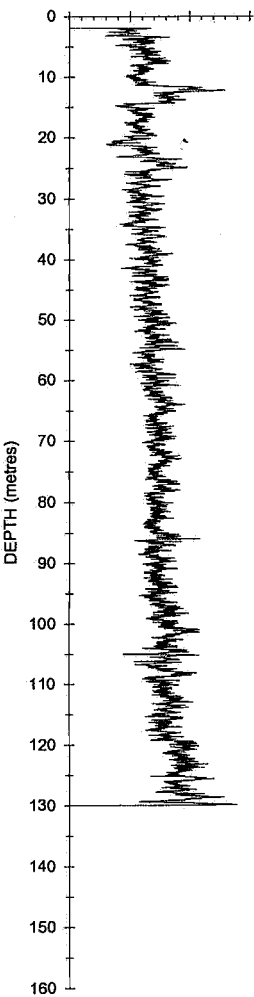
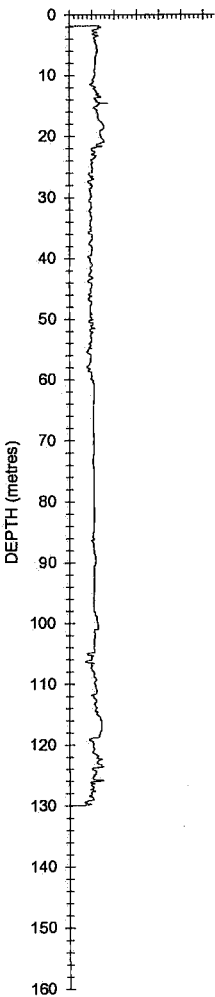
width (mm)

gm/cc

CPS

API

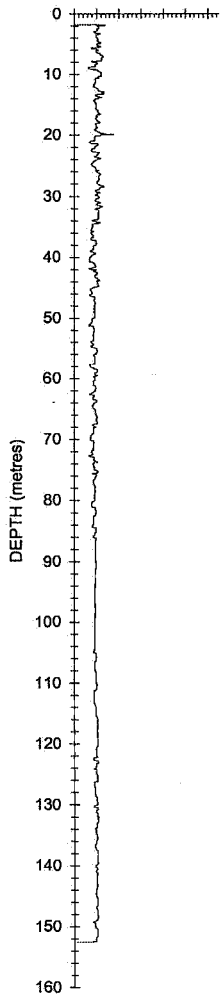
CPS



BOREHOLE AEP 006

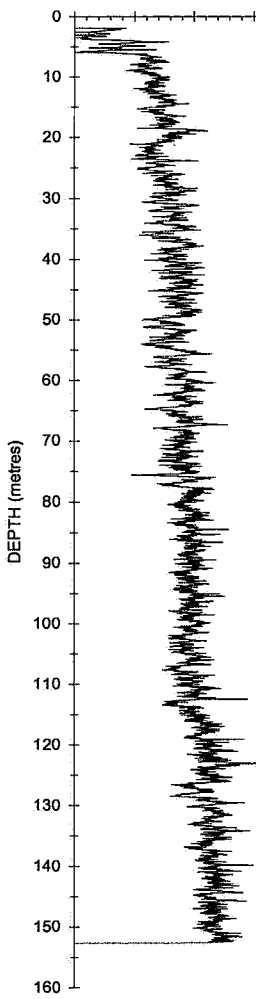
CALIPER

width (mm)



