No. 5 section, where the crushing movement had commenced. The volume of smoke issuing from the fire precluded all efforts to attack and suppress the outbreak or surround it with stoppings in a position that would leave an area suitable for extensive stowing operations. Consequently the management decided to short-circuit the ventilation from the affected part, and withdraw the skips, winches, and pumps to the surface. On the 29th August close-fitting scaffolds were fitted in the downcast and upcast shafts at a point 8 ft. from the surface, and sand fillings on top of the platforms effectively sealed off the mine-workings, thus temporarily rendering inaccessible the two thick workable seams of superior brown coal existing under the Crown and privately owned lands in the vicinity of the shafts. The occurrence of numerous fires and disturbances due to the crushing of the pillars caused serious monetary loss to the mine-owners, and in the interest of those concerned it is to be hoped that other approaches will be considered in the near future for the development of this extensive coalfield.

Rotowaro Colliery.—During the year the output of the colliery was derived from Nos. 1 and 2 mines. No. 1 mine continues to be the most productive, upwards of thirty pairs of miners are employed in the extraction of pillar coal. The irregularity of time worked and the consequent slower rate of extraction of the thick coal pillars is seriously affecting the roof-pressure, leading to additional timbering of the faces, greater breakage of the coal, and liability to spontaneous combustion in the goaf. Development in the west section has disclosed the continuity of the thick seam through the faulted area. A separate unit of endless-rope haulage is installed to operate from the surface to bords in the east section. A heating of the goaf in No. 3 pillar section was successfully arrested by the erection of effective brick stoppings. A stone drive dipping 1 in 5 intersected, at a distance of 8¼ chains from the surface, the proved bottom seam, which is locally termed the Taupiri coal-seam. A return heading is being driven in the seam-gradient to connect with a prospecting-shaft for ventilation purposes. This new coal-seam has been proved by boring to extend over a large area. Electric energy has been substituted for steam in the mine, and an additional unit of electric power, boilers, and transmission cables is being installed to operate the Taupiri seam section. Oldham's electric safety-lamps have been in use for two years, and both the management and the workers commend the increased benefits derived from the lamps.

Pa'emiro Collieries.—During the year 90 per cent. of the coal-production from this extensive field was obtained from the bords in the first working.

In the North Mine section the headings have reached the outcrop boundary of the seam. The several districts are separated by panels of solid coal, and each advancing district on completion of the bords is immediately isolated by brick stoppings erected at the entrances until such time as the removal of the pillar coal is practicable. This system conduces greatly to the general safety of the mine in preventing access to old workings, minimizing danger from coal-dust and underground fires, and the consequent shortening of the air-circuit increases the volume and purity of the ventilation in the working-places.

Several pillars have been successfully withdrawn from the North-east section, and a high percentage of marketable pillar coal is being won. An incipient heating was arrested by the exclusion of the air from the goaf.

In the South Mine section the west headings are extended 45 chains from the south haulage-road. The increasing roof-cover (500 ft.) tends to throw "weight" on the pillars, and the distances between the headings have been increased in order to strengthen the cover-supporting pillars.

Machinery for cement "gunning" of the roof and sides of the main haulage and travelling roads is in process of being installed in order to arrest further fracturing and oxidation of the coal in the pillars, and also to prevent the accumulation of fine coal-dust.

A third mine section, locally named the East Mine, is being developed by a stone drive from the surface with free drainage. This district will be separated from the adjoining approaching east workings by a barrier of solid coal.

All the machinery at this colliery is electrically driven. The efficiency of the ventilation induced by the two Chandler fans is high, and the results are mainly due to judicious splitting of the air-currents and the erection of brick stoppings in the disused cut-throughs.

Glen Afton Colliery (Proprietors, New Zealand Co-operative Dairy Co., Limited).—The main headings are advancing in northerly, easterly, and westerly courses in the undulating coal-seam. Sections A, B, C, D, E, and F have been opened out to provide an output of upwards of 600 tons daily. The bords in Section A are being stopped as they reach the outcrop boundary, and the seam is being followed to the eastward in this section. The coal-seam maintains a varying thickness of 14 ft., and faults of small displacement are occurring in the west section, necessitating the grading of the roadways. The panel system of laying out and working is being adopted in all the sections. The main haulage-road, which has been extended 70 chains from the surface, is roomy, with sufficient space for walking between the rails. The area of the original returns is much diminished owing to falls and creeping of the sides, and an additional return airway is being driven parallel with the existing one in order to provide a cross-sectional area in excess of the intake.

The commodious bathhouse of standard design is extensively patronized.

The effective ventilation is high, that result being due to 60 ft. pillars between the intake and return and long intervals between the cross-holding connections.

A marked feature of employment at this mine in comparison with other local mines is the number of days worked, for, with the exception of award holidays and several hours lost through shortage of railway-trucks, the mine worked full time.

Graham's Colliery.—Operations have been vigorously conducted at this mine by the party of mine-owners. The seam averages 6 ft. in thickness, is friable (requiring no explosives), and the output of 50 tons per day is conveyed by horse-wagon a distance of half a mile to railway-trucks at Glen Afton Station. On two occasions the ventilation was dull, and mechanical appliances have been requisitioned to induce adequate air-currents.

Pukemiro Junction Colliery (Crown Lease; Co-operative Party).—Pillar-extraction in the east section continued throughout the year with a minimum of waste. The natural ventilation, efficiently effected by the return drive being 40 ft. higher than the intake, is sufficient for present requirements. Fifteen men are ordinarily employed, and the output is approximately 50 tons per day. An approved magazine, bathhouse, and change-house have been erected by the mine-owners. Brickmaking was commenced and abandoned during the year. The venture proved that modern machinery is required to eliminate the moisture, which causes shrinkage in the finished brick.

Waipa Colliery.—At this mine normal coal-production was steadily maintained during the year from the first workings in Nos. 1 and 3 west sections and Nos. 2 and 3 east sections. The main dip heading has been advanced to an upthrow fault of 10 ft. displacement, and a seam of coal similar in quality to the present workings has been discovered through the fault. A stone drive affording means for a second escape for workmen has been holed to the surface and is available for use. Old standing workings comprising Broadway and Khyber Pass sections have been sealed off at the entrances and isolated in accordance with precautions instituted to prevent spontaneous combustion in old workings. On the 2nd September an underground fire of serious proportions broke out in the vicinity of the underground stables. The fire travelled across the return airway towards the separation stopping-door in the intake airway, where the management was successful in suppressing the outbreak and surrounding it with temporary stoppings. The return airway was subsequently recovered, and sixteen substantial brick stoppings with sand filling between the walls were erected in selected positions to permanently enclose the fire-affected area. Approximately thirty brick stoppings have been erected in the cross-stentions between the intake and the return airways in accordance with the amended Coal-mines Act of 1924.

Waikato Extended Mine.—Owing to the available solid coal being exhausted splitting of the pillars was commenced in order to maintain the output. Sixteen men are employed, and approximately 50 tons per day are produced and delivered to the banks of the Waikato River, where the company's steamers load same for river stations. The two working jig-inclines are properly equipped; the shot-firing regulations are strictly enforced; and the ventilation of the working-places has been good throughout the year.

Huntly Coal-mine.—This mine is operating on a lease from the Auckland University College Council. The available coal is almost exhausted, and driving towards the outcrop proved the seam to be soft and inferior. The ventilation has been maintained by shallow holes to the surface. The main jig and ropes are in good order. An average of six men has been employed at the mine during the year.