

DEPARTMENT OF MINES AND ENERGY

GEOLOGICAL SURVEY

SOUTH AUSTRALIA



REPORT BOOK 91/107

LOCK COAL DEPOSIT
DATA INDEX

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Oil Gas and Coal Division

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<u>CONTENTS</u>	<u>PAGE</u>
ABSTRACT	1
INTRODUCTION	1
LOCK COAL DEPOSIT	2
TENEMENT HISTORY	2
EXPLORATION AND EVALUATION HISTORY	2
DATA AVAILABILITY	7
DATA INDEX	8
Drillhole Data	8
Location Details	8
Drilling Details	11
Drillhole Core Data	14
Drillhole Geophysical Data	15
Drillhole Analytical Data	19
Economic Evaluation Reports	24
Miscellaneous Exploration Reports	24
ENVELOPE REFERENCES	26
Appendix 1: Information Services Branch - Contents	27
List to Envelope 3384	

	<u>FIGURES</u>	<u>PLAN NO</u>
Figure 1	Lock Coal Deposit Location Plan.	S 22626
Figure 2	Lock Coal Deposit Coal Thickness and Depth Contours.	S 22627
Figure 3	Coal Exploration Licences.	S 22628

	<u>TABLES</u>	
Table 1	Exploration Licence Summary.	6
Table 2	Summary of Analytical Coal Testing.	22

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ABSTRACT

This report provides a comprehensive summary and index of all data pertaining to the Lock Coal deposit, including initial exploration by the South Australian Department of Mines and Energy in 1976 and later work undertaken by the Electricity trust of South Australia.

The data includes all exploration, economic and mine feasibility studies. Exploration included geological and geophysical investigations with the drilling of 135 exploration and delineation holes and 3 regional stratigraphic wells.

Exploration delineated a resource of 320 million tonnes of low grade/low rank (Lignite A/Sub Bituminous) coal of Jurassic age.

INTRODUCTION

This report provides a summary and index of exploration data for the Lock Coal Deposit submitted to the South Australian Department of Mines and Energy (SADME) as part requirement of tenure conditions of an Exploration Licence in South Australia. It ensures that all data pertaining to the exploration and evaluation of the deposit is referenced in one document for use in future deposit investigations or exploration for other mineral resources.

Exploration has been carried out since 1976, initially by SADME and subsequently by the Electricity Trust of South Australia (ETSA).

Exploration work included geological, and geophysical investigations and the drilling of 135 drillholes for exploration and evaluation purposes.

Preliminary mining and economic studies have also been undertaken to assess the deposit's suitability for open-cut development to fuel a power station.

It is estimated that between 1976 and 1984 approximately \$1 million (dollars of the day) has been spent on the exploration and evaluation of the Lock coal deposit.

LOCK COAL DEPOSIT

The Lock Coal Deposit is located in the Poldo Basin on central Eyre Peninsula. It is near the township of Lock, some 140km north of Port Lincoln and about 630km from Adelaide (Figure 1).

The coal is of Late Jurassic age and occurs interbedded with siltstones, carbonaceous sandstones and sandstones of the Poldo Formation, and is overlain by Tertiary and Quaternary sediments.

The deposit is 2 to 4km wide and 15km long, consisting of numerous flat to gently dipping (2 to 5°) seams 0.5 to 6m thick. Cumulative coal thickness reaches a maximum of 17m, but is usually between 5 and 15m. Overburden ranges from 35 to over 190m, but is generally between 50 and 130m. (Figure 2).

To date, a coal resource of 320 million tonnes has been delineated. The coal is low-grade and low rank (Lignite A/Sub-bituminous C), has a very high ash content with significant seam variability.

Tertiary coal occurs in a flat seam overlying the western portion of the Lock Deposit. Information on these coal seams is sparse, but the coal is of lower rank (Lignite B), and is considered to have little economic potential.

TENEMENT HISTORY

The initial phase of regional coal exploration by SADME in the Poldo Basin was within Exploration Licence No. 280.

After the discovery of the Lock Coal Deposit the exploration area was reduced from 2868km² to 249km² and subsequently granted to ETSA in 1978 as Exploration Licence No. 434.

ETSA continued exploration and deposit evaluation within this licence area until 1984. The feasibility studies undertaken indicated that the deposit was not the favoured source of coal to fuel the State's next coal fired power station.

In recognition of the work undertaken on the deposit and its development potential, agreement was reached between SADME and ETSA to reserve the area from the Mining Act.

However, a review of this status in 1990 indicated no foreseeable requirement for the development of the deposit and the reserve proclamation was revoked on the 26th July 1990. Table 1 summarises the tenement history and Figure 3 shows the location of the Exploration Licences.

EXPLORATION AND EVALUATION HISTORY

Following a recommendation of a state energy Committee in 1976, SADME commenced an exploration program in the Poldo Basin, which resulted in the discovery of the Lock Coal Deposit in 1977.

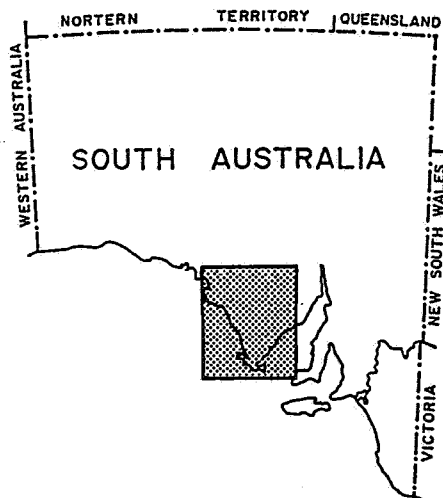
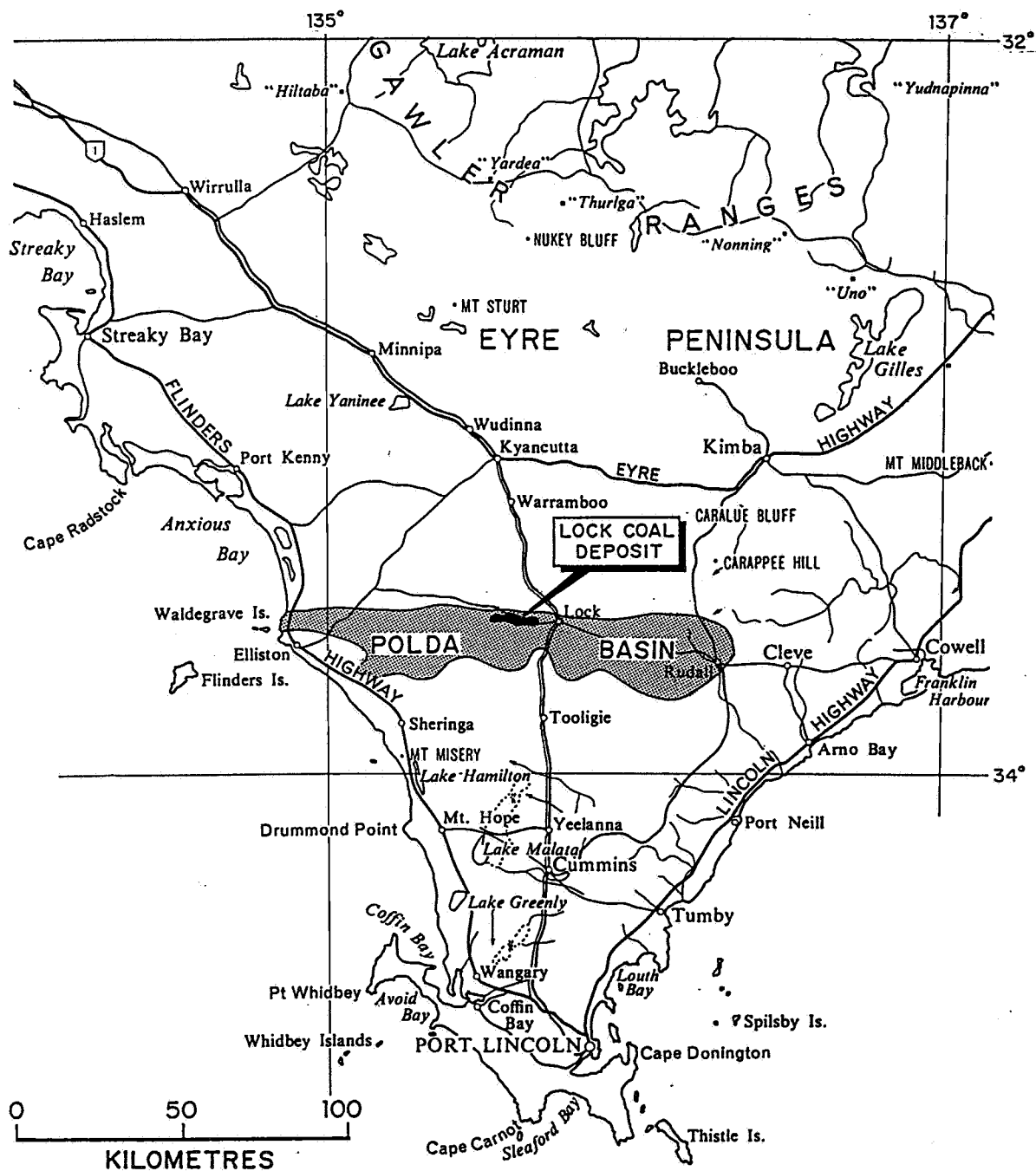


