

opinion that this was the point of origin, and that the explosion was chiefly one of coal-dust. Then, if that were not the starting-point, there was nothing tangible left to go upon, and all else is conjecture. The Brunner was not a fiery mine, though firedamp was occasionally met. Neither was it a dry and dusty mine, but there was a good deal of stone, small coal, and dirt present, as usual in coal-mines. At most places it was damp, and more especially in parts of the Main Dip there were trickles of water running on the floor sufficient to keep it quite wet. After the explosion, and before the ventilation was properly restored, I had three samples of the mine atmosphere taken and forwarded to the Colonial Laboratory for analysis. All of these showed a trace of firedamp, but none showed any appreciable percentage, so they throw no light on the matter. It has to be borne in mind, however, that a small percentage of firedamp such as cannot be detected by the best ordinary safety-lamp will intensify an explosion of coal-dust. Work in the mine was resumed about three weeks afterwards, and, at my request, with safety-lamps only, and without blasting-powder. Subsequently I drew up a list of precautions desirable to observe in blasting with safety explosives, but, as I had no power to make such an order, it was left to the management to carry them out, as Mr. Bishop agreed with all except as to watering the dust in any dry and dusty place, which he wished to be general throughout every place, if done at all. Recently, I am informed, blasting with roborite has been commenced. It is fired, after the men leave the mine, by appointed shot-firers, with electric exploders, after examining the places.

Brunner Rise Workings.—(18/2/96): Twenty-seven places working, all in the solid. The coal in the level face has thinned down to 2 ft. 10 in. in thickness, being wedged out by irregular blocks of rock coming in on the roof, and which, as the main roof parting keeps regular throughout, indicate that the thinning is due to erosion. This thinning is noticeable as far as the fourth bord above the level. Air very good throughout the mine. Timbering sufficient, and spragging attended to. (18/6/96): Pillar-work has been started from the line of thinning back. A little gas is noted as having been seen about a month previously in No. 3 incline, but there was no trace of any in the mine to-day. Ventilation not so good as at last visit, so I requested Mr. Tennent to have the air better led into the faces. On the 27th July I examined the thinning: seven pillar-lengths to the rise of the level, where a short drive showed the coal almost completely pinched out. Pillar-work is accordingly being extended, though it is to be regretted that it was not seen fit to further prospect. However, if the area in advance of these and the dip-workings is found by boring or sinking to contain coal of workable thickness, it can best be opened up and worked from an extension of the engine plane of the Dip section, along which, from the dip drive inwards, a rib of coal 2 chains in width has been left for this purpose. This section was also inspected in November, when pillar-work was in full swing, and only eight places up No. 1 incline, working in the solid. A place was to be driven out to the cliff to increase the ventilation. Mr. Dands was subsequently appointed mine-manager.

ACCIDENTS.

14th February.—Brunner Rise: A miner named Aaron Dixon was struck by a piece of coal which his mate had been taking down, resulting in a fractured arm.

27th February.—Granity Creek: A workman named Isaac McGarry sustained a broken arm and rib on the surface incline when jumping off the race of trucks, which he had started after working-hours.

26th March.—Brunner Mine: By the explosion and resultant gases in the dip-workings all the men at work in that section—sixty-five in number—were killed.

15th June: Cardiff Mine: Robert Polkinghorne, a youth employed taking off the mine-tubs at the bins, was struck by a tub which ran away inside the stop close by. His leg was badly broken, and he received other injuries. Had he remained where he was he would have escaped, but it is said that in the excitement of the moment he jumped the wrong way.

12th November.—Brunner Rise Mine: A miner named James Harris had his leg broken by a piece of the roof falling, which he was in the act of propping up.

14th November.—Coalbrookdale Mine: An engineer named Joseph Smith, in shifting pipes, was struck on the head by one which he had unbolted, and had his jaw fractured.

GENERAL.

Foreign Trade.—During the year a start has been made with a regular export trade from Westport. Mr. Jamieson, the agent of the Westport Coal Company, informs me that some 10,000 tons of Coalbrookdale coal was despatched to San Francisco, Valparaiso, and other ports, chiefly in sailing-vessels, and that there is every prospect of that tonnage being largely increased this year.

At Granity Creek a start has been made with watering the dust, and this is a step in the right direction. Coal-cutting machines, actuated by compressed air, are successfully at work there, and Mr. Lindop informs me others are being installed at Coalbrookdale, which will be driven by electricity.

At Cardiff Mine, also, things are moving ahead. The haulage system is being extended, and a more powerful engine is to be fitted up. A ventilating-fan has been ordered, and will shortly be erected, with a separate engine to drive it; so that excellent ventilation should be constantly maintained.

I have, &c.,

N. D. COCHRANE,

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Inspector of Mines.