TR15-40-43

10. Diamond drilling at the Sandfly Coal mine, Kaoota

V.M. Threader

Diamond drilling at Kaoota has been carried out by the Department of Mines to determine the throw of a fault which was intersected in the Sandfly Coal mine adit, designated No. 3 on Figure 8.

Several Triassic coal seams have been mined at Kaoota over the past 90 years but only one of these is currently being worked. This seam is a sub-anthracite and has been found to be suitable for use in mixed feed lime kilns at the Australian Newsprint Mills, Boyer. The property is owned by O.L. and O.T. Roberts who hold the mining lease 395P/M (88 acres).

Three adits are shown on the accompanying map: No. 1 is disused and is situated on the tramline to the south of the present lease area. No. 2 was, until recently the access to the main workings which lie between two downthrow faults. No. 3 was recently opened up to work the ground on the northern boundary of No. 2 workings. This adit intersected a fault 52 m (170 ft) from the portal and a diamond drill hole ahead of the face has established an 18 m (60 ft) downthrow on this fault. A second hole was drilled to intersect the coal seam in the block of ground between No. 2 and 3 workings and to determine its depth and quality.

Future mining operations can be considered as (1) mining the remaining block of ground on the upthrow side of the fault and (2) gaining access to the coal on the downthrow side of the fault.

(1) Between 2 and 3 workings and the two boundary faults there is an area of 85,000 m^2 (100,000 yd^2) which would contain approximately 100,000 tonnes of coal (assuming a 1 m (3 ft) seam and an S.G. of 1.5). Allowing for 50% recovery and an average annual production of 2,000 tonnes, this tonnage represents approximately 25 years' reserves.

This block should be free of major faults and access to it can be made either above or below the main road. From considerations of coal handling and loading, and also road stability, access should be from above the road, although this would have the disadvantages that some unworked ore would be left in the road pillar and there would be some waste disposal problems.

(2) Access to the downthrown block could be obtained in the northern part of the lease area at a point which can only be ascertained by prospecting as it depends on the strike and dip of both coal seam and fault plane. This block is completely unknown with respect to faulting and it would be advisable to carry out some prospect drilling to ensure continuity of production and to permit adequate planning.

BORE HOLE 1, KAOOTA

Depth					Description of Strata
ft	*in*		*ft*	*in*	
0	0	-	10	0	Soil and overburden
10	0	-	18	9.5	Iron-stained sandstone
18	9.5	-	19	1	Soft coal
19	1	-	65	0	Iron-stained sandstone
65	0	-	73	4	Coarse-grained sandstone
73	4	-	75	0	Coal
75	0	-	75	6	Grey mudstone with gradational lower contact
75	6	-	77	6	Fine-grained grey sandstone, banded at base