Figure 1

LOCK COAL DEPOSIT LOCALITY PLAN

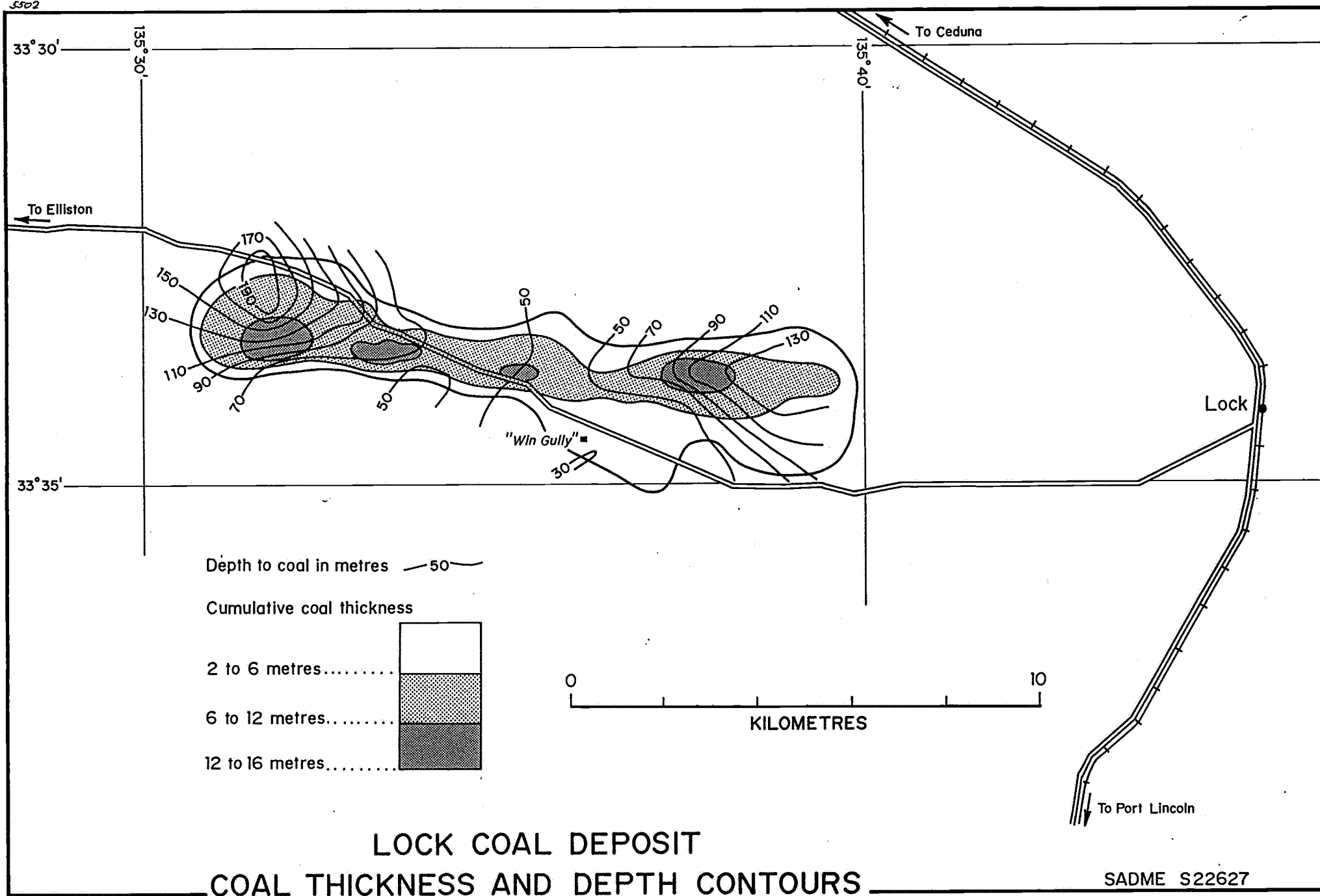


TABLE 1
COAL EXPLORATION LICENCES SUMMARY

EXPLORATION LICENCE NUMBER (PREVIOUS No)	DATE GRANTED - RELINQUISHED	LICENSEE	AREA(KM ²)	SADME ENVELOPE NUMBER
EL 280	24/1/77 - 29/11/78	South Australian Department of Mines and Energy	2868	3467 and 3904 Relinquish- ment Report
EL 434	30/11/78 - 29/11/79	Electricity Trust of South Australia (E.T.S.A)	249	3384 (9 volumes)
EL 800 (434)	11/2/80 - 11/2/82	E.T.S.A.	249	" "
EL 1118 (800)	14/3/83 - 14/9/84	E.T.S.A.	249	" "
Reserved From Mining Act	21/2/85 - 26/7/90	E.T.S.A.	249	----

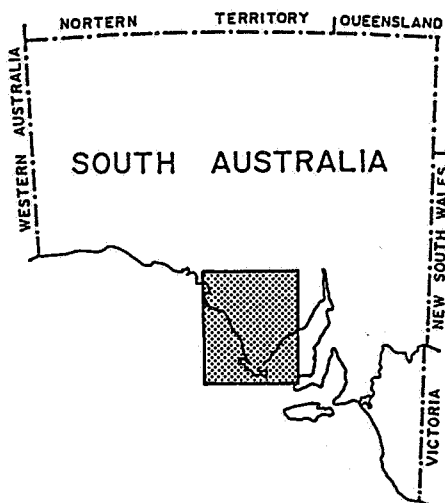
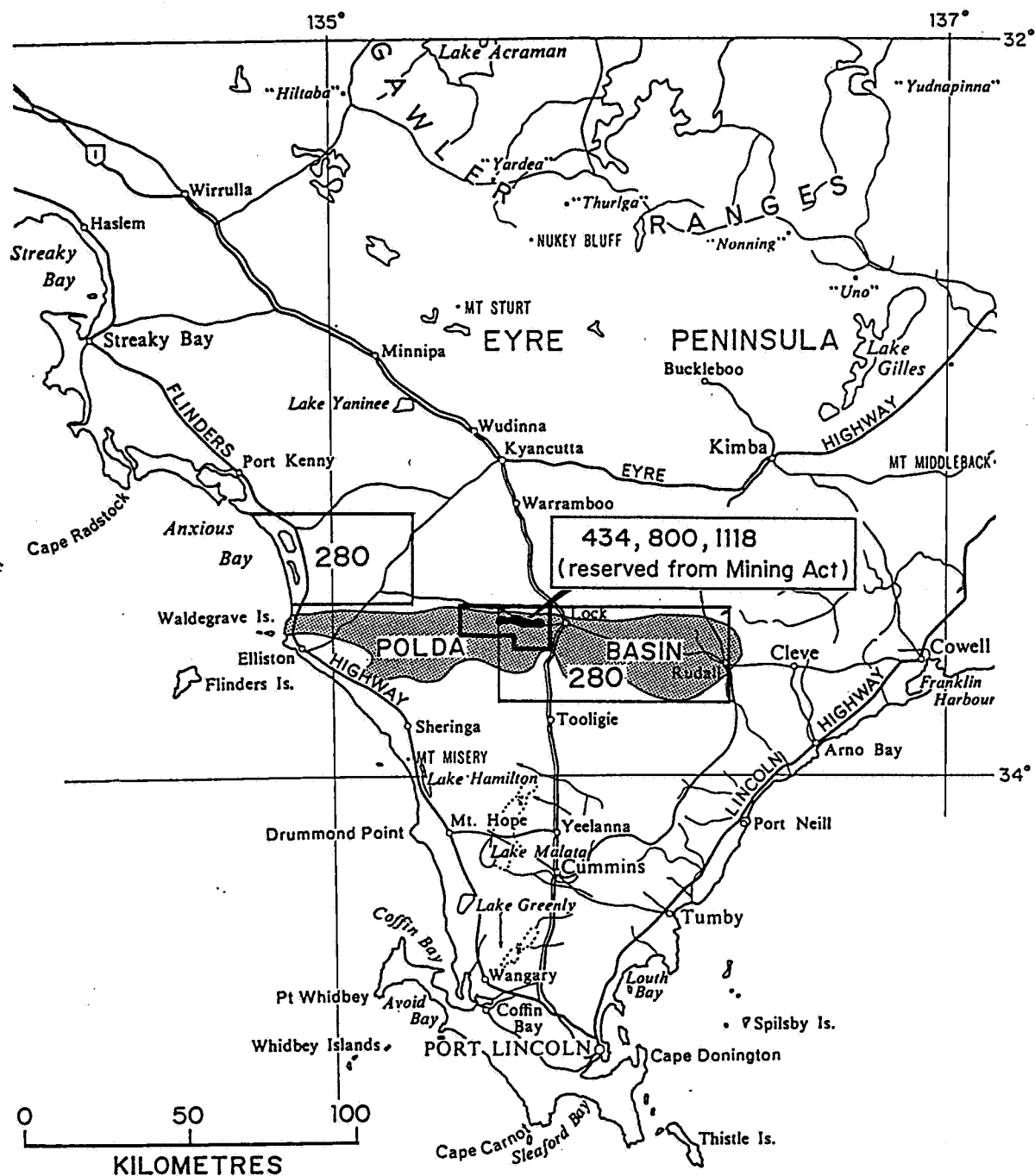


Figure 3

LOCK COAL DEPOSIT **COAL EXPLORATION LICENCES** **SUMMARY**

The initial phase of exploration consisted of a regional drilling program including stratigraphic wells Colton 1, Tuckey 1 and Mucka-Cudla 1 (Gatehouse, C.G., 1981 a,b,c), and exploration drillholes P2 to P23.

