

1952/37
copy 3

KIRBY'S HILL AND TYDESLEY-BEN BULLEN AREAS

WESTERN COAL FIELD.

Results of Scout Drilling.

by

W. J. Perry.

RECOPDS 1952/37

CONTENTS.

1. KIRBY'S HILL AREA

SUMMARY

INTRODUCTION

DEFINITION OF SUITABLE COAL

DRILLING RESULTS

INDICATED COAL RESERVES

RECOMMENDATION

2. TYDESLEY-BEN BULLEN AREA.

TABLE; details of bores.

N14-77 Plan of Kirby's Hill

N14-70 Reference

N14-78 Bore logs.

KIRBY'S HILL AND TYLDESLEY-BEN BULLEN AREAS.

WESTERN COAL FIELD.

Results of Scout Drilling.

by

W. J. Perry

RECORDS 1952/37.

SUMMARY.

Scout drilling at Kirby's Hill and at Tyldesley Ben Bullen has shown that the coal present is unsuitable for open cut exploitation. Proving is not recommended.

1. KIRBY'S HILL AREA.

INTRODUCTION.

This statement gives the results of a scout drilling campaign conducted by the Bureau at Kirby's Hill Area of the Western Coalfield of New South Wales. The area investigated comprises approximately 200 acres of the parish of Cullen Bullen in the County of Roxburgh. At Kirby's Hill itself a maximum of about 300 feet of Coal Measure rocks rests on Upper Marine beds, and this is one of the most westerly exposures of the Upper Coal Measures.

The purpose of scout drilling was to determine the suitability of the Lithgow and Irondale Seams for open cut exploitation. The three bore sites were decided on at a discussion between representatives of the New South Wales Mines Department, the Joint Coal Board's Lithgow Office, and the Bureau. A Goldfields type rig operated by Goldfields Diamond Drilling Co. under contract to the Bureau drilled a total of 311 feet in the area.

Mr. F. O. Rayner of the New South Wales Mines Department surveyed P.M.R.8 and related its level to his plan of the area from which the attached plan N14-77 is traced. Mr. G. M. Burton examined the core from B.M.R.8 and completed the survey of bores 9 and 10. Cores from these holes were logged by the writer.

Proximate analyses and calorific value determinations of the coal cores were made by the New South Wales Mines Department laboratory in Sydney. All coal cores as recovered were forwarded from the field to the laboratory and the analysts selected samples for examination by rejecting shale etc. bands with a thickness of half an inch or more. Stony coal with S.G. of more than 1.6 was also excluded from the samples analysed. Consequently the analyses here quoted indicate a composition roughly equivalent to that which might be expected for cleaned or hand-picked coal from this area. Both seams are much banded, as may be seen by reference to Table I and to the graphic logs.

DEFINITION OF SUITABLE COAL.

Coal is included in the computation of reserves suitable for open cut mining only when it conforms to the following

conditions:-

1. Minimum thickness of 5 feet
2. Maximum overburden of not more than 100 feet to the roof of the seam.
3. Maximum overburden/coal ratio of 15/1.
4. Calorific value: Not less than 10,000 B.Th.U.'s per pound.

DRILLING RESULTS.

As indicated above, three bores were drilled, the total footage being 311 feet. The average percentage recovery of coal core was 80%. Bores 8 and 9 penetrated the Irondale and Lithgow Seams, but owing to a lack of adequate supervision bore 10 was abandoned a few feet below the Irondale Seam. It is probable, however, that the Lithgow Seam characteristics here are similar to those shown in bores 8 and 9.

INDICATED COAL RESERVES.

In general though thickness is satisfactory, the quality of coal intersected in the three bores falls below the standard required by the definition. In B.M.P.9 the Lithgow Seam has a calorific value of 10,570 B.Th.U.'s per pound, but its thickness is only 4 feet. Hence, reserves of potential open cut coal are nil.

Details of bores are shown in the accompanying table.

RECOMMENDATION.

No further consideration should be given to Kirby's Hill as a potential open-cut area; proving is not recommended.

2. TYLDESLEY-BEN BULLEN AREA.

One bore was sunk at a position 1,505 feet in direction N48½ W from the south-east corner of M.L.27 in the parish of Cullen Bullen. Two seams were intersected at 37 and 55 feet respectively but these are too thin for open-cut purposes (see table and graphic log).

