(No. 95.)

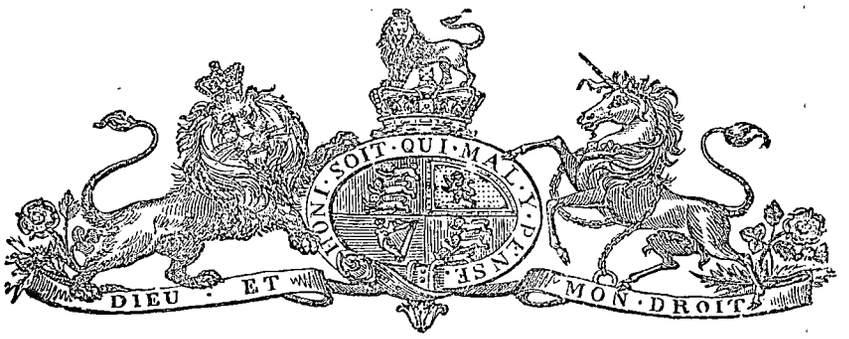
1864.

TASMANIA.

COAL FIELDS.

REPORT OF THE SELECT COMMITTEE.

Brought up by Mr. Horne, and ordered by the House to be printed
2 September, 1864.



REPORT from the SELECT COMMITTEE *on* COAL FIELDS.

THURSDAY, 21 JULY, 1864.

Ordered, that a Select Committee be appointed to enquire into the Coal Fields of the Colony, with a view to ascertain whether any of them can be regarded as national undertakings to which public support might with justice and advantage be given. *(Mr. Allison.)*

Then the following Members were nominated to be of the said Committee :—

MR. BALFE.	MR. HODGSON.
MR. DAVIES.	MR. WALKER.
MR. MURRAY.	MR. HORNE.
MR. HAYES.	MR. ALLISON.
MR. JOHN LORD.	

PROCEEDINGS OF THE COMMITTEE.

No. 1. 5 August, 1864. *Present*—Mr. T. Horne, Mr. Allison, Mr. Hayes, Mr. Hodgson, Mr. John Lord.
No. 2. 10 August, 1864. *Present*—Mr. Horne, Mr. Murray, Mr. Allison, Mr. Hayes, Mr. Hodgson, Mr. John Lord.
No. 3. 11 August, 1864. *Present*—Mr. Horne, Mr. Lewis, Mr. Murray, Mr. Hayes.
No. 4. 12 August, 1864. *Present*—Mr. Horne, Mr. Murray, Mr. Hayes, Mr. John Lord, Mr. Lewis.
No. 5. 17 August, 1864. *Present*—Mr. Horne, Mr. Hayes, Mr. Balfe.
No. 6. 25 August, 1864. *Present*—Mr. Horne, Mr. Lewis, Mr. Hayes, Mr. Balfe, Mr. Hodgson, Mr Allison.
No. 7. 2 September, 1864. *Present*—Mr. Horne, Mr. Lewis, Mr. Allison, Mr. Hayes, Mr. Hodgson, Mr. John Lord.

WITNESSES EXAMINED.

George Whitcomb, Esquire.
N. H. Swifte, Esquire.
John Abbott, Esquire.
W. R. Falconer, Esquire.
John Thomas, Esquire.
Mr. James Hurst.

REPORT.

YOUR Committee have taken under their anxious consideration the question submitted to them by your Honorable House in reference to the Coal Fields of the Colony; and have examined the most experienced persons in their power to procure, whose evidence they have attached to this Report, and they have come to the following conclusion; viz.—That no Coal has been discovered in this Colony of quality equal to the Sydney Coal, except the Mersey Coal, which in quantity is too small to warrant further examination; and that no Coal Field or seam has yet been discovered in this Colony that can be regarded as a National undertaking to which public support might with justice and advantage be given. But your Committee are of opinion that, if the 4 feet 10 inch seam of Coal recently discovered and entered upon at the Seymour Mines turns out as valuable as the specimens exhibited to this Committee would seem to warrant, it would be a matter worthy of the consideration of the Government whether a Harbour or Breakwater should not be constructed at the Government expense at Long Point, not only for the use of Colliers, but as a place of refuge and convenience for Shipping in general.

Your Committee append to their Report the evidence taken and documents furnished upon which they found their Report, and request that the same may be preserved for future use.

THOMAS HORNE, *Chairman.*

Committee Room, 2 *September*, 1864.

EVIDENCE.

AUGUST 10, 1864.

GEORGE WHITCOMB, *Esq., examined.*

My name is George Whitcomb. I am acquainted with the Schouten Island and Port Arthur Coal Fields.

The quality of the Schouten Island Coal is about the same as the Seymour and Douglas River. It is semi-bituminous. It is not a caking coal; nor is it a pure anthracite.

Myopinion is, that the Douglas River, Seymour, and Schouten Island Coal Fields are a continuation of the same seam.

We have Coal in this Island that will do anything that Coal can do, but will not compete with better Coal.

I am not interested in the Schouten Island Coal.

The Mines at Schouten Island have been given up for 7 or 8 years.

By Mr. Allison.—The Coal here, with one exception (the Mersey), cannot compete with the Coal from Newcastle.

By Mr. Horne.—The High Plains Coal I thought very highly of, until it was tested on a small scale at the Gas Works. The illuminating power of the gas it produces is very inferior.

If there was no other to be obtained, I think the Coal of this Colony would answer for steam purposes.

My belief is, that no Coal Fields yet proved in this Island will warrant the expenditure of any sum of public money, except for the purpose of testing.

Private funds, in my opinion, would soon be forthcoming for working any proved good Coal Field.

There are three requisites for a profitable Coal Field. It must be in quantity; of good quality; and near to a good shipping-place.

I am not aware of the chemical test of our Coals.

My firm opinion is, that the Mersey Coal is the best in the Colonies.

The consumption of Coal in this Colony, being so small, would not warrant any large expenditure of public money; and for other markets, it must be a Coal that can compete with the Newcastle.

A. H. SWIFTE, *Esq., examined.*

(Mr. Swifte handed in a statement respecting Coal Fields, which was read, and marked D.)

My name is Algernon Horatio Swifte.

I do not know anything of the Coals of the interior of this Colony.

I have seen a specimen of the Adventure Bay Coal, shown me by Mr. Abbott. It appears to be a very good specimen of a semi-anthracitic Coal. I have not seen the locality from whence it came.

The working of the Coal would depend principally as to economic value of the working,—on the thickness and dip of the seam,—the nature of the roof and strata immediately under the Coal for holing in, —and the facility for shipment.

I have seen the Coal that lies about the Pits at Spring Bay.

From what I have seen there, I would recommend a slight expenditure both at that place and Prosser's Plains.

No Coal of this Colony, in my opinion, could compete with the Newcastle, except the second seam of the Seymour, and the 8-feet seam of Coal which is shown in the section of the Douglas River, some miles distant from the old Company's Works, and near to Nicholas' Cap.

I think these Coals would bear comparison with the Newcastle Coal.

I also strongly recommend that a system of boring should be undertaken between the Coal at Nicholas' Cap and the shipping-place at Seymour; as not only the 8-feet seam, but also the seams already worked by the Seymour Company, might possibly be reached.

August 11, 1864.

MR. SWIFTE'S *examination continued.*

The upper seam of Coal at Seymour could be delivered at the shipping-place (free on board) with a fair profit for 10*s.* 6*d.* per ton; but the second seam, according to the boring proof, at 8*s.* 6*d.* per ton, is a far more superior Coal than the upper seam.

I believe the Coal at Newcastle is delivered at from 11*s.* to 13*s.* per ton.

The experiment on board the *Orpheus* was made with Coal out of the upper seam, which, according to Mr. Sharpe's analysis, contains upwards of 20 per cent. of ash; but he has analysed samples from the second seam which gave only 11 per cent. of ash.