Further drilling (P24 to P104) during 1977 and early 1978, undertaken jointly with ETSA, was directed at delineating the extent of the deposit and evaluating hydrological, geotechnical and economic parameters.

In addition to this drilling, refraction seismic surveys (McInerney, P.M., 1977 and Taylor, B., 1978) were undertaken by SADME to delineate the limits of the coal deposit.

In late 1978, ETSA carried out the final drilling phase (P105-P136), consisting of 25 deposit delineatory holes and 7 hydrogeological holes.

In 1981 and 1983, conceptual mine feasibility studies were prepared on behalf of SADME and ETSA for the Lock Deposit by Coleman & Associates (Sydney), one for the supply of coal to a 750 MW power station, and another for the supply of coal to a 500 MW power station. Each of the studies used open-cut methods and draglines as the principle overburden removal equipment.

A submission by ETSA was made to the South Australian Government appointed Advisory Committee on Future Energy Generation Options (ACFEGO) late in 1983. The committee concluded that the Lock Deposit was not the favoured source of fuel for the State's next coal fired power station (ACFEGO, 1984). No further exploratory work or investigations of the deposit have been undertaken since ACFEGO.

DATA AVAILABILITY

The data indexed in this report is available through the SADME Open File Envelope system. Copies of the information can be purchased as either photocopies of the original information or as microfiche copies, by contacting the Information Services Branch. The original envelopes can be viewed at the SADME Library. Appendix 1 contains a contents list to Envelope 3384 issued by Information Services Branch.

DATA INDEX

Drillhole Data

Location Details

Hole No.	AMG Coordinates		Elevation	Date Completed	Exploration Licence
	Eastings	Northings			
P2	523500	6308500		14/2/77	280
P3	523200	6306800		16/2/77	"
P4	509700	6308800		18/2/77	"
P5	510200	6304400		21/2/77	"
P6	555839.1	6285136.2	79.1	24/2/77	"
P7	554399.5	6286016.5	72.3	25/2/77	"
P8	577100	6281200		19/3/77	"
P9	588300	6281400		21/3/77	"
P10	588600	6282200		21/3/77	"
P11	576800	6280300		22/3/77	"
P13	553300	6275000	65.0	26/3/77	"
P14	556953.2	6284640.0	86.9	29/3/77	"
P15	559111.4	6283774.0	97.9	30/3/77	"
P16	559117.4	6282820.6	91.6	01/4/77	"
P17	559103.9	6284863.7	102.8	02/4/77	"
P18	560041.8	6283791.4	104.7	05/4/77	"
P19	560999.6	6283763.1	114.1	16/4/77	"
P20	556415.9	6286483.8	90.7	19/4/77	"
P21	N/A	N/A	N/A	22/4/77	"
P22	556059.0	6287193.9	100.3	25/4/77	"
P23	557379.5	6286648.4	104.4	28/4/77	"
P24	553689.9	6284794.0	69.1	29/7/77	"
P25	559115.0	6286339.0	123.8	04/8/77	"
P26	553609.7	6286296.4	68.5	08/8/77	"
P27	556960.4	6283654.8	85.8	10/8/77	"
P28	565254.7	6281151.4	119.3	12/8/77	"
P29	562975.5	6288195.5	109.8	13/8/77	"
P30	558278.7	6284026.9	92.7	15/8/77	"
P32	557804.0	6285128.9	96.2	23/8/77	"
P33	552904.6	6286578.3	70.8	25/8/77	"
P34	552027.3	6286913.7	73.0	29/8/77	"
P35	551183.1	6287413.0	64.3	02/9/77	"
P36	552293.8	6287680.1	75.9	05/9/77	"
P37	553097.8	6287142.4	77.8	07/9/77	"
P38	554466.6	6285953.6	72.0	13/9/77	"
P39	554025.8	6286709.3	77.4	16/9/77	"
P40	553111.8	6285397.5	70.0	17/9/77	"
P41	553329.0	6285869.0	76.5	22/9/77	"
P42	551906.4	6286387.8	68.0	29/9/77	"
P43	555444.2	6286214.6	80.2	30/9/77	"
P44	551392.7	6286461.4	70.7	8/10/77	"
P45	554941.2	6285942.0	74.0	18/2/78	"
P46	555903.5	6284523.3	78.5	16/11/77	"

Hole No.	AMG Coordinates		Elevation	Date Completed	Exploration Licence
	Eastings	Northings			
P47	551024.7	6286910.2	65.4	17/11/77	280
P48	556947.2	6285366.7	89.0	05/5/78	"
P49	556012.7	6283737.7	76.4	18/11/77	"
P50	550242.3	6286687.5	67.7	20/11/77	"
P51	555891.3	6284774.8	83.4	22/11/77	"
P52	551994.2	6284996.8	66.8	23/11/77	"
P53	551995.9	6286004.3	67.9	24/11/71	"
P54	550529.8	6287031.6	75.0	13/5/78	"
P55	554048.0	6285465.9	68.8	28/11/77	"
P56	550998.5	6286499.5	67.5	30/11/77	"
P57	550997.4	6285999.8	68.5	2/12/77	"
P58	554000.0	6286999.6	84.1	2/12/77	"
P59	551269.7	6287472.1	66.1	2/12/77	"
P60	555043.2	6287003.8	89.4	5/12/77	"
P61	548995.3	6287003.4	60.7	5/12/77	"
P62	549050.2	6288130.0	58.7	8/12/77	"
P63	555016.6	6286765.7	84.9	8/12/77	"
P64	549996.9	6288010.3	65.5	12/12/77	"
P65	551997.4	6286075.0	67.9	10/12/77	"
P66	555033.2	6285030.3	79.5	14/12/77	"
P67	557034.3	6283901.8	89.6	15/12/77	"
P69	551996.1	6286734.6	74.7	8/2/78	"
P70	548998.7	6287543.4	58.4	23/2/78	"
P71	554936.7	6285955.6	74.0	11/2/78	"
P72	549962.8	6287528.3	62.3	14/2/78	"
P73	549998.7	6286496.4	66.8	20/2/78	"
P74	550000.7	6286001.7	59.7	21/2/78	"
P75	551014.7	6287251.6	61.1	22/2/78	"
P76	550998.2	6286251.3	66.0	23/2/78	"
P77	553106.3	6286640.5	67.9	24/2/78	"
P78	551999.6	6285692.1	64.1	25/2/78	"
P79	551552.2	6285998.0	65.9	25/2/78	"
P80	553100.9	6285968.9	74.2	26/2/78	"
P81	553498.7	6285972.8	77.3	26/2/78	"
P82	554062.6	6285885.3	70.3	26/2/78	"
P83	554721.6	6285477.8	79.5	26/2/78	"
P84	552993.6	6286367.3	72.0	27/2/78	"
P85	551999.8	6287199.7	80.2	27/2/78	"
P86	554007.8	6286865.2	80.8	28/2/78	"
P87	552579.1	6286888.7	78.9	28/2/78	"
P88	554497.4	6286490.9	72.9	1/3/78	"
P89	555058.6	6287196.2	99.2	1/3/78	"
P90	553971.1	6287215.1	92.8	28/2/78	"
P91	555582.5	6285667.8	78.8	1/7/78	"
P92	556017.5	6286388.5	87.0	2/3/78	"
P93	555078.7	6284591.7	68.9	2/3/78	"
P94	555512.9	6284904.0	83.5	2/3/78	"
P95	556000.4	6284346.4	80.4	1/3/78	"
P96	556624.5	6285214.2	87.7	2/3/78	"
P97	556966.1	6286202.3	94.8	3/3/78	"

Hole No.	AMG Coordinates		Elevation	Date Completed	Exploration Licence
	Eastings	Northings			
P98	556976.1	6284961.4	86.9	3/3/78	280
P99	558042.0	6286040.9	105.8	3/3/78	"
P100	554524.5	6286982.9	90.2	6/3/78	"
P101	555023.0	6286404.9	75.5	5/3/78	"
P102	553490.0	6286727.0	70.9	7/3/78	"
P103	554024.6	6286464.3	72.1	6/4/78	"
P104	550579.8	6287031.6	75.0	10/4/78	"
P105	557499.9	6286100.1	101.3	23/11/78	434
P106	557499.9	6286100.1	101.3	23/11/78	"
P107	551003.7	6288005.9	62.4	25/11/78	"
P108	551000.0	6288453.0	62.1	26/11/78	"
P109	549996.5	6289144.1	56.3	26/11/78	"
P110	547055.1	6289039.5	57.9	29/11/78	"
P111	546985.0	6287000.0	56.6	24/11/78	"
P112	547000.0	6286527.5	55.7	02/12/78	"
P113	547012.3	6286564.8	56.0	02/12/78	"
P114	547075.9	6289049.7	56.2	03/12/78	"
P115	549002.5	6286403.3	61.8	04/12/78	"
P116	548996.4	6286005.3	67.4	05/12/78	"
P117	557049.7	6286612.2	100.2	05/12/78	"
P118	557999.7	6286500.0	112.5	06/12/78	"
P119	557993.3	6285523.0	99.8	06/12/78	"
P120	558491.0	6286072.4	113.6	06/12/78	"
P121	559101.4	6286918.5	120.0	08/12/78	"
P122	559129.1	6285484.4	110.5	08/12/78	"
P123	560080.0	6286000.0	122.9	09/12/78	"
P124	558009.9	6286979.5	113.0	09/12/78	"
P125	555000.9	6284041.0	69.7	13/12/78	"
P126	547069.3	6289049.5	57.5	14/12/78	"
P127	548886.9	6289550.9	54.7	14/12/78	"
P128	551000.0	6289000.0	62.4	14/12/78	"
P129	551001.3	6285395.5	70.0	15/12/78	"
P130	548998.7	6286412.7	61.3	15/12/78	"
P131	549002.5	6286403.3	61.8	04/12/78	"
P132	548013.8	6286822.5	59.8	17/12/78	"
P133	560042.0	6285004.0	113.2	18/12/78	"
P134	560995.9	6285713.1	135.6	18/12/78	"
P135	549050.2	6288130.0	58.7	19/12/78	"
P136	557993.3	6285523.0	99.8	06/12/78	"

The coordinates are from surveys undertaken by ETSA in 1977 (Envelope 3384 Volume 6).

