INTERIM REPORT ON COAL EXPLORATION, MT. LLOYD.

Introduction:

Concurrently with drilling by Australian Newsprint Mills Ltd., on L. Teakle's lease at Mt. Lloyd a Tacheometric survey of the main prospecting openings has been made by their surveyor, Mr. B. Garrett. This survey enables correlations to be made between the separate exposures which are confirmed by detailed lithological mapping. On previous visits exposures have been too poor to obtain worthwhile information.

Previous References:

T.D. Hughes (1952) "Coal near Mt. Lloyd" Unpublished Report, Tas. Mines Department, 15.2.52

T.D. Hughes (1955) "Coal near Mt. Lloyd (2nd report)" Unpublished Report, Tas. Mines Department, 5.5.55. Published in Ann. Rept. Dir. Mines for 1955, pp. 23-24

K.L. Burns (1956) "The Distribution of Coal at Mt. Lloyd" Unpublished Report, Tas. Mines Department 14.5.56

K.L. Burns (1956) "Supplementary Note on Mt. Lloyd" Unpublished Report, Tas. Mines Department 26.11.56

Locality:

The present investigation has been confined to the northern slope of the southern flat (see Burns, 1956) in the vicinity of Teakle's lease. A plan and sections by B. Garrett is appended. (Mines Department plan 1533).

The Coal Seams:

Openings have been made into three seams near the East Road (the eastern timber road leading from the drill site north to Mt. Lloyd), two seams near the West Road (main access road) while three seams have been cut in drilling to date (300').

East Road Seams:

The top seam (East 1) is 30" thick, exposed in an open cut, overlain and underlain by green shale which weathers brown and red, has horizontal parting and conchoidal fracture, and contains plant stems. The top shale is at least 3' thick, and about 40' above is a red felspathic sandstone.

East 2 is exposed in an adit about 30' long, and 13.2 feet below East 1. The overlying shale is black, carbonaceous, with the floor a white fossiliferous shale. A rock fall at the face is white felspathic sandstone, which must overlie the black shale. The seam is 33" thick, with the top 19" and bottom 3" shaley, the middle 11" being tough, coherent, finely laminated bright coal.

East 3 is very poorly exposed in a water filled pit, 85.3' below East 2.

West Road Seams:

The top seam (West 1) is exposed in a tunnel on the road several hundred feet north of the drill site. The roof is a strong, laminated felspathic sandstone at least 3' thick, yellow in colour but weathering to a white clay. The floor is a black and yellow laminated fine grained sandstone. The seam is 3'9" thick, consisting of:-

5½" coal, with sharp top and transitional bottom, and with brown stained cleat surfaces.
5" brown and white shale, with transitional top and sharp bottom.
9½" black coal.
2" coal, dense, with conchoidal fracture and brown cleat surfaces
½" brown shale
1½" coal, dense, with conchoidal fracture and brown cleat surfaces.
1¼" black coal.
½" brown shale
6½" black coal.

The bottom seam (West 2) is also exposed in a tunnel, 19' below West 1. This is overlain by a minimum of 2' of buff coloured shale with dark laminae, which overlies 4' of laminated fissile shale consisting of black carbonaceous shale bands in white clay. This rock is extremely distinctive, and is sometimes called 'magpie shale'. The floor is 12" of brown, weekly laminated, non-fissile, felspathic siltstone. The coal is 20½" thick, with an ½" shale band 8" from the top.

These seams have also been identified in workings 200' east of the West road.

Drilling Results:

Detailed lithological logs are withheld till the bore is completed. To date (300') three seams have been cut.

The top seam is 6" of bright coal, specific gravity less than 1.6, between 144'6" and 145'.

The second seam is 3'9" thick. The overlying rock is laminated sandstone and siltstone. The log is as follows:-

Footage	Core Length	Recovery	Lithology
153'4" -	2")		Laminated Carbonaceous shale
	½")	4/5	Sandstone band
- 153'9"	1½")		Carbonaceous shale with coal layers
153'9" - 154'2"	2½"	2½/5	Brown shale with a penny band of bright coal
154'2" - 155'	10"	10/10	1" coal 1¼" coal with vertical calcite seams 1" coal ⅛" pyritiferous shale ⅛ - ¼" coal

Footage	Core Length	Recovery	Lithology
			1/8" calcite 1/4" coal 1/8" calcite 1 5/8" coal 1/8 - 1/2" pyritiferous mud pellet conglomerate 1/4" coal 1/4 - 1/2" mud pellets and calcite in bright coal 1" coal
155' - 157'1"	11"	11/25	Coal
153'4" - 157'1"	27½"	27½/45	Total

A core sample from 154'2" - 157'1", analysed at the Launceston Laboratory, resulted as follows:-

Sample No. 1612 27.11.57

Moisture	3.3%
Volatile Combustible matter	13.7
Fixed Carbon	55.0
Ash	28.0
Sulphur	0.34
Calorific Value	10,110 B.Th.U's

The third seam is overlain by interlaminated shale and carbonaceous shale.

Footage	Core Length	Recovery	Lithology
173'7" - 173'9"	2"	2/2	Coal
173'9" - 175'3"	12"	12/18	Coal
173'7" - 175'3"	14"	14/20	Total

The core sample from 173'7" - 175'2" was analysed and resulted as follows:-

Sample No. 1613 27.11.57

Moisture	2.9%
Volatile Combustible matter	14.3
Fixed Carbon	60.2
Ash	22.6
Sulphur	0.45
Calorific Value	11,000 B.Th.U's

Correlations:

The most likely correlation, as shown on the plan by B. Garrett, is as follows:-

BORE		WEST ROAD		EAST ROAD		
Altitude	Footage	Altitude	Number	Altitude	Number	Thickness
	Dolerite		Dolerite	2504.5	1	30" coal 13.2' sed.
	Dolerite		Dolerite	2491.3	2	33" coal approx. 60' sed.
2355'	144'6"- 145'	Not exposed		Not exposed		6" coal 9' sed.
2346'	153'4"- 157'1"	2377	1	2416?	3?	45" coal 19' sed.
2327'	173'7"- 175'3"	2362	2	Not exposed		20" coal

This correlation gives a dip between the West Road and the Bore of 1 in 22.6 to the south, and between the Bore and the East Road of 1 in 22.6 to the southwest.

On this correlation, East 2 would be expected in the bore at 84', but the log shows dolerite to 112'. The top seams are therefore removed by erosion in the vicinity of the bore, with their position occupied by dolerite talus.

The seams described by Hughes (1952) have not yet been identified, but probably overlie the East 1 seam.

Samples have been taken for pollen analysis which will provide better information for local and regional correlation.

Forward Programme:

Five seams are now known fairly accurately, but there is as yet insufficient information to warrant correlation with the Sandfly or Upper Derwent coalfields. The deposit is only partly tested, and a thorough test will require the hole to be completed to the Ross Sandstone at about 600' depth.

In view of the poor drill recovery in some coal seams, it is proposed to take the necessary equipment to Mt. Lloyd on the next visit and obtain accurate samples from the prospecting openings. Some of this has been done by Mr. Hughes, but since then Teakle's workings have been greatly extended. If any further seams are revealed by drilling, with poor recovery, it would be best to level down the hill and drive on the seam for about 20', to obtain full information.

When this bore is completed, sufficient information may be available to make an accurate analysis of the whole of the southern plateau, although a short hole (approx. 200') through the highest seams would be desirable.

Exploration of the northern plateau will depend upon the results obtained in the present investigation.

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