Result of Mr. Sharpe's analysis:—

Seymour.—Top Seam.		*Sydney.*		*Seymour.—Second Seam.*	
Volatile Matter	26	Volatile Matter	40	Volatile Matter.....	40
Coke	74	Coke	60	Coke	60
	100		100		100
Ash, 20.		Ash, 10.		Ash, 11.	

None of the Coal of the second seam has yet been worked, but simply bored through to ascertain its thickness and quality.

The Seymour Coal Company has entered into a contract with six men to sink a shaft to the second seam.

The depth from the surface is about 150 feet.

I was present, together with Messrs. Allport, Maxwell, and Toby, at an experiment made at the Gas Works. Eight ounces of the lower seam of Seymour Coal was put into a small retort: it yielded a volume of pure gas, which the Manager of the Company informed me was equal to three street lights, burned more than twenty minutes, and left a residue of 5¼ ounces of excellent coke.

JOHN ABBOTT, *Esq., called in and examined.*

I am well acquainted with the Adventure Bay Coal.

Mr. Gould stated that it was his opinion that the Coal cropping out at Three Hut Point was identical with the seam cropping out at Adventure Bay.

As far as I have been able to ascertain, the thickness of the Coal at Adventure Bay is about 18 inches.

The thickness of the Coal at Long Bay I am not able to speak of, having been told so many different statements with respect to it.

I produce two samples of Coal, the best I could collect, one out of the Seymour Coal-yard at the Constitution Dock, the other from the Coal drive at Long Bay.

I also produce two other specimens of inferior Coal, being part of the crop, the one given to me by Mr. Gould as procured from Adventure Bay, the other from the crop at Long Bay.

The two latter specimens are not to be considered good samples of Coal, as they are taken from the crop, and are produced merely to show the resemblance between the Three Hut Point and Adventure Bay Coal.

The Three Hut Point Coal has been analysed in England. It is a semi-bituminous Coal, producing only 2000 feet of gas to the ton, at the Hobart Town Gas Works.

The analysis was made in England by Dr. Price; and I now present to the Committee the printed account of that analysis, furnished by me from Dr. Price's letter to the *Advertiser*, (marked F).

I have no idea of the extent of the Coal-fields in the neighbourhood of Three Hut Point. No experiment on a large scale has been made, by boring or otherwise, to ascertain the extent of this Coal-field.

At Long Bay the Coal could be shipped at once from the Beach by means of a Jetty about half a mile in length.

I am not able to speak of Adventure Bay further than what is shown upon the chart.

The Coal I have produced is not fit for gas. It has never been tried by any of the steamers here; but it has been tried for household purposes and for forges. It answers well for those purposes. It emits very little smoke, and makes little or no ash.

I leave with the Committee an analysis of the Coals made by Sir Henry De La Beche, suited for the British Navy, (marked G); which shows how nearly the Long Bay or Three Hut Point Coal agrees in composition with the Duffryn Coal of Wales, which is considered the finest in the world for Naval steam purposes.

In the official catalogue of the Great Exhibition of 1851, page 31, the Duffryn Steam Coal is fully described, and shows a singular correspondence with the qualities of the Coal at Long Bay, as shown by trials made with the latter.

In a work entitled "The Museum of Practical Geology," is a Report on Coals suited to the Steam Navy, by Sir Henry De La Beche and Dr. Playfair, in which, at page 17, the requisites of Steam Coal are fully set forth, and to which I desire to refer the Committee.

I also produce the Papers and Proceedings of the Royal Society of Tasmania, Vol. 1, Part 3, page 265, in which is the recommendation of Sir Henry De La Beche to the Government to explore fully the Coal of Adventure Bay.

August 12, 1864.

W. R. FALCONER, *Esq., called in and examined.*

I know the Coal-fields of the Don, the Mersey, and Fingal, and have also visited the Coal-fields of Hamilton and Jerusalem, and have had samples of the different Coals in the Colony tested at the Hobart Town and Launceston Gas Works, and also tested on board the *Monarch* and *Tasmania* steamers.

The result of those experiments will be found in Papers that are to be submitted to the House next week.

The result of the experiments made by Mr. Robertson, engineer of the *Tasmania*, on the Mount Nicholas, Seymour, and Hamilton Coals was unfavourable to their being used in sea-going vessels.

No Coal yet found in the Colony is able to compete with the Wallsend and some of the other new seams of Coal at Newcastle, N.S.W.

If a clean and good anthracite Coal could be discovered, it would be preferred by the Ships of War to the bituminous Coal of New South Wales.

Within the last few years the Wallsend and other Coal Mines in New South Wales have been opened up, and produce a very superior quality of Coal to that formerly supplied by the Agricultural and Copper Company 8 years since.

The Peninsular and Oriental Company now take their supplies of Coal from some of the new mines at Newcastle: formerly they were supplied with Welsh Anthracite Coal.

The three tons of Coal tried from the outcrop at Adventure Bay was found to be of about the same quality as that from Tasman's Peninsula, commonly called Port Arthur Coal: it was tried on board the *Monarch* steamer.

Mr. Abbott contracted to supply the Coal Commissioners with 3 tons from Three Hut Point, but never fulfilled his agreement.

The Coal Field to which the attention of the Coal Commissioners was first directed was that at Mount Nicholas and Fingal, on account of the thickness of the seam, being 14 feet and 12 feet; but, after driving into each of those seams 60 feet, the Commissioners were disappointed at their not improving in quality; and the great distance from a shipping place precludes them from at present coming into competition with the Coal of New South Wales.

The Commissioners then directed their attention to the Coal at the head of St. Paul's River, which is within from 20 to 25 miles from the shipping place at Swansea: the seam here was about 10 feet in thickness, but gave only 6½ feet of good Coal, being interspersed with layers of shale. The Coal was of a similar quality to that at Fingal and Seymour.

Mr. L. Williams, who was getting out the Coal at Fingal and St. Paul's River, was then directed to proceed towards Swansea and Spring Bay, to try if he could discover Coal near to these two shipping places,—it being considered of great importance to discover Coal near to a good shipping port.

I hand in extracts from Mr. Williams's letters in reference to that locality, and also in regard to Jerusalem. (Marked H.)

At Adventure Bay it is probable that another seam may be discovered by sinking deeper, as there are two seams on Tasman's Peninsula, and it is likely that the Coal at Adventure Bay is a continuation of the seam from Tasman's Peninsula; and having reference to its contiguity to a port of shipment, it is important that that experiment should be made, provided that the sample of Coal that is now being obtained from Adventure Bay is found to be of good quality and superior to that of Port Arthur.

I am not aware if any experiment has been made on the Coal at the Old Beach.

I consider that the Coal at Swansea and Spring Bay, as reported upon by Mr. Williams, should be further examined,—it being very desirable to obtain Coal near to a good port of shipment.

There is not at present known in this Colony any Coal Field that would justify expenditure of public money as a national undertaking.

Before the Government expended any large sum of money there should be proper experiments made by boring, to ascertain the extent of the Coal Fields.

The diffusion of Coal throughout the Island is very great.

By Mr. Hayes.—I do not think there is anything to warrant the Government in building a breakwater at Seymour at the present time. They would not be justified in doing so unless Coal in large quantity, and of a good workable thickness of seam, could be discovered that would be able to compete with the New South Wales Coals.

A breakwater in that locality would be a very expensive work.

By Mr. Lewis.—The Coal that contains the largest amount of carbon is most suited for steam purposes.

The analysis of the Adventure Bay Coal gives 80 per cent. of carbon, as appears from Sewell's work; and the Jerusalem is given at 68 per cent.; but I believe that picked samples of these Coals must have been forwarded for analysis.