Drilling Details

Hole No.	Depth Drilled	Drilling Company	Method Drilled	Purpose Drilled	Lithology Log (Y/N)	Envelope (Vol. No.)
P2	46.6	SADME	RC	E	Y	3467 (3,8 & 9)
P3	27.0	"	"	"	"	"
P4	85.0	"	R	"	"	"
P5	94.0	"	"	"	"	"
P6	84.0	"	RC	"	"	3467(3,8&9) & 3384(7)
P7	41.0	"	"	"	"	"
P8	256.2	"	"	"	"	3467 (3,8 & 9)
P9	43.0	"	"	"	"	"
P10	30.0	"	"	"	"	3467 (3,8&9) & 3384(7)
P11	40.0	"	"	"	"	"
P12	78.0	"	R	"	"	"
P13	58.0	"	RC	"	"	"
P14	62.0	"	"	"	"	"
P15	65.0	"	R	"	"	"
P16	67.0	"	"	"	"	"
P17	108.0	"	"	"	"	"
P18	89.0	"	"	"	"	"
P19	118.0	"	"	"	"	"
P20	82.0	"	"	"	"	"
P21	123.0	"	"	"	"	"
P22	58.0	"	RC	"	"	"
P23	89.0	"	"	"	"	"
P24	53.0	"	"	"	"	"
P25	150.1	"	"	"	"	3467 (3,8&9) & 3384(7)
P26	75.8	"	"	"	"	3467 (3,8&10) & 3384(7)
P27	48.3	"	R	"	"	"
P28	48.0	"	"	"	"	"
P29	92.0	"	"	"	"	"
P30	44.6	"	"	"	"	"
P31	88.15	"	RC	"	"	"
P32	51.6	"	"	"	"	"
P33	74.6	"	"	"	"	"
P34	93.15	"	"	"	"	"
P35	84.6	"	R	"	"	"
P36	98.0	"	RC	"	"	"
P37	82.1	"	R	"	"	"
P38	89.3	"	RC	"	"	"
P39	81.4	"	"	"	"	"
P40	78.0	"	R	"	"	"
P41	102.3	"	RC	"	"	"
P42	108.9	"	"	"	"	"
P43	67.2	"	"	"	"	"
P44	110.3	"	"	"	"	"
P45	90.95	"	CT	GT&H	"	"
P46	48.0	"	R	E	"	"
P47	121.6	"	"	H	"	"
P48	89.0	"	CT&RC	GT&H	"	"

Hole No.	Depth Drilled	Drilling Company	Method Drilled	Purpose Drilled	Lithology Log (Y/N)	Envelope (Vol. No.)
P49	37.0	SADME	R	E	Y	3467 (3,8&10) & 3384(1)
P50	138.0	"	"	"	"	" "
P51	161.0	"	RC	GT&H	"	3467 (3,8&11) & 3384(7)
P52	54.0	"	R	E	"	" "
P53	78.0	"	"	"	"	" "
P54	148.3	"	CT	GT&H	"	" "
P55	66.0	"	R	H	"	" "
P56	104.3	"	RC	GT	"	" "
P57	66.0	"	R	E	"	" "
P58	102.0	"	"	"	"	" "
P59	118.0	"	"	"	"	" "
P60	54.0	"	"	"	"	" "
P61	126.0	"	"	"	"	" "
P62	102.0	"	"	"	"	" "
P63	80.2	"	RC	GT	"	" "
P64	144.5	"	R	E	"	" "
P65	78.0	"	R	E	"	" "
P66	66.5	"	"	"	"	" "
P67	72.0	"	"	"	"	" "
P68	59.0	"	RC	"	"	" "
P69	110.2	"	CT	GT&H	"	" "
P70	287.5	"	RC	H	"	" "
P71	66.3	"	R	H&E	"	" "
P72	156.0	"	"	E	"	" "
P73	126.0	"	RC	"	"	" "
P74	60.0	"	R	"	"	" "
P75	108.0	"	"	"	"	3467 (3,8&11) & 3384(7)
P76	108.0	"	"	"	"	3467 (3,8&16) & 3384(7)
P77	72.0	"	"	"	"	" "
P78	57.5	THOMPSON	"	"	"	" "
P79	79.0	"	"	"	"	" "
P80	115.0	"	"	"	"	" "
P81	97.5	"	"	"	"	" "
P82	92.9	"	"	"	"	" "
P83	74.1	"	"	"	"	" "
P84	110.0	"	"	"	"	" "
P85	77.0	SADME	"	"	"	" "
P86	97.0	THOMPSON	"	"	"	" "
P87	103.0	SADME	"	"	"	" "
P88	96.0	"	"	"	"	" "
P89	51.2	THOMPSON	"	"	"	" "
P90	57.9	"	"	"	"	" "
P91	102.0	"	"	"	"	" "
P92	102.2	"	"	"	"	" "
P93	74.0	"	"	"	"	" "
P94	96.2	"	"	"	"	" "
P95	47.0	SADME	"	"	"	" "
P96	54.0	"	"	"	"	" "
P97	80.0	"	"	"	"	" "

Hole No.	Depth Drilled	Drilling Company	Method Drilled	Purpose Drilled	Lithology Log (Y/N)	Envelope (Vol. No.)
P98	51.2	THOMPSON	"	"	"	3467 (3,8&16) & 3384(7)
P99	175.2	"	"	H	"	"
P100	98.9	SADME	RC	E	"	"
P101	111.2	THOMPSON	"	"	"	"
P102	110.6	"	"	"	"	"
P103	98.0	SADME	"	"	"	"
P104	150.0	"	R	H	"	"
P105	129.4	THOMPSON	"	E	"	3384(7)
P106	109.5	"	RC	"	"	"
P107	191.0	"	R	"	"	"
P108	120.0	"	"	"	"	"
P109	111.0	"	"	"	"	"
P110	20.0	"	"	"	"	"
P111	185.0	"	"	"	"	"
P112	162.5	"	"	"	"	"
P113	35.4	"	"	H	"	"
P114	190.0	"	"	E	"	"
P115	136.0	"	"	"	"	"
P116	68.0	"	"	"	"	"
P117	102.0	"	"	"	"	"
P118	141.4	"	"	"	"	"
P119	97.0	"	"	"	"	"
P120	172.0	"	"	"	"	"
P121	204.4	"	"	"	"	"
P122	170.0	"	"	"	"	"
P123	178.0	"	"	"	"	"
P124	166.0	"	"	"	"	"
P125	58.0	"	"	"	"	"
P126	32.0	THOMPSON	R	H	Y	"
P127	24.0	"	"	"	"	"
P128	29.0	"	"	"	"	"
P129	33.0	"	"	"	"	"
P130	33.0	"	"	"	"	"
P131	136.0	"	"	"	"	"
P132	172.0	"	"	E	"	"
P133	152.0	"	"	"	"	"
P134	164.0	"	"	"	"	"
P135	79.3	"	RC	"	"	"
P136	97.0	"	R	"	"	"

Drilling company

SADME - South Australian Department of Mines and Energy
THOMPSON - Thompson Drilling Contractors

Method drilled	Purpose drilled
R = Rotary	E = Exploration holes
RC = Rotary core	GT = Geotechnical data
CT = Cable tool	H = Hydrogeological holes

Drillhole Core Data

Hole No	Core Log (Y/N)	Cored Interval	Method Cored	Core Size	Envelope (Volume No)
P2	N	18.0-46.0	R	HQ	
P3	N	9.4-27.0	R	HQ	
P6	Y	18.0-84.0	R	HQ	3467(8)
P7	Y	32.0-41.0	R	HQ	3467(8)
P8	N	31.6-48.0	R	HQ	
		89.0-98.0	R	HQ	
		128.0-130.0	R	HQ	
		184.0-185.25	R	HQ	
		255.0-256.2	R	HQ	
P9	N	19.5-46.0	R	HQ	
P10	N	18.0-30.0	R	HQ	
P11	N	35.0-40.0	R	HQ	
P12	N	42.0-75.0	R	HQ	
P13	N	32.0-58.0	R	HQ	
P14	N	23.45-62.0	R	HQ	
P21	Y	100.0-123.0	R	HQ	3467(8)
P22	Y	54.0-58.0	R	HQ	3467(8)
P23	N	43.0-89.0	R	HQ	
P24	N	35.0-53.0	R	HQ	
P25	N	112.0-151.1	R	HQ	
P26	N	53.5-75.8	R	HQ	
P31	Y	46.53-88.2	R	HQ	3467(8)
P32	Y	41.0-51.6	R	HQ	3384(Archives)
P33	Y	51.0-74.6	R	HQ	3384(Archives)
P34	Y	65.15-93.15	R	HQ	3384(Archives)
P36	Y	68.5-98.0	R	HQ	3384(Archives)
P38	N	53.10-85.1	R	HQ	
P39	Y	60.75-81.44	R	HQ	3384(Archives)
P41	Y	66.1-102.34	R	HQ	3384(Archives)
P42	Y	36.6-39.7	R	HQ	3384(Archives)
		71.0-108.9	R	HQ	3384(Archives)
P43	Y	35.0-67.2	R	HQ	3384(Archives)
P44	Y	77.5-110.34	R	HQ	3384(Archives)
P45	Y (Geotech.)	0.0-90.95	CT		3384(1)
P48	Y (Geotech.)	0.0-23.10	CT		3384(1) 3384(Archives)
		23.10-62.0	R	HQ	3384(1) 3384(Archives)
		62.0-89.0	CT		3384(1) 3384(Archives)

Drillhole Core Data Cont.

