

run continuously; three shifts of workmen are constantly engaged—two shifts for output and night shift on repairs—as owing to liability to spontaneous ignition the mine is not considered safe left unattended. A number of samples of mine-air were collected as occasion required in different parts of the mine for determination of mine-gases by the Dominion Analyst, and a series of hygrometer readings were also taken, results of both of which were utilised for the betterment of working conditions. Lamp-station notices are posted near underground cabin No. 1, beyond which point only safety-lamps are allowed, and the provisions of General Rule 46 are applied so far as practicable. Systematic searches of persons for breaches of the latter part of the rule are not in vogue, but workmen and others are warned by notices posted not to have prohibited combustible and other articles in their possession, and are also warned by the question being asked from time to time by the mine officials. Permanent fire-stoppings on main roadways continue in good condition. Water-supply pipes are laid for suppression of incipient spontaneous fires in any part of the workings. The telephone system is in use underground, but electricity for power or lighting purposes has not been introduced below. Fan and second outlet air-shaft alterations and repairs have been carried out, rendering the winding plant effective, which, being used bi-weekly, is kept in good order for cases of emergency if required. The explosives magazine on the surface has been approved, the surface and loading-bank arrangements are in working order, and the mine-manager's and other mine officials' report-books are duly kept. The rules are posted, and copies of the mine-plans are returned quarterly. On the 21st August a slight dull explosion of firedamp occurred, presumably ignited at an underground fire produced in a level driven off No. 5 dip, and which had been stopped at a "roll" giving off gas. When the explosion happened stoppings were being put in at the intake and outlet. No one was injured and very slight damage was done. The mine-manager, assistant manager, underviewer, and two other officials were engaged at the work. By the extension of Mundy's dip, No. 5 dip, the air-circulation became direct, and symptoms of firedamp disappeared. Two fatalities occurred during the year, in each case, unfortunately, within a minute or two of work being suspended. John McGhie, miner, was killed on the 15th May by a fall of coal from the side and roof, and Joseph Carson met his death by a fall of stone from roof while repairing timber in the main roadway. Mr. Carson was the holder of a mine-manager's certificate of the second class. The prospecting drive, referred to in last annual report, dipping at 1 in 3, met the main seam south at 1,023 ft. from surface. A main haulage-way, to be known as No. 2 mine, is being driven, 10 ft. 6 in. by 6 ft. 6 in. in the clear, and is now down 650 ft., or half-way, at a dip of 1 in 5. The former drive will be utilized for a travelling-way and return airway. A Sirocco fan to be electrically driven is being obtained, and endless-rope haulage will be installed for delivery of output to the surface screens and loading-bank at the No. 1 mine.

*Castle Hill Colliery, Kaitangata* (New Zealand Coal and Oil Company (Limited), owners; W. Carson, mine-manager).—(23/11/11): No. 7 dip section and return airways and working-places in good order. Ventilation good. Inside pillar waste now being stopped off. Jordan's seam working-places in good order. A pair of levels are driven northward, and stentons being driven at intervals. Ventilation good. I traversed the intake and return airways to furnace-shaft; ventilation, 15,000 cubic feet per minute; thermometer—return air 70½° dry, 68½° wet bulb. The man-hoisting apparatus at the second outlet shaft appeared to be in working-order, as reported by the engineer, who makes periodical examinations and tests of the lift.

*Benhar Colliery, Stirling* (P. McSkimming and Sons, owners; James Walls, permit, manager).—(22/11/11): The present workings are on the western side of the dip towards the outcrop. The air is good; blasting-powder is carefully handled. An air-shaft to the rise is now required, and will receive attention on receipt of plan, a survey having recently been made. Seam, 25 ft.; places worked, 12 ft. wide by 8 ft. high.

*Mount Wallace Coal-mine, Stirling* (William Coulter, jun., lessee).—Mine reopened towards the end of the year, and a few tons taken out.

*Mainholm Coal-mine, Waipahi* (D. Dickison, owner; W. Lischner, permit, manager).—Open-cast pit, from which 2,270 tons of lignite were produced during the year.

*Acton Adams Coal-mine, Clydevale* (A. Acton Adams, owner).—A few tons taken out for station requirements.

#### CENTRAL OTAGO.

*Coal Creek Collieries, Coal Creek Flat* (Crown lease; Barber and Shaw; J. Barber, mine-manager).—(15/4/11): The water introduced for flooding purposes has been drained off, and heavy clay stoppings erected against the fire area. Opencast work is still being carried out, but the quantity of heavy stripping renders work very laborious. A prospecting-shaft further down the gully proved a coal-seam of average quality, but owing to water in the shaft the thickness of coal was not ascertained.

*McPherson's Coal-mine, Coal Creek Flat* (Crown lease; McPherson Bros.; R. McPherson, permit, manager).—(15/4/11): The level drives are still being made, the dip working not yet being undertaken. Several soft patches occur in the seam, but as yet there are no falls, and as all dross is removed there is no present indication of that heating to which this seam appears to be particularly liable. The seam is generally strong, and a minimum of timber is required. (14/12/11): Coal is being won mostly from the opencast; most underground places are driven across the coal-seam to clay; the coal apparently dips underfoot. Indications of spontaneous heating in bottom level section were observed, and immediately dealt with.

*Perseverance Coal-mine, Coal Creek Flat* (Crown lease; James Craig; S. E. P. Vernon, permit, manager).—(15/4/11): The dip drift is extended, and a new low level has been turned westerly. Ventilation is obtained by driving stentons to the footwall, thereby connecting with the level above. Working-places are in good order. (14/12/11): Solid work in bottom level; ventilation good; mine in good order.