There is about 1 inch or 1½ inches thickness of Coal in each of those seams that might have been picked out to produce such results.

To decide if any Coal in this Colony is fit for steam purposes, there should be a sufficient quantity supplied for the full trip of a sea-going steamer to Melbourne and back, and not merely for two or three hours' trial.

August 17, 1864.

JOHN THOMAS, *Esq., called in and examined.*

I have been connected with Coal in this Colony for 12 years.

From the inferior description of the Coal that I have met with in this Island, I could not recommend the expenditure of public money upon its work as a national undertaking.

I do not think that the Mount Seymour Coal will answer for steam purposes, as it leaves so much ash. Those parties who have tried it have never come for it a second time.

From the same seam at Douglas River I hand-picked 40 tons and placed it on board the *Mimosa*. She started from Bicheno with 18 lbs. pressure of steam to the square inch, and when off Long Point she had only 5 lbs. to the square inch, and could not keep up steam at all.

I have just returned from Adventure Bay. The thickness of Coal there is, on the average, 18 inches. It is the best Anthracite Coal that I have seen in the Colony. I have not tested it in any way.

The heat from the Adventure Bay Coal is quite equal to that of Welsh Coal. It would make an excellent malting Coal. It would also make a fine house Coal, but would not do for steam purposes.

Every fall of Coal at Adventure Bay improves in quality. We are now down 90 feet.

I do not think that boring would be of any use at Adventure Bay, for the beds of sandstone are as regular as possible from there up to Isthmus Bay. The position of the beach is about north and south; and the rise being north, every layer rises northerly at about 1 in 50 from the sea.

By Mr. Balfe.—I think it would be a good mercantile speculation to work the Adventure Bay Coal. There are men in this town who would be willing to work that Coal and put it on board the vessel, free of charge, at 8*s.* per ton.

If I were working that bed, I would not expect the assistance of the Government.

The land on which the last Coal was obtained belongs to Mr. Penny. There is also plenty of Coal on each side on Government land, at about three-quarters of a mile from the outcrop at Mr. Penny's place.

By Mr. Horne.—The Mount Nicholas Coal cannot compete with the Sydney Coal for steam purposes; but, on account of the thickness of the seam, it would soon turn out the Newcastle Coal for household purposes.

By Mr. Hayes.—I have not seen any Coal from the Old Beach.

By Mr. Balfe.—If a road could be got from Mount Nicholas to George's Bay, the Coal could be shipped at from 5*s.* to 6*s.* per ton.

I do not think a reward would be the means of finding a good Coal Field.

By Mr. Horne.—I think the High Plains Coal very inferior.

By Mr. Hayes.—The average price for boring would be about 10*s.* per foot for 300 feet.

I do not think it would be advisable for the Government to spend sums of money in sinking shafts in different Coal beds.

By Mr. Balfe.—I know the Port Arthur Coal. I do not consider that it is improving in quality.

MR. JAMES HURST *called in and examined.*

I have been connected with Coal in this Colony for 24 years.

I have been principally engaged with the Port Arthur Coal.

I have also been at the Schoutens, Mr. Abbott's (Adventure Bay), Red Rock on the East Coast, and New Town Coal Fields.

By Mr. Balfe.—I do not know any place, except Port Arthur, where the Government would be justified in giving assistance.

I have seen the Seymour Coal.

Port Arthur Coal is not fit for steam purposes.

All the Coal yet found in this Island is so impregnated with dirt, and leaves so much ash, that it is quite unfit for steam purposes.

By Mr. Hayes.—I have every reason to believe that there is better Coal beneath the seam now worked at Port Arthur.

In all the Coal Fields of this Colony we find that the top seam is always the thickest.

The Mines at Port Arthur are not now worked by prisoners. They were worked by them some time ago.

By Mr. Horne.—I have not seen any Coal from the Old Beach.

If there is not something done, I believe the Coal now being worked in the Colony will be exhausted in about two years.

I do not think there is any Coal in the Colony fit for export.

Boring for a distance of 500 feet would cost, on an average, from £2 to £3 per foot. The cost of the first 60 feet would be very trifling.

I prefer sinking to boring, for you get upon your seam of Coal, and see what it is in quality and thickness; whereas by boring I have thought that I was coming on 3 feet or 4 feet of coal, and it only turned out 3 inches or 4 inches thick.

By Mr. Balfe.—The only way in which I would recommend assistance from the Government would be in sinking shafts to great depths. There could be nothing done with £2000 or £3000.

The reason why I recommend sinking instead of boring is, because I have been deceived by boring.

It is 53 years since I first began to work in the Coal Mines of England.

C.

9, *Wilmot-street, 5th August,* 1864.

Sir,

I have the honor to request I may respectfully submit, through you as Chairman, the enclosed Memorandum on the Adventure Bay Coal Field.

Up to three years ago, when I called the attention of the Government to the fact, I believe no Geologist had ever visited the site of the Coal crop in that locality.

I have the honor to be,
Sir,
Your most obedient Servant,
JOHN ABBOTT.

W. Race Allison, *Esq., M.H.A.*

MEMO. on the Adventure Bay Coal Field.

Before it is decided that the Adventure Bay Coal can be worked, it must be shipped either near Cookville, at the anchorage, or in Isthmus Bay, near Simpson's Point, in the Channel; the first being a distance of three or four miles, and the latter about six miles. The difference of the distance of each port would be of little consequence, whereas the carriage through smooth water would be less expensive. But if brought to the Channel by rail or tramway, which might connect Cookville with the Coal crop, and so on to Simpson's Point, the whole distance could be made by tramway,—ten miles—for £3000. Tramways were made at the Huon in dear times for only £200 a mile. It would go through government land nearly the whole distance; and what would the land realise if it were made, with the knowledge that it abounded in Coal of the best quality for steam purposes? The Township of Cookville would then sell; and perhaps does not offer a finer situation for sea-bathing, or for a deep sea fishery, though useless for both purposes if the steamer from the Huon did not offer a rapid communication to Town. When the Huon people are alive to their own interests, they will have a fast steamer of their own, and make the passage to Town and back in a day. The large fish, now so rare, will be an every day sight. They might be caught in the night, shipped by means of a tramway on board the Huon steamer in the morning, and eaten at dinner the same day. Some Scotch fishermen were brought out to the Colony, and were provided with a boat: what use was it to them when they had to bring their fish to Town? In England the fish are landed from the boats, where freight is then sent by locomotives and steamers all over the country.

Though Mr. Gould gave it as his opinion that the seam of Coal at Long Bay was identical with that of Adventure Bay, there is a difference of three per cent. of carbon more, and of one per cent. of ash less, in favour of the Coal at Long Bay. There is every reason to suppose that the same Coal Field extends right across the Channel, and it, perhaps, might be worked advantageously under the sea, as it is so often done in England; in which case the mines would be the property of the Government. Some of the best mines in England are worked under the sea, in Swansea Bay and Carmarthen Bay; the *Edinburgh Review* for January 1860, page 91, stating that twenty-six square miles of Coal lie under the sea in Swansea Bay, and one hundred and five square miles of Coal are under the sea at Carmarthen Bay.

Page 92, *Idem.*—"Anthracite is preferred to bituminous Coal in the agricultural Districts to which it is exported," &c.

But if any borings should be successful at Adventure Bay, would it not be worth while to pursue a similar course at Three Hut Point, where the Coal is of better quality? The Coal which crops out near the Township of Gordon extends south-westerly in the direction of the Township, which is nearly all in the hands of Government, as well as the adjoining land. If the Coal was found underneath the Police Reserve, it might be worked under the Township and for miles under the sea, and within a few yards of a jetty already

constructed, where vessels of large size can now load. In England it is not usual to work surface seams, if considered thick enough for the purpose, until it is first ascertained if more valuable seams exist underneath.

