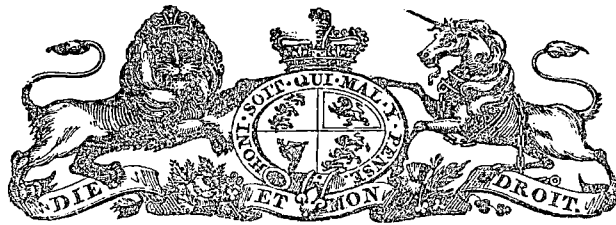


(No. 65.)



1861.

---

T A S M A N I A.

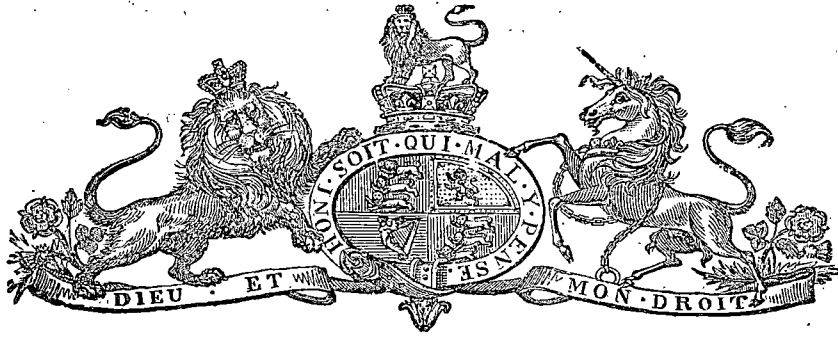
---

C O A L.

REPORT OF THE GEOLOGICAL SURVEYOR.

---

Laid upon the Table by Mr. Innes, and ordered by the House to be printed,  
13 September, 1861.



*Geological Survey Office, 25th July, 1861.*

SIR,

IN reply to your note, I beg to offer a few suggestions with regard to measures which might be adopted by the Government for the purpose of ascertaining the commercial value of Coal from different localities in the Colony.

As the investigations which I believe might be instituted with advantage involve distinct subjects for consideration, and would necessitate a series of experimental observations extended over a considerable period, and directed to independent subjects of enquiry; it is probable that they would be found too comprehensive in nature to be undertaken successfully by any individual, and it would consequently be necessary to entrust their execution to a Board or Commission, composed of Members selected upon account of professional acquaintance with either of the various branches of this subject, or of their possession of general scientific or practical acquirements which might be likely to render their co-operation serviceable.

Assuming a Commission thus constituted, its primary object should be to obtain samples of Coal from all parts of the Colony, in sufficient abundance to admit of the experiments hereinafter enumerated to be performed, and at a sufficient distance from the outcrop to ensure their representing fairly, in point of quality, the seams from which they had been taken. In doing this I would recommend that no distinction should be made between Coal existing upon Crown land, and that on private property.

As several varieties of Coal have already been ascertained to exist in the Colony, possessing distinct qualities and applicable to different uses, the attention of the Commissioners should be directed to ascertaining those purposes, for which the different samples of Coal operated on might prove specially adapted.

By this means an economic arrangement of all the Coals in the Colony would be effected, according to their suitability for use as a steam fuel, for manufacturing or metallurgic purposes, gas manufacture, household use, &c. &c.

(A) The per centage and quality of coke, the amount of sulphur (approximately), the proportion of fixed and volatile products, amount of ash; economic weight, and evaporative value, could be determined readily in the Colony; and a few tons of each sample would be amply sufficient for the purpose, while if in any case it appeared further desirable to obtain a detailed chemical analysis it could be obtained by transmitting specimens to Europe.

(B) Information as to the thickness, dip and composition of the seams, extent of area occupied, and their geological relations generally, would be supplied in the Reports of the Geological Survey; but this information might in some instances, be usefully supplemented by borings or mining operations on a small scale, conducted by the Commission.

(C) Valuable information might also be accumulated as to the absolute and comparative cost, at which the Coal of different localities could be worked, by an examination in detail into the costs incurred in workings at present conducted in the Colony, and in estimation of the differences which would be produced by peculiarities of position, amount, facilities of working, &c.

(D) A general investigation into the cost per mile of constructing tramways, and a comparison of the advantages, on the score of cheapness or durability, of the several varieties, constructed entirely of timber, or of a combination of timber and iron, would be desirable; and might prove of additional advantage in promoting the occupation of some of the more heavily timbered agricultural lands of the Colony.

(E) It is probable that the information acquired on all these points by the Commissioners, would enable them to point out instances in which it would be desirable to institute experiments on a more extended scale, for the purpose of proving the suitability of certain Coals for particular purposes, as for use as a steam fuel, &c. &c., in which case it would, perhaps, also be found advisable to supply it in considerable quantities to companies or individuals likely to become large consumers, to permit of their convincing themselves of its value, by the evidence of their own engineers and employées.

Finally, I would venture to remark, that even should the results of the enquiries be unfavourable to the supposition that large amounts of capital could *at present* be successfully embarked in developing the Coal-fields of the Colony, the information obtained would still be highly valuable.

The abundant development of Coal in Tasmania, points to it as likely to prove ultimately one of its surest and most important sources of wealth.

Sooner or later the manufacturing Districts of the Colony will be aroused, and the development of this, among her other mineral resources, may prove the means of establishing a pre-eminence in her commercial relations with Colonies less amply provided.

The possession of reliable information upon all the points I have referred to, may materially assist in hastening this period, while it is impossible to foresee the extent to which its absence may delay it.

I have the honor to remain,

Sir,

Your obedient Servant,

CHARLES GOULD.

*The Hon. the Colonial Treasurer.*

*Geological Survey Office, 15th August, 1861.*

SIR,

I HAVE the honor, in reply to your verbal query as to the probable cost of the experiments suggested in my letter dated 27th July, to submit an approximate estimate.

For the purpose of conducting the experiments of a general character, suggested in paragraph A, the following amount of each sample of Coal would be sufficient; viz.—

For the determination of the amount of gas, coke, ash, &c. ....	10 to 15 cwts.
Power of raising steam, &c. ....	30 to 40

Total .....	<u>2½ to 3 tons.</u>
-------------	----------------------

Assuming twenty samples to be operated on, and an amount of Three tons in each instance employed, this would give sixty tons, the total expense of obtaining and testing which would probably amount to at least, Fifty shillings per ton.

For this branch of the Investigation, a sum of Two hundred pounds would be more than sufficient.

For the more extensive operations indicated in paragraph E., which would be consequent on the pre-eminence in quality of any Coal determined by the results of the series of experiments previously conducted, a sum of £300 or £400 at least would be required.

If for instance it were determined, as suggested in my Report, to extract 100 tons of the Mount Nicholas Coal Seam, for expedition to Melbourne, a cost of Thirty Shillings per ton would be necessary in order to obtain the Coal ready for shipment at Falmouth, while a further cost of at least Ten Shillings per ton would be incurred for freight and charges of Transport.

If a similar course were adopted with regard to the Coal in the eight foot Seam at the Douglas River, an equal or larger cost per ton would be necessitated, from the present difficulty of access to it.

Little or no expense would be attendant on the investigations included in paragraph C. and D., but I consider that a sum of at least One hundred Pounds might be advantageously employed in opening up sections, and conducting experimental practical researches, on a limited scale, by the execution of borings, &c.

I believe that the whole of objects indicated in my letter might be effected by the expenditure of Seven or Eight hundred Pounds.

I have the honor to be,

Sir,

Your obedient Servant,

CHARLES GOULD.

*The Hon. the Colonial Treasurer.*