

APPENDIX 3

The Hughenden District, Including Oxley Creek and Plate 49—PDTS Extract

THE HUGHENDEN DISTRICT, INCLUDING OXLEY CREEK.

Map Reference, Plate 49.

Geographical Position and Climate.

1. This district, lying to the north of the Townsville-Hughenden railway between Pentland and Prairie Stations, is remote and difficult of access. The western part is traversed by the important drainage system of the Flinders River. To the east and north-east lies a more rugged mountainous country formed in part by old rocks which contain the famous Cape River goldfield.

2. A very good panoramic view of the coal area as a whole can be obtained from the Pentland—Oxley Creek motor road, where it crosses the Dividing Range at a point on the boundary line of the old metamorphic rocks. From this high point the lower-lying country forming the White Mountains can be seen spreading towards the Flinders River area in the west, which so far has been little surveyed.

3. The area is sub-tropical with high temperature and humidity during the summer months; the annual rainfall varies between 15 and 25 inches.

Stratigraphy and Structure.

4. This is an isolated area, containing Permian rocks mostly hidden by younger deposits, the latter forming a prominent topographical feature in the shape of a sandstone plateau.

5. The Permian coal measures unconformably overlie old schists, the junction being clearly visible in Oxley Creek above its confluence with White Mountain Creek. At the junction of the coal measures and the underlying schists occurs a basal conglomerate with micaceous sandstone and grits.

6. The sedimentary series overlying the coal measures near Oxley Creek camp are most striking; they are referred to by other observers as the "White Mountains", and form almost a "Bad Lands" topography, over which movement is very difficult. The rivers have cut narrow canyon-like valleys, into the thick series of sandstones and conglomerates, and these are serious obstacles for cross-country traverses. This series, which consists of more than 300 feet of white quartz sandstones, appears to overlie the coal measures conformably, but Mr. Reid states in his report (G.S.Q. Publication No. 258) that, "in a tributary of White Mountain Creek the sandstones of the White Mountains are seen to be resting at a low angle on almost vertical beds" of the Permian system. This is a most important discovery and was kept in mind during our investigations.

7. Intrusions were observed in the old schists which were here strongly weathered, and which are permeated by quartz veins with cavities. No intrusions were, however, noticed in the coal measures. The schists are somewhat disturbed and dip in a north-easterly direction, whereas the Permian sedimentary rocks dip towards the south, with dips of 30° near the unconformable junction. This latter group includes the usual sandstones, shales, clay shales, and conglomerates, with coal seams in the upper part of the group, which are exposed in Oxley Creek and Dingo Creek where the overlying formations have been eroded away. Mr. Reid gives an estimated thickness for the group of 1,300 feet, of which the upper 160 feet contain the coal seams.

Results of Past and Present Investigations.

8. The map on Plate 49 is based on data supplied by the Geological Survey of Queensland, and shows the positions of the coal localities. These are the Blantyre and Prairie coal bores, and the Flinders River, Galah Gorge, and Oxley Creek outcrops. The bore at Warreal Station did not find coal but it may not have gone deep enough; the bore at Prairie, however, which went to 1,414 feet, is reported to have found coal at 591 feet and 838 feet. As has been described in the Q.G.M.J. (June, 1947), a narrow strip of Permian coal measures is exposed in the Sladden area.

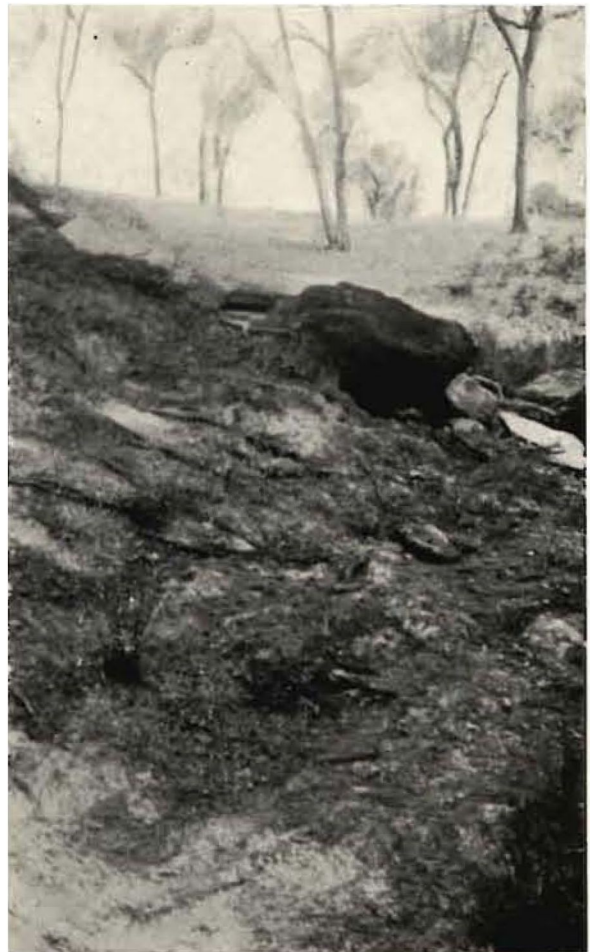
9. We examined the principal outcrops of the seams in Dingo and Oxley Creeks. The outcrop in the bend of Dingo Creek near the old No. 2 Shaft is very striking. This outcrop has a thickness of approximately 15 feet, but it is very dirty and not worth sampling. A photograph of this outcrop is shown opposite.