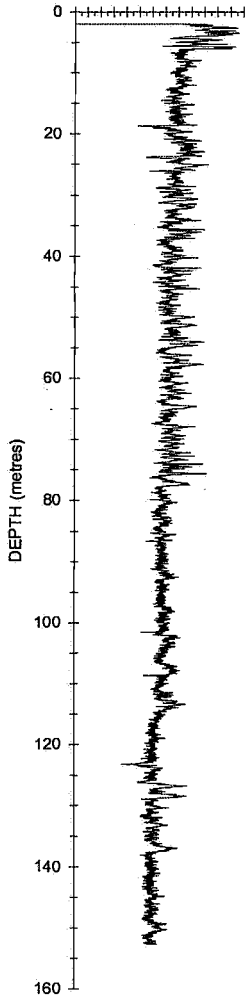
LONG SPACED
DENSITY

gm/cc



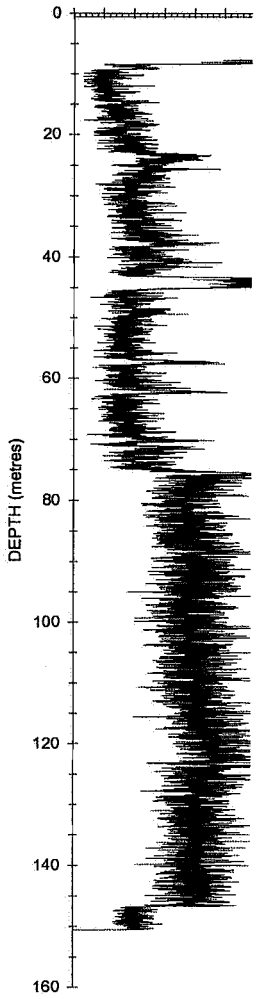
SHORT SPACED
DENSITY

CPS



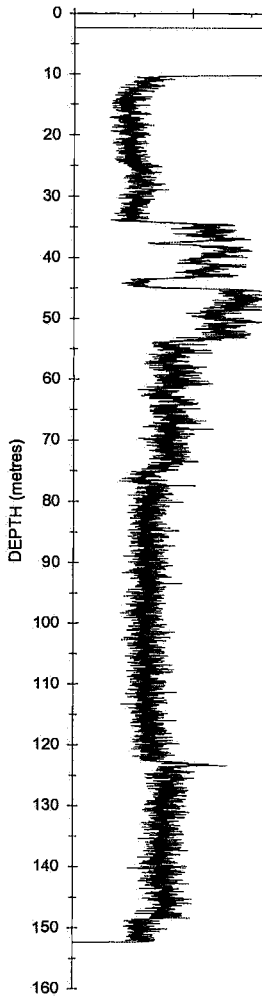
GAMMA

API

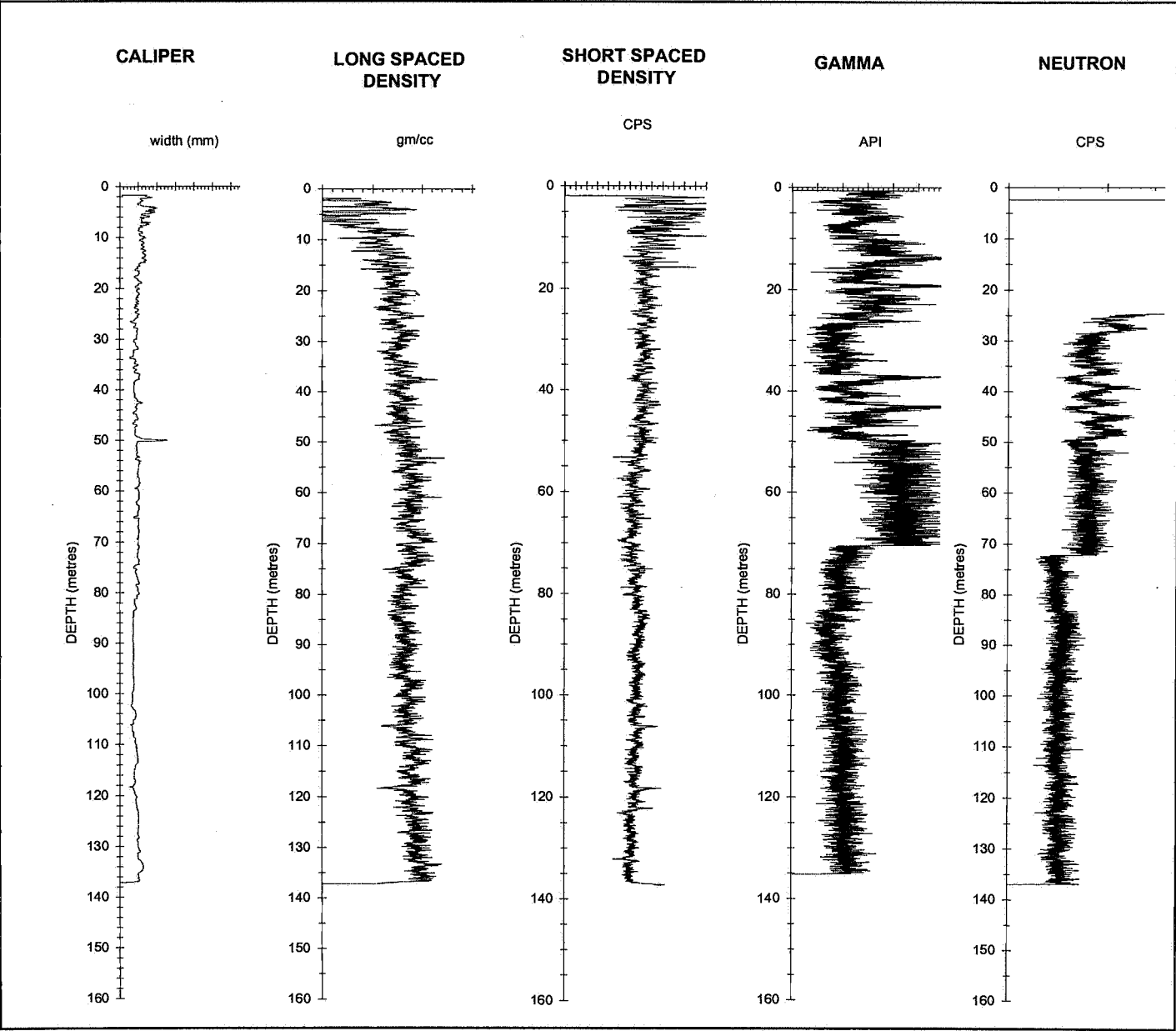


NEUTRON

CPS



BOREHOLE AEP 007



BOREHOLE AEP 008

CALIPER

LONG SPACED
DENSITY

