

Operations in the Taupiri section were confined to driving out main headings and dips for the purpose of providing working sections. The width of the pillars between the headings has been increased to 18 yards.

A 94 in. Sirocco fan capable of inducing 100,000 cubic feet of air per minute has been installed to ventilate the Taupiri new mine section. A "Sullivan" coal-cutting machine has been in operation in the new mine for a period of six months. An additional electric generator and a new switchboard were installed in the power-house, and preparations are being made to erect new screens at the colliery. Considerable quantities of incombustible dust were applied in treatment of the coal-dust on the main roads. Several reports of inflammable gas were recorded during the year. The coal-slack from three mines is dumped at a central point at Rotowaro Mine, and is uplifted and sold on occasions when the trade warrants a demand for increased quantities.

*Pukemiro Collieries.*—This well-established colliery continues to produce a large output. The headings are carried forward in advance of the bord sections. This method of working provides extensive coal reserves. In the North Mine section the first workings have reached the outcrop boundary, and the pillars in the east district are being extracted towards the main roads. The roof is composed of jointed fireclay, and it breaks within the limits of the excavated places. No great roof-pressure has "weighted" over the standing pillars, and no difficulties have yet been encountered in maintaining safe roadways. A north-west heading has been driven in faulted ground. In the South Mine the west headings are proceeding in a direction parallel to the main north fault, and several sections have been opened out by right-angle headings driven from the west heading. The workings in this mine section are becoming more extended, and a subsidiary haulage plant is being installed to operate in the north district. An air crossing is in course of construction for the purpose of connecting the East Mine section with the South Mine ventilating-system. "Cushioned" blasting is being practised by the shot-firers in the Pukemiro Collieries. The cushioning effect of the exploded shot is obtained by leaving an air-space of 2 in. to 3 in. between the explosive charge and the stemming-cartridges, which are composed of finely ground limestone, with the exception that the collar of the shot-hole is tamped firmly with clay. The management contends, since this method of stemming shots has been in vogue, that the coal is brought down with two-thirds of the usual charge, and a higher percentage of lump coal is obtained. The travelling-roads in the mines have been swept clean of coal-dust, and they were subsequently treated with incombustible dust—chiefly pulverized limestone.

The air-currents are well conducted to the working-faces throughout the mine. The equipment and mining methods adopted are maintained up to date, both in regards to safety and desirable mining-conditions.

*Glen Afton Collieries.*—There are six separate producing sections in the mine, locally designated A, B, C, D, E, and F sections. The main haulage-road has been driven (11 ft. wide by 7 ft. high) a distance of 72 chains, and has reached a proved 70 ft. upthrow fault. Boring is in progress in order to determine the thickness of the seam beyond the fault. The headings in E section have been advanced 40 chains westward from the main haulage-road, and a subsidiary endless-rope-haulage plant (electrically driven) has been installed to deal with the outcrop from this section. The coal-seam varies in thickness from 10 ft. to 15 ft. in the various sections.

The Sirocco fan is capable of inducing 80,000 cubic feet of air per minute, and that quantity is recorded in the return airway. Additional air-crossings, constructed in brick, are being erected for the purpose of directing a sufficiency of air into the secondary airways. Tests with the hygrometer revealed air-saturations of 60 and 84 per cent. in the intake and return airways respectively. The excess of moisture in the return shows, when calculated in grains of moisture per cubic foot, that many tons of water are being removed daily from the mine by the action of the fan.

The travelling-road, to afford a separate road for workmen passing to and from the faces, has not yet been completed. Additional accommodation has been provided in the bathhouse. The floors of the main roads have been systematically cleared of fine dust, and incombustible dust has been applied to the sides and floors of the main roads.

Samples of mine-dust have been collected and analysed, and the following results are recorded of analyses of dust collected before and after treatment of the roads: 30th March, 1925—Percentage of combustible matter contained in four samples (before treatment) = 78.08, 74.45, 70.20, 65.68. 7th December, 1925—Percentage of combustible matter contained in twelve samples (after treatment) = 40.60, 39.10, 44.20, 30.00, 40.20, 44.90, 59.50, 50.30, 47.80, 47.20, 40.44, 10.80. Practically the whole of the roadways have been sampled and tested.