There must be more than one hundred square miles in the Adventure Bay Coal Field. Thirteen years ago, Sir Henry De la Beche, in a published report, advised the Government of this Coal Field, which he pronounced the best of all our Coals. Had that been then done, it is possible the Men-of-War and Mail steamers who use Welsh Coals might have been now visiting this Colony for the purposes of coaling.

JOHN ABBOTT.

4 *August*, 1864.

D.

Hobart Town, 9th August, 1864.

To the Chairman of the Select Committee, House of Assembly, on the Coal Fields.

Sir,

In having the honor of submitting the following remarks to your notice, I beg leave also to state the experience I have had in Coal Mining, to justify me in doing so. I served five years articles with Mr. Richardson, Civil and Mining Engineer of Dudley, Staffordshire. I was the owner of the Hyatt's Colliery, Staffordshire, and the Managing Partner in the Cefu, the Garth, and the Bicton Ferry Ironworks, Glamorganshire. I was also the first person to sink for Coal at Seymour, on my own account; and subsequently had the management and construction of the Works there for the Seymour Coal Mining Company.

Port Seymour, on the East Coast of this Island, is in latitude 41° 45″ S. and longitude 148° 19″ E., lying between Spring Bay and George Town, along the whole of which coast line there is at present no available harbour to shelter vessels from all winds; it is in the direct track of ships between Melbourne and New Zealand, and between Melbourne and Hobart Town; it is much nearer to Adelaide, and very much nearer to Melbourne, than Newcastle is.

A granite point called "Long Point" stretches out into the sea, as shown on the accompanying plan of Mr. Tully's survey; and although by the same two bays are partially formed, one on the north and the other on the south side, affording shelter to vessels on either side from opposite winds, they form little or no protection against easterly weather.

In addition, however, to the facilities this place presents for forming a harbour of refuge for ships generally, and its being the natural shipping-place for a very large extent of country, including Cullenswood, Fingal, and surrounding districts, a *necessity* exists to provide a safe means of shipping for Coal of most superior quality, and of many square miles in extent, lying in the vicinity of Port Seymour.

On the land of the Seymour Coal Mining Company (Limited), within three-quarters of a mile of the proposed Dock, three shafts are sunk through the top seam, lying between thirty and forty feet from the surface, of a total thickness of five feet six inches; and although, owing to upper bands, only two feet are actually worked now, if the shipping-place were improved it would pay to work the whole thickness and extract the band.

Several hundred yards of heading have been driven in this seam, and proved it to be singularly free from faults,—a most material point in the economic working of the same.

The Coal from this upper seam has now been in use here for over 2½ years: its quality, therefore, is pretty well understood as a domestic fuel; and the reports of the Engineer of the *Monarch* steamer, and the Commanders and Engineers of the *Orpheus* and *Omeo* steamers, clearly show that it is not to be despised even as a steam coal. The price the miners have for getting it is 4*s*. 2*d*. per ton.

There are also two bore-holes down to the second seam of Coal, little over 100 feet below the first seam. In the first one, which I put down in November last, I reported the Coal at 4 feet 1 inch. In that subsequently made by the present Manager it is reported as 4 feet 10 inches. Of such a thickness, and with the good roof and holing proved in the boring, this seam will be mined for about one-half that now being worked: the quality, also, is very superior. Eight ounces tried at the Gas Works here yielded a volume of gas of pure quality equal to three street lights, and burned over twenty minutes, the residue being 5¼ ounces of very good coke.

The following analysis made by Mr. Sharp of this town (dentist) places this seam close up to the Newcastle; and when it is considered that its gas will be purer and easier evolved, and that steam will be generated quicker than by the Newcastle, I think the palm will yet be given to the Tasmanian Coal.

Copy analysis:—

	Seymour, top seam.	*Sydney.*	*Seymour, 2nd seam.*
Volatile matter	26	40	40
Coke	74	60	60
	100	100	100
	Ash, 20	Ash, 10	Ash, 11

A trial in the *Monarch* steamer gave the following result:—

	Coal used. Tons. cwts. qrs. lbs.	*Ash left.* Cwts. qrs. lbs.	*Pressure Steam.* lbs.
Sydney	2 9 0 0	7 2 14	11
Seymour, top seam	2 15 0 0	14 0 14	11

the same amount of work being done with each. It must be borne in mind, however, that the Seymour Coal used was the top seam. Seymour Coal and Don Coal were the only Tasmanian Coals used in those experiments that were not condemned by the Engineer for steam purposes, he giving the results.

The two feet of the upper, and four feet of the lower, seam will, together, yield over six thousand tons per acre of workable Coal to market, which, at a toll of one shilling per ton on its shipment, represent a money value of £300 per acre, or £192,000 per square mile. This Coal Field is of many square miles in extent, containing over twenty.

The eight-feet seam at Nicholas' Cap on the Douglas River, shown in two different sections about five or six miles distant from the works of the old Douglas River Coal Company, is estimated by Mr. Selwyn, the Government Geologist of Victoria, who has inspected it, to yield over five million tons per square mile. It could be readily conveyed to Seymour by a tramway of about five miles in length. It appears a very good Coal, although, perhaps, not equal to the lower seam at Seymour. At the Porches on the beach, about three and a half miles south of Seymour, there is also at low water an exposure of Coal dipping under the sea; and at Doctor's Creek, on Seymour Township, and at Piccanini Creek, about three miles north of Seymour, Coal is seen.

The extent of these seams, and their capacity of being profitably worked, could only be determined by a proper course of boring or sinking. And I beg respectfully to suggest that a necessary expenditure to ascertain these facts would not be thrown away; nor, indeed, would it be either at Spring Bay, Prosser's Plains, Adventure Bay, Three-hut Point, and the Huon, in all of which places Coal would be found: although I am of opinion the lower Seymour seam would be by far of the best quality. I would also advise the extracting and shipping at Seymour of a few hundred tons of the eight feet seam, to ascertain its quality and working value, as it is not improbable this seam may yet be found much nearer Seymour.

I have for a period of over three years steadily pursued this matter, because I have been all along thoroughly convinced that a national Coal Field exists in the locality of Seymour. I was derided by many parties for commencing coal pits here, because it was generally supposed no jetties could be made to stand, and that consequently no coal could ever be shipped from there. However, I was quite convinced to the contrary, and the two jetties constructed under contract with Mr. P. Oldham, and the one built by myself on account of the Company, are as perfect as the day they were completed (over twelve months ago); and upwards of eight thousand tons of coal have been shipped from there.

Did I advocate this matter for the benefit of the Seymour Coal Mining Company alone, I might well be accused of selfishness (although the justice of the cause might not be thereby affected); but on the contrary, as I say there is a national Coal Field, so make it a national shipping place that all colliers may ship their Coal alike. By this means, monopoly would be destroyed, competition induced, prices kept at a fair level, and the Coal under Crown land brought into operation.

The sale of Coal in New South Wales is many thousand tons per week: and who shall say, with our superior geographical position, and Coal of equal quality, that Tasmania shall not get her fair share of the demand? I say it is my opinion that she will, and that to the extent of thousands of tons weekly.

Being satisfied, therefore, that nature has, with a bountiful hand, both in extent and quality, placed in the neighbourhood of Seymour the same element which has above all given Britain her cheap manufactories, her speedy locomotion, increased the productive power of her people a hundred times, and placed her on the pinnacle of wealth and power; and that nature has, besides, made the greater portion of a harbour to render the same available, I trust you may at once consider it would be wise and practicable to complete that harbour. The outlay would be repaid in a few years.

