

whole coal-bearing country, special care was taken to keep the various tunnels, named A, B, C, and D, in one continuous course, which, when completed, will cover a total distance of 171·5 chains, work being continuous by three shifts of workmen, Sundays and holidays excepted. A tunnel, 14·5 chains, was completed in September. B tunnel, driven 38 chains on the north end and 8 chains on the south end, leaving 19 chains yet to complete on Mangatini Creek. C tunnel intersects the coal-basin between Mangatini Creek and Ford Creek, a total distance of 36 chains, of which 16 chains are driven. D tunnel is driven but a few chains, and meanwhile awaits ventilating plant when available from the other drivings, when the proposal is to extend the tunnel to the boundary of the lease, a distance of 66 chains, before starting to open out and market the coal, in order that the "instroke method" of working may be adopted. The principal advantages claimed for this method are—(1) Greater safety and yield of round coal in extraction of pillars, as directly the bords are driven the pillars are removed, instead of standing for years to support the roof, which causes general deterioration.; (2) reduced cost of maintenance, as the maintaining of roads through broken ground is avoided; (3) danger from spontaneous ignition is reduced to a minimum; (4) increased ability to maintain a steady output of uniform quality. The "instroke method" of exploitation, although well known and practised in the Old Country, is quite new to this colony, and should tend towards safe and economical extraction. Altogether, these coal-tunnels aggregate a driven distance of one mile, proving a large area of hard, bright coal of excellent quality, with an average thickness of 12 ft. Throughout the whole series the headings have been driven next to the hard solid roof, and it is notable that not a single set of timber has been required. The average gradient is 1 in 17 in favour of the load, the maximum gradient 1 in 10. As all works are heading riseward, natural drainage will be assured over the whole field. Ventilation has been efficiently induced throughout by means of No. 5 Sturtevant fans, driven by Tangye oil-engines of 2½-horse power each, exhausting through iron pipes of 12 in. diameter, kept well up to the face. In B tunnel 34 chains were driven in this way until relieved by a 5-ft.-diameter shaft, sunk from the surface through 93 ft. of strong sandstone cover, the fan and engine being then removed to the shaft. From the mine-mouth to the bin-site at Ngakawau the total distance is about three miles and three-quarters, with a fall of 1,600 ft., and from the same point an electric tramway is being constructed to the brake-head at the top of the inclines. The length of this tramway is two and a quarter miles, with an average gradient in favour of the load of 1 in 21·2. One mile of this tramway is practically completed and contracts let for the remaining sections. From the brake-head to the bins the distance will be covered by two well-graded inclines, with an aggregate length of a mile and a half, having a fall of 1,037 ft. The upper incline, 40 chains in length, has an average gradient of 1 in 6·7; maximum gradient, 1 in 5; the lower incline average gradient, 1 in 4; maximum gradient, 1 in 3. The lower incline is nearing completion, and on the upper work is well advanced. Both inclines are to be worked on endless-rope system of haulage, and the motion regulated by two separately installed four-cylinder hydraulic brakes. To connect the traffic from the lower incline at Mine Creek with the screening and loading plant on the railway-siding at Ngakawau a rock-tunnel, 28 chains in length, is now being driven from both ends by three shifts of workmen, on a gradient of 1 in 63 in favour of the load. Of this work 16 chains are completed, while 12 chains are yet required to pierce the ridge. Traffic on this section of way will be conducted by electric locomotive haulage. The company proposes to construct extensive siding accommodation at Ngakawau, equipped with up-to-date screening and handling plant, with storage-capacity of 5,000 tons; also to erect a central electric-power station to supply current for the whole mine and works, the electric power to be employed for coal-cutting, haulage, ventilation, lighting, and other purposes. Tenders are invited for the whole plant required.

*Millerton Colliery* (owners, Westport Coal Company (Limited); Mr. George Fletcher, mining-manager).—(15/11/1906): In comparing the commercial demands on the colliery against those of the preceding year, the gross tonnage sold—266,529 tons—was an increase of 27,684 tons, and, in addition to the figures stated, 3,701 tons were consumed as fuel at the mine. Development and general equipment continue to be efficiently maintained.

East Dip section: Respecting the efficiency and safety of this sealed-off district, the walls are examined daily, and proper tests taken of the pent-up gases.

Mine Creek area continues to be the chief centre of production, hardness and quality of seam showing no depreciation. Apart from the ordinary routine of operations in connection with the solid working and removal of pillars, fresh development affords little subject-matter of special importance; ventilation, timbering, and free drainage are strictly observed as leading factors of safety and economy. In October last the main south heading was successfully holed on the Mangatini Creek Gorge, with the object of winning the major portion of the coalfield on the eastern side of this deep ravine, the bridging of which will necessarily entail considerable labour and expenditure.

New Tunnel area: Driving is actively pushed from the main west heading to effect permanent connection and prove an approximate area of 23 acres, located between the Mine Creek workings and the haulage terminal of this area. So far quality of coal is satisfactory.

New works completed during the year comprise the construction and completion of two dams for the conservation of water at Millerton, together with the necessary pipe-line connections suitable to meet the increased power required in driving the newly installed travelling belts in connection with the sorting and loading station at Granity. At the power-stations located at Mine Creek and the lower mine-mouth, further additions of machinery are unimportant, the ventilating-fans continuing to maintain their high efficiency.

Reports and all provisions of the Act are strictly observed. Throughout the year the reports made by the Inspectors on behalf of the Miners' Union have been highly satisfactory. No serious accidents reported, neither was heating or gas found in the disused areas.

*Denniston Colliery* (owners, Westport Coal Company (Limited); Mr. J. Dixon, mining-manager).—Commencing the year 1906, the output was maintained by single shift until May, after which period the Ironbridge Mine was worked double shift during the remainder of the year, output showing 49,286