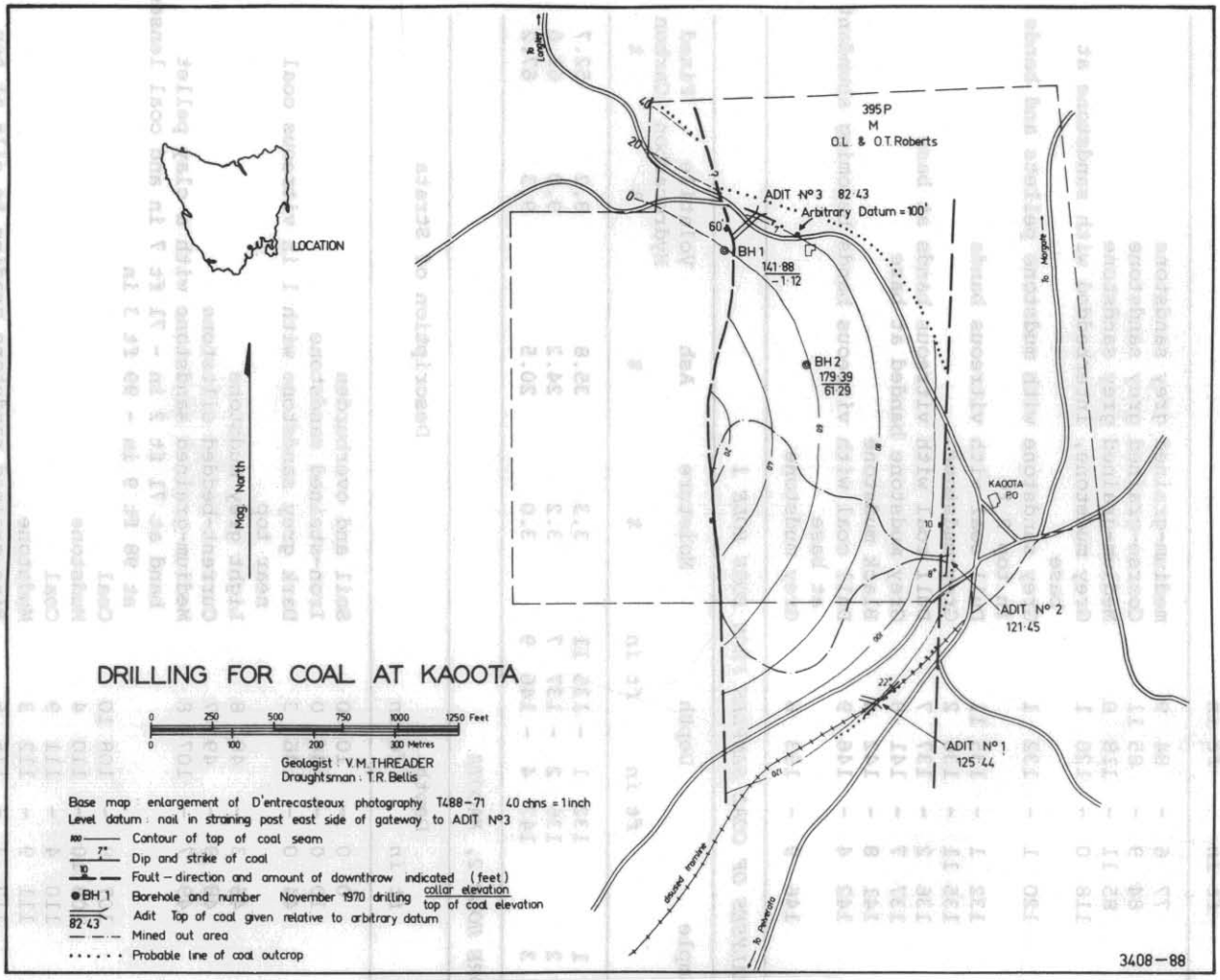
LOCATION
Mag. North
DRILLING FOR COAL AT KAOOTA
0 250 500 750 1000 1250 Feet
0 100 200 300 Metres
Geologist : V.M. THREADER
Draughtsman : T.R. Bellis
Base map enlargement of D'entrecasteaux photography T488-71 40 chns = 1 inch
Level datum : nail in straining post east side of gateway to ADIT N°3
Contour of top of coal seam
Dip and strike of coal
Fault - direction and amount of downthrow indicated (feet)
BH 1 Borehole and number November 1970 drilling collar elevation / top of coal elevation
82·43 Adit Top of coal given relative to arbitrary datum
Mined out area
Probable line of coal outcrop
395P
M
O.L. & O.T. Roberts
ADIT N°3 82·43
Arbitrary Datum = 100'
BH 1
141·88
-1·12
BH 2
179·39
61·29
KAOOTA P.O.
ADIT N° 2
121·45
ADIT N° 1
125·44
To Margate
To Penguin
3408-88

Figure 8.

5 cm

BORE HOLE 1, KAOOTA - continued

Depth ft	in		ft	in	Description of Strata
77	6	-	84	9	medium-grained grey sandstone
84	9	-	85	11	Coarse-grained grey sandstone
85	11	-	118	0	Medium-grained grey sandstone
118	0	-	120	1	Grey mudstone, interbedded with sandstone at base
120	1	-	132	1	Grey sandstone with mudstone pellets and bands in top 2 ft
132	1	-	135	11	Dull coal with vitreous bands
135	11	-	136	2	Grey mudstone
136	2	-	137	7	Dull coal with vitreous bands at base
137	7	-	141	8	Grey mudstone banded at base
141	8	-	142	4	Black mudstone
142	4	-	146	9	Dull coal with vitreous bands becoming abundant at base
146	9	-	153	6	Grey mudstone

ANALYSES OF COAL SAMPLES FROM BORE HOLE 1

Sample	Depth ft	in		ft	in	Moisture %	Ash %	Volatile Hydrocarbon %	Fixed Carbon %
1	132	1	-	135	11	3.3	35.8	8.2	52.7
2	136	2	-	137	7	3.2	24.2	9.0	63.6
3	142	4	-	146	9	3.0	20.5	9.3	67.2