Hole No	Core Log (Y/N)	Cored Interval	Method Cored	Core Size	Envelope (Volume No)
P51	Y	30.7-61.0	R	HQ	3384(Archives)
P54	Y (Geotech.)	0.0-148.3	CT		3388(1)
P56	N	82.0-104.32	R	HQ	
P63	Y	29.0-80.2	R	HQ	3384(Archives)
P68	Y	36.8-59.0	R	HQ	3384(Archives)
P69	Y (Geotech.)	3.0-56.3	R	HQ	3381(1) 3384(Archives)
		65.0-110.0	R	HQ	3384(1) 3384(Archives)
P70	Y	79.4-82.4	R	HQ	3384(Archives)
P73	Y	99.97-126.13	R	HQ	3384(Archives)
P100	Y	55.8-98.9	R	HQ	3384(Archives)
P101	Y	28.6-68.8	R	HQ	3384(Archives)
P102	Y	51.1-72.5	R	HQ	3384(Archives)
P103	Y	71.4-98.0	R	HQ	3384(Archives)
P106	N	81.0-109.5	R	HQ	
P135	N	69.25-79.30	R	HQ	

Drillhole Geophysical Data

Nearly all of the drillholes have been geophysically logged either by the South Australian Department of Mines and Energy (SADME) or Geoscience Associates (Aust.) Pty Ltd (GEOS).

HOLE NO.	LOGGING COMPANY	G	GEOPHYSICAL LOGS					ENVELOPE (VOLUME NO)
			N	D	C	SP	R	
P2	SADME	X	X			X	X	3467(12)
P3	"	X	X			X	X	"
P4	"	X	X			X	X	"
P5	"	X	X			X	X	"
P6	"	X	X			X	X	"
P7	"	X	X			X	X	"
P8	"	X	X	X		X	X	"
P9	"	X	X	X		X	X	"
P10	"	X	X	X		X	X	"
P11	"	X	X	X		X	X	"
P12	"	X	X	X		X	X	"
P13	"	X	X	X				"
P14	"		X			X	X	"
P15	"		X			X	X	"
P16	"	X	X	X				"
P17	"	X	X	X		X	X	"
P18	"	X	X	X		X	X	"
P19	"	X	X	X				"

HOLE NO.	LOGGING COMPANY	G	GEOPHYSICAL LOGS					ENVELOPE (VOLUME NO)
			N	D	C	SP	R	
P20	"	X	X	X		X	X	3467(12)
P21	"	X	X					3467(13)
P22	"	X	X			X	X	"
P23	"	X	X			X	X	"
P24	"	X	X	X		X	X	"
P25	"	X	X	X		X	X	"
P26	"	X	X	X		X	X	"
P27	"	X	X	X		X	X	"
P28	"	X	X	X		X	X	"
P29	"	X	X	X		X	X	"
P30	"	X	X	X		X	X	"
P31	"	X	X	X		X	X	"
P32	"	X	X	X		X	X	"
P33	"	X	X	X		X	X	"
P34	"	X	X	X		X	X	"
P35	"	X	X	X		X	X	"
P36	"	X	X	X		X	X	"
P37	"	X	X	X		X	X	"
P38	"	X		X				"
P39	"	X	X	X		X	X	"
P40	"	X	X	X				"
P41	"	X	X	X		X	X	3467(14)
P42	"	X	X	X				"
P43	"	X	X	X				"
P44	"	X	X	X				"
P45			NOT LOGGED					
P46	"	X	X	X		X	X	"
P47	"	X	X	X		X	X	"
P48	"		X					"
P48	GEOS	X		X				3467(14), 3884(1)
P49	SADME	X	X	X		X	X	3467(14)
P50	"	X	X	X		X	X	"
P51	"		X			X	X	"
P51	GEOS	X		X		X		"
P52	SADME		X					"
P52	GEOS	X		X	X	X	X	"
P53	"	X		X	X	X	X	"
P54	SADME	X	X	X				"
P55	SADME		X					"
P55	GEOS			X		X	X	"
P56	SADME					X	X	"
P57	GEOS	X		X	X	X	X	"
P57	SADME		X					"
P58	GEOS	X				X	X	"
P58	SADME		X			X	X	"
P59	"		X			X	X	"
P60	"	X	X	X				3467(14)
P61	GEOS	X	X	X		X	X	3467(15)
P61	SADME					X	X	"

HOLE NO.	LOGGING COMPANY	G	GEOPHYSICAL LOGS					ENVELOPE (VOLUME NO)
			N	D	C	SP	R	
P62	SADME		X			X	X	3467(15)
P62	GEOS	X		X	X	X	X	"
P63	"	X		X	X	X	X	"
P64	"	X		X	X	X	X	"
P65	"	X		X	X	X	X	"
P66	"	X		X	X	X	X	"
P67	"	X		X	X	X	X	"
P68	"	X		X	X	X	X	"
P69	"	X		X	X	X	X	"
P70	"	X		X	X		X	"
P71	"	X		X	X	X	X	"
P72	"	X		X	X	X	X	"
P73	"	X		X	X	X	X	"
P74	"	X		X	X	X	X	"
P75	"	X		X	X	X	X	"
P76	"	X		X	X			"
P77	"	X		X	X	X	X	"
P78	"	X		X	X	X	X	"
P79	"	X		X	X	X	X	"
P80	"	X		X	X	X	X	"
P81	"	X		X	X	X	X	3467(17)
P82	"	X		X	X	X	X	"
P83	"	X		X	X	X	X	"
P84	"	X		X	X	X	X	"
P85	"	X		X	X	X	X	"
P86	"	X		X	X	X	X	"
P86	SADME		X			X	X	"
P87	GEOS	X		X	X	X	X	"
P87	SADME		X			X	X	"
P88	"		X			X	X	"
P88	GEOS	X		X	X	X	X	"
P89	"			X	X	X	X	"
P89	SADME		X			X	X	"
P90	"		X			X	X	"
P90	GEOS	X		X	X	X	X	"
P91	SADME		X			X	X	"
P91	GEOS	X		X	X	X	X	"
P92	"	X		X	X	X	X	"
P92	SADME		X			X	X	"
P93	GEOS	X		X	X	X	X	"
P93	SADME		X			X	X	"
P94	GEOS	X		X	X	X	X	"
P94	SADME		X			X	X	"
P95	GEOS	X		X	X	X	X	"
P95	SADME					X	X	"
P96	GEOS	X		X	X	X	X	"
P96	SADME		X			X	X	"
P97	GEOS	X		X	X	X	X	"
P97	SADME		X			X	X	"

HOLE NO.	LOGGING COMPANY	G	GEOPHYSICAL LOGS					ENVELOPE (VOLUME NO)
			N	D	C	SP	R	
P98	SADME		X			X	X	3467(17)
P98	GEOS	X		X	X	X	X	"
P99	"	X		X	X	X	X	"
P99	SADME		X					"
P100	"		X			X	X	"
P100	GEOS	X		X	X	X	X	"
P101	GEOS	X		X	X	X	X	3467(18)
P101	SADME		X			X	X	"
P102	GEOS	X		X	X	X	X	"
P102	SADME		X			X	X	"
P103	"	X	X	X		X	X	"
P104	"	X	X	X		X	X	"
P105	GEOS			X		X	X	3384(1)
P106	"			X	X			"
P107	"	X		X	X		X	"
P108	"	X	X	X	X		X	"
P109	"	X	X	X	X		X	"
P110			NOT LOGGED					
P111	GEOS	X	X	X	X		X	3384(1)
P112	"	X			X	X	X	"
P113	"	X	X					"
P114	"	X	X	X	X	X	X	"
P115	"	X	X	X	X	X	X	"
P116	"	X	X	X	X		X	3384(2)
P117	"	X	X	X	X		X	"
P118	"	X	X	X	X		X	"
P119	"	X	X	X	X		X	"
P120	"			X	X			"
P121	"	X	X	X	X		X	"
P122	"	X	X	X	X		X	"
P123	"	X	X	X	X		X	"
P124	"	X	X	X	X		X	"
P125	"	X		X	X	X	X	"
P126	"	X		X				"
P127	"	X		X				"
P128	"	X		X				"
P129	"	X		X				"
P130	"	X		X				"
P131	"			X	X			"
P132	"	X		X	X	X	X	"
P133	"	X		X	X		X	"
P134	"	X		X	X		X	"
P135	"	X		X	X	X	X	"
P136	"	X		X	X			"

G = GAMMA, N = NEUTRON, D = DENSITY, C = CALIPER, SP = SPONTANEOUS POTENTIAL, R = RESISTIVITY (SADME resistivity data are point resistivities)

Drillhole Analytical Data

The following table is a list of the analytical work that has been undertaken on drillhole samples. A detailed summary of analytical tests that have been completed is given in Table 2.