TABLE.

KIRBY'S HILL AND TYLDESLEY-BEN BULLEN AREAS.
DETAILS OF BORES.

Bore No.	Thickness of Coal Ex- cluding bands more than $\frac{1}{2}$ " thick			Overburden Thick- ness feet.	Composition of Coal Excluding Bands.					Approx. B.Th.U's per pound. Bands Included (b)	Bands Excluded from Analysis (inches)
	Assumed from Log(a)	Recovered and Analysed.	% Coal recovered.		Moist %	V.L. %	F.C. %	Ash %	B.Th.U's per pound		
Kirby's Hill											
8	(7ft.6in.	7ft.6in.	100	39	2.3	28.4	40.0	29.3	9,970	8,800	12
	(10 0	8 4	83	92	2.3	24.2	43.5	30.0	9,810	8,250	19
9	(7 8	5 8	74	42	1.7	30.5	40.5	27.3	10,350	8,480	15
	(4 0	3 2	79	93	2.2	25.3	47.7	24.8	10,570	10,570	-
10	8 1	5 2	64	75	1.7	31.7	40.9	25.7	10 530	8,490	15
Tyldesley-Ben Bullen Area.											
11	(11	11	100	37	1.9	26.6	42.3	29.2	10,010	10,010	-
	(2 4	1 11	82	55	1.7	28.9	37.9	31.5	9,730	9,730	-

(a) Lost core from within the coal seam and for which there is no information is regarded as coal of the same composition as that recovered and analysed.

(b) It is assumed that bands have no calorific value.



REFERENCE

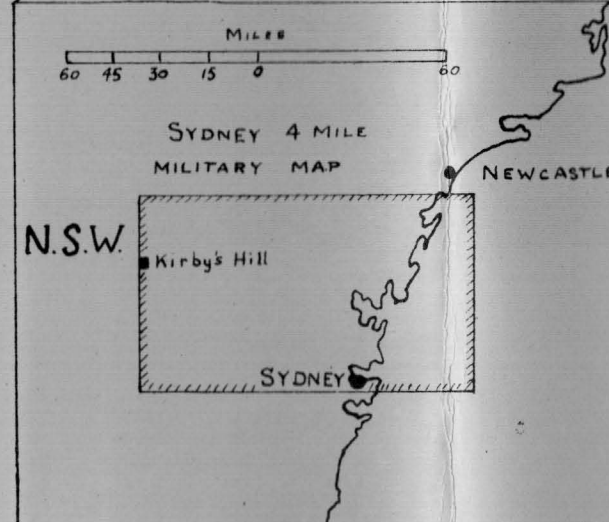
- IRONDALE SEAM
- LITHCOO SEAM
- LOWER MARRANGAROO SANDSTONE AND CONGLOMERATE

BMR. 8
O
3048'
BUR. MIN. RES. SCOUT BORES

Traced from NSW. Mines Department
Plan No. 9P. 708 (1)

POR. 49

LOCALITY MAP



PLAN
KIRBY'S HILL AREA

PARISH OF CULLEN BULLEN

COUNTY OF ROXBURGH

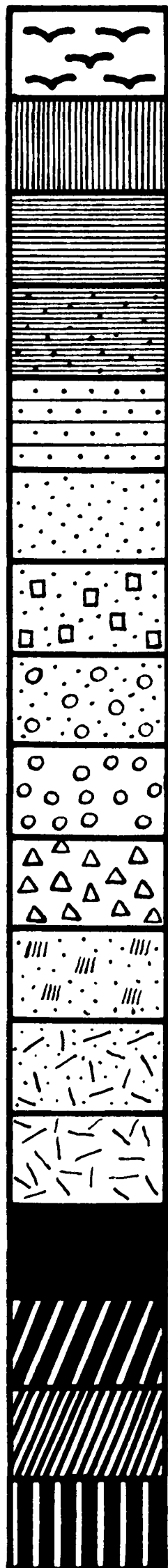
showing
position of scout drill-holes.

Datum: Mines Department Standard
feet

BUR. MIN. RES.