I respectfully beg to hand a section, front views, plan, and estimate for a dock at Port Seymour, which I shall be quite happy to have checked, either by the Director of Public Works or any other competent person. I entertain no doubt whatever that the work can be executed for the estimate; viz.—

	£	s.	d.
By Contract Labour, South Side	46,906	10	7
Prison Labour	18,500	0	0

In excess of the present cost of the Prisoners; and on the North Side for two-thirds of these sums respectively.

The cost of sea works has been so little considered here, and is so liable to be misrepresented and misunderstood, that I will make a few comparisons of actual cost of Breakwaters as executed in Great Britain (according to the reports of the Tidal Harbour Commissioners).

The sea wall on the curve shown on the plan will be forty feet at top, by a little over eighty feet at the base, composed of granite stones enclosed within rows of heavy piles, tied and braced transversely, longitudinally, and diagonally with heavy timbers, which will form a staying to convey the stone

during construction. In this manner not one-third of the stone will be required, and it will be stronger than though built with loose stones at a greater slope. The weight per running yard of this sea wall will be upwards of seven hundred tons; the total length will be over four hundred yards; and the price, according to my estimate, will be not quite £40 per running foot, even by contract labour.

I find, according to the authority already quoted (Tidal Harbour Commissioners), Capt. Connell estimates the cost of the Great Clontarf Breakwater and Pier at £16 10*s.* 4*d.* per foot run. to £25 10*s.* per foot run.

Cubitt estimates a Breakwater at Kingston Harbour, twenty feet above high water, and with paved slope of 5 to 1, and with light-house at each end, Pier Head Circular Towers, and 1200 feet long, to cost £75,000, or about £62 per foot run.; but owing to the slope, there will be at least three times the stone in this than in the one I propose. Courtown Harbour Pier, 100 feet long, of stone, with three rows of piles well tied together, cost £2000, or £20 per foot run.

Portsmouth Pier, into 29 feet water, length 402 feet, quantity of stone 100,132 tons, cost £8538, or about £21 per foot run. Rennie estimates the cost of Belfast Dock, area 18 acres, to enclose 100 large vessels, to cost £83,327.

Cubitt estimates the cost of Stone Quay, with 20 feet at low water, at £40 per foot run., but stone had to be conveyed two miles.

Temperley estimates the cost of Port Ramsey Pier, 350 yards long, at £15,000, or £14 per foot run.

Isle of Man Harbour. Sir John Rennie proposes to build a Breakwater, 12 feet high, 300 yards long, for £5000, a little over £5 per foot run.

Temperley says, "On Isle of Man Harbour, Derby Haven Breakwater, which is 260 yards long and 26 feet wide at top, cost £3506 18*s.* 3*d.*; and Ramsey North Pier, 123 yards long by 25 feet wide at top, cost £2520 7*s.* 3*d.*,—or average of about £5 per foot run."

I trust that these remarks of some of the most eminent engineers, of actual cost, may be considered to bear me out in my calculations, and to dispel the erroneous idea that such fearful amounts as have been spoken of will be required.

Also, from the same authority, the following examples of piles and stone being used together:—

On some part of Clontarf Wall, Kingston Harbour, as to gale reported that the timber framing stood the gale, but stone-work washed down the whole length.

Courtown Harbour Pier of stone and three rows of piles.

Wexford Pier, built on a framing of piling.

Dagger Bank, piles round eastern end to protect foot, &c.

As to whether or not it would be better to construct this work by free or prison labour, I can merely respectfully offer an opinion, which is, that by taking only short-sentenced men of the better character, and giving them some inducement in the shape of an accumulating fund (to be paid on the expiration of their sentences or otherwise), they will be found to work well, and that the work can be done in a few years with very little additional expenditure to the present; and there is one advantage which must not be overlooked, which is, that every foot of Breakwater completed adds to the security of the Bay.

I think the prisoners could be enclosed by a wall across the point, close to their work, and kept securely in the usual way.

I omitted to mention, although it is too important to be overlooked, that most excellent fire-clay exists at Seymour, of which I had some fine bricks made last year; and on being tested at the Gas Works here and at Melbourne, have been pronounced equal to the best Stourbridge. The locality also abounds in common clay of a good quality, fire-bricks, brown free-stone, and granite for building, and some most excellent timber,—in fact, every thing to form a large and prosperous township, except a shipping-place.

I have the honor to be,
Sir,
Your obedient Servant,
A. H. SWIFT.

E.

Hobart Town, 10*th August*, 1864.

SIR,

I HAVE the honor herewith to enclose you copy of the result of experiments made on board the *Monarch* with Colonial Coal, and, at the same time, request the favour of your representing to the Select Committee the claim the Coals at present being raised at the mines at Seymour possess over any other Coal yet worked in Tasmania; which is amply testified by the Commander and owners of the *Omeo* steamer, and the Commodore and Engineer of Her Majesty's ship *Orpheus*,—copy of Certificates of which are also herewith enclosed.

In addition to which, I have the honor to request that the Committee will receive evidence as to the extent of the operations of the Company I represent, and particularly in reference to a seam of Coal lately bored through, known to be four feet ten inches in thickness, and pronounced to be of equal quality to the best New South Wales Coal, and to produce a very superior coke. Samples of both Coal and Coke I beg to hand you herewith.

I have the honor to be,
Sir,
Your obedient Servant,

CHARLES TOBY, *Secretary of the Seymour Coal Mining Company, Limited.*

DAVID LEWIS, *Esq., M.H.A.*

SEYMOUR COAL MINING COMPANY, LIMITED.

NOMINAL CAPITAL, £12,000—IN 2400 SHARES OF £5 EACH.

[Incorporated under the Joint Stock Companies Act, with limited liability.]

Directors.—Messrs. E. Marwedel, John Milward, A. A. Butler, W. Waterhouse, C. A. Pritchard, and O. H. Hedberg.

Bankers.—The Commercial Bank. *Solicitors.*—Messrs. Allport, Roberts, & Allport.

Manager at Seymour.—Mr. A. H. Swift. *Secretary.*—Mr. Charles Toby.

Auditors.—Messrs. H. S. Barrett and H. J. Chapman.

REPORT of the Directors of the SEYMOUR COAL MINING COMPANY, *Limited, adopted at the First Ordinary General Meeting of the Shareholders, held at the Company's Office, on Wednesday, the 4th March*, 1863.

PURSUANT to the Joint Stock Companies Act and the Articles of Association under which this Company has been incorporated, the Directors have convened this First Ordinary General Meeting of the Shareholders, for the purpose of placing before them the present position of the Company, which is fully set forth in the accompanying Returns and Balance Sheet, which has been lying at the Office for inspection by the Shareholders since Monday, the 23rd February.

The Directors deem it unnecessary to comment on the establishment and progress of the Compy previous to the Report adopted at an Extraordinary Meeting of Shareholders, held on the 20th October last, copy of which is appended hereto.

At that Meeting it was resolved unanimously, that a Special General Meeting of the Shareholders be convened as early as practicable, to adopt measures for carrying out the recommendation of the Directors that the Capital of the Company be increased to £12,000 for the contemplated purchase of a Steam Collier. Pursuant to which the Directors convened an Extraordinary General Meeting of the Shareholders on the 10th November, 1862, when Resolutions were passed unanimously, authorising the Directors to issue 1600 additional Shares, making the total Nominal Capital of the Company £12,000; such additional Shares to be payable on three-fourths being subscribed for, and providing that £6000 be set apart solely for the purchase of a Steam Collier.

The Directors used every exertion to dispose of the requisite number of Shares to enable them to proceed with the arrangement for a Steam Collier; but, being unsuccessful, they caused a Memorandum of Agreement to be drawn up and signed by Shareholders purchasing additional Shares, and also by those consenting to the issue thereof, which resulted in 400 additional Shares being purchased and issued, payable at 3, 6, 9, 12, and 15 months; 1200 Shares still remaining for the purchase of a Steamer, a specification of which the Directors have forwarded to England, and requested all necessary information relative to its cost, &c., a reply to which may be looked for by the April mail.

