

it was found necessary either to stop operations altogether or open up the coal-seam in a fresh place on the company's property. There being a considerable area of coal adjacent to the Kiripaka Mine, it was found advisable to enter into an amalgamation with that company. The mine is now being opened up near the Kiripaka workings, and it is intended to extend the Ngunguru tram-line from the bottom of the incline to the Kiripaka Mine (a distance of about half a mile) to enable a constant supply of coal being conveyed to the loading-ground, instead of depending on sending it down the river on punts. This latter method made deliveries very uncertain when the river was low in summer. The output of coal for the year was 10,871 tons, a decrease of 3,496 tons as compared with the previous year. Twenty-two men were employed.

*The Union Collieries (Limited), Maramarua* (F. J. Tattley, manager).—The present manager has made great improvements in the mine, and the various arrangements which have been made are working much more satisfactorily than in the past. A pair of headings are being driven east from the most southerly point of the workings with a view of improving the ventilation and reducing the risk of accidents through having to truck through the old workings. As those headings are advanced a large area of coal will be drained and opened up. It is found that as the workings approach the sandstone cover the quality of the coal greatly improves, and it is fully expected that a better class of coal of its kind will be supplied than has been mined hitherto. The sump (or water-lodgment) in the mine has been enlarged, a larger pump is being put in, and a superheater is being connected to the Cornish boiler. These improvements, when all completed, will enable the water to be pumped out of the mine in a shift of eight hours, and thereby effect a considerable saving. A new barge has been built capable of carrying a load of 100 tons on a 3 ft. 3 in. draught of water, which will greatly facilitate the carriage of the coal from the mine to the loading-siding at the railway. A screening plant is also to be erected for the treatment of the slack, with a view to the separation of the nuts coal as a marketable product. The improvements mentioned will place the plant more in keeping with the requirements of the times. The output of coal for the year was 15,994 tons, an increase of 652 tons as compared with the previous year. Twenty-nine men were employed.

*Mangapapa (Mokau Coal-mine)*, (William Lennox, manager).—This mine has been working for twenty years, and although the coalfield is very extensive and the coal of a superior quality of its kind, very little has been done to facilitate the development of what is known to be a coal-bearing area of considerable extent. The mine is situated forty miles north of New Plymouth, where there is a good market for the coal, but the demand can seldom be supplied owing to the difficulties of transport, the mine being twenty miles up the Mokau River. The course of the river is very tortuous, the four miles next the mine being narrow and difficult for navigation of steamers, and little has been done to improve it beyond removing a few snags in the lower reaches. The land adjacent to the river being hilly and covered with bush, landslips are of frequent occurrence. The timber and *débris* from the slips find their way into the river and sometimes stop the steamers from getting up to the mine. Of all the mines in this district this is the most isolated. It is almost impossible to reach the mine except by the river, therefore connection by telephone would be a great boon to the people who are compelled by circumstances to reside there. The mine plant is of a most primitive character, and as the coal-seam crops out on the banks of the river very little capital was required to open the property on the small scale hitherto worked. The cover of the coal being a good bed of hard sandstone little timber is required, and as the coal is easily worked the cost of production at the mine is very low. Early in the year a new section of working was opened up on good coal where the present operations are being chiefly directed, and as this is only in 6 chains from the mouth of the main tunnel a large saving is effected in the cost of haulage. The output of coal for the year was 3,753 tons, a decrease of 527 tons on the previous year. Thirteen men were employed.

*Taupiri Coal-mines (Limited)*, (E. S. Wight, manager).—Ralph's section: The principal development-work in this section of the mine has been the extension of the main heading towards a point under Waahi Lake. This has been driven a distance of 20 chains during the year, and is draining and opening up a large area of coal of good quality. A great amount of the haulage in the mine is done on the endless-rope system (which has lately been introduced) and is effecting a large saving as compared with the old method. As the levels and headings are always kept well in advance there is always a number of bords ready where a large number of men can be employed at very short notice in case of emergency. Although the workings are under the Waikato River and extend for a considerable distance on the other side of it, the mine is comparatively dry, the cost of pumping the water that accumulates being a mere trifle. A substantial ladderway has been put in the outlet (or upcast) shaft to give the men better facilities for getting out of the mine in case of emergency. This provision gives an alternative to the ordinary method of raising the men by engine-power.

The Extended section: Very little development-work has been carried out in this mine during the year as there was an ample number of bords ready for the men likely to be employed for some time to come, but it is now intended to at once extend the dip for a further distance of 6 chains to open up a large area of coal which has been proved to be of good quality. Screens of a modern design have been erected on the pit-bank, and an air-compressor to supply air for the men working in the dip. For working the endless rope an engine (with a pair of 12 in. cylinders by 30 in. stroke) has been erected on the surface, the ropes working through two pipes that have been placed in position between the surface and the workings in the mine. This section is now being equipped for an output of 600 tons per day, and vigorous development-work is to be carried out to enable this to be done. To meet the demands for increased ventilation a fan of the "Sirocco" type has been ordered. This will have a capacity for 107,000 cubic feet of air per minute, and be driven by a compound engine.