Mount Isa Mining Camp, Oxley Creek, Hughenden District, showing Mesozoic sandstone cliffs of "The White Mountains" covering Permian Coal Measures.



Coal Outcrop in Dingo Creek, Hughenden District.



Unconformable Junction between old Metamorphic Rocks and overlying Permian Coal Measures, Hughenden District.

10. The outcrop horizon along Oxley Creek, parallel to the northern boundary of prospecting area No. 10, consists of black earth and carbonaceous shales with some coaly stringers, dipping generally south to south-west at about 12° to 15°.

11. At a bend in Oxley Creek, near Mr. Reid's No. 4 outcrop, a blue sandstone was observed, which makes a good marker bed; the blue colour may be due to finely disseminated iron sulphide. The sandstones at Oxley Creek dip at an angle of 10° to 12°; similar blue sandstone was seen at the base of the sandstone cliffs above the new tunnel, at Coal Camp, being driven by Mount Isa Mines, Limited.

12. Owing to the existence of this tunnel we did not sample any further outcrop coal, as we were able to get an unweathered sample underground. The new tunnel is at the foot of the sandstone cliffs not far from the old No. 2 Shaft, on a small plateau above Dingo Creek.

13. An inclined shaft, approximately 270 feet long, with an inclination of 30°, leads to what was probably the continuation at depth of Mr. Reid's "Big Seam" lying in a more or less horizontal position. This seam at the coal face was 8 feet thick and at the time of our first inspection had been penetrated by a drive 180 feet long in a north/south direction. We were informed that there existed doubts about the quality of the coal, the first lot of coal obtained from nearer the surface in the weathered zone having contained a great deal of pyrites, which caused spontaneous combustion very soon after exposure to atmospheric conditions; there were fires burning on the coal dump during our visit. However, the coal which had been mined more recently appeared to be a better quality and an examination indicated that less pyrites was present.

14. We sampled the seam at the face of the new workings in May, 1948, and again in March, 1949, (TS/158 Table D/XXVI, and GB/783 Table D/XXXVI); the coal has a conchoidal appearance, and splinters on being broken; it is full of coniform imprints with many nodules of pyrites, and has a marked black stain.

15. An area near the Black Mountain was also examined. Leaving the road near the Black Mountain a traverse was made westwards across schistose hills towards the junction with carbonaceous strata, known as the Sladden area. No outcrops of coal were observed, but only of carbonaceous shale, and evidence of the existence of coal was very disappointing. Whether any boring through the white sandstone in the southern portion of the Sladden area would prove profitable coal seams must remain an open question. We noticed that the old schists and quartzites were at times almost vertical. In a creek, known locally as Freeman's Creek, only carbonaceous shales can be seen.

16. The Permian strata appear at the eastern edge of the sedimentary basin in a narrow strip, starting from Betts Creek near the Hughenden Railway line, and extending northwards, past Freeman's shaft, to the Sladden area described above; the strata round this eastern margin do not contain coal as far as the surface evidence suggests.

Reserves.

17. There is not at present sufficient information for any reliable estimate of reserves to be calculated.

CONCLUSIONS AND RECOMMENDATIONS.

18. We find that there are positive indications of coal as far apart as Blantyre, the Flinders River, Galah Gorge, and Oxley Creek. No seams of coal, however, have been found in the more easterly outcrops of the coal measures such as the Sladden area and round Betts Creek.

19. The marginal area along the old shoreline of the basin, between Sladden and Pentland, does not look very promising from the point of view of further coal exploration, neither does the eastern half; the area between Oxley Creek and Blantyre, including the Flinders River area, right down towards the railway line, between Torrens Creek and Prairie, deserves further investigation.

20. Reference is made in G.S.Q. Publication, No. 254, page 21, to the occurrence of coal-bearing shales in the Flinders River and coal beds found in the Blantyre bore at depths from 400 to 500 feet, and the important statement is made that "we may reasonably expect to get Permian beds under the newer formations of the Central plains of Northern Queensland."

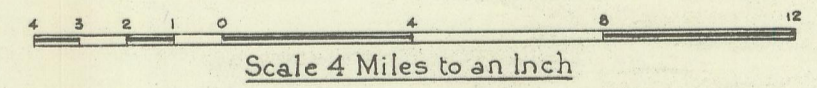
21. This is an interesting statement in view of the comparatively small quantities of coal so far known north of the railway line, and this question of hidden reserves should be investigated.

22. There is a possibility that, towards the centre of the big sedimentary area generally referred to as the "White Mountains," the Permian coal measures can still be coal-bearing. Although a certain amount of drilling has already taken place, it has been limited by practical difficulties, including that of drilling through conglomerates, pebble beds, and soft sandstones.