On the subject of the Tramways, Piers, and Coal Depôts, Buildings, Mines, &c., the Directors beg to refer the Shareholders to the annexed Report of Messrs. O. H. Hedberg and A. A. Butler, two of their number, who made a visit of inspection to the Mines in January last. It is as follows:—

To the Directors of the Seymour Coal Mining Company, Limited.

GENTLEMEN.

WE have the pleasure to report, that since one of the undersigned (Mr. O. H. Hedberg) proceeded to the Seymour Coal Mines in October last, the Contractor, Mr. Oldham, has been pushing on the completion of the Pier and Depôt in the North Harbour, and we were deputed to go down to examine the same before they were handed over to the Company.

We arrived there on the 25th January; and having carried out the instructions of the Board of Directors, we beg now to present our report.

1. The Pier and the Depôt in the North Harbour are completed; and being in conformity with the agreement, we can only say that the work is done to our satisfaction.

The Pier is 60 feet long, is substantially built of good sound timber, and during its erection has stood the trial of several severe gales. Vessels drawing from 10 to 12 feet, when loaded, can be berthed alongside with safety.

The Depôt is capable of holding from 400 to 500 tons of Coals.

2. From the Iron Railroad, a Wooden Tramroad, secured on good sleepers, is branching off, leading to the North Depôt; and by this line the Coals can be conveyed from the Pit's mouth direct into the Depôt at the North Harbour.

The length of this Tramroad is about three-quarters of a mile, and the work is done to our entire satisfaction.

3. The Iron Railroad is finished from the Pit's mouth to the Boat Jetty in the South Harbour, and is already in use for the conveyance of Coals.

4. The Pier and Depôt in the South Harbour are now in course of erection, and as far as we can judge they will be carried out according to the specification.

5. The Mines in general have a healthy appearance; the new Shaft, sunk about thirty yards to the westward of the two other Shafts, the purpose of which is chiefly to secure a good ventilation, is now finished, and when the demand for Coal increases it will of course be worked.

The opening of this Shaft is larger than that of the other two, large enough to employ two Gins; it is well slabbed, and altogether finished in a workmanlike manner.

6. We visited and examined the underground work, and also report very favourably about the same.

7. The Store and Dwelling-house are finished, and are compact and useful buildings.

8. The Engine continues to work well; Engine-room, Boiler-room, and Carpenter's Shop being in one compact building.

9. Since the last Report, Five new houses are finished and occupied by Miners, under rental; three more are now in course of erection.

10. While formerly the water had to be obtained from Doctor's Creek, about three-quarters of a mile distant, a spring has been discovered close to the Mines; and a well having been sunk, it produces a plentiful supply of good water, which we consider a great acquisition to the Mines.

11. In conclusion we say, that everything appears in good working order; and that as soon as Piers and Depôts are ready in both Harbours, we will be able to execute orders for Coals to any amount.

(Signed) O. H. HEDBERG,
A. A. BUTLER.

The Directors cannot close this Report without adverting to the many satisfactory accounts that have reached them relative to the probable value of the Coals in the Victorian and South Australian markets, in confirmation of which, and also of their suitability for Steam purposes, they append the Certificates of Captain M'Lachlan, of the Steamship *Omeo*, Messrs. M'Meckan, Blackwood, & Co., and also of the much-to-be-lamented Commodore W. F. Burnett and the Engineer of the *Orpheus*; and they may add, that the Engineer of the Steamer *Monarch* has also reported very favourably of their utility as a Steam fuel, although his official report has not yet been published.

Captain M'Lachlan says:—

I think it a great era for Tasmania if you can only get that Coal into this Market: I believe the Coal to be good, and fitted for Steam purposes.

Messrs. M'Meckan, Blackwood, & Co. say:—

Melbourne, 4th February, 1863.

SIR,

WE will be happy to hear from you as soon as your arrangements are completed for loading from 50 to 100 tons a day. If you could do so now, we could take a large quantity from you. The Coals, according to the report of the Chief Engineer of the *Omeo*, are of very fair quality, and we will be glad to give them a further trial; in the mean time will you have the goodness to instruct your Manager at Long Point to give our Steamers every despatch, in the event of their calling for a supply of Coal?

We are, Sir,
Your most obedient Servants,
(Signed) M'MECKAN, BLACKWOOD, & CO.

CHARLES TOBY, *Esquire, Secretary to the Seymour Coal Mining Company.*

And the late Commodore Burnett, of H.M.S. Ship *Orpheus*, says :—

January 18*th*, 1863.

SIR,

ACCORDING to promise, I beg to enclose for your information the opinion formed of the quality of the Coal which you were pleased to give me Six Tons of, for the use of this ship for steaming purposes. The enclosed, you will observe, is written by the Engineer in charge of the Engines on board her. After having seen the Coal used, I am inclined to form a better opinion of its combined qualities than the Report of the Engineer would lead to. As far as supplies from time to time for H.M. Steam Vessels which may visit Tasmania, of course the price for which fuel can be obtained must greatly guide us. Should you please to inform me at what price you would deliver alongside, in Sullivan's Cove, such Coals as the sample alluded to, I shall be glad to have a supply taken on board some Man-of-War which may be in need of fuel at Hobart Town, provided the price is below that of Newcastle Australian Coal, which I look upon as the best Australian Coal at present for steaming purposes.

I am, Sir,

Your very obedient Servant,

(Signed) W. F. BURNETT, *Commodore.*

Mr. O. H. HEDBERG, *Hobart Town.*

J. H. Adams, Engineer in charge of H.M.S. Ship *Orpheus*, states as follows :—

This Coal seems, from observation at the time of trial, to be little inferior to the average of North Country Coal in evaporative power ; but the per-centage of Clinker and Ash is very high, and there appears to be a quantity of earthy refuse mixed up with it, probably owing to its being obtained near the surface. The Clinker is light and friable, and does not adhere to the furnace bars.

The above Reports the Directors deem highly satisfactory ; and they have every confidence, when the contemplated arrangements for shipping the Coals are matured, that the undertaking will be crowned with complete success.

The desirability of commencing immediately to dispose of the Shares for the Steamer, the Directors leave for this Meeting to decide.

The Accounts have been balanced to 31st December, 1862, and the Auditors' Certificate, as required by the Act, is attached thereto.

The Officers and Offices of the Company remain as last reported ; one vacancy has occurred in the Directory since last Report, which has been filled up by the appointment of W. Waterhouse, Esq., in room of Mr. Nicholas, resigned,—which appointment the Directors have much pleasure in recommending for confirmation. Two Directors, viz., Messrs. C. A. Pritchard and O. H. Hedberg, retire from office in conformity with the Articles of Association. Their places will have to be filled up at this Meeting either by re-appointment or electing others. Auditors for the ensuing year will also have to be appointed.

In conclusion, the Directors may state that an inexhaustible supply of excellent Fire-clay is found to exist beneath the Coals at Seymour, the quality of which, and also of Bricks manufactured therefrom, are now under trial by the H. T. Gas Company, and will be reported on in due course.

BALANCE SHEET of the SEYMOUR COAL MINING COMPANY LIMITED, *made up to 31st December*, 1862.

CAPITAL AND LIABILITIES.

CAPITAL.

	£ s. d.	£ s. d.
Amount received from Shareholders in Cash and Promissory Notes..	5975 0 0	
Promissory Notes not yet received..	25 0 0	
Being payment in full for 1200 *shares at £5 each.*		6000 0 0

DEBTS AND LIABILITIES.

