120 ft. respectively, have been located over 50 acres. A stone drive, dipping 1 in 4, has been set away to the east at a point 10 chains from the Kamo Railway siding, and presumably the seams should be intersected at a distance of 400 ft. from the entrance to the drive. The re-establishment of a large mine in the Kamo District should result in the re-employment of many idle coal-miners, and this sub-bituminous coal should satisfy the demand for steam and bunkering fuel in the district.

The Rocks Area (Owners: Hikurangi Coal Co., Ltd.; Sublessees: Ackers and Rarity, Fearnley and Party—sublease to W. Reed, Wilson and Party).—Operations were confined to the bottom seam which averages 4 ft. in thickness throughout the "Rocks" area. The roof is difficult to support by reason of the fact that it is composed of a soft stratum of fireclay between the top and bottom seams, and as the top seam has been pillared, close attention is required to the timbering of the roof of the bottom seam.

Coutt's Coal-mine.—Continuous output was obtained from several drives in an area formerly worked by the Hikurangi Coal Co., Ltd. The output is conveyed by road to the Hikurangi Railway-station.

Glenbervie Coal-mine.—This mine is situated near Glenbervie, midway between Kiripaka and Whangarei. Operations were suspended following the extraction of all the pillars. A total output of 9,432 tons was produced from the area.

Stewart's Coal-mine, Glenbervie.—A thin seam was located on Plaisted's freehold land, and a stone dip was driven for the development of the proved coal. The seam is only 4 ft. in thickness, is much faulted, and the venture does not look promising.

Reservoir Coal-mine, Hikurangi.—Hamilton and party extracted 500 tons from isolated pillars remaining on Christie's area. Water trouble and broken roofs eventually forced the party to abandon the mine.

New Kiripaka Coal-mine.—Brown and Webber are still working on small blocks of coal left by the Northern Coal Co., Ltd., on Ngungaru Hill. The output is carted to Whangarei, a distance of nine miles.

Whareora Coal-mine (Foot and Fox, Owners).—Drives in the coal-seam have been extended into the hill, and the seam, so far proved, still contains several bands of stone which have to be mined with the coal, with the result that much labour is expended on the surface in separating the stone from the coal. The output is conveyed to Whangarei, a distance of seven miles, by motor-lorries.

Avoca Coal-mine.—This mine is situated seven miles east of Tangowahine. It was first worked during the year 1913, but was abandoned before reaching the production stage. It was reopened during 1929 by the dewatering of the dip. The drive was recovered in good order, and the roof and timbers were in good condition. The total length is 80 ft. and the dip 1 in 3. Two separate seams 7 ft. and 6 ft. with an intervening parting of 7 in. of shale, occur under a roof-cover of 50 ft. Subsequent to the workings being recovered the manager reported the presence of inflammable gas in a roof-hole at the bottom of the dip. Naked lights were withdrawn from the mine, and safety-lamps introduced throughout. A small ventilating-fan was also installed on the return-airway drive. The seam is difficult to work, and is of soft structure, containing thick bands of compressed slack. The rise coal, which was being worked opencast, was abandoned during the year owing to a fire caused by spontaneous combustion.

Waikato District.

Rotowaro Collieries (Waipiri Coal-mines, Ltd., Owners).—Production is derived from two separate mine sections fully equipped to raise and screen 1,000 tons of coal per eight hours' shift. In No. 1 Mine the main headings have been advanced approximately 120 chains from the commencement of mining operations. Haulage is conducted by endless rope installed to the innermost working layby. The pillars are being extracted in No. 4 east section, and in this section, and in other completed sections, preparations were made ahead so that stoppings could be erected as soon as indications of heating were observed, in order that the danger arising from gob fires could be localized to each working district. All sections are sealed off when finished, so there are no old workings open in the mine.

First workings are being advanced in the main east and rope-end sections. Strong coal roofs prevail in the sections, and the seam averages 18 ft. in thickness. The seam is highly inclined to the east, and endless-rope jigs with special braking facilities are employed to deal with the outputs from the bord sections. No. 3 mine section, proceeding in the bottom seam, is being extended to the east under favourable mining conditions as regards the thickness and quality of the coal. Small quantities of inflammable gas have been detected in the main headings, and the ventilation was maintained in sufficient volume to prevent any accumulation of the gas.

Preparations are being made to further prospect the southern fault, and to explore the field beyond the break in the top seam. Oldham's electric safety-lamps of the cap type are in use in both mines. Three coal-cutting machines are employed and, generally, the working-conditions throughout are satisfactory.

Pukemiro Collieries (Pukemiro Collieries, Ltd., Owners).—Operations during the year, in the company's collieries, were confined to the North Mine section. Solid work was followed in the south-west to the proved fault, and in No. 2 and the drain-level sections the pillars were effectively extracted from the limits of the boundaries. Brick fire-resisting stoppings are erected in all disused pillar roadways in prevention of gob fires. In the first workings the roofs are strong requiring few props in support, but in the pillar roadways three rows of substantial props are maintained from the faces to a distance back of 1 chain. All the existing roadways and airways are utilized for pillar-extraction, and, as "creep" and "crush" have not yet been experienced under the shallow roof-cover, a high percentage of the available coal is being won. The brickyard section and the South Mine section have not been resumed during the year, but are available for output should the trade warrant additional supplies. A total output of 2,132,051 tons has been won from the field, and there are sufficient reserves of coal on pillars to meet the trade requirements for many years. One hundred and fifty men are employed in and about the mine, and the majority of them own their own homes in Pukemiro Township.

Glen Afton No. 1 Colliery (Glen Afton Collieries, Ltd., Owners).—This extensive colliery produced 44,315 tons only during the year due to a decreased demand, and to the fact that the more recently developed No. 2 Colliery (MacDonald) is more favourably positioned and developed to yield output at lower working-costs than the older colliery. Only two sections—namely, K3 and K4—were worked with concentration upon the pillars in K3 section. The roof-cover averages 400 ft. of impervious fireclay and limestone, and as the formed pillars measure 70 ft. square, and a straight line of retreating face is maintained, the superincumbent roof weight has exerted pressure, so far, only along the fringe of the goaf, and the movement is resulting in the goaf being comparatively well filled and packed with roof stone. In this connection if the roof movement can be controlled and limited in effect to the goaf, no dangerous conditions in respect to gas accumulations or goaf fires should result. During the first working of the coalfield the mine has been comparatively free from serious face accidents, and this freedom is due to the strong nature of the coal roof. If the roofs of the roadways within close proximity to the pillar faces can be kept free from crushing we can reasonably expect a continuation of the low accident rate. Both working districts are dry, and little water or moisture occurs from the working of the seam. The main roadways are heavily ballasted with incombustible stone, that, under traffic conditions, becomes fine dust which mixes with the coaldust. The roadways throughout the mine workings are also treated from time to time with quantities of fine incombustible dust. No development work was done during the year other than connecting No. 1 Colliery to No. 2 Colliery by headings set away from each mine. The connection resulted in a third escape for the workmen at the farthest point of the workings in No. 1 Mine, and also affording cooler working-conditions by the shortening of the intake airway by 100 chains.