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FINGAL COAL TESTS.

SIR,

I HAVE the honor to inform you that I have, in accordance with your approval, witnessed the tests of the coal procured from Mount Nicholas, and also of coal from Newcastle, N.S.W., on the 29th September and the 1st October respectively; and the following remarks may prove of interest as recording the properties of the former from an unexplored, very promising, and valuable mineral deposit.

As the results of these tests, concerning the time used, consumption, and residues of each kind, have already appeared in the public press, and as these matters will doubtless be referred to in special reports by the railway officials and others, I would, with your permission, address myself to the description of other features connected with this Fingal coal that appear to deserve every attention at the hands of those who would regard the development of one of our most valuable mineral resources with the favour such deserves.

The Mount Nicholas coal arrived in closed bags at the Launceston and Western Railway Goods Sheds; and on several occasions I had opportunities for examining same, whereupon I came to the conclusion that this sample was very shaly, and inferior to what I have seen at those mines for what turned out to be a crucial test, proving same a good steam-generating agent.

The No. 5 engine or locomotive used for these tests was built in England in 1873, but only in 1875 began its work in Tasmania: it was constructed, I am informed, expressly for the purpose of being fired with the best English or New South Wales coal, and every perfection that could be introduced was added for the purpose of giving satisfaction with such fuel. The grate inside the firebox measures three feet nine inches and three-sixteenths by three feet four inches, and the space between the firebars averages if anything less than three-quarters of an inch.

On the journey to Deloraine it was soon discovered that this Tasmanian coal, whilst giving the highest results of any as a steam coal that have been published, possessed some peculiarities frequently met with in other varieties of coal, which, with the appliances available—which were not adapted for such coal—tended to give less favourable results than what had been anticipated. As a matter of fact this test could scarcely be called equable, when it is taken into consideration that the Newcastle coal was tested by its own proper engine, upon a grate and firebars which, in their construction had doubtless taken a considerable length of time previously to perfect and bring to their present high state of efficiency, and which appliances or furnace could not be expected to yield as good or similar results with a class or variety of coal very different from the former in many respects. The fact that New South Wales has, and is, supplying all these Colonies with its good coal, and the unsatisfactory results from all Tasmanian, except Fingal, coal has induced public opinion to regard local coal with more than suspicion, and it may be that the engineers and firemen who have thus become used to Newcastle coal and no other, look upon any other as not deserving any trial, because the Fingal coal, for instance, entails more labour and closer attention in an *English firebox*, &c. in order to raise and maintain the necessary steam pressure.

The Fingal Coal Deposits being of so large an extent, and not by any means exhaustively prospected for other seams beyond those known at present, it is most respectfully submitted that both longer time and more tentative methods for tests are necessary in order to bring out the inherent qualities of the coal now known to occur, and of others that may be discovered hereafter; and, in this view the present tests from an *outcrop* of coal, admittedly deteriorated during ages by atmospheric and chemical influences, cannot be considered as final, and these trials should be continued until the fireboxes, firebars, and gearing have been adjusted on the locomotives or stationary engines so as to meet the case fully.

If the owners of those mines would persevere and continue to extend their workings under the "roofs" of the seams of coals where it is not impaired as a combustible by other agencies and minerals as is the case now, testing the coal as they progress, there cannot be any doubt of the present difference between it and New South Wales coal being modified and improved upon provided the mineral can be delivered at Launceston or Hobart at, say, from 14s. to 16s. per ton, or about 5s. per ton less than Newcastle coal, until, at least, a market has been made for it in and outside the Colony.

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When it is considered that in America the Central Pacific Line of Railway, between New York and San Francisco, is worked, for want of any coal, with pine-wood as fuel, for a length of nearly 1800 miles, the trains travelling at a speed of from 25 to 40 miles an hour,—that, in Lancashire and other coal mines in England all coal outcrops are left behind as nearly valueless, because they contain, like the Fingal outcrops, too much lime and clay, which result, after burning, in large percentages of ash and some clinker,—it will be seen what is being done elsewhere with similar coal.

The details needed for obtaining in the future higher results from our coal, the point for ignition of which is now known to be lower than that of Newcastle, therefore requiring a larger supply of air or draught, and other alterations, very properly deserve the most careful attention of the mine-owners who are seeking a market for their valuable mineral.

I have the honor be,
Sir,

Your most obedient Servant,
G. THUREAU, F.G.S., Inspector of Mines
and Geological Surveyor.

Hon. Minister of Lands & Works, Hobart.

In continuation of Paper No. 110.

[Laid upon the Table of the Legislative Council by Mr. Moore, and ordered to be printed October 19, 1883.]

Launceston and Western Railway,
Manager's Office, Launceston, 5th October, 1883.

SIR,

I HAVE the honor to forward Mr. Batchelor's Report upon the Fingal coal consumed by the Main Line Railway Company's Express train upon its up journey yesterday from Launceston to Hobart, which train Mr. Batchelor accompanied by your instructions.

I have, &c.

R. W. LORD.

The Hon. N. J. BROWN, M.H.A., Minister of Lands and Works.

Launceston and Western Railway,
Manager's Office, Launceston, 5th October, 1883.

SIR,

I HAVE to report that, as instructed, I had the Fingal coal left over from last Saturday and Monday's trials carted to the Main Line Railway Station, and on arrival of the down express I saw the tender cleaned out and this coal weighed in.

In company with Mr. J. Clark, of Hobart, I left with the train, riding on the engine.

The train consisted of No. 8 engine and tender, one six-wheeled carriage, one four-wheeled carriage, and one brake-van, weighing about 43 tons in all. We left Launceston at 3 P.M., and kept time the whole way to Hobart, and the engine maintained the full pressure of steam the whole distance.

I understand that the fire-bars had been altered so as to admit more air, and with the light blast, as the engine was only doing a little over half her full load, it appeared to suit better than a strong draft, such as there would be if the engine had been drawing its maximum load. The fire-bars having been widened, it allowed the dirt to be knocked through into the ashpan and emptied on the road, which was done at Ross Station and again at Oatlands.

The coal consumed per ton of load per mile yesterday was .43 lbs. as compared with .27 lbs. consumed on this line on Saturday last, and .21 lbs. of Newcastle coal consumed on Monday.

The following are the particulars of the test:—

Number of miles run.....	133
Weight of train about.....	43 tons
Quantity of coal consumed.....	1 ton 2 cwts. 1 qr. 8 lbs.
Ditto per train mile.....	18.78 lbs.
Ditto per ton of load per mile.....	.43 lbs.

I have, &c.

W. E. BATCHELOR, Locomotive Superintendent

R. W. LORD, Esq., Manager.