ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

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

Output of Coal.—From coal-mines in the North Island Inspection District the total output for the year 1926 was 653,849 tons, a decrease of 18,554 tons when compared with the returns of the previous year. The decrease was confined to the Hikurangi Coal Co.'s shaft colliery, and was due to the flooding of the mine-workings for a period of five months.

Accidents.—No fatal accidents occurred in the Northern District during the year, this being the second year in succession that this pleasing result has been recorded. It is also worthy of note that there were only two fractures to limbs from accidents during the year.

Sampling of Dust.—All the principal mines were sampled and tested in order to determine the combustible contents of the mine-dust. At one particular colliery 160 samples were taken, and of that number analysed only 25 per cent. was found to be in excess of 50 per cent. of combustible matter. The results show that the underground roadways are being treated satisfactorily with incombustible dust.

Electricity.—The use of electricity continues to extend; the total horse-power in use during the year was 1,913, an increase of 755 over the previous year. The Rotowaro Colliery is being equipped with entirely new plant. The scheme under review by the management entails the electrification of the whole of the underground haulages, pumps, winches, and coal-cutting machines, and on the surface the screens, workshops, fans, and haulages which were formerly driven by steam.

Size of Coal Pillars.—In the early days it was customary to leave small pillars when working by the bord-and-pillar system, in order that a large percentage of the coal could be obtained in the first working. But as mining operations were extended to greater depths it was found that the formed pillars were too small for the increasing amount of roof-cover. Numerous instances of crushing, subsequent fire, and closing of sections have been recorded due to small pillars, and an enormous amount of coal has been sacrificed by the practice followed from the early days. In consequence of instructions issued by the Department new methods of working the coal are being generally adopted in the principal mines. Much larger pillars are being formed in the first working. The minimum size of bord pillars is now 50 ft. square—formerly it was 30 ft. square—and the pillars between the main headings and barriers are being extended to 1 chain in width between the respective drives. In some cases pillars 1½ chains and over are being formed on each side of main haulage-roads.

Kawakawa Colliery.—Operations during the early part of the year were confined to the extraction of the remaining thin coal pillars near the outcrop. Coal-carting was discontinued early in May, due to the action of the County Council in taking proceedings against the party for damage done to the road. The plant was subsequently dismantled and the mine closed.

Hikurangi Coal Co., Ltd.—Hikurangi P.W. Mine: Active operations at this mine commenced thirty-four years ago, and ceased during March of the present year. A total output of 1,437,632 tons was obtained by means of dip drives driven from the surface to economic distances in the coal-seam. Faulting and periodical flooding of the shallow workings compelled the management to abandon the deep coal, and it was decided five years ago to sink two shafts at the extreme dip of the seam in order that the coal-seam over the company's freehold area could be more advantageously worked. Subsequent to the sinking of the shafts the remaining pillars near the outcrop were withdrawn to within 1 chain of Perritt's dip heading, and the mine-workings beyond the dip gradually filled with water, which rose to a point approximately 70 ft. vertical from the surface. A shaft sunk by the neighbouring colliery—namely, Wilson's Colliery—is down 200 ft. at a point only 1 chain from the goaf of the abandoned workings, and it is reasonable to assume that the water accumulation in the old workings is percolating into the adjoining colliery, from where it is pumped to the surface.

No. 2 Mine (shafts): There are three separate working sections in the mine, locally termed the east, west, and McKenzie's dip sections. The east section has been abandoned, due to a crushing movement and a fire in the goaf. Several lines of stoppings have been erected for the purpose of isolating the fire, but considerable trouble has been experienced in making the stoppings leak-proof, due to the crushing and fracturing of the small pillars. In the west section the fault has been pierced and the coal-seam has been recovered lying at a moderate gradient to the rise of the shafts. McKenzie's dip section has been extended by the advance of the main dip heading, which has been driven a distance of 8 chains from the top of the dip. The coal-seam has been proved to have a thickness of 12 ft., and to be of excellent quality. A modern ventilating-fan, capable of producing 50,000 cubic feet per minute at 2 in. W.G., is being installed in place of the two Waddle fans at present in use. Brick stoppings have been erected in the cross-cuts between the intake and return, resulting in better ventilation at the working-faces. The underground workings of the mine were flooded on the 20th May last, due to heavy rain-water on the surface percolating into the mine by way of the faults and subsidences caused by pillar-extraction. The flow of the inrush was estimated at 40,000 gallons per hour for a period of thirty hours. The pumping-capacity of the installed pumps (two electrically driven, 4 in., and one steam-driven, 4 in.) was 16,000 gallons per hour. Shortly after the inrush of water the electric pumps ceased running, due to the water flooding the motors, and the remaining steam-pump installed at a higher level was unable to cope with the abnormal quantity of water that had accumulated at the shaft-bottom. New pumping machinery was installed for the purpose of dewatering the mine, and the workings were subsequently recovered on the 20th October. A new pump, designed to discharge 60,000 gallons of water per hour, is being installed to act as a standby unit for use during periods of flooding. During the year the output was obtained from bords and pillars in the stone-drive section. As the leading places reached the fault, contiguous to the northern boundary, the pillars were immediately attacked from the farthest end. Progress was made in the driving of the main dip through heavily watered ground. An upthrow fault has been encountered at the face, and the recovered seam through the fault appears to be lying almost level. The appearance of smoke and fire stink along the fringe of the goaf in No. 7 section necessitated the erection of a number of substantial stoppings, erected to a line 3 chains from the return airway. The installation of an auxiliary fan in the dip-developing places resulted in adequate air-currents being directed to the faces. Repairs to the return airway by reheightening same effected improvements in the general ventilation. Endless-rope haulage has been installed on the main dip in place of the direct haulage formerly in use. The return-air shaft, 200 ft. in depth, has been equipped with cage and winding machinery in order to have means available to raise workmen in the escape shaft.

Kerr and Co. (The Rocks Mine).—The first workings reached the boundary early in the year, and the pillars are now being extracted outwards to the main dip. A series of faults was encountered in the main dip, and driving operations were suspended. The dip is driven on a gradient of 1 in 3, and it is properly equipped with haulage and safety appliances. The output of 20 tons per day is conveyed by tramway to Waro railway-siding.

Silverdale Colliery (Foot's Crown Lease).—Mining in the old mine has been confined to the removal of the small pillars and isolated blocks of coal left by a former working of the field. The pillar coal is almost exhausted, and a new dip drive, conveniently situated to the main county road, is being driven for the purpose of opening out a section of solid workings in a proved area of marketable thin coal. A pump, winch, and loading-bank have been