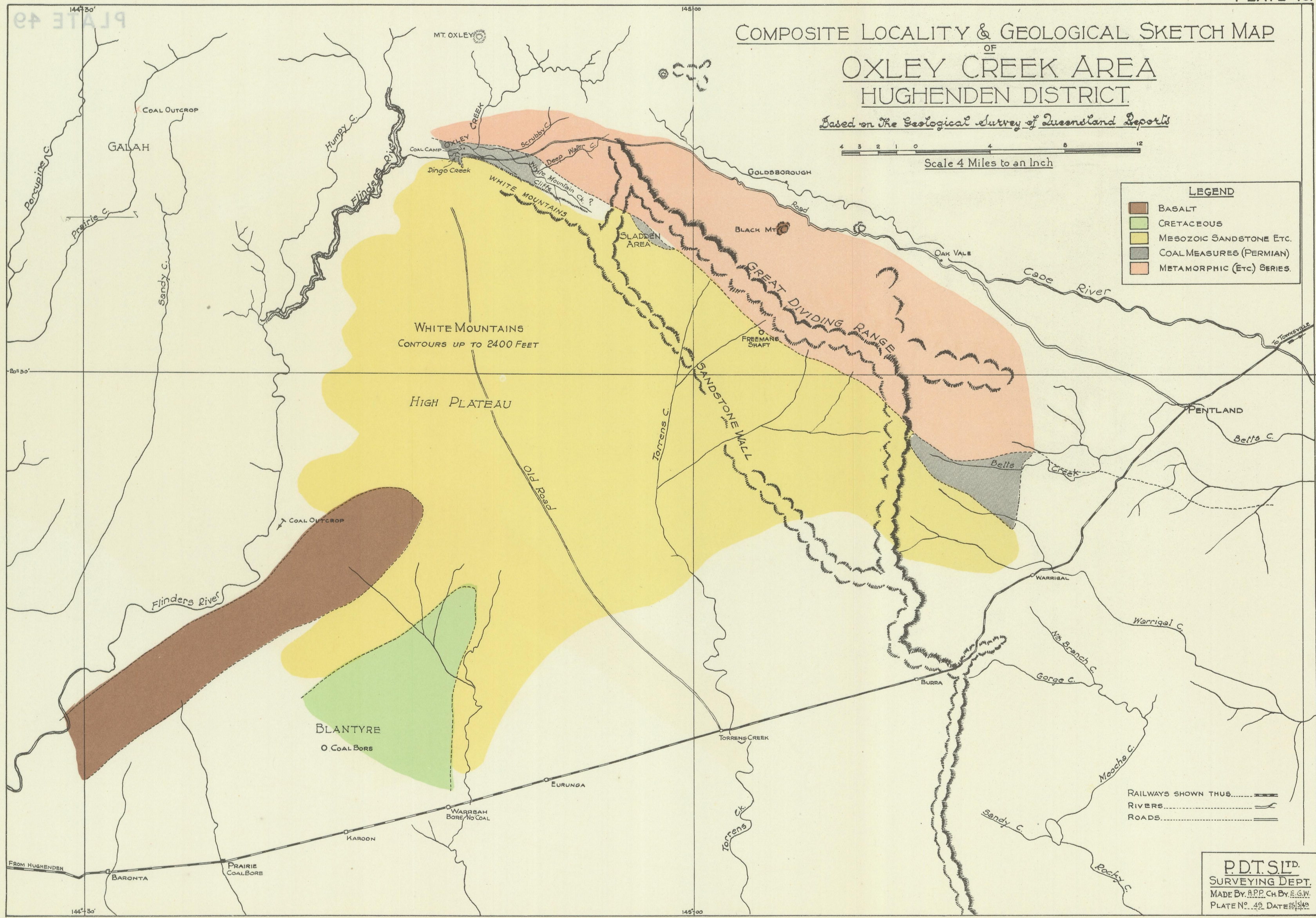
23. As we understand that further geological research is now being undertaken near the railway line, we recommend that no further action should be taken in this district until the results of this new work are known. If these investigations are unsuccessful, geological exploration work should be carried out in the Flinders Gorge area with a view to determining, if possible, the full stratigraphical sequence of the coal measures so as to enable an estimate to be made of the depth to be penetrated by drilling. At this stage consideration should also be given to the possible application of geophysical surveying, to define the structure more clearly prior to drilling along a line south-south-west from Coal Camp. In the first place the holes should be spaced one mile apart, and the need for, and siting of, subsequent boreholes would depend upon the results of this drilling.

COMPOSITE LOCALITY & GEOLOGICAL SKETCH MAP OF OXLEY CREEK AREA HUGHENDEN DISTRICT.

Based on the Geological Survey of Queensland Reports



LEGEND	
	BASALT
	CRETACEOUS
	MESOZOIC SANDSTONE ETC.
	COAL MEASURES (PERMIAN)
	METAMORPHIC (ETC) SERIES.



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 RIVERS.....
 ROADS.....

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 SURVEYING DEPT.
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