BORE HOLE 2, KAOOTA

Depth ft	in		ft	in	Description of Strata
0	0	-	10	0	Soil and overburden
10	0	-	44	0	Iron-stained sandstone
44	0	-	46	3	Dark grey sandstone with 1 in vitreous coal near top
46	3	-	48	8	Light grey mudstone
48	8	-	49	7	Current-bedded siltstone
49	7	-	107	8	Medium-grained sandstone with a clay pellet band at 71 ft 2 in - 71 ft 7 in and coal lenses at 98 ft 9 in - 99 ft 3 in
107	8	-	108	10	Coal
108	10	-	110	4	Mudstone
110	4	-	111	9	Coal
111	9	-	112	3	Mudstone
112	3	-	115	6	Fine-grained sandstone grading to silt at top
115	6	-	118	1	Mudstone
118	1	-	118	6	Dull coal
118	6	-	120	5	Bright coal
120	5	-	120	7	Dull, earthy coal
120	7	-	121	10	Bright coal
121	10	-	122	4	Dull earthy coaly mudstone
122	4	-	132	3	Grey mudstone
132	3	-	133	0	Siltstone

BORE HOLE 2, KAOOTA - continued

Depth ft in			Depth ft in		Description of Strata
133	0	-	141	0	Fine-grained sandstone with occasional siltstone laminations
141	0	-	148	6	Medium-grained sandstone
148	6	-	148	9	Grey mudstone
148	9	-	150	5	Coaly mudstone, 3 in coal at start
150	5	-	156	3	Grey mudstone
156	3	-	157	6	Coal
157	6	-	163	6	Grey mudstone
163	6	-	182	0	Banded siltstone
182	0	-	184	0	Clean grey calcareous sandstone
184	0	-	189	6	Banded siltstone
189	6	-	201	9	Grey mudstone
201	9	-	216	4	Clean grey sandstone, carbonaceous 208 ft 9 in 209 ft 3 in

ANALYSES OF COAL SAMPLES FROM BORE HOLE 2

Sample	Depth ft in		Depth ft in	Moisture %	Ash %	Volatile Hydrocarbon %	Fixed Carbon %
1	107 8	-	108 10	3.1	34.2	6.6	56.1
2	110 4	-	111 9	3.4	32.0	5.9	58.7
3	118 1	-	121 10	4.8	25.3	5.8	64.1
4	121 10	-	122 4	5.0	70.1	5.8	19.1

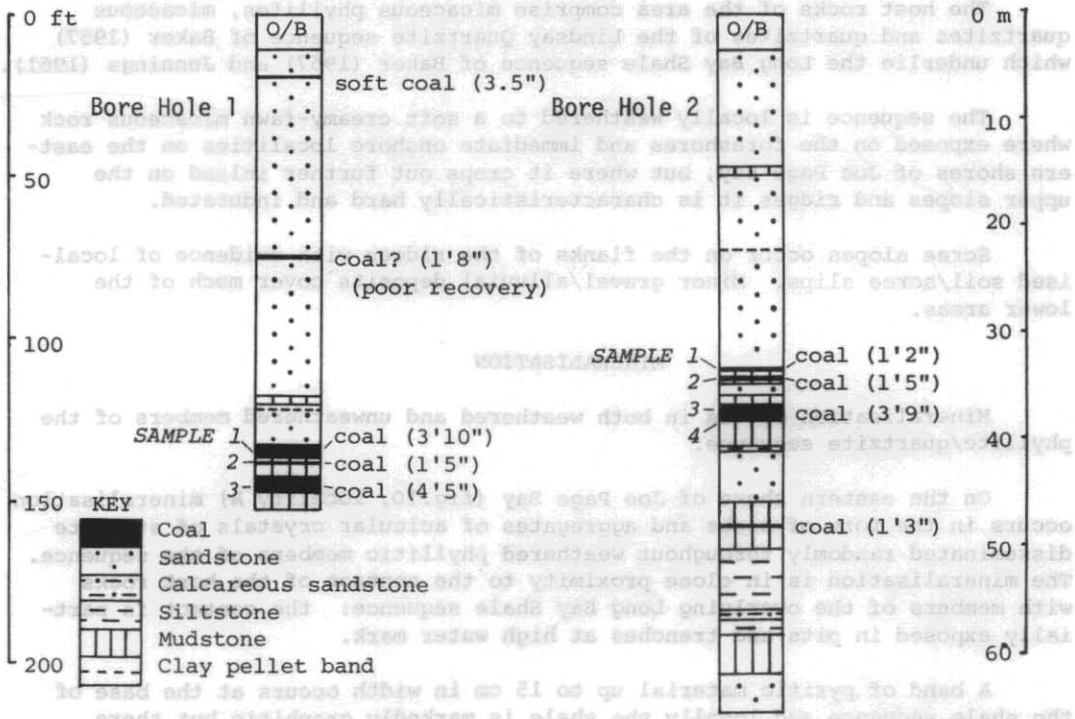

Figure 8. *Simplified bore hole logs and sample details, Kaoota.*

5 cm