NI4-77

REFERENCE



Alluvium

Clay

Shale

Sandy Shale

Siltstone

Sandstone

Greywacke

Sandy Conglomerate

Conglomerate

Breccia

Chert

Tuff

Igneous Rock

Coal (*Under* $\frac{20\%}{\text{Ash}}$)









Shaly Coal ($\frac{20-30\%}{\text{Ash}}$)

Carb. Shale (*Over* $\frac{30\%}{\text{Ash}}$)

Carb. Shale or Coal
composition unknown

Area: KIRBY'S HILL.
Hole No. 58.
Map Ref: N14-77

Depth	Section	Description	% Core Recovered
No			
CORE			
39'2"		29.0% Ash 9,930 B.Th. U.S./lb.	
41'6"		(2" band shale excluded from analysis)	
41'10"		32.3% Ash 9,540 B.Th. U.S./lb.	
45'7"		(1" band excluded from analysis)	
46'0"		25.7% Ash 10,430 B.Th. U.S./lb.	
47'8"			

92' 0"		} 32.7% Ash	9,410 B.T.H. U ₂ /lb.
95' 0"			
95' 3"		} 27.3% Ash	10,200 B.T.H. U ₂ /lb.
97' 8"			
98' 0"		} 34.6% Ash	9,140 B.T.H. U ₂ /lb.
99' 10"			
100' 10"		} 25.6% Ash	10,490 B.T.H. U ₂ /lb.
103' 7"			

N14-78A

Commonwealth of Australia
Bureau of Mineral Resources
Geology & Geophysics

Area: KIRBY'S HILL
Hole No. S9 CULLEN BULLEN
Map Ref: N14-77

R.L. 3083.9 Datum Mean Sea Level
Driller: C. Stanley Logger: W. J. Perry
Started: 1.1.91 Completed: 12.1.91
Drill Type: Goldfields D.D. Total Depth of hole: 110'
Inclination of hole: vertical

Depth	Section	Description	Core Recovered
	no record		
10			
			74
20			96
			84
			90
			84
30			
			80
40			
42' 4"		25.8 % Ash 10,560 B.Th.U's per lb.	85
44' 3"		2" band excluded from analysis	
45' 3"		28.2 % Ash 10,220 B.Th.U's per lb.	80
48' 2"		8" band excluded from analysis	85
48' 6"		27.9 % Ash 10,280 B.Th.U's per lb.	67
51' 3"			56
			95
60			
			91
70			
			100
80			
			50
90			

N14-78B

Commonwealth of Australia
Bureau of Mineral Resources
Geology & Geophysics

Area: KIRBY'S HILL
Hole No. S.10 PM: CULLEN BULLEN
Map Ref: N14-77

R.L. 3108' Datum Mines Dept. Standard
Driller: C. Stanley Logger: W. J. Barry
Started: 12/9/51 Completed: 18/9/51
Drill type: Goldfields DD Total Depth of hole: 92
Inclination of hole: vertical

Depth	Section	Description	Cone Recovered
10			43
20			
30			85
40			82
			100
48' 0"			89
49' 0"		25.3% Ash 10,580 B.T.U.'s per lb.	100
52' 0"			75
		43.0% Ash —	81
55' 0"			81
			91
58' 0"			100
59' 1"		29.6% 9,940 B.T.U.'s per lb.	
			99
			100
70			100
			100
74' 8"			
77' 6"		24.0% Ash 10,720 B.T.U.'s per lb.	57
77' 8"			
		27.3% Ash 10,380 B.T.U.'s per lb.	80
81' 0"			66
			85
90			

N14-78C

Commonwealth of Australia
Bureau of Mineral Resources
Geology & Geophysics

Area: TYDESLEY - BEN BULLEN

Hole No. 11

Map Ref: _____

R.L. 2973 Datum MINES DEPT. STANDARD

Driller: C. Stanley Logger: MINES DEPT. SYDNEY

Started: 27.9.51 Completed: 10.10.51

Drill Type: Geopetrol D.D. Total Depth of hole: 111

Inclination of hole: VERTICAL

Depth	Section	Description	% Core Recovered
10			
20			
27' 6"		62.3 % Ash	106
29' 6"			
31' 3"		46.1 % Ash	105
33' 10"			90
34' 5"		43.1 % Ash	
36' 2"			
37' 4"		29.2 % Ash 10,010 B.Th.U.'s per lb.	
38' 3"			
50			
52' 11"		38.8 % Ash	78
54' 9"			
54' 7"		31.5 % Ash 9,730 B.Th.U.'s per lb.	57
56' 11"			
60			100
70			