Hole No.	Analytical Laboratory	Envelope (Volume No.)	Other References
<u>Coal Analysis</u>			
P2	ACIRL	3384 (8&9)	
P6	ETSA	"	
P7	ACIRL	"	
P14	AMDEL	"	
P21	"	"	
P23	"	"	
P25	"	"	
P26	"	"	
P31	"	"	
P32	"	"	
P33	"	"	
P34	"	"	
P38	"	"	
P39	"	"	
P41	"	"	
P42	"	"	
P43	"	"	
P44	"	"	
P45	"	"	
P47	"	3384 (9)	
P48	"	3384 (8&9)	
P50	"	3384 (9)	
P51	"	3384 (8&9)	
P54	"	"	
P56	"	"	
P56	"	"	
P60	"	3384 (9)	
P62	AMDEL	3384 (9)	
P63	"	3384 (8&9)	
P65	"	3384 (9)	
P68	AMDEL	3384 (8&9)	
P69	"	"	
P73	"	"	
P100	"	"	
P101	"	"	
P101	"	"	
P102	"	"	
P103	"	"	
P106	ETSA	"	
P131	"	"	
P135	"	"	
P136	"	"	

Hole No.	Analytical Laboratory	Envelope (Volume No.)	Other References
<u>Coal Petrology</u>			
P56	AMDEL	3469	
P101	"	"	
<u>Coal Washability (float/sink analysis)</u>			
P106	ACIRL	3384(5)	
P136	"	"	
<u>Palynology</u>			
P6	SADME	3467(1)	Rept Bk No 813
P7	"	"	"
P8	"	"	"
P15	"	"	"
P16	"	"	"
P17	"	"	"
P19	"	"	"
P25	"	"	"
P29	"	"	"
P31	"	"	"
P34	"	"	"
P37	"	"	"
P45	"	"	"
P48	"	"	"
P51	"	"	"
P53	"	"	"
P56	"	"	"
P59	"	3384(6)	Rept Bk No 80/108
P61	"	3467(1)	Rept Bk No. 813
P62	"	"	"
P64	"	"	"
P65	"	"	"
P67	"	"	"
P69	"	"	"
P70	"	"	"
P73	"	"	"
P82	"	"	"
P84	"	"	"
P85	"	"	"
P107	"	3384(6)	Rept Bk No 80/108
P108	"	"	"
P114	"	"	"
P119	"	"	
P120	"	"	
P125	"	"	Rept Bk No 80/108
P131	"	"	
P132	"	"	
<u>Water Analysis</u>			
P45	-		Rept Bk No 79/93
P47	-		"
P48	-		"
P54	-		"

TABLE 2
SUMMARY OF COAL ANALYTICAL TESTING

Proximate Analysis						Sulphur		Ultimate Analysis						
Hole No.	Total Moisture	Ash	Volatile Matter	Fixed Carbon	Specific Energy	Total	Pyritic	Sulphate	C	H	N	Na	Cl	Ash Analysis
P2	X	X	X	X	X	X							X	X
P6	X	X	X		X	X	X	X	X	X	X		X	X
P7	X	X	X		X								X	X
P14	X	X	X	X		X								
P21	X	X												
P23	X	X												
P25	X	X	X	X	X	X	X	X	X	X	X	X	X	X
P26	X	X	X	X	X	X	X	X	X	X	X	X	X	X
P31	X	X	X	X	X	X	X	X	X	X	X	X	X	X
P32	X	X	X	X	X	X	X	X				X	X	X
P33	X	X	X	X	X	X	X	X				X	X	X
P34	X	X	X	X	X	X	X	X	X	X	X			X
P38	X	X	X	X	X	X	X	X				X	X	X
P39	X	X	X	X	X	X	X	X	X	X	X			X
P41	X	X	X	X										
P42	X	X	X	X	X	X	X	X	X	X	X			X
P43	X	X	X	X	X	X	X	X	X	X	X			X
P44	X	X	X	X										
P45	X	X	X	X										X
P47		X												
P48	X	X												X
P50		X												
P51	X	X			X				X	X				X
P54	X	X			X	X	X	X	X	X	X			
P56	X	X	X	X										X
P60		X												
P62		X												
P63	X	X			X				X	X				X

TABLE 2
SUMMARY OF COAL ANALYTICAL TESTING

Hole No.	Proximate Analysis					Sulphur		Ultimate Analysis						Ash Analysis
	Total Moisture	Ash	Volatile Matter	Fixed Carbon	Specific Energy	Total	Pyritic	Sulphate	C	H	N	Na	Cl	
P65		X												
P68	X	X												X
P69	X	X												X
P73	X	X			X	X	X	X	X	X	X	X	X	X
P100	X	X			X	X	X	X	X	X	X	X	X	X
P101	X	X			X	X	X	X	X	X	X	X	X	X
P102	X	X			X	X	X	X	X	X	X	X	X	X
P103	X	X			X	X	X	X	X	X	X	X	X	X
P106	X	X												X
P131	X	X	X		X	X	X	X	X	X		X	X	X
P135	X	X	X		X	X	X	X	X	X		X	X	X
P136	X	X												

Economic Evaluation Reports

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Coffey & Partners Pty Ltd, 1981. The Electricity Trust of South Australia Lock Coal Deposit Dewatering Study Report on Stage 1 investigation July 1981. *South Australia. Department of Mines and Energy. Open File Envelope*, 3384: 207-278 (unpublished).

Coleman and Associates, 1981. Lock Coal Deposit Conceptual Mine Feasibility Study. For the South Australian Department of Mines and Energy. *South Australia. Department of Mines and Energy. Open File Envelope*, 3384: 280-433 (unpublished).

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Eberhad, B.A., Waterhouse, J.D., 1979. Lock Coalfield Hydrological Study - progress Report 1. *South Australia. Department of Mines and Energy. Report Book*, 79/93 (unpublished).

ACFEGO, 1984. Main Report - Volume 1. Department of Mines and Energy (unpublished).

Springbett, G.M., 1980. Poldo Basin Coalfield - Lock Coal Deposit, South Australia Geological Report. *South Australia. Department of Mines and Energy. Open File Envelope*, 3384: 133-205 (unpublished).

Miscellaneous Exploration Reports

The following reports are related to the Poldo Basin and Lock Coal Deposit that may not be included in the open file envelopes. These reports may be a source of further information.

Cooper, B.J., 1980. Palynology of selected samples from the Poldo Basin. *South Australia. Department of Mines and Energy. Report Book*, 80/108 (unpublished).

Gatehouse, C.G., Cooper, B.J., 1982. The Late Jurassic Poldo Formation, Eyre Peninsula. *South Australia. Department of Mines and Energy. Report Book*, 81/116 (unpublished).

- Gatehouse, C.G., 1981a. Colton No 1 well completion report. *South Australia. Department of Mines and Energy. Report Book, 81/78 (unpublished).*
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APPENDIX 1

SOUTH AUSTRALIA
DEPARTMENT OF MINES AND ENERGY



OPEN FILE ENVELOPE NO. 3384

EL 434, LOCK
EL 800, LOCK
EL 1118, LOCK

PROGRESS REPORTS FOR THE PERIOD 20/8/79 TO 14/9/84

Submitted by

Electricity Trust of South Australia

This report was supplied as part of the requirement to hold a mineral or petroleum exploration tenement in the State of South Australia. The Department accepts no responsibility for statements made, or conclusions drawn, in the report or for the quality of original text or drawings.

ENVELOPE 3384

TENEMENT: EL 434 - LOCK

TENEMENT HOLDER: Electricity Trust of South Australia

CONTENTS

CONTENTS OF VOLUME ONE

REPORTS:	ETSA, 1979., Polda Basin - 1978 Drilling Programme Hydrogeological Holes.	Pgs 3-11
	Westcott, P., 1979. RE: Exploration Licence 434, Lock Area. (ETSA).	Pg. 12
	Cavagnaro, R.L., 1978. Report on the feasibility level. Geotechnical Studies Polda Basin - Lock Coal Deposit Lock, SA. (Coffey & Partners Pty Ltd).	Pgs 13-42
APPENDIX A:	Engineering log of boreholes.	Pgs 43-60
APPENDIX B:	Laboratory test results.	Pgs 61-82
APPENDIX C:	Fissure classification and logging.	Pgs 83-96
PLANS		
Fig. 1	Polda Basin - Lock Coal Deposit borehole location plan.	Pg. 36
Fig. 2	Geological cross sections A-A, B-B & C-C.	Pgs 37-38
Fig. 3	Geological cross sections D-D, E-E, F-F & G-G.	Pg. 39
Fig. 4	Strip ratio contours and stability regimes.	Pg. 40
Fig. 5	Displacement from start of shearing run mm.	Pg. 41
Fig. 6	Cumulative total shearing displacement mm.	Pg. 42
REPORTS:	Caplygin, S., 1979. RE: EL 434 - Lock Area, quarterly report (ending 30/11/79). (ETSA).	Pg. 97
	AMDEL, 1979., Report AC 5124/79.	Pg. 98-111
PLANS:		
		Scale
		SADM
		plan No
	Gamma ray log P48.	1:100 3384-
	Density log P48.	1:100 3384-
	Density log P105	1:100 3384-
	Gamma ray & resistivity logs P105.	1:100 3384-
	Density & caliper log P106.	1:100 3384-
	Gamma ray & resistivity logs P107.	1:100 3384-
	Density & caliper logs P107.	1:100 3384-
	Gamma ray, resistivity & neutron logs P108.	1:100 3384-
	Density & caliper logs P108.	1:100 3384-

PLANS

	Scale	SADME plan No
Gamma ray, resistivity & neutron logs P109.	1:100	3384-10
Density & caliper logs P109.	1:100	3384-11
Density & caliper logs P111.	1:100	3384-12
Gamma ray, resistivity & neutron logs P111.	1:100	3384-13
Gamma ray, SP & resistivity logs P112.	1:100	3384-14
Density & caliper logs P112.	1:100	3384-15
Gamma ray & neutron logs P113.	1:100	3384-16
Density & caliper logs P114.	1:100	3384-17
Gamma ray & neutron, SP & resistivity logs P114.	1:100	3384-18
Gamma ray, resistivity, SP & neutron logs P115.	1:100	3384-19
Density & caliper logs P115.	1:100	3384-20

CONTENTS OF VOLUME TWO

Volume two contains the geophysical logs of P116 to P136.

