

PRELIMINARY REPORT ON THE MERSEY VALLEY
OIL COMPANY'S HOLDINGS AT SASSAFRAS.

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This report may be prefaced by the statement that the recent Geological Survey of the district, in so far as it related to the occurrence of natural oil, was of a reconnaissance nature only. The time available was too short to permit an examination in detail. However, on the occasion of the last visit much additional information was obtained, especially in regard to the areas of particular interest to the Mersey Valley Oil Company, but even now we are not much further advanced in our knowledge of this complex tract of country. In a recent issue of the "Industrial Australian and Mining Standard" reference was made to the difficulty in deciphering the structure from surface observation because of the deep mantle of basalt covering the oil-bearing Tertiary rocks. I lay stress on this point because much exploratory drilling is necessary before the investigation can interpret the geologic structure upon which successful operation largely depend.

THE SELECTION OF SITES FOR THE TEST BORES

The site of next bore was selected on the supposition that the present topography is the surface reflection of early Tertiary topography and on evidence obtained from the records of Nos. 8 and 9 bores of the Adelaide Oil Exploration Company. In addition, it has been proved that the deepest beds of Tertiary age lie towards the centre of the area and extend northwards between Wesley Vale and Thomas' 1000 Acre block at Northdown. So far as can be determined there is no evidence of a buried hill of diabase at the point selected, on the contrary the structure appears particularly favourable. It is expected that the gas sands penetrated at a depth of 1130 feet by the Adelaide Company will be intersected in the proposed bore. Provision should be made to drill to a depth of 1200 to 1500 feet, and steps should be taken to deal with an inrush of sand such as took place in the No. 8 bore of the Adelaide Company. The site of the proposed bore is nearly half a mile west of No. 8 on property owned by Parsons of Thirlstane. Other sites will depend upon the result of drilling at this one. If the capacity of the diamond drill is sufficient for the purpose that plant should be employed in the exploratory work in preference to the more costly and slower operation of the percussion plant.

SEEPAGES

Rockcliffe' Land - A seep of oil in this area was reported and examined some months ago. Although there was no reason to doubt the genuineness of the occurrence it was considered inadvisable to publish the information until a more thorough investigation had been made. Advantage was taken of the occasion of this visit to continue the work of investigation, the result of which has proved satisfactory. The oil seeps from strata of Tertiary age, but is prominent only where tree stumps have been removed by fire. At first there appeared to be some casual connection between the burnt ground and the seeps and it was thought that oil had been used in burning the stumps, but inquiries elicited the fact that no such aid had been employed in their removal. The

oil is unlike any of the refined materials and, again, its exudation is accompanied by a strong emission of methane gas. By probing beneath the crust of peaty clay in the unburnt ground oil was found in two places and natural gas everywhere. It seems then that its comparative abundance in the burnt ground is due to the capillary action of the porous soil. Unfortunately, samples could not be obtained for testing purposes. This is half a mile from an outcrop of diabase on the east side and a mile to the west mica schist is exposed - its source, therefore, does not lie at any considerable depth below the surface, probably within 800 feet. A test hole in this locality is recommended.

Syke's Land - On the other (eastern) side of Sassafras district a seep of oil was reported following the heavy rainfall of last month. At the time of my visit no trace of oil could be found but films of hydrous oxide of iron were issuing at many points. I have the authority of Mr. J. Andrew Wauchope, representative of the Company, that oil was detected during the heavy rains. An occurrence at this point is feasible as on the east and west borders only are ways of escape likely to be found.

Boring in this locality is not recommended because (1) the block is close to the eastern border of the Tertiary strata, (2) a quarter of a mile to the west the No. 9 Bore of the Adelaide Oil Exploration Company penetrated diabase at 1100 feet without intersecting the bed of gas sand, and (3) a large block of diabase found on Syke's land is probably not far removed from its source.

BURGESS LEASE.

This block, charted in the name of J.A. Wauchope, is situated in the flat country near Port Sorell. It is bordered by diabase on the north, east, and south sides, and this rock underlies the Tertiaries at no great depth below the surface. It is not a promising area as the sedimentary rocks are too shallow to admit of large accumulations even if the other conditions were favourable. The deep Tertiary channel lies to the west of it and extends to the coast between Wesley Vale and Thomas' 1000 - acre block at Northdown. If the exploratory work at Thrilstane prove satisfactory the coastal country referred to should be closely investigated.

CONCLUDING REMARKS.

The suggestion was made that an exchange of logs of bores between the operating companies would be made to their mutual advantage. By working in concert a very large saving could be effected by both Companies, and an exchange of ideas also would hasten the work of exploration. This suggestion was well received by representatives of both Companies.

The result of my visit is confirmatory of the opinion expressed in the "Industrial Australian and Mining Standard". Emanations of oil and gas occur at Roches' and Rockliffes' farms, and the conditions for the concentration of oil are quite suitable; but great difficulties confront the investigator in his endeavour to locate the reservoirs. The aid of the drill is essential at this stage of the investigation, and the companies should be prepared for negative results until the structure

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has been deciphered. If the surface features were an infallible guide very little trouble would be experienced in fixing the location, but this has not been proved.

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