(7.)

Wellington, 16th August, 1871.

Will you be kind enough to telegraph to me in reply to this, as to when you would be likely to be able to send another cargo.

Your coal is certainly the best I have had for gas purposes, and I am anxious to obtain a regular supply if possible.

J. Rees George,
Manager, Wellington Gas Company, Limited.

(8.)

Nelson Brewery, 17th June, 1872.

With reference to our opinion of the Collingwood coal,—In January, 1871, we wrote to Mr. Cross stating that we preferred it to Newcastle or Grey. Since then till the mine was stopped working, we used no other. We find it answer our purpose better than any coal we have used, and shall be glad to hear of the mine being worked again.

Hooper and Dodson.

(9.)

Nelson Brewery, 16th January, 1871.

In order to give the Collingwood coal a fair test as to its capabilities for our purposes, we tried it last month against our consumption in November of the Grey coals, which we have hitherto found suit us better than the Newcastle, New South Wales.

We find the quantity consumed for a given amount of work is slightly more of the Collingwood than of the Grey coal; being in the proportion of 155 to 147. There is, however, a saving in the cost for a similar amount of work of about 10½ per cent.

We should remark that the Collingwood coals used last month were very inferior to what are now being sent over, and we have therefore every reason to anticipate that the saving will in future be still larger.

Hooper and Dodson.

Abstract Result of Experiments to determine the Comparative Value of Collingwood Coal for Steam and Gas Purposes, made by Messrs. J. Rees George and John Kebbell.

(From "Transactions, New Zealand Institute," vol. iv. pp. 146–152.)

A.—As a Gas Generator.

The results given in the table were ascertained by comparing the illuminating power of the gas burning in a standard Argand burner of fifteen holes, consuming nearly 6 cubic feet per hour, against a standard sperm candle, burning 120 to 125 grains per hour, the power being measured on the graduated scale of a photometer as in use by the Government examiners in London. The pressure of gas, in cases where samples of 112 lbs weight. were tested, was 2·5 inches, or about the same pressure at which the gas is delivered to consumers from the mains; in cases where samples of only 7 lbs. or 10 lbs. were tried, the pressure was 1·4 inch, and this difference of pressure accounts largely for the decreased power of illumination shown in the smaller samples. In the case of the larger samples the illuminating power was ascertained immediately after the gas had passed through the purifiers, before being stored, or subjected to the friction of a long length of pipe; while in the case of the smaller samples it could not be tried until some two or three hours after storage, and passing through a length of, perhaps, 100 feet or more of a small tube. These circumstances combine to make the small samples show a worse result than the larger quantities, as storage and friction rapidly reduce the illuminating power of coal gas.

TABLE SHOWING GAS-PRODUCING QUALITIES OF VARIOUS COALS.

New South Wales Coal.

Date of Test.	Name of Mine.	Weight of Sample tested.	Quantity of Gas produced from sample, in cubic feet.	Quantity of Gas per Ton of Coal, in cubic feet.	Illuminating Power of Gas in standard Candles.	Weight of Coke per Ton of Coal, in lbs.	Remarks.
1871.							
Jan. 30	Australian Agricultural Co.	7 lbs.	27	8,640	13	1,600	
Mar. 17	„ „ „	14 lbs., mixed with ¾ oz. Kauri Gum Dust.	...	...	17	...	
July 26	„ „ „	112 lbs.	505	10,100	17	1,580	Obtained at high temperature, 1,700° or 1,800° Fahr.
Feb. 23	Co-operative Co.	10 lbs.	40·85	9,150	11½	1,680	
July 28	„ „	112 lbs.	500	10,100	16½	1,600	Obtained at high temperature, 1,700° or 1,800° Fahr.
Feb. 23	Old Lambton Co.... ...	7 lbs.	33·4	10,700	6 to 7	1,760	This gas had been stored several days before testing, and in consequence lost largely in illuminating power.