

drives to penetrate around and beyond the faulty ground surrounding the rise workings in the old east area. In the old east and old west areas pillar-extraction is being carried out. The line of extraction varies from 4 chains to 8 chains in length. The management claims that the new system is safer and more economical than the one previously in operation. The work of forming artificial panels by means of concrete stoppings in the old west pillar area has made good progress during the year. The new 775 kv.a. turbo alternator was put into operation towards the end of the year, and has greatly assisted in the development of the mine, providing additional power for pumping and haulage purposes. A considerable amount of repair work has been done during the year, including the relaying of two miles of locomotive track with 60 lb. rails.

Westportmain Colliery.—During the year the output has been obtained from pillar-extraction. The section to the east across the creek proved faulted, and the coal stony and unprofitable to work. The section was therefore closed down.

Cardiff Bridge Mine.—All development work in this mine has now been completed, the output being maintained from pillar-extraction. The extraction of pillars has allowed the roof to break to the surface, and during wet weather the influx of surface-water is considerable. The sluicing of the coal from the working-faces to the bin is still being successfully practised, the cost of transporting the coal from the face by water-power being considerably less than that in the adjoining section of the mine where ordinary methods are being used.

Coal Creek Mine, Upper Mokihinui.—The coal-seam continues to open out in a satisfactory manner. Three main headings, driven on a bearing of 42°, are proving a large area of soft coal suitable for steaming purposes. These headings have now penetrated behind and beyond the fire area in the old mine.

Chester and Party's Mine.—The main heading going west has been stopped in thin coal. From the surface a heading is now being driven in a southerly direction towards the old St. Helen's Mine. The seam is 3 ft. thick. Four men have been employed throughout the year.

Quinn and Party's Mine.—The damage caused to the haulage-roads by the earthquake in June, 1929, has been repaired, and coal-production resumed. The coal is friable, and the cost of crossing old fallen drives has been considerable. As a result of the high cost of production and the low commercial value of the coal produced, it was decided towards the end of the year to commence pillar-extraction.

Westport-Stateville Mine.—Work has been carried on intermittently during the year. The seam has split, and prospecting operations are now being carried on towards the old State Mine.

Glasgow Co-operative Party's Mine.—The cost of repairing the earthquake damage of June, 1929, seriously affected the working of this small mine. The dip going south-west penetrated the old State Mine workings, and the work of extracting the pillars was commenced. A slackness of trade towards the end of the year caused the closing-down of the mine.

Westport-Mokihinui Mine.—Towards the end of the year this mine was reopened. Two places were started near the outcrop and driven towards the fault. Prospecting operations on the fault-line are being continued.

Charming Creek Colliery.—The bulk of the output obtained during the year was won from the top section. Considerable difficulty was experienced during development of this section owing to the prevalence of small faults, rolls, and consequent thinning of the seam. During the early part of the year a series of twelve additional boreholes were completed, which resulted in the proving of a fairly extensive field of coal from 12 ft. to 20 ft. in thickness. The main stone drive was extended a further distance of 700 ft., and in October intersected the coal in the proven area. Work was abandoned in the top section towards the end of the year, when development of the main seam was commenced. A screening-plant was installed, and storage-bins with a capacity of 500 tons erected. Considerable trouble is being experienced with the internal-combustion tractors, and present indications are that it may be advisable to consider some other means of transport power to effectively deal with the desired output. Ventilation at this mine became unsatisfactory towards the end of the year. However, a small sirocco fan was installed in readiness for the resumption of work in 1931. Mine trucks of approximately 2 tons capacity are being used direct to the working-faces. The quality of the coal in the new area is good, and the mine should be in a position to produce a profitable output in the near future.

Westport-Cascade Mine.—Operations at this colliery have been spread over several small rise areas adjacent to the creek. Monyhan's section has been developed to the outcrop cover on three sides, and a few pillars extracted; the coal from this section is transported from the face and directly into the surface fluming by a sluicing system, water for this purpose being dammed back on the surface and carried to the face by means of 3 in. metal pipes and a portable hose length for use at the face. The method has proved efficient, and appears economical wherever applicable. An attempt is being made to work the area situated higher up the creek by a method of driving solid places adjacent to the roof and a lower series of solid places adjacent to the floor of the seam, the object in view being greater safety in operation and a higher percentage of total extraction. A loose gravel wash overlying the seams in these areas will render total pillar-extraction more difficult. The absence of power at this colliery almost prohibits development work being effectively carried out to the dip of the seam.

Bennett's Mine.—Very little work was done at this mine during the year.

Rocklands Mine, Buller Gorge.—This mine continued to be worked intermittently to supply local trade. The main level has now been extended a total distance of 10 chains in hard coal.

Whitecliffs Mine.—Two men are employed to supply local demands, the underground workings having been extended a small distance.

GREY DISTRICT.

Liverpool State Colliery.—At this colliery two mines, known as Nos. 1 and 2, are being worked. In the No. 1 Mine operations were confined to the extraction of pillars from the Stable, West, and Siberia sections. Towards the end of the year coal-winning operations ceased in the two latter sections, and the plant was removed therefrom. In the Stable section seven pairs of miners are employed. It is anticipated that this small section will be worked out in the course of a few months. No. 2 Mine: With the exception of the extraction of a few pillars from the Anderson old dip workings during the early part of the year, also a few pillars from the No. 3 bank of the Kimbell east section during the latter part of the year, the output at this mine was obtained from solid workings in the course of development. The pillared area in the Anderson old dip section has been sealed off with concrete stoppings. In the Anderson new dip section the main development headings are still being driven in thick coal of good quality. The Kimbell east level has been extended several chains beyond the point where the seam thins, and a pair of headings are being driven to the rise. Although this level is being extended, very little area is being opened up owing to the change in the contour swinging the level to approximately the same bearing as the inclines outby, this being due to the close proximity of the level to a large fault. The Kimbell west workings are approaching the No. 1 Mine workings, and the district is being cut up into pillars preparatory to extraction. Operations in the Morgan seam were confined to the extending of the main level and the inclines in both the east and west levels. In the east level the seam has thinned to 6 ft. 6 in., the direction of the level gradually changing, due to the influence of the same fault that is affecting the Kimbell east level. To the rise the more advanced inclines are approaching the old No. 1 Mine, and the time is not far distant when the pillars will be formed preparatory to extraction below the barrier line. A new double-inlet sirocco fan, capable of producing 160,000 cubic feet of air per minute, was installed at the No. 2 mine, and put into commission during the year. An additional change and bathhouse to accommodate one hundred men was erected at the No. 2 Colliery during the year.

James's Mine.—Development work at this mine was confined to the crosscut section, where an area of coal is being opened up between two faults. The coal is of good quality, being 6 ft. to 7 ft. thick. To the west of the main haulage-road a small area of thin coal is being developed. In the old dip and east level sections work during the year was confined to pillar-extraction. The latter section was worked out during the year, and in the former the work of extracting pillars is nearing completion.