

7. NEW PLYMOUTH OILFIELD.

(By P. G. MORGAN, Director.)

In accordance with instructions given by the Hon. the Minister of Mines on the 31st March, 1915, I left Wellington on the 5th April in order to inspect the oil-wells of the New Plymouth district with a view to determining whether deep boring is advisable, and, if so, in what locality. After spending four days in visiting oil-bores and places of geological interest, I returned to Wellington on the 10th. On the 6th and 7th April I was accompanied by Mr. W. Gibson, Assistant Geologist, who during the past field season has been making a detailed survey of the Egmont Subdivision.

PROGRESS MADE DURING PAST YEAR.

Since my last visit to New Plymouth very little progress has been made by the various oil companies, and the oil-production has tended to decrease. Taranaki Oil-wells (Limited) has deepened its No. 5 bore from 2,644 ft. to 2,750 ft., and its Rotary bore from 2,250 ft. to approximately 2,900 ft. The Blenheim bore of the Taranaki Oil-lands Acquisition and Development Company has been deepened from 2,223 ft. to 3,419 ft. It is a matter of regret that the Rotary bore failed to penetrate any defined oil-bearing stratum, and that the Blenheim well has so far also been unsuccessful below 2,211 ft., an horizon that was producing oil in February, 1914. The Phoenix Company's bore has met with difficulties, and has not been appreciably deepened since February, 1914.

OIL-PRODUCTION.

At the present time the only producing-wells are Nos. 3 and 5 of Taranaki Oil-wells (Limited). No. 3 well is giving about the same production as in February, 1914, or roughly 4,000 gallons per month. In No. 5 well the old 5 in. and 4 in.* casings have been removed, and replaced by 6 in. and 5 in. casings. As a consequence of this, the well is apparently in very good condition, and is giving a flow of oil varying from 7,000 to over 10,000 gallons per month.

OIL-HORIZONS.

Near the breakwater and the Sugarloaves a little oil has been obtained at depths of 1,000 ft. or less, but the 1,000 ft. horizon mentioned by Mr. E. de C. Clarke is clearly of little consequence. Five bores—namely, Nos. 1, 2, 3, and 5 of Taranaki Oil-wells (Limited) and the Blenheim bore—have proved the existence of an oil-bearing horizon carrying a moderate quantity of oil at 2,100 ft. to 2,300 ft. It is fairly certain that this oil-horizon does not extend far to the east of the Blenheim well, and therefore it ought to be prospected by means of bores to the southward of the line joining Taranaki Oil-wells' No. 3 bore and the Blenheim bore. No clearly defined oil-horizon below that just mentioned has been proved, although, as it happens, the two producing-wells are both obtaining their oil from greater depths. More bores are necessary in order to obtain satisfactory information as to any oil-bearing horizon that may exist between 2,300 ft. and 4,000 ft.

DEEP BORING.

Practically all qualified observers are agreed in the belief that the source of the New Plymouth oil is at a great depth, and that probably the principal oil-horizon will not be found at a much less depth than 5,000 ft. Clearly, then, the future of the field depends on the result of deep boring, and bores less than 3,000 ft. in depth will not be directly important in deciding whether Taranaki possesses a prolific oilfield or not. They may, however, in places be moderately profitable, and may indirectly be of great value in furnishing the structural data of which at present there is so great a lack.

The area most deserving of being prospected appears to be the strip of country that extends for fifteen miles south-south-east from the Sugarloaves, and contains somewhat numerous gas-vents. In this matter I concur with Mr. E. de C. Clarke.† So far as can be judged from the data at present known, the first deep bore ought to be in the neighbourhood of Moturoa, where a considerable amount of oil has already been obtained. Had the area to the south-south-east already mentioned been more thoroughly prospected by means of 2,500 ft. to 3,000 ft. bores, possibly this opinion would need modification.

Theoretically the best position for a deep bore is midway between Taranaki Oil-wells' No. 3 bore and the Blenheim bore. The available information is so scanty, however, that almost the only argument in favour of this site is that it is in the middle of the known oil-producing area. Of the various existing wells the Blenheim, according to the information supplied to me by the owners, is at present in the best condition for being taken to a depth of 5,000 ft.; and probably it would be much better to continue a well that is in good condition, and already well over 3,000 ft. in depth, than to start a new bore from the surface. Taranaki Oil-wells' No. 5 bore is possibly in a slightly better position than the Blenheim bore. It is, however, only 2,750 ft. deep, with 5 in. casing at the bottom, as against the Blenheim well's depth of 3,419 ft., with 6½ in. casing at the bottom. Moreover, it is producing oil in profitable quantity, and it would be a mistake to deepen it at present.

The New Zealand Standard Oil Company's bore near the Carrington Road, at a point five miles east-of-south from the Moturoa oil-producing wells, is not far from the gas springs on Messrs. Grooby's, Gilbert's, and Vetch's farms, and is well located for a prospecting-bore. The well is 3,246 ft. deep, and is lined with 12 in. to 5 in. casing. No work has been done at this bore for several years, and I am doubtful as to the state of the casing. Deep boring in this locality deserves encouragement, but if assistance is to be granted to one well only, then in the present state of our knowledge preference must be given to a bore near Moturoa.

* The measurements represent outside diameter.

† N.Z.G.S. Bull. No. 14, 1912, p. 47.