SHORT SPACED
DENSITY

GAMMA

NEUTRON

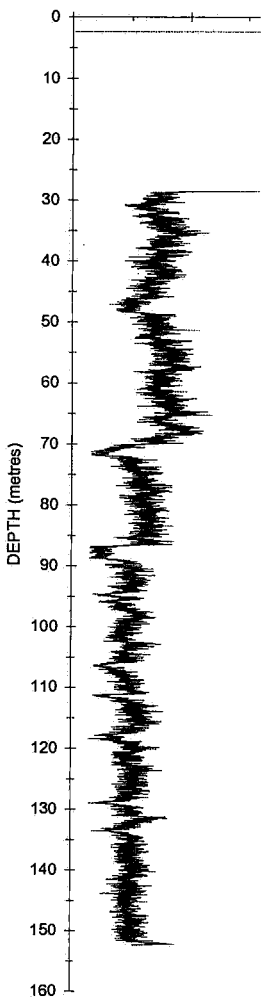
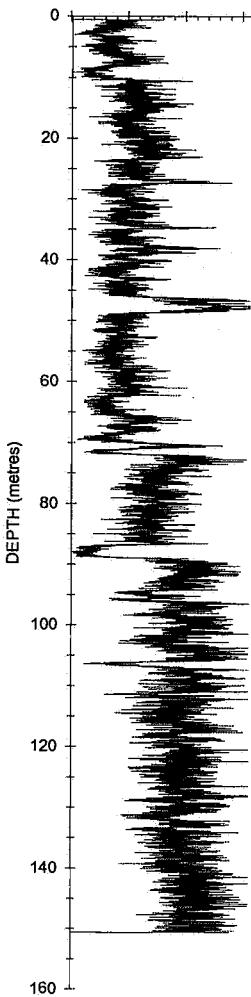
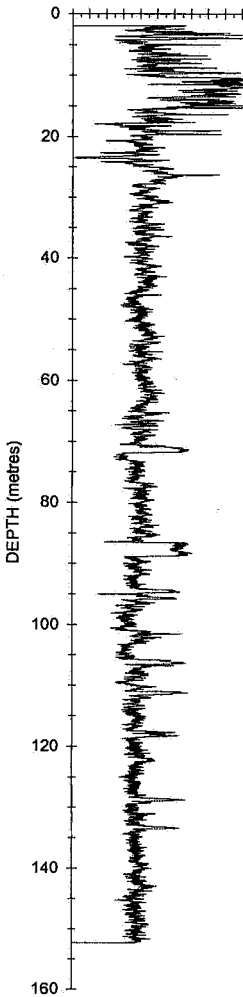
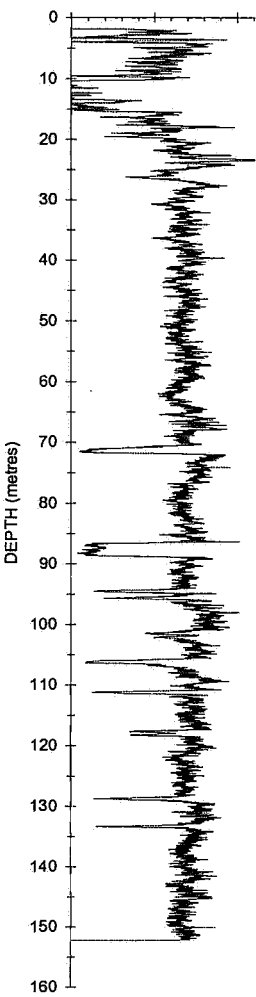
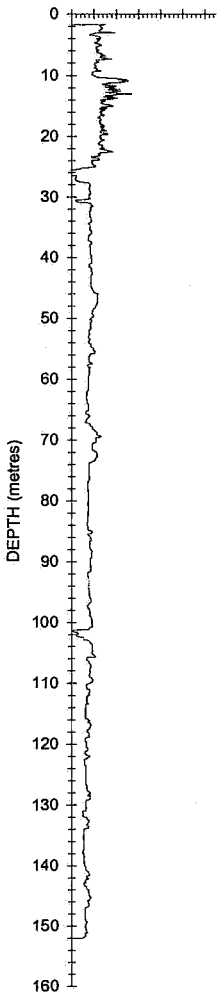
width (mm)

gm/cc

CPS

API

CPS



BOREHOLE AEP 008

LONG SPACED
DENSITY

gm/cc