*Graham's Colliery (Co-operative Party).*—A small ventilating-fan was installed during the year. The seam maintains a thickness of 7 ft., and owing to a heavy roof the working-places do not exceed 8 ft. in width. A few pillars are being extracted near an outcrop of the seam. Railway connection has been effected to the mine, and the output should in consequence be greatly increased. The jig to the railway-siding is properly equipped and maintained in good order. Nineteen men are employed in and about the mine.

*Pukemiro Junction (Crown Lease; Co-operative Party).*—A portion of the low coal area is being worked, and sets are being substituted for props. The pillars in the East section are nearing exhaustion, and preparations are being made to develop a mine section on the western boundary of the lease. Fixed screens for the separation of nuts from the coal have been erected. The mine is in good order, and the regulations have been properly observed by the party.

*Waipa Colliery.*—The main haulage endless rope has been extended 20 chains to a point connecting with all the branch section roads. The main dip headings have been advanced 10 chains from the upthrow fault, and two additional sections are made available for the production of coal. A cross-drift, rising one in two, through stone, has been driven from the advanced workings to a selected position on the surface, and the management contemplates removing the ventilating-fan to the new air-drift for the better ventilation of the future workings. The bords in the East section reached a thinning of the coal-seam, and the pillars are being worked back, while the timber supports and roof are in a good condition. The inclination of the seam allows for satisfactory horse haulage. A new stable, for the accommodation of the horses, has been constructed underground, conveniently situated to the return airway and to the surface. The requirements in respect to the construction of brick stoppings between the intake and return have been complied with, and the ventilation at the faces has been good during the year.

*Waikato Extended Colliery.*—There are approximately 10 acres of standing pillars in this mine, and as the boundary of the seam had been reached the pillars were attacked to maintain the output. The coal-seam varies in thickness from 15 ft. to 20 ft., and bords at a width of 14 ft. by 14 ft. in height have been driven promiscuously throughout the mine. No panels or barriers of solid coal have been provided, and considerable trouble in connection with the stopping of fires may ultimately result. The output of 40 tons per day is supplied to river-steamers for distribution along the banks of the Waikato River.

*Huntly Brickworks.*—A superior quality of fireclay is opencast-mined and manufactured into tiles, building-bricks, and firebricks. The quarry is properly worked, with due regard to the safety of the workers.

*Kimihia Colliery (Auckland University College Endowment Lease).*—The mine has been operated by Johnson and party. The dip has been extended towards the Kimihia Lake, and at the face there is evidence of better-quality coal and little water to contend with. The output is conveyed by motor-lorry to Huntly, a distance of three miles.

*Taupiri East Colliery (Auckland University College Endowment Lease).*—Coal-mining was confined to driving a heading in the coal-seam. The mine is situated about four miles from the railway, and the coal is carted over the county road. Owing to the unmetalled road affording a poor surface for the wagons, coal-carting was suspended during the winter months. A connecting tramway with the Government railway at Kimihia is required to make the mine profitable for those concerned.

*Campbell Colliery, Whatuwata (Crown Lease).*—Mining operations were resumed by a party of miners. A heading on a free drainage level has been advanced about 6 chains in the coal-seam, and the bords turned off the heading provide an output of 15 tons per day. Railway communication is ten miles distant from the mine, and the small output supplies the needs of the people in this sparsely populated district.

*Old Stockman Mine, Mokau.*—Local requirements were supplied during the year from a seam of coal 4 ft. in thickness. The seam occurs on an elevated position, and the coal is jiggged down an incline to river-boats.

*Greencastle Colliery, Mokau.*—The seam has petered out in all directions, and the pillar coal is almost exhausted. The output from this small mine was absorbed in supplying local demands.