Royalty.—A royalty of 6d. per ton was to be paid for the first twenty-one years of the lease, and for the remainder of the period 1s. per ton; the dead-rent to merge in the royalty, the same

as stipulated for the Brunner Mine.

 $\hat{O}utput$ .—The quantity of coal taken out of this mine since it was first opened up to the end of July in this year was 573,141 tons. The total area in which workings have been carried on is about 73½ acres; and in this area the whole of the coal has been taken out in about 39½ acres, and  $27\frac{3}{4}$  acres have been formed into pillars, of which 60 per cent. of the coal has been won. This is equal to  $56\frac{1}{4}$  acres as the total area from which the coal has been entirely worked, or a produce of 10,207 tons per acre. The average thickness of coal in this mine was about 15ft., and the actual quantity contained in this thickness should be about 18,000 tons per acre, which would make a total for the area worked of 1,010,700 tons. This shows that only  $56\frac{1}{2}$  per cent. of the whole of the coal in that area was disposed of as marketable coal.

## WALLSEND MINE.

A lease of this property was granted for twenty-one years from the 1st August, 1873, to the Greymouth Coal Company. This company, having expended its capital in sinking shafts and erecting machinery, was unable to continue operations in opening out and developing the mine, so they sold their property to a syndicate, who afterwards transferred it to the Westport Coal Company; and in August, 1888, it was again transferred to the Grey Valley Coal Company. This lease was originally granted for an area of 1,000 acres situated on the south side of the Grey River, and opposite the Brunner and Coal-pit Heath Mines. There was a provision in the lease that should the company fulfil all the conditions imposed therein, they should acquire the right to purchase 150 acres of the land at £5 per acre, at any time within five years from the expiration of the lease. This freehold was, however, acquired before the time stated in the lease, and the leasehold area was thus reduced to about 853 acres.

Conditions of Lease.—The conditions in the lease in regard to output, dead-rent, and royalty, were as follows: For the first year of the term the output of coal was to be 2,000 tons; for the second year, 5,000 tons; and for the remainder of the term, 15,000 tons. The dead-rent for the whole of the term was £20 per annum, and a royalty of 6d. per ton was also provided so long as the coal was conveyed to Greymouth other than by rail; but as soon as the railway was opened a charge of 2s. per ton was to be paid for coal freight to Greymouth, and this charge included royalty.

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After the purchase of this property by the Grey Valley Coal Company, the mine was closed, in July, 1890, and operations entirely confined to the Brunner and Coal-pit Heath leases. The total quantity of coal put out to date is 205,539 tons; a portion of this quantity is from the company's freehold, part from under the Grey River and Railway Reserve, and the remainder from below the private freeholds on Taylorville Flat. No coal was taken from the leasehold, with the exception of what was worked from the Tyneside mines hereafter referred to.

## TYNESIDE MINE.

This mine is in the leasehold originally granted to the Greymouth Coal Company, and now the property of the Grey Valley Coal Company. Before the latter company took over the various coal properties in the Grey Valley, the Westport Coal Company had granted a sub-lease of 70 acres to Mr. Joseph Kilgour, in June, 1885, and from that time till he sold his interest to the Union Steamship Company, the output of coal was 18,398 tons. Since that purchase was completed the mine has been closed. There is still a small area of coal available which should be worked out.

## AGGREGATE PRODUCE OF COAL PER ACRE.

The total output of coal from all the Grey Valley Coal Company's mines up to the end of July last amounts to 1,783,753 tons, and the area over which the workings have extended is about 2964 acres, of which area 184½ acres have been practically exhausted, while 105¾ acres have been formed into pillars, which contain about 45 per cent. of the solid coal. In addition to this there are about 6 acres of solid coal in the barrier between the Coal-pit Heath and the Brunner Mines.

Taking the total aggregate output, and also the area from which the whole of the coal has been won—namely, 184½ acres, together with 55 per cent. of the area in pillars, say 58¼ acres, or

2423 acres in all, this shows a production of 7,348 tons of marketable coal per acre.

## MINE WORKINGS.

The Coal-pit Heath Colliery was originally worked from a shaft, but since the amalgamation of the coal leases the coal has been drawn up a dip drive, which enters from a point adjoining the Brunner Mine mouth. From the shaft, which is some 14½ chains down the incline, to the bottom of the latter, a further distance of 18 chains, a strip of solid coal has been left on its eastern side parallel with the bank of the Grey River. This block of coal is two chains 75 links broad at the upper end, widening out to 4 chains at 9 chains from the shaft, and continuing at that width to the foot of the incline. To the north, the mine workings were limited by the boundary, to the west, by the continuation of the Brunner No. 1 fault, on the south, by the southerly down-throw known as the "Kimberly fault," and on the east, by the boundary of the lease along the side of the Grey River. This area comprises 73½ acres, and has all been formed into pillars excepting the strip of coal left as a barrier between this and the Brunner lease.

At the date of the report by the Grey Valley Coal Commission of 1890, the extraction of the

At the date of the report by the Grey Valley Coal Commission of 1890, the extraction of the pillars had been begun, and, indeed, was well under way; and it was then obvious that the area of coal was circumscribed by faults on two sides and by the boundaries of the lease on the remaining two, and unless further explorations were made the coal within the fault-locked area would undoubtedly soon be exhausted. The pillar work had been started at the rise of the workings, and the reasons for this appear to have been: (1) the difficulty of dealing with the water at the lowest level, which even then was liable to be flooded, and (2) the belief that if the