Promissory Note of Directors to the Commercial Bank	300 0 0	
Bills Payable.....	284 16 11	
Amounts due to sundry Tradesmen	377 10 7	
Amounts due for Salaries.....	46 12 8	
Amount due to Colonial Treasurer..	307 8 6	
Amount due to Messrs. Allport, Roberts, & Allport	34 19 4	
		1351 8 0

CONTINGENT LIABILITIES.

Amount due to Peter Oldham, being balance of contract to erect two Coal Depôts and Piers	—	900 0 0
Balance, being the net value of the assets and property of the Company, as valued by the Directors, above the capital and liabilities, on the 31st December, 1862.....	—	188 16 1
		£8440 4 1

(Signed) O. H. HEDBERG, W. WATERHOUSE, A. A. BUTLER, JNO. MILWARD, C. A. PRITCHARD, E. MARWEDEL, } *Directors.*

CHARLES. TOBY, *Secretary.*

PROPERTY AND ASSETS.

PROPERTY.

	£ s. d.	£ s. d.
The Company's property, comprising 294 acres of land at Seymour, in the County of Glamorgan, with coal pits and earthworks, also stores, Superintendent's quarters, dwelling-house, 13 cottages, stable, blacksmith's shop, engine-house, and other buildings thereon erected; also, one mile of iron railway laid down, one wooden tramroad from north to south side of Long Point (about three-quarters of a mile), one steam-engine, chains and anchors for moorings, horses, bullocks, waggons, drays, weighbridge, boats, &c., &c., valued by the Directors on the 31st December, 1862	—	5000 0 0
Depôts and Piers in course of erection	—	1100 0 0
Coals, 446 tons, stock on hand on the 31st December, 1862, at 11*s.* -...	245 6 0	
Stores, stock on hand at cost, 31st December, 1862	102 15 10	
Office Furniture at cost	11 11 6	
		359 13 4

AMOUNTS DUE TO THE COMPANY.

Amounts owing by sundry persons..	215 9 11	
Amounts due by Miners, Labourers, &c., for stores	136 13 1	
Promissory Notes of Shareholders..	1585 0 0	
		1937 3 0

CASH.

Balance in Commercial Bank, Hobart Town, on 31st December, 1862 ..	—	43 7 9
		£8440 4 1

WE certify that we have examined the foregoing Financial Returns and Balance Sheet, and compared them with the several Vouchers and Books of the Company, and consider that they contain a true statement of the Capital and Liabilities, as also of the Property and Assets of the Company, as valued by the Directors, and balanced to 31st December, 1862.

H. J. PETERS, H. S. BARRETT, } *Auditors.*

THE Report having been read, and the Financial Returns explained by the Chairman, the following Resolutions were passed :—

1.—Moved by Mr. Walker, seconded by Mr. Fletcher,—"That the Report and Balance Sheet be received and adopted." Carried unanimously.

2.—Moved by Mr. Fletcher, seconded by Mr. Marwedel,—"That the two retiring Directors,—viz., Messrs. C. A. Pritchard and O. H. Hedberg,—be re-appointed." Carried unanimously.

3.—Moved by Mr. Marwedel, seconded by Mr. Hedberg,—"That Messrs. H. S. Barrett and H. J. Chapman be appointed Auditors." Carried unanimously.

4.—Moved by Mr. Marwedel, seconded by Mr. Walker,—"That the matter of purchasing a Steam Collier be deferred until the Report be received from London." Carried unanimously.

5.—Moved by Mr. Walker, seconded by Mr. Marwedel,—"That, in the opinion of this Meeting, the Press is entitled to the cordial thanks of the Shareholders for the very handsome manner in which the several Reports on the progress of the Company's operations and the value of the Coals have been made public through its columns." Carried unanimously.

6.—Moved by Mr. Fletcher, seconded by Mr. Hedberg,—"That a vote of thanks be recorded to Mr. Waterhouse as Chairman." Carried unanimously.

(Signed) W. WATERHOUSE, *Chairman.*

COPY of the Result of Experiments made with COLONIAL FUEL *on board the "Monarch" Steamer from January 9th to April 21st,* 1863.

Date of Trial.	Name of Mine, or where the Coals came from.	Quantity used in getting up Steam in Town and New Norfolk.	Quantity used in backing up Fires.	Quantity used when Steamer is under way going to New Norfolk and back.	Total of Coals used.	Total Ashes and Clinker.	Average Pressure of Steam per Square Inch by Gauge.	REMARKS.
1863.		tons. cwt. qrs. lbs.	tons. cwt. qrs. lbs.	tons. cwt. qrs. lbs.	tons. cwt. qrs. lbs.	tons. cwt. qrs. lbs.	lbs.	
Jan. 9.	SYDNEY	0 8 2 0	0 4 0 0	1 16 2 0	2 9 0 0	0 7 2 14	11	Very little clinker; a good command of steam.
	TASMANIA.							
12.	Jerusalem	0 12 0 0	0 4 0 0	2 2 0 0	2 18 0 0	1 6 0 0	8½	Great deal of clinker; fires full of dirt in three hours' run; hard work to keep steam towards end of run; too much labour with them for sea-going vessels.
13.	Hamilton	0 12 0 0	0 2 0 0	1 18 2 0	2 12 2 0	0 18 0 0	10	Not much clinker; fires rather dirty at the end of three hours' run; might do for river steamers or land engines, with a little extra labour.
16.	Adventure Bay	0 12 0 0	0 2 0 0	2 4 2 0	2 18 2 0	1 9 0 0	5	Great deal of soft clinker; furnaces full of dirt in two hours' run; very hard to get steam; had to use 4 cwt. wood to keep the engines in steam.
22.	Port Arthur	0 12 0 0	0 4 0 0	1 14 0 0	2 10 0 0	1 7 1 0	4½	Great deal of soft clinker; furnaces full of dirt in 2½ hours' run; very hard to get steam; had to use 4 cwt. wood to keep the engines in steam.
26.	Seymour	0 11 0 0	0 4 0 0	2 0 0 0	2 15 0 0	0 14 0 14	11	Very little clinker; most of ashes fall through fire bars by using the pricker; a good command of steam; will do for sea-going vessels with a little extra labour.
Feb. 5.	Fingal	0 12 0 0	0 2 0 0	2 6 0 0	3 0 0 0	0 17 0 0	10½	Good deal of soft clinker; fires rather dirty in three hours' run; might do for river steamers or land engines with a little extra labour.
Apr. 21.	River Don	0 11 0 0	0 4 0 0	2 7 0 0	3 2 0 0	0 12 0 14	11	Not much clinker; most of ashes fall through fire bars by using the pricker; a good command of steam; will do for sea-going vessels with a little extra labour.

F.

ANALYSIS of Coal from Three Hut Point. (*Communicated.*)

YOUR readers may recollect that some time ago the fact was brought under the notice of the public, that owing to the fault of either Dr. Milligan, who unpacked the cases at the Exhibition, or of the Commissioners here who failed to mark and number them properly, the various samples of our Coals could not be identified, to the great disappointment of several exhibitors, as neither the Coals could be identified nor the localities from which the various samples came. When Mr. James Youl made known this fact, a sample of the Coal from Three Hut Point was forwarded to him by the mail, through Dr. Officer, the Chairman of the Coal Commission; and Mr. Youl, at some considerable expense to himself, has had the specimen analysed by Dr. Price, an analytical chemist of considerable reputation. It was important to have this specimen of Coal tested, as Mr. Gould pronounced the seam at Three Hut Point to be, in his opinion, identical with the one at Adventure Bay, which was pronounced to be the best of all the specimens of Coal sent for analysis to Sir H. De la Beche by Sir W. Denison in 1850.

The following is the letter from Dr. Price to Mr. Youl:—

(Copy.)

26 *Great George-street, Westminster, S.W.,* 21*st March,* 1863.

