1986/08. The George Town coalfield

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Abstract

The George Town coalfield is located on the south-eastern slopes of Mt George [DQ892491] where thin seams of coal were found in the Clog Tom Sandstone late last century. A few shafts were sunk for prospecting purposes but no mining activity eventuated. The seams are all thin and of limited areal extent. The coal is of Late Permian age.

INTRODUCTION

The George Town coalfield is situated on the south-eastern slopes of Mt George, 3 km east of George Town and 3 km north of Bell Bay, at the mouth of the Tamar Estuary in northern Tasmania. Access is provided by a network of sealed and secondary roads.

GENERAL GEOLOGY

The George Town coalfield has been examined by Twelvetrees (1904), Hills (1920), Hills *et al.* (1922), Blake (1936), Hughes (1949), and is included on the Beaconsfield Sheet of the Geological Atlas 1:63 360 Series (Gee and Legge, 1971).

Twelvetrees (1904) regarded the coal as being of Tertiary age, describing the sediments examined as follows:

"the looseness of the sandstones, the character of the clay combine in indicating that the coal and enclosing strata belong to the Tamar series of Tertiary deposits. The character of the coal confirms this conclusion. It is a light coal retaining a slightly woody structure, brown to black in hue, moist when freshly broken, not at all sulphurous...."

Hills (1920) was of the opinion that the rocks hosting the coal were of the 'Trias-Jura' series (*i.e.* Triassic) while Hughes (1949) described the host rocks as being typical of the "Permian mudstone and coarse iron-stained sandstones or grits which bear little likeness to the typical feldspathic sandstones, the coal bearer of the Triassic".

The mapping of Gee and Legge (1971) shows a small fault block of Triassic (Upper Parmeener Super-Group) micaceous quartz sandstone faulted against Permian (Lower Parmeener Super-Group) sediments in the coalfield area. Careful plotting of the old shafts and bores has shown that these were all sunk in the Clog Tom Sandstone, a correlate of the Cygnet Coal Measures of Late Permian age.

The stratigraphy (Gee and Legge, 1971) in the George Town area is:

Upper Parmeener Super-Group

- thickly bedded and cross-bedded to medium-grained ferruginous quartz sandstone.

Lower Parmeener Super-Group

- Clog Tom Sandstone: carbonaceous and micaceous quartz sandstone.

- Middle Arm Group: Interbedded unfossiliferous worm-cast argillaceous sandstone and dark mottled siltstone.

- West Arm Group: Fossiliferous sequence of sandstone, pebbly sandstone, siltstone, calcareous siltstone and limestone.

- Liffey Sandstone: Well-sorted cross-bedded carbonaceous sandstone.

- Masseys Creek Group: Calcareous siltstone, sandstone, limestone and mudstone, commonly fossiliferous and pebbly in places.

PREVIOUS MINING HISTORY

Coal was discovered on the Musk Vale Estate, near George Town, in 1888 by a Mr Hackett, who was granted a Reward Lease in 1889. The field was visited by Twelvetrees (1904) who described two old shafts (Hackett's and Grubb's) sunk to a depth of 3.6 m and 9.75 m respectively, and a 'new' shaft, 13.4 m deep. The seams encountered in all of these shafts were from 50-300 mm thick.

Hills (1920) inspected the field to determine whether the coals were Tertiary lignite or older (*i.e.* Triassic). On deciding that the coals were Triassic, Hills marked out the position of eight drill holes to determine the extent of the field. A shaft 13.7 m deep had recently been dug near Hackett's old shaft prior to Hills' visit. Two thin seams of coal, 200 mm and 150 mm thick respectively, were intersected in the shaft.

Six holes were drilled in 1935-36, several being in positions suggested by Hills (1920). The logs are given by Blake (1936). No coal was intersected in these holes, and Hughes (1949) comments that these holes were sited below the level of the two seams inspected in the shaft by Hills (1920).

COAL QUALITY

Few analyses of coal are available from the George Town coalfield. The following analyses are given in Twelvetrees (1904).

Moisture (%)	10.06	6.60	14.50	15.00	15.83
Ash (%)	4.12	8.00	4.65	8.40	15.57
Fixed carbon (%)	52.40	49.00	54.05	39.70	35.49
Volatile matter (%)	33.42	35.50	26.80	36.90	33.09
Sulphur (%)	-	0.90	0.00	0.00	0.02

The samples would be hand-picked pieces and not whole seam samples.

RECENT EXPLORATION

A number of auger holes and costeans were put down in the George Town area in 1981 in search of coal. The programme was unsuccessful in locating any significant coal seams (Miedecke, 1983).

FUTURE POTENTIAL

The potential for future exploration in the George Town coalfield is extremely small. The known seams are very thin (<0.30 m thick) and of limited lateral extent.

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