

*Blackball Colliery.*—A small decrease in the annual output has been experienced. Development has been carried out to the rise and dip of the present workings. To the dip the quantity of water encountered has proved so serious as to cause cessation of operations in the western level, notwithstanding that the pumping-capacity amounts to 1,000 gallons per minute. To the westward a rise heading was stopped in faulted ground.

*Buller Coalfield.*

*Dennis on Colliery.*—Coalbrookdale Mine: Development at this mine has been very satisfactory and a large area of excellent hard bituminous coal has been proved. In the Waratea Jig section the winning-places have advanced 50 chains in a westerly direction in excellent coal. In the Extended area winning-places have considerably advanced to the south-westward through hard coal. In the dip area and No. 8 section pillars are being won.

*Ironbridge Mine:* Development has been mostly confined to the south of the main haulage-road. Coal is being produced from areas north of the Waimangaroa River at Kiwi and Deep Creeks. A considerable area of unworked coal in the direction of the old Koranui Mine is being connected to the endless-rope-haulage system.

As regards safety measures the management has been thoroughly efficient, and although accidents have happened, they appear to be of the unavoidable class—namely, those which can not be controlled by regulations or reasonable supervision.

*Millerton Colliery.*—This, the most productive colliery in the Dominion, recorded an output of 291,813 tons, of which only 12 per cent. was small coal. The above output is less than that of the previous year by 60,258 tons, due probably to shortage of miners. A large area of unworked coal is being developed to the westward. In the Mangatini section the output has been obtained by pillar-extraction, and in the Lower section of the mine from solid workings. As at the same company's Denniston Colliery, the management devote conscientious attention to the safety of employees, and I believe that since the inauguration of this, the most important colliery company in the Dominion, nearly forty years ago, no legal proceedings have ever been taken against it for a breach of the statutory safety provisions.

*Westport-Stockton Colliery.*—At the original mine operations have been devoted to pillar-extraction. The newly developed area situated between Mangatini Creek and the Ngakawau River has proved to be somewhat faulted, but generally produces hard coal of superior quality. Improved conditions are probable as work proceeds. At this colliery electric power is extensively used, the aggregate horse-power of motors used on surface and underground being 1,575.

*Otago Coalfield.*

At the *Kaitangata* and *Castle Hill Collieries*, No. 1 Mine is worked to the dip in panels, owing to liability of the coal heating by oxidization. A considerable area of excellent coal was developed at the most distant operations, known as No. 21 dip, but this area has now been abandoned, owing to the high cost of underground transport. Only Imperial-permitted safety-lamps and explosives are used at this colliery, where firedamp is prevalent, and it is desirable that the quantity of air in circulation should be increased to dilute and render harmless such inflammable gas. Samples of mine-air taken for analysis on the 11th March, 1916, by Mr. Green, Inspector of Mines, were all found to contain methane, the highest being 2.85 per cent. (from No. 1 heading, north side), and 1.17 per cent. in the main return.

*Castle Hill Colliery.*—The ventilating-furnace, the only one in the Dominion, has been replaced by a double inlet Sirocco fan, which on the 15th February, 1916, I found was circulating, with the assistance of natural ventilation, 15,174 cubic feet of air per minute.

At the *Kaitangata Collieries*, upon my inspections, I have found more dry coaldust on the haulage-roads than can be considered safe, but there is difficulty in allaying this efficiently, as watering would intensify the great liability to creep, and owing to constant fretting of coal along the roadways the ground is being continuously covered with small fragments of coal, which soon become reduced to dust by traffic. The dust may not be classed as highly inflammable, however, owing to the considerable proportion of inert dust also present.

*Nightcaps Colliery.*—Two sections are worked at this mine. There is liability to spontaneous fires. The brown coal mined is of superior quality.

ELECTRICITY AT COLLIERIES.

The following is a summary of the annual returns in accordance with new Regulation 160 (c), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed..	..	..	16
„ continuous-current installations .. ..	..	..	15
„ alternating-current installations .. ..	..	..	2
„ collieries electrically lighted .. ..	..	..	14
„ collieries using electrical ventilating-machines ..	..	..	5
„ „ „ pumping plants .. ..	..	..	4
„ „ „ haulage plants .. ..	..	..	2
„ „ „ screening plants .. ..	..	..	2
„ „ „ miscellaneous plants .. ..	..	..	2
„ „ „ locomotives .. ..	..	..	1
Total horse-power employed from motors on surface ..	..	..	1,734
„ „ „ motors underground .. ..	..	..	577

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FRANK REED,

Inspecting Engineer and Chief Inspector of Mines.