

lars, and the question is, where should a road be left for the purpose of bringing out coal, in the event of the fault being proved. The output of coal from the mine during the year 1883 was 68,000 tons, against 44,000 tons in 1882; an increase of 24,000 tons, or more than half the total increase for this Island.

25. *Coalpit-Heath Colliery, Greymouth.*—I regret my inability to report so favourably on this mine as in former years. On the 27th September, 1883, the far dip, in which twelve men were employed, was insufficiently ventilated, a great deal of air being lost at the top; neither was there any proper provision for airing the new dip. On the 28th I found a little gas in the old workings, though I had written on the 12th June requesting that screens might be put up to clear them. The main return was only 7,315 cubic feet per minute, having been usually about 12,000. On the 12th October I again wrote, pointing out that the suggested precautions had not been taken, and requiring plan to be made up. The latter was at once done, and a copy sent. On the 4th December, 1883, a boy aged thirteen was employed over hours, and there was no register: the weekly report was late. In my notes was entered, "In the underviewer's report I find that one or two bords in the new dip are gassy, generally about twelve inches. These places ought to be worked with lamps: told manager." On the 16th January, 1884, the air in the new dip was not guided, and there was a little gas in the lowest bord. The cloths were not properly fixed, and the stopping at the top of the far dip was very bad; there was also gas in one place: nearly all the air appeared to be lost. Spoke to the manager about it, and on the 26th January wrote that on several occasions I had been obliged to take exception to the way in which the mine was ventilated, concluding: "The volume of air is, in the first place, insufficient, the stoppings are some of them practically useless, and the dip-workings are giving off a considerable volume of fire-damp. In spite of this, you are not working with lamps (safety); and, unless the condition of things is so altered that gas is not to be found when next I visit your mine, I shall require the bords and headings to be worked exclusively with safety-lamps." On the 4th February I received an answer saying that the stoppings had been overhauled, and the air was better; also that my letter had been laid before the directors, and authority requested for the erection of an 18-inch fan; also stating that working with lamps would entail an extra cost of 6d. per ton on the coal. On the 11th of the same month a miner named Johns was slightly burned by an explosion of gas, and particulars of the accident are given in the proper place. As this accident occurred through direct disregard of repeated warnings, I prosecuted the manager and underviewer, and give, under the heading of "Prosecution," a report of the case. On the 22nd ultimo the places appeared much better ventilated, and the air-ways and stoppings improved. Still there was a little gas in some of the places, and, in default of this being cleared out, I required them to be worked with safety-lamps. Work during the year has been confined entirely to the dip, one incline, as mentioned previously, being driven half-dip, and the other on the full angle. In the former district the bords have been very badly driven, being in places 25ft. 8in., 23ft. 8in., 26ft. 3in., and 31ft. 6in. in width, instead of 18ft.; and the pillars 9ft., 7ft. 6in., 6ft., and 13ft., instead of a proper thickness. The bords, too, were very tortuous. On the 16th January they were in better order; but on receipt of Mr. Gordon's check survey the system was shown to be very faulty, and on the 14th March I wrote to Mr. Nancarrow, the secretary. Since that date they have been somewhat better. I cannot, however, say, as Inspector under the lease, that the mine is worked to my satisfaction.

#### GREYMOUTH DISTRICT.

26. *Wallsend Colliery, Greymouth.*—In last year's report mention was made of the probability that the gas imprisoned at enormous pressure in the rise workings would, when the pressure was lessened by a decrease in the column of water, burst out and explode at the surface. This actually occurred on the 26th July, 1883 (two months after the report was written), and was a somewhat severe explosion: fortunately, work was suspended at the time, and no one was injured. The new shaft has been carried down to a depth of 140ft., and at that point operations were stopped. The old shaft was successfully cleaned out, and on the 18th January, 1884, I descended. Up to within a day or two before the shaft had been ventilated by means of three canvas pipes, having an area of 4·8ft.; but at this date there was only one pipe of 1·6ft. area, and this reaching only to the bottom of the shaft. Notwithstanding this I was able to penetrate to the end of the east level, about four chains, and up a rise heading, where, however, the presence of gas prevented my carrying a lamp on the level; the lamps could not be lifted far from the floor. On the west level we penetrated three chains. This mine has always been regarded as extraordinarily fiery, so much so, indeed, as to be almost unworkable. But I do not think that, when it is opened out for a few acres, and the coal "bled," there will be any difficulty in carrying on operations, possibly with naked lights. Open lights and first-class ventilation—that is, where it is possible to clear the mine, and no sudden outburst is to be expected—are much safer than slipshod ventilation, permitted because safety-lamps, as they are called, are used and therefore "it must be safe." A 30ft. Guibal fan is on the ground, and a really splendid plant; if the remainder is erected in the substantial and efficient manner which has characterized the works hitherto the colliery will be a credit to the colony. The output for 1883 was one ton.

#### MALVERN DISTRICT.

27. *Springfield Colliery, Springfield.*—On the 14th August, 1883, Captain Parker wrote requesting permission to continue the employment of fourteen men for a longer period than was originally granted, viz., till the 4th September, up to which date, as will be remembered, I was authorized to allow the suspension of section 10. As the special circumstances which rendered such suspension advisable had expired, and other mines were in a similar position, I did not think it advisable to entertain the request. On the 11th September, 1883, the ventilation return for the north side was 3,360 cubic feet per minute for four men, and the current at the lowest place on the south side 83½ cubic feet per minute; this was taken in a pipe to the head end from a bolthole