

shaft, placed near the boundary of this company's and the Brunner Mine's leases. The natural current thus obtained is generally relied upon for ventilation, but in close weather a fire-bucket is hung near the mouth of the air-shaft.

The timbering generally used throughout these workings consists of props, with small cap-pieces, (soldiers) varying from 6 inches to 8 inches in diameter, which generally stand well, and, in view of the excellent roof, are probably of sufficient strength in most instances for the requirements of the colliery.

The winding-gear used consists of two cages, with covers, hung on a new flat 6-inch hempen rope coiling on a drum driven by 30 horse-power engine, which is used for both pumping and winding, disconnecting as required.

The pumping-gear consists of a 250-foot column of 10-inch pipes, worked by a bucket-lift with 4-foot stroke. The water not having as yet proved troublesome in this mine, two hours pumping during the day has been found sufficient to keep it back.

With the general condition and repairs no fault can be found, and if, as the workings extend, they be kept in as good order as heretofore, the greater portion of the pillars, and consequently a large proportionate tonnage, will be won from the mine.

*The Brunner Coal Mine.*—This coal is wrought level free, being entered upon by tunnel in the face of the coal at the Brunner Gorge of the Grey River. The system of working is that of post-and-stall, leaving pillars 58 feet by 100 yards. In the early days of the mine, the workings appear to have been somewhat irregular, no attention having been paid to straight driving. The full thickness of coal has also been taken out, leaving a fireclay-floor, which, experience shows, is apt to swell, to the detriment of the roadways, also necessarily reducing the strength of the pillars; yet, still, these old roadways appear to have been kept in comparatively good order, although in some instances the pillars are giving to the pressure, but not as yet to a sufficient extent to endanger the safety of the workings. When, however, the stooping back on the pillars commences, some of these will probably be lost where the whole thickness of the coal has been taken out.

This mine has recently undergone a change of management, and now, under the charge of Mr. Elliott, a better system of work is being undertaken, due attention being paid to the straight driving of roadways where practicable, although at times the undulations of the floor render bends in the roadways necessary in order to obtain a high working.

In most instances the full thickness is not wrought out, about 2 feet of coal being left in, to form the roadways, and also to strengthen the pillars. This also lessens the necessity of timbering, upon which at times very little reliance can be placed, when set upon the fireclay.

In these recent workings everything is being done to obtain a safe and good workings, and at the same time to win as large a proportionate tonnage as possible from the mine, as the works progress, without ultimately endangering the safety of the workings.

The air is found to work well, an ample volume constantly passing, and in all instances reaching the working-faces. The downcast air is taken by the lowest tunnel (No. 1 plan) being confined in its course by stoppings set in the cross roadways and bords; and upon reaching the working-faces, it is split into two divisions, and, spreading through the workings, is discharged by tunnels Nos. 2 and 3.

The fact that this mine is wrought by tunnels which face up the Brunner Gorge renders an imperfect ventilation, even under the most careless management, all but impossible, owing to the constant high winds, but at the time this mine was visited the weather was very hot, and the natural heat of the mine was 1° less than the temperature outside; notwithstanding which a good current was found to be passing along the workings.

The system of timbering employed is exclusively by the use of soldiers, which, when the thin floor of coal is left, answer all requirements; but when the whole thickness of coal is taken out the swelling of the fireclay or shale underfoot has in many cases broken the timbers, and in others rendered them quite unserviceable.

Attention has of late been directed to the proving the great fault which crosses to the north side of the workings. Two drives have been entered along the strike of the fault, bearing about N. 15 E., in the lower of which coal has been cut, standing on edge and bruised; the continuation of this drive will shortly determine what course should be taken to gain the sound measures, but this object would also be somewhat sooner gained if the drive were kept a little off the hade of the fault.

*The Energetic Colliery, Reefton,* is situated on the Murray Creek, about a mile from the Energetic Quartz Mine, and is wrought by a tunnel entered upon the coal on the north side of the creek. The workings undertaken are upon no system, and at present are of small extent. They consist of a tunnel driven for about half a chain, from which the coal is opened out on a wide face, leaving soldiers or props closely set for the support of the roof, and hewing out the whole thickness of the coal.

The full extent of the workings at present, from the mouth of the tunnel to the working-face, will not exceed one chain, but the soft nature of the roof (soft, loose, quartz sands) does not warrant the wide mode of working which has been adopted, and the loose method of timbering may at any time be attended with an accident, which would probably result in loss of life. No supervision appears to be exercised over the workmen employed here: the mine is let to two men at a price per ton, and they are allowed to hew the coal in any way which may be easiest to themselves.

The ventilation of the mine is imperfect, indeed no system of ventilation exists, the mode of working giving no free current of air and allowing of no return, and when the mine was visited it was with difficulty that a candle could be got to burn.

*The Wellington Colliery, Buller District,* when visited, on the 2nd March, had been worked by the company for about ten months. The prospecting drive, which had originally been entered by Sims and party, striking soft coal, has now been continued for a distance of 1,240 links eastward under the spur,