PLANS

	Scale	SADME plan No
Gamma ray, neutron & resistivity logs P116.	1:100	3384-21
Density & caliper P116.	1:100	3384-22
Gamma ray, resistivity & neutron logs P117.	1:100	3384-23
Density & caliper P117.	1:100	3384-24
Gamma ray, resistivity & neutron logs P118.	1:100	3384-25
Density & caliper logs P118.	1:100	3384-26
Density & caliper logs P119.	1:100	3384-27
Gamma ray, resistivity & neutron logs P119.	1:100	3384-28
Density & caliper logs P120.	1:100	3384-29
Density & caliper logs P121.	1:100	3384-30
Gamma ray, resistivity & neutron logs P121.	1:100	3384-31
Density & caliper logs P122.	1:100	3384-32
Gamma ray, resistivity & neutron logs P122.	1:100	3384-33
Density & caliper logs P123.	1:100	3384-34
Gamma ray, resistivity & neutron logs P123.	1:100	3384-35
Density & caliper logs P124.	1:100	3384-36
Gamma ray, resistivity & neutron logs P124.	1:100	3384-37
Gamma ray, resistivity & SP logs P125.	1:100	3384-38
Density & caliper logs P125.	1:100	3384-39
Gamma ray & density logs P126.	1:100	3384-40
Density & gamma ray logs P127.	1:100	3384-41
" " " " " P128.	1:100	3384-42
" " " " " P129.	1:100	3384-43
" " " " " P130.	1:100	3384-44
" " " " " P131.	1:100	3384-45
" " " " " P132.	1:100	3384-46
Gamma ray, resistivity, SP logs P132.	1:100	3384-47
Gamma ray & resistivity logs P133.	1:100	3384-48
Density & caliper logs P133.	1:100	3384-49
Density & caliper logs P134.	1:100	3384-50
Gamma ray & resistivity logs P134.	1:100	3384-51

PLANS

	Scale	SADME plan No
Density & caliper logs P135.	1:100	3384-52
Gamma ray, resistivity & SP logs P135.	1:100	3384-53
Density & caliper logs P136.	1:100	3384-54
Density & gamma ray logs P136.	1:100	3384-55

CONTENTS OF VOLUME THREE

REPORTS:	O'Brien, M.D., 1980. EL 434 - Polda Basin, quarterly report (ending 29 February 1980). (ETSA).	Pg. 112
	O'Brien, M.D., 1980. EL 434 - Lock Area, quarterly report (ending 30/5/80). (ETSA).	Pg. 113
	SADME. 1980. Proposal for a conceptual mine plan on the Lock Coal Deposit.	Pgs 114-130
	Caplygin, S., 1980. EL 435 - Lock Area, quarterly report (ending 29/8/80). (ETSA).	Pg. 131

CONTENTS OF VOLUME FOUR

REPORTS:	Caplygin, S., 1980. EL 434 - Lock Area, quarterly report (ending 29/11/80). (ETSA).	Pg. 132
	Springbett, G.M., 1980. Polda Basin Coalfield - Lock Coal Deposit, South Australia geological report. (ETSA).	Pgs 133-205

PLANS

Fig. 1	South Australian coal occurrences.	Pg. 141
Fig. 2	Polda Basin jurassic coal occurrences.	Pg. 142
Fig. 3	Geological time scale & stratigraphic sequence.	Pg. 149
Fig. 6	Polda Basin - Lock Coal Deposit geological history.	Pg. 152
Fig. 7	Approximate limits of the Polda Basin and the Polda Trough (after Nelson 1974).	Pg. 153
Fig. 8	Classification systems for coals.	Pg. 154
Fig. 9	Coal ash content limit and its effect on seam thickness.	Pg. 159
Fig. 21	Polda Basin section 47.0 E.	Pg. 160
Fig. 22	Polda Basin section 48.0 E.	Pg. 161
Fig. 23	Polda Basin section 49.0 E.	Pg. 162
Fig. 24	Polda Basin section 50.0 E.	Pg. 163
Fig. 25	Polda Basin section 51.0 E.	Pg. 164
Fig. 26	Polda Basin section 52.0 E.	Pg. 165
Fig. 27	Polda Basin section 53.0 E.	Pg. 166
Fig. 28	Polda Basin section 54.0 E.	Pg. 167
Fig. 29	Polda Basin section 55.0 E.	Pg. 168
Fig. 30	Polda Basin section 56.0 E.	Pg. 169
Fig. 31	Polda Basin section 57.0 E.	Pg. 170

PLANS:

Fig. 32	Polda Basin section 58.0 E.	Pg. 171
Fig. 33	Polda Basin section 59.0 E.	Pg. 172
Fig. 34	Polda Basin section 60.0 E.	Pg. 173
Fig. 35	Polda Basin section 61.0 E.	Pg. 174
Fig. 38	Area of influence for reserve calculation.	Pg. 178
Fig. 39	Reserve estimation by the isopach method.	Pg. 179
Fig. 40	Vertical variation in coal quality in terms of ash.	Pg. 186
Fig. 41	Variation of ash content in the coal.	Pg. 187
Fig. 42	Variation of moisture content with ash.	Pg. 188
Fig. 43	Variation of sodium content with ash.	Pg. 189
Fig. 44	Density-ash relationship.	Pg. 190

Cover page for Plans belonging to Springbett, G.M.
Polda Basin Coal Field
Lock Coal Deposit South Australia geological report.

Pg. 205

**SADME
Plan No**

Fig. 4	Sediment thickness Polda Formation.	3384-56
Fig. 5	Sediment thickness quaternary & tertiary units.	3384-57
Fig. 10	Jurassic total coal thickness.	3384-58
Fig. 11	Jurassic strip ratio - all coal.	3384-59
Fig. 12	Jurassic major coal zone depth to basin.	3384-60
Fig. 13	Jurassic major coal zone structure (Base AHD).	3384-61
Fig. 14	Permian sediments structure of top (AHD).	3384-62
Fig. 15	Tertiary total coal thickness.	3384-63
Fig. 16	Tertiary strip ratio - all coal.	3384-64
Fig. 17	Tertiary zone c coal thickness.	3384-65
Fig. 18	Tertiary zone c strip ratio.	3384-66
Fig. 19	Tertiary zone c depth to base.	3384-67
Fig. 20	Tertiary zone c coal structure (Base AHD).	3384-68
Fig. 36	Polda Basin section 86.5 N.	3384-69
Fig. 37	Polda Basin section 58 E from 84 N to 87 N.	3384-70

CONTENTS OF VOLUME FIVE

REPORTS:	O'Brien, M.D., 1981. EL 800 - Lock Area, quarterly report period ending 11 May 1981. (ETSA).	Pg. 206
	Coffey & Partners Pty Ltd. 1981. The Electricity Trust of South Australia Lock Coal Deposit Dewatering Study Report on Stage 1 Investigation July 1981.	Pgs 207-247
APPENDIX I:	Hydrogeology (after Painter 1968).	Pgs 248-260
APPENDIX II:	Glossary of hydrogeological terms.	Pgs 251-253
APPENDIX III:	Water quality data.	Pgs 254-258

PLANS**Company
Plan No.**

Fig. 1	Locality plan .	H45/1-1	Pg. 259
Fig. 2	Plan of study area.	H45/1-2	Pg. 260
Fig. 3	Terre rainfall record.	H45/1-3	Pg. 261
Fig. 4	West-east geological section.	H45/1-4	Pg. 262
Fig. 5	North-south geological section.	H45/1-5	Pg. 263
Fig. 6	Polda Trench pumping data.	H45/1-6	Pg. 264
Fig. 7	Water level record - SQR 2.	H45/1-7	Pg. 265
Fig. 8	Water level record - SQR 39.	H45/1-8	Pg. 266
Fig. 9	Water level record - SQR 42.	H45/1-9	Pg. 267
Fig. 10	Water level record - SQR 70.	H45/1-10	Pg. 268
Fig. 11	Water table contours.	H45/1-11	Pg. 269
Fig. 12	Aquifer types .	H45/1-12	Pg. 270
Fig. 13	Generalized salinity contours.	H45/1-13	Pg. 271
Fig. 14	Occurrence of aeolianite and low salinity groundwater.	H45/1-14	Pg. 272
Fig. 15	Polda aeolianite aquifer-distance-drawdown plot for trench pumping.	H45/1-15	Pg. 273
Fig. 16	Structure of finite element model.	H45/1-16	Pg. 274
Fig. 17	Calibration and dewatering potential.	H45/1-17	Pg. 275
Fig. 18	Time-drawdown plot 3 km west of proposed mine.	H45/1-18	Pg. 276
Fig. 19	Distance-drawdown plot for tertiary confined aquifer.	H45/1-19	Pg. 277
Fig. 20	Proposed stage 2 investigation drill sites.	H45/1-20	Pg. 278

