

Since the work has been resumed after the disaster, the following numbers have been employed : In the dip-workings, 3 officers, 43 miners ; in restoring damage, 20 ; rise-workings, 5 officers, 111 miners, 2 timber men, and 76 surface hands : making a total of 260. This shows an increase of 58 employes since the disaster.

DESCRIPTION OF MINE.

13. The Brunner Mine, which altogether has an area of about 200 acres, is situated on the north side of the Grey River, where it flows through a confined rocky gorge. The coal-seam as worked varies from 7ft. to 10ft. in thickness, and dips to the south-west at an average angle of 1 in 5. It intersects the river water-level near the point where the mine has been opened. For many years the coal was mined to the rise from a level tunnel, following the seam into the hill in a north-west direction, but after continuing this for $23\frac{1}{2}$ chains, a down-throw fault was met with, which dropped the coal to the westward for 180ft. This fault was overcome by driving north-east along it, still on the level, for $12\frac{1}{2}$ chains, until the coal was recovered. The main level was then again carried forward in coal for a distance of 32 chains, when the coal-seam was found to thin out and become unmarketable. From the main-level road, which extends more than half a mile into the hill, all the coal which could be worked to the rise in a north-east direction has been extracted, except a rib which has been left for access to future extension of the mine, and a detached area near the outcrop at 400ft. altitude, which is now being worked as a separate mine, known as the Coolgardie, and which fortunately has an entrance distinct from that of the Brunner Mine. Had it been otherwise, so that the two mines had underground communication, the miners at work in the Coolgardie district might have shared in the disaster.

The rise-workings from which the coal is worked most cheaply having been exhausted, the extraction of the coal below water-level and beyond the fault was proceeded with by what is termed a dip-working. Two incline drives about 1 chain apart were carried down in the coal and connected at intervals by cross-cuts or stentons to enable sufficient ventilation being carried forward, each succeeding stenton being closed by a stopping as the work advanced. These stoppings play an important part in the future security of the mine, for as the extraction of the coal by bords and pillars to right and left of the double incline is effected, these inclines have to act as the intake and return airways, by means of which fresh air is supplied to these dip-workings.

One of these incline drives, the east incline or the intake, has also to serve as the main road by which all traffic is carried on. By this all the coal has to be hauled up through to the main level, and so reach the surface along the engine-plane. The water which drains into the dip-workings is also hauled up and pumped along this roadway. The distance for which the main incline was used for these working purposes was 29 chains (1,914ft.) directed at an angle of 25° west of the full dip of the coal-seam, so that the vertical depth reached below the main level was 340ft. This represents the greatest depth below the outlet of the mine at which any of the miners worked, but to reach that outlet by the shortest route they would have to travel 638 yards up a steep incline and then 890 yards on level.

The dip-workings, which were alone affected by the disaster, were carried on in two areas, one lying to the west of the main incline, and from which all the solid or fast coal had been removed, and also more than half of the pillar coal. There was also a large area of goaf or waste place where the roof had been allowed to fall during the progress of the work as the pillars were removed, but as the miners in the western district were working at a lower level, and on the intake side of the goaf, no danger could arise even if any gas accumulated in that direction.

The workings on the east side of the incline were partly in pillars, and partly the solid coal, where headings were being pushed forward towards the fault in an easterly direction. There was no goaf in this area of the mine, but some of the pillar-workings to the rise had been abandoned for a time, and were not included in the ventilation circuit. Only three fast places, each with two miners, were being worked in the solid coal, but one of the others had been worked further to the dip. These working-places were situated almost in the deepest part of the mine, and were supposed to be at least 3 chains distant from the fault towards the direction of which the bords led, but the plans of the mine specially prepared for the guidance of the Commissioners do not, in our opinion, support this supposition, as the fault-plane is most probably nearer the "heading" than has been suspected.

The ventilation of the mine is effected by a powerful Schiele fan at the exit of the return air-course, which is arranged to draw from 16,000 to 18,000 cubic feet of air per minute, so that the air that entered along the main level was carried to all of the working-places in the mine. The air is distributed to the east and west districts of the mine by splitting the current at a point half way down the main incline, part being led by canvas brattice-screens through the east workings, and the rest through the west workings. Both of these ventilation currents, after doing their work, are led into the return airway which follows the west incline drive of the heading, and thence through a separate stone-drive along the line of the fault, 40ft. above the roadway, and so on to the fan at the outlet of the mine.

The drainage of the dip-workings is effected by a pump, worked by an electric motor placed in a chamber at the top of the main incline, and driven by a dynamo outside the mine. The water is raised by the pump 1,100ft. up the incline (or 220ft. vertically) from a dam, up to which it is drawn from the sump, 120ft. deeper vertically still than the dam, by baling-tanks or water-trucks hauled up by the same wire-rope gear used for hauling out the coal. The quantity of water which has to be baled out in this manner is very moderate, and it is done during the night when the mine is idle.

The removal of the hewn coal is effected, first, by jiggging the skips or mine-wagons down the inclines to the level roadways, along which they are then drawn by horses to the main incline. On the east side of the main incline only the lowest, or sump-level, was being used for this purpose ; and on the west side of the incline the mid-level only was in use as a hauling road at the time of the accident, the lower workings on that side having been for a time abandoned. These skips are drawn up the main incline by a wire rope, driven from outside the mine, to the level, and thence