

chains, and is ventilated by 7 in. galvanised-iron pipes led from a small fan; belt driven from the hauling-engine underground. The main intake is in good order, wooden brattice across all openings off the level, and air conducted to the workings in a proper manner. Air cool, but current sluggish, and the far-in faces are dull, smoke after shot-firing being slow to clear. The coal in this colliery is of a strong nature, and has to be blasted. On my recommendation compressed powder has been substituted for ordinary blasting-powder, with beneficial results to the air. A new upcast is on the point of pricking through. This, when completed, should give more than ample air for the men (nineteen) in this section. (19/7/1901): Dip drive 5 chains to face. Stentons off the dip provide free circulation of air to the breast of working-faces. Brattice for conducting air is well built of boards nailed on studs, and filled in between with fine material. Air excellent at all the working-faces. The new "snatch" or furnace upcast shaft is working well. (6/9/1901): The mine is in good order. The regularity of the seam being broken by cross clay-seams renders the maintenance of the mine difficult, but great care is being exercised. Timber is freely used in the travelling-ways. Air good throughout the mine. I found the furnace and upcast shaft in good order. (3/10/1901): A considerable portion of the output is still being won from opencast working along the line of outcrop. In the underground places clay backs are giving the usual amount of trouble, but timber is liberally used, and due care is apparently taken to provide for safety. Air good throughout the mine. James R. Quedsted was killed in the mine on the 1st October, 1901, by a fall of timber and coal from the roof while trimming a bar preparatory to setting a centre prop. Particulars under heading of "Accidents."

*H.B. Coal-mine, Nightcaps.*—(22/2/1901): The mine is idle (no tenant at present), and the owner is unable to work it himself. (5/9/1901): J. Beadle, permit. I visited the mine on this date in consequence of a fatal accident whereby W. H. Guttery lost his life at the mine-mouth. Particulars of the accident will be found under the heading "Accidents." The mine was recently leased from the owner, Mr. A. Lamont, by Beadle and Guttery, Guttery being in charge. There has not been much coal taken out, the mine having been worked intermittently by several parties of miners. An air-shaft has been sunk, and the ventilation is satisfactory. The drives are narrow, and props set where required. Care is required in working the coal, owing to the large number of clay backs in the seam; but the miners in the Nightcaps district understand the nature of the work, and accidents from falls of roof at the face are comparatively rare.

*Hit or Miss Mine, Nightcaps* (W. Tinker, permit).—(22/2/1901): A new mine being opened on a part of the Nightcaps Coal Company's property adjacent to the H.B. Mine, Morley Village.

*Blythe Pit, Nightcaps* (Grier and Spence).—(6/9/1901): Opencast. Working to the dip, and stripping kept well back in front of the working-face. One man at work.

*Wairio (late A. McBride), Nightcaps* (Kelly Brothers; J. W. Kelly, permit).—(6/9/1901): Kelly Brothers have leased McBride's coal-pit, Nightcaps, and have started away a level to mine the coal. Formerly this pit was worked opencast, but the stripping proved too heavy.

*Orepuki Shale-mine, Orepuki* (New Zealand Coal and Oil Company; Michael Straw, manager).—(20/2/1901): Development-work is well advanced; levels and headings driven, all close-timbered. The shale-reduction plant will be ready in a month, and an area of coal and shale is now opened up in readiness, a continual and constant supply of both being necessary. As the mine was opened up it was unexpectedly found that the district was considerably troubled and faulted, and the original plans of laying off the workings had to be departed from. It was found that the strata underground formed a succession of synclines and anticlines in regular order and succession, and skill and ingenuity have been displayed in laying off the hauling-ways to enable the mineral to be landed at the foot of the main engine-incline haulage free. The coal-seam is from 12 ft. to 20 ft. in thickness, and the shale overlying the coal is 4 ft. thick. The district opened is laid out for work in stalls 20 yards apart; all the shale to be won with as much coal as may be required, the balance of the coal-seam being left in underfoot. The present intake airway and shaft (which constitute the second outlet) are in good order. Substantial inclined iron ladders with proper landings have been placed in the shaft. Air good and well conducted round the working-faces. Report-books and plan to date. (18/7/1901): For ventilation purposes the exhaust steam from the pump at the bottom is turned into the main engine plane, causing heat and discomfort in travelling the brow. Air warm in No. 4 jig rise workings, indicating heating in waste. Owing to the rotten nature of the roof overlying the shale, it has been found that 20-yards stalls are not workable, and 10-yards stalls are now being opened up. Double the number of men will then be employed on a face of work, and by taking the shale out more rapidly the cost per ton will be reduced. An abundance of heavy timber is in use, and a full supply at hand underground and on top. Air inadequate at some of the working-faces, it being heavily charged with deleterious gases from the waste, and fan or other mechanical ventilation will soon be necessary, present power being insufficient for requirements. (9/9/1901): Air-current, 5,800 cubic feet per minute. No more coal is taken out of the mine than is required in connection with surface plant, but the shale overlying the coal-seam is exhaustively worked. So far all work has been carried on to the rise and out to the boundary. Operations are now confined to bringing home the pillars. All stoppings are cool. Air slack generally throughout the mine, but is dullest in the shoots (south level) and in No. 3 stall, No. 1 district. A steam-jet is used to increase the circulation, but the erection of a fan should be proceeded with at once. Returned through the second outlet and found all in good order. Report-book kept up to date. (4/10/1901): Air at intake, 9,000 cubic feet per minute. Coal-cutting machines from Kaitangata are being installed, with good results. All holing is done in the coal, only sufficient coal being taken out to insure recovery of shale-seam; and from the rotten nature of the roof great difficulty is experienced in maintaining roadways and working-places 6 ft. high; therefore the balance of the coal-seam, 6 ft. to 15 ft., is left underfoot. Air dull at far-in faces, large quantities of damp coming from the waste. The motive power of the air-current is not sufficiently strong to adequately ventilate the faces and carry off the poisonous