

1888.

NEW ZEALAND.

THE GISBORNE OIL-SPRINGS

(REPORT ON), BY H. A. GORDON, F.G.S., INSPECTING ENGINEER.

Laid on the Table by the Hon. Mr. G. F. Richardson, with the Leave of the House.

Mr. H. A. GORDON, F.G.S., Inspecting Engineer, to the UNDER-SECRETARY of MINES.

Wellington, 20th January, 1888.

In accordance with instructions I visited the oil-springs at Gisborne, and I have the honour to report as follows:—

The belt of country which shows indications of oil extends from Horoera Point, near the East Cape, to the Okahuatui Block, the latter place being about thirty miles in a westerly direction from Gisborne. I have marked by red dots on the annexed plan the places where oil is stated by Mr. Stubbs to have been found on the surface.

ORIGINAL WORKINGS.

The first workings where oil was discovered are situate on the top of a flat range between the Waingaromia Creek and the Waiporoa River, about 1,450ft. above sea-level. Several excavations have been made in this locality, the whole of which are full of water, with a thick scum of oil on the top, and a large supply of carburetted hydrogen bubbling up through the water and oil. One of the party who accompanied me set fire to one of these pools, which burned for a considerable time with great violence. The surface-soil in the vicinity of these pools is intermixed in places with paraffine, which forms a consistency having the appearance of antifriction grease. Several attempts have been made to put down a borehole in this locality, all of which have, however, failed, owing to the great thickness of surface-soil and soft rock. A shaft was sunk for 100ft. and close slabbed; but owing to the large volume of carburetted-hydrogen gas met with, and the soft swelling nature of the ground, it was found impracticable to carry on sinking by this method. A borehole was started from the bottom of the shaft, which was got down for another 110ft., but the heavy pressure of gas from the bottom of the hole sent up showers of mud and water to the surface whenever the rods were drawn for the purpose of cleaning out the hole with the sand-pump, so that this borehole had ultimately to be abandoned.

Any one visiting this place cannot fail to be impressed with the abundance of oil and gas in the locality, which has fully warranted the large expenditure made in trying to develop the oil-industry. The whole of the country is covered with papa rock or calcareous marl, and, although the belt of country where the oil occurs is estimated to be from six to eight miles wide, no definite opinion can be formed as to the quantity of oil it contains until the area has been more thoroughly prospected.

SOUTH PACIFIC COMPANY'S WORKINGS.

This company holds a lease of 6,000 acres of land, which includes the original workings. Indeed, the present company may be called a re-formation of the first company formed to prospect for oil. The original company was formed in 1874, and after having spent some £5,000 the company was put into liquidation, and its interest purchased by a few of the original shareholders, who formed the present company, with a capital of £58,916, in the same number of shares, of £1 each, 15,000 paid-up shares being given to the promoters for their interest, leaving £44,916 to develop the oil-springs. Of this amount £22,000 have actually been expended in boring and prospecting for oil.

The present company has put down nine bores, eight of which varied from 100ft. to 400ft. in depth, and the present borehole, which has struck the oil, is 1,321ft. in depth. The reason of the rest of the holes not being put down to a greater depth was that they were started too small on the top, and, the strata gone through being of a soft swelling nature, one length of tubing could only be driven down for a short distance. The strata to be gone through here was totally different from that to which the men had been accustomed in boring for oil in America, requiring a different method to be adopted.

In the beginning of November last the gas from the borehole caught fire, and the derrick and machinery, with the exception of the engine and boiler, were destroyed. It was first thought that the rapidity of the rods travelling down the pipe produced a spark which ignited the gas in the bore; but it is now generally admitted that the large amount of gas coming from the bore caught fire from the furnace of the boiler. The oil for some time flowed over the top of the pipe, but, on the flames