REPORTS:	O'Brien, M.D., 1981. EL 800 - Lock Area, quarterly report period ending 11 August 1981 and 11 November 1981. (ETSA).	Pg. 279
	Coleman & Associates. 1981. Lock Coal Deposit conceptual mine feasibility study for the South Australian Department of Mines and Energy.	Pgs 280-413
APPENDIX I:	Sources of information.	Pg. 414
APPENDIX II:	Deposit Isoline plans.	(See plans Pgs 416-424)
APPENDIX III:	Dewatering requirements at Lock.	Pgs 425-428
APPENDIX IV:	ACIRL analysis and testing report No 04/3095 (11/12/80).	Pgs 429-431
APPENDIX V:	Hydrogeological report.	Pgs 432-433

PLANS

Fig. 1	Location plan .	Pg. 291
Fig. 2	Multiple pass dragline method.	Pg. 293
Fig. 3	Mine layout plan.	Pg. 294
Fig. 4	Generalized stratigraphy.	Pg. 301
Fig. 5	Geological cross sections.	Pg. 303
Fig. 6	Ash variation with depth.	Pg. 307

PLANS

Fig. 7	Haulback mining method.	Pg. 316
Fig. 8	Multiple pass dragline section.	Pg. 317
Fig. 9	Multiple pass dragline section.	Pg. 318
Fig. 10	Isolines of economic ratio.	Pg. 320
Fig. 11	Graph of economic ratio vs product coal.	Pg. 321
Fig. 12	Utilization of reserves.	Pg. 322
Fig. 13	Coal handling schematic.	Pg. 338
Fig. 14	Dewatering layout schematic.	Pg. 356
Fig. 15	Float-sink intervals.	Pg. 362
Fig. 16	Beneficiation process schematic.	Pg. 367
Fig. 17	Bavon jig.	Pg. 368
Fig. 18	Industrial area layout plan.	Pg. 371
Fig. 19	Electrical reticulation-layout.	Pg. 375
Fig. 20	Regional plan.	Pg. 416
Fig. 21	Isolines of overburden thickness.	Pg. 417
Fig. 22	Isolines of coal zone thickness.	Pg. 418
Fig. 23	Isolines of mineable interburden thickness.	Pg. 419
Fig. 24	Isolines of floor structure.	Pg. 420
Fig. 25	Isolines of product coal thickness.	Pg. 421
Fig. 26	Isolines of coal ash content.	Pg. 422
Fig. 27	Isolines of coal ash content.	Pg. 423
Fig. 28	Isolines of stripping ratio.	Pg. 424

CONTENTS OF VOLUME SIX

REPORTS:	O'Brien, M.D., 1982. EL 800 - Lock Area, quarterly report periods ending 11 February 1982 and 11 May 1982. (ETSA).	Pg. 434
	O'Brien, M.D., 1982. Exploration Licence No. 800 - Lock, quarterly reports, 11 August and 11 November 1982. (ETSA).	Pg. 435
	O'Brien, M.D., 1983. EL 800 - Lock, quarterly report, 11 February 1983. (ETSA).	Pg. 436
	Coleman & Associates. 1983. Review of the conceptual Mining Study for the Lock Coal Deposit.	Pgs 437-496
APPENDIX I:	Sources of information.	Pg. 497
PLANS:		
Fig. 1	Location plan .	Pg. 445
Fig. 2	Pit layout.	Pg. 453
REPORTS:	O'Brien, M.D., 1983. EL 1118 - Lock, quarterly report, 14 June 1983. (ETSA).	Pg. 498
	O'Brien, M.D., 1983. EL 1118 - Lock, quarterly report, 18 September 1983. (ETSA).	Pg. 499

REPORTS:	O'Brien, M.D., 1984. EL 1118 - Polda Basin, quarterly reports, 14 December 1983, 14 March 1984 and 14 June 1984. (ETSA).	Pg. 500
	O'Brien, M.D., 1984. EL 1118 - Lock, quarterly report, 14 September 1984. (ETSA).	Pg. 501
	Thorne, B.D., 1977. Co-ordinates Polda Coal Basin.	Pgs 502-505
	Cooper, B.J., 1980. Palynology of selected samples from the Polda Basin Report Book 80/108.	Pgs 505-507
	Springbett, G., 1979. Palynology results.	Pg. 508
	Wigglesworth, K., 1981. Lock coal deposit supplementary coal analyses AMDEL Report AC 1/1/223-482. AMDEL Report AC 11/06/234.	Pgs 509-526

PLANS:	Scale	Company plan No	SADME plan No
Borehole Location Plan Sheet 1, 2 and 3.	1:10 000	LCP 343	3384-71,72,73

CONTENTS OF VOLUME SEVEN

PLANS:	Lock Coal Deposit: ETSA coal bore logs holes P6 to P136 except P8, P9.	Pgs 527-777
---------------	---	-------------

CONTENTS OF VOLUME EIGHT

PLANS:	Scale	
Lock Coal Deposit: ETSA coal interpretation sheets (density log - coal ash analysis) for drillholes. P25, P45, P48, P51, P54, P56, P63, P68, P69, P73, P100, P101, P102, P103, P106, P131, P135, P136.	1:100	Pgs 778-806
PLANS:		
Lock Coal Deposit: ETSA chemical analysis sheets drillholes P2, P6, P7, P14, P21, P23, P25, P26, P31, P32, P33, P34, P38, P39, P41, P42, P43, P44, P45, P48, P51, P54, P56, P63, P68, P69, P73, P100, P101, P102, P103, P106, P131, P135, P136.		Pgs 807-855

CONTENTS OF VOLUME NINE

REPORT:	Lock Coal Deposit Coal analytical reports for holes: P2, P6, P7, P14, P21, P23, P25, P26, P31, P32, P33, P34, P38, P39, P41, P42, P43, P44, P45, P47, P48, P50, P51, P54, P56, P60, P62, P63, P65, P68, P69, P73, P100, P101, P102, P103, P106, P136.	Pgs 856-1340
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END OF CONTENTS

Other related data stored in archives includes:

- original field books containing original core and cuttings logs for some holes see attached sheet for details.
- and x-ray radiographs for holes P56 & P101.

ORIGINAL FIELD LOGS FROM FIELD BOOKS HELD IN ARCHIVES

Hole.	Logged by/Field Book	Depth	Cored (Y/N)	Cored interval
P32	I J TOWNSEND	51.60	Y	41.0-51.60
P33	"	74.60	Y	51.0-74.60
P34	"	93.15	Y	65.50-93.15
P35	"	84.6	N	
P36	"	98.0	Y	68.50-98.0
P37	"	36.0	N	
P39	C GATEHOUSE	81.44	Y	60.75-81.44
P40	"	78.0	N	
P41	"	102.34	Y	66.10-102.34
P42	"	108.90	Y	36.60-108.90
P43	"	67.20	Y	36.0-67.20
P44	"	110.34	Y	77.50-110.34
P46	"	48.0	N	
P47	R BOTTRILL	122.00	N	
P48	"	89.0	Y	0.0-23.10 CT 23.10-62.00 RC 62.0-89.0 CT
P49	"	37.0	N	
P50	C GATEHOUSE	?	?	
P51	R BOTTRILL	61.05	Y	30.70-61.05
P55	"	66.0	N	
P58	"	102.0	N	
P60	"	54.0	N	
P63	"	74.47	Y	29.0-74.47
P64	"	144.50	N	
P66	"	66.50	N	
P68	"	59.0	Y	36.80-59.00
P69	C GATEHOUSE	110.04	Y	3.0-110.04
P70	"	78.5	N	Hole Abandoned
P70	R BOTTRILL	226.0	Y	79.40-82.40 Redrilled
P71	I NORTHCOTT	66.0	N	
P72	"	156.0	N	Hole Abandoned
P73	"	126.13	Y	100-126.13
P74	R BOTTRILL	60.0	N	
P75	"	108.0	N	
P76	"	108.0	N	
P77	C GATEHOUSE	72.0	N	
P78	PHOTOCOPIED LOGS	59.0	N	
P79	"	79.0	N	
P80	"	115.0	N	
P81	"	97.5	N	
P82	"	92.3	N	
P83	"	74.0	N	
P84	"	110.0	N	
P86	"	97.0	N	
P87	MARK FLINTOFT	96.0	N	
P89	PHOTOCOPIED LOGS	51.2	N	
P90	"	57.9	N	
P91	"	102.0	N	
P92	"	102.0	N	
P93	"	74.0	N	Incomplete log
P94	"	97.0	N	
P95	M FLINTOFT	44.0	N	
P96	"	80.0	N	
P98	PHOTOCOPIED LOGS	50.0	N	Incomplete log
P99	"	176.0	N	
P100	M FLINTOFT	98.90	Y	54.0-98.90
P101	PHOTOCOPIED LOGS	111.0	Y	28.6-68.8
P102	"	110.0	Y	51.1-72.5
P103	MARK FLINTOFT	76.0	N	