

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (Mr. WILLIAM BARCLAY, Inspector).

The total output of coal produced from the mines in the Northern Inspection District for the year 1927 was 747,530 tons, an increase of 93,681 tons when compared with the returns of the previous year. Employment figures of miners in and about the coal-mines in the Northern District showed an average of 1,478 men for the year 1927, an increase of 136 over the figures of the previous year. With one or two exceptions, all the principal mines returned larger outputs owing to the fact that the Railway Department took increased supplies of local coal for locomotive use.

Bord pillars and barriers have been substantially increased in size in all the mines, and the managers speak highly of the benefits now obtaining in pillar-extraction from the formation of larger pillars in the first workings. Underground fires can be better controlled within the limits of the goaf, and more settled conditions prevail during the actual extraction of the pillars. In the Waikato district alone there are approximately 10,000,000 tons of coal standing on pillars—a quantity equal to seventeen years' output at the present rate of extraction. Much of the coal is liable to spontaneous combustion, especially where there are falls, and the open workings are a menace to the safety of the mines by reason of the fact that they provide recesses for dust and gas accumulations. The problem in connection with the treatment of dangerous accumulations in old workings is being gradually overcome by sealing off the disused bord and heading roadway sections with brick stoppings at the entrances to the first workings, thus minimizing the risks attachable to gas and dust accumulations, and also preventing to a great extent, by the exclusion of oxygen, the self-heating of the coal in abandoned workings. The practice of stone-dusting the accessible workings of the mines, as a means of preventing fires and disastrous explosions, has been followed by the managers of all the collieries in this district. In one colliery the dust on 11,000 yards of roadways was sampled, tested, and treated.

During the year there has been considerable activity in mine-development and coal-prospecting. The Renown Colliery, formerly known as Hetherington's Colliery, Waikokowai, is being equipped with modern machinery and developed to market its coal early in the winter season. Several coal-prospecting licenses have been granted in the Tangarakau district, Taranaki, and operations to date have exposed a number of thin seams of brown coal accessible to the railway by tramway connection.

Hikurangi Coal Co., Ltd. (Shaft Colliery).—A noteworthy feature in connection with the operations of this mine for the past year is the remarkable recovery made both from a mining and financial point of view. During the previous year the mine-workings were flooded for a period of five months, and the output in consequence was only 26,908 tons. For the past year the output was 87,005 tons, and the overhead charges in connection with the operations of this large colliery would be practically the same as the previous year. During the year many additions to plant and buildings were made, notably a new electric generating unit and motor for a 9 in. pump, a main and tail-rope haulage plant for the west side, the extension of the surface endless-rope haulage system to connect with the loading-bank at the railway-sidings, a Keith and Blackman ventilating-fan of a capacity of 50,000 cubic feet of air per minute, and an extension of the bathhouse in order to provide additional bathing-accommodation for workmen.

During the past six months the headings in McKenzie's dip section have been standing owing to the incidence of periodical water "bursts" from the faults and to the inefficiency of the installed pumps. The headings of the western district have proved an area of 30 acres of workable coal of excellent quality, free from faults, and the seam is moderately inclined to the rise of the haulage system. All the working-places in the mine are systematically timbered with set supports to roof and covering laths. The dust on the roadways throughout the mine has been sampled and analysed, and the records of the results furnished evidence of naturally wet conditions.

Several pillars in the west section have been removed between two faults, and a crushing movement which settled on the small 30-ft.-square pillars was responsible for an increase in temperature to 80° wet and 81° dry in the return places. Pillars of 30 ft. square are totally inadequate in size for the support of a roof area of 450 ft. at the point of extraction. Under the present management 50-ft.-square pillars have been formed in the first workings to support the roof-cover where the workings are in close proximity to the base of the Hikurangi Mountain.

The ventilation of the workings has been remarkably improved during the year, due to the larger fan and to the extension of the use of brick stoppings in crosscuts between intake and return. An average output of 400 tons per day has been maintained during the year.

Wilson's Colliery, Hikurangi.—The main dip headings of the company's Waro Colliery have been extended altogether one mile from the mine entrance, and have reached the boundary of the extensive Hikurangi Swamp. An influx of water, estimated at 15,000 gallons per hour, caused the cessation of mining operations until such time as a more powerful pump could be obtained and installed at the point of inflow. Much splitting of the seam by the occurrence of fireclay bands has been encountered in the dip workings, and the workable thickness of coal has in consequence been reduced to 5 ft. in the majority of the places. The pillars have been successfully extracted in the stone-drive section, and the crushing movement has been confined to the limits of the goaf by the formation of larger pillars both in barriers and between bords.

The roadways are naturally wet throughout, with the exception of small stretches. The mine-dust has been sampled and tested on several occasions, and the results disclosed that the dust contained a large percentage of both moisture and ash. A marked decrease in the average of temperature of the mine has been recorded in all sections. Auxiliary fans have been installed to ventilate the dip-developing places. A subsidiary endless-rope haulage plant, electrically driven, has been installed to operate in the main dip and connect with the main haulage system. A new bathhouse, designed to provide twelve additional cabinets for showers has been constructed in concrete and is now in commission. The combined pumps are raising to the surface approximately 30,000 gallons of water per hour, and another steam boiler has been installed on the surface for the purpose of augmenting the supply of steam to the electric generators.

Mine-development during the year has fallen short of supplying the usual number of places, due to the splitting of the seam and its displacement by faults.

Kerr and Co. (Phoenix Colliery).—Operations by the co-operative party during the year have been confined to the removal of pillars in an area known locally as the Phoenix section, to the west of the Main North Road. This mine section was formerly worked by Moody and Co. about thirty years ago, and the workings at that time covered an area which has since been acquired for the deviation of the Main North Road. Pillars of small dimensions, to a depth of 30 ft. from the surface and to a distance of fully 20 chains along the line of road, were left in to support the road surface. None of the coal pillars under the road remaining from the previous working have been extracted by the party.

Kerr and Co. (Rocks Mine).—Two miners, by arrangement with Kerr and Co., were engaged in working out several abandoned coal pillars near the outerop, and 714 tons of coal was recovered by the party. The output was conveyed by road to Hikurangi Railway-station, a distance of two miles.

Silverdale Colliery (Foot's Crown Lease).—A new mine section conveniently situated to the County Road has been opened during the year. A coal-seam of 2 ft. 6 in. in thickness was reached at 70 ft. by a dip drive 1 in 3, and 2 ft. of fireclay is uplifted in the main headings in order to provide passages for the skips. A modified system of longwall working has been adopted to facilitate the extraction of the pillars. Large pillars are being formed in the