

twice. The record since the last report in May, 1882, is more satisfactory. On the 27th June the air was bad on the north side of the dip. A man was imperilling his own life by working under loose coal. Pump and underground engines fenced. On the 7th July the rise-workings were examined; roof on incline required attention, and there were not sufficient refuge-holes. On the 16th October, 1882, a new manager (Mr. Bishop) was in charge. The reports were kept, and a plan had been made, which turned out, however, on being checked by Mr. Gordon, Inspecting Engineer, Mines Department, to be inaccurate. There was no register of boys. The air in the dip was pretty good, except in the bottom places; timbering good; old levels closed by doors. In the rise saw a small blower of gas, so advised safety-lamps, which are now used. The roof in the rise-workings is bad. On the 11th April, 1883, the air in the rise-workings was very bad, there being no artificial ventilation, which I have long urged the company to adopt. The fan has now been for some years in process of erection, and is urgently required. The top heading and bords were too far in advance, so Mr. Bishop stopped them and put the men on to make an air-crossing, which was required for the fan. On the 12th instant Mr. Bishop wrote that the air-crossing was to be finished on the 19th instant, also that the fan had been started, but the supply of water proved totally inadequate, and a steam-engine was in process of erection. A boy, aged fourteen, was working on Saturday afternoons. In the dip the air was better. A new hauling-engine has been put up, two 10-inch cylinders and 20-inch stroke, made by Kincaid and McQueen, of Dunedin, and works very well. In the dip are two pulsometers, which give great satisfaction. This class of pumping-machinery is now being largely introduced in the colony for low lifts. When the ventilation is set right the mine will be in good order. Nothing has been done towards proving the fault on the dip: whether it dies out to the rise, as appears probable, or merely branches, I do not know, but the workings are a considerable distance past the line of fault, as observed towards the dip. This rise district ought to be pushed on, which can be done when the fan is in working order.

21. *Coalpit-heath Colliery, Greymouth.*—Has been inspected six times during 1882, and once this year. On the 6th May, 1882, the pit was off work, and the furnace had not been lighted for three days. We found small quantities of gas in two places. In May, 1882, this company became aware that water from the Brunner dip workings was percolating into their mine, and, having requested a report on the case, I, as Inspector under "The Westland and Nelson Coal Fields Administration Act, 1877," was directed to make inquiries. The report was sent in on the 22nd July. The investigation, which included a detailed plan (made by Messrs. Young Brothers, of Westport and Greymouth), was delayed by various causes, and occupied a period of five weeks, necessitating a special visit to the West Coast. The result was to establish the fact that the water was draining through a pillar of 180 yards of solid coal, and that the position of the present workings in the Coalpit-heath mines is somewhat precarious. Still, this is not of so much importance to the ultimate value of the mine as (to quote the report) "it will be noticed that . . . the main body of coal is beyond the fault, where there is a magnificent virgin field of 700 acres. It is on this field that the future prosperity of the company depends. I may also call attention to the fact that the Pit Heath level is beyond the supposed line of fault. A certain amount of irregularity of seam has been observed, but no actual dislocation of strata has as yet been met with. From knowledge of the Brunner it would be imagined that the throw at this point would be of considerable magnitude, but experiment alone will prove this. Should the level arrive at a large slip the bords would very soon do the same, and, as the dip-workings are very limited, the output would be much reduced. I have for years urged this company to provide for a contingency of this sort by putting down a hauling-engine, and driving direct to the dip, but they have taken no steps to do so beyond driving a road slightly to the dip from the level, but this will open up hardly any coal." On the 12th April, 1883, while I was present, a face of coal bared a fault, which has every appearance of the main slip, and this has effectually stopped any work in this direction. Fortunately the company had ordered a hauling-engine, and commenced an engine-brow, the old slant drive having been very badly worked, and being, in addition, incapable of a large output. The direction of the fault has changed about 20 degrees, as you will see by Mr. Gordon's check survey, on which I have projected the main level in order to show the exact position of the slip. On the 12th April last the air seemed good; and a boy, who was in October last employed overtime, had been dismissed. The output for 1882 is very small, but when the dip is opened out more coal will be available. The ventilation at last inspection was as follows: Intake to dip, 3,754 cubic feet per minute; main return, 12,000 cubic feet per minute. A new steel rope has been put on: it was much needed. The mine has been worked without accident, and carefully managed; but a little more enterprise on the part of the owners is much needed.

#### GREYMOUTH DISTRICT.

22. *Greymouth Wallsend Colliery, Greymouth.*—The Westport Coal Company have now possession of this property, and the upper shaft is closed. The old deep shaft was being baled out, but in April last the buckets were stuck in the slides, and the water stood at 375 feet from the top. There is some danger of the gas imprisoned in the rise old workings, which must be at some considerable pressure, bursting out, and exploding at the surface; but Mr. Harrison has promised to take proper precautions. A new shaft has been commenced, and when finished will be a fine work. The diameter will be 14 feet in the clear, and the depth about 670 feet. The water will be kept back by concrete blocks. The new shaft will bottom among the old drives, which I cannot think will increase its stability, as already too much coal has been taken out.

#### MALVERN DISTRICT.

23. *Springfield Colliery, Springfield.*—On the 10th August, 1882, the bottom seam only was at work: the air was bad, as the doors and brattice were not properly looked after. The pit-top was fenced and all requirements of the Act attended to, also a good plan kept. On the 21st August I wrote to Mr. Moody about the air, who replied that "his vast experience in coal-mining" told him there was sufficient air passing. On the 7th October I examined the mine again and found the air