MY DEAR SIR,

THE following is the composition of Coal which you submitted to me for analysis:—

		Calculated exclusive of Sulphur, Water, and Ash.	*Adventure Bay Coal.*
Carbon.....	83·93	93·68	80·20
Hydrogen	3·20	3·57	3·05
Oxygen	1·70	1·89	4·82
Nitrogen	0·77	0·86	1·36
Sulphur	1·15	—	1·90
Ash	7·40	—	8·67
Water	1·85	—	Water not given.
	100·00	100·00	
			The above is Sir H. De la Beche's analysis.

When heated in a close vessel it does not yield a coke, and is of the kind known as anthracite. For the sake of comparison with the best known anthracites of this country, I append the analysis of two samples from South Wales, the first, that used in the blast furnaces at the Yniscedwyne Iron Works, and the other from a District not stated. You will perceive that, except in the amount of ash, which is high in the Tasmanian specimen, it is very similar to them in composition.

Tasmanian.—Carbon, 83·93; Hydrogen, 3·20; Oxygen, 1·70; Nitrogen, 0·77; Sulphur, 1·15; Ash, 7·40; Water, 1·85.

Yniscedwyne, Glamorgan.—Carbon, 92·56; Hydrogen, 3·33; Oxygen, 2·53; Nitrogen, ?; Sulphur, ?; Ash, 1·58; Water, ?.

South Wales, spec.—Carbon, 90·39; Hydrogen, 3·28; Oxygen, 2·97; Nitrogen, 0·83; Sulphur, 0·90; Ash, 1·60; Waste, 2·00.

Exclusive of Ash, &c.

Tasmanian.—Carbon, 93·68; Hydrogen, 3·57; Oxygen, 1·89.

Yniscedwyne.—Carbon, 94·05; Hydrogen, 3·38; Oxygen, 2·57.

South Wales, spec.—Carbon, 91·87; Hydrogen, 3·34; Oxygen, 3·02.

I remain,
My dear Sir,
Yours very faithfully,

J. A. YOUL, *Esquire.* DAVID J. PRICE, *M.D.*

This analysis of a Tasmanian Coal by Dr. Price may be considered as most important to the interests of this Colony. It establishes the fact that we have a Coal adapted for steam and smelting purposes, comparing favorably with two of the most valuable smelting Coals known in Great Britain; and only inferior to them in possessing a greater proportion of ash,—having only 6 per cent. more of ash than those Coals; whereas the Fingal and Mount Nicholas Coal, according to Sir Henry De la Beche's analysis, contained 27 and 29 per cent. of ash respectively. But it is more than probable, as the sample of Coal sent to England was taken from the crop on the beach at Three Hut Point, that the quality will improve when the Coal is worked; in other words, that the Coal will then be found

to contain more carbon, or more volatile matter, and less ash. On this subject Sir Henry De la Beche remarks in his published Report upon our Coals :—" It may be desirable to add, as regards information to be derived from the analysis of the specimens of Coal obtained during the first exploring of a country, that such specimens are usually of worse quality than the beds whence they have been derived, when these beds are worked at sufficient depths from the surface of land to secure them from the destructive action of atmospheric influence."

Dr. Price states, " The Coal does not yield a Coke." He means in the general acceptation of that word; and in confirmation of the statement, we give the following extract from the *Edinburgh Review*, January 30, 1860, page 92:—" But our chief interest at present is in the steam Coal of South Wales. Highly bituminous Coal not only produces a small per centage of Coke, on account of the large proportion of volatile matter which it contains, but its quality is much inferior to that produced from kinds less bituminous. Being also specifically light and spongy and much honeycombed, it is soft, easily crumbles, and therefore greatly wastes. The Coal named semi-bituminous, however, is very valuable, and is suitable for almost every purpose, except the making of gas. Sufficiently bituminous to be easily kindled, it makes a bright cheering fire, and gives out a great heat with very little smoke. It is also important to notice that its smoke, instead of being black and dense, in large volumes as in the highly bituminous Coal, is inconsiderable in quantity, brown in colour, and productive of little soot. The anthracite of South Wales burns without emitting flame or smoke, and does not bind or cake, or soil when handled, and has a general metallic lustre. Its ash is of a light pink and sometimes of a dark grey colour. Properly speaking, it does not form a Coke in the general acceptation of that term; for the water and hydrogen are expelled in small quantities during the distillation, and a slight diminution of bulk takes place, yet no new arrangement as is usual in the transition of Coal into Coke is formed: the fracture remains the same, and there is not that cellular structure which every one may observe in common Coke."

In Taylor's Statistics of Coal, page 650, is given an analytical table of all the Coal-fields of India, showing that no Coal has yet been discovered there yielding more than 60 per cent. of carbon;—not any, therefore, of it is adapted for smelting purposes, or approaches in quality to the Welsh anthracite Coals for steam purposes. It is believed that no anthracites, without which our iron ores could not be perfectly smelted, have yet been discovered in the neighbouring colonies, of which description of fuel 8 or 9 millions of tons are annually consumed in the iron works of Great Britain; and in justice to Mr. James Youl, who has been at so much trouble and expense in assisting in the good work remitted to our Coal Commissioners, an extract is now given from the letter written by him to Mr. John Abbott, which accompanied Dr. Price's report of the samples of Coal sent home for analysis. " I believe a good Coal mine on the banks of the Derwent would be infinitely a more lasting benefit to the Colony than a gold-field."—*Hobart Town Advertiser, May 18th*, 1863.

G.

COMPARATIVE ANALYSIS, showing the component Parts of the Adventure Bay and Three Hut Point Coals; and those of two of the best Coals (Welsh) on the Admiralty Lists, extracted from Sir* HENRY DE LA BECHE'S *Report on the Coals suited to the British Navy, Memoirs, &c., Vol. 2, Part 2, Page 550.*

Name of Coal.	*Carbon.*	*Hydrogen.*	*Oxygen.*	*Nitrogen.*	*Sulphur.*	*Ash.*	*Water.*	*Authority.*
Duffryn Steam, (the best in Wales)	88·26	4·66	0·60	1·45	1·77	3·26	1·13	Sir H. De la Beche.
Adventure Bay Coal.....	80·20	3·05	4·82	1·36	1·90	8·67	..	Sir H. De la Beche.
Three Hut Point Coal	83·93	3·20	1·70	0·77	1·15	7·40	1·85	Dr. Price.
Mean of 37 varieties of Welsh Steam Coals	83·78	4·79	4·15	0·98	1·43	4·91	..	Sir H. De la Beche.
Resolven Coal.....	79·33	4·75	included in the ash	1·38	5·07	9·41	..	Sir H. De la Beche.
Bedwas Coal	80·61	6·01	1·50	1·44	3·50	6·94	..	Sir H. De la Beche.

* The Bedwas and Resolven Coals.

N.B.—The Duffryn Coal is shipped at Cardiff, 22 miles from the mines.

The two last Coals are spoken very highly of in Sir Henry De la Beche's Report of the Coals suited to the British Navy. The last Coal is 10½ miles from the Shipping Port, and the seam only 2 feet 8 inches thick. The finest Resolven is 9 miles from the Shipping Port, north, and is only 2 feet 6 inches in the seam. The Adventure Bay Coal is 2 feet.

COAL MARKET, FRIDAY, MAY 30.

[*Times, May* 20, 1862.]

(Prices of Coals per ton at the close of the market.)

	s.	d.		s.	d.
Bell's Primrose	12	6	Kepier Grange	15	0
Byass's Bedside West Hartley	15	3	South Hetton	16	3
Grey's West Hartley	14	9	Stewart's	16	0
Hastings Hartley	15	3	Tunstall	14	6
Holywell	15	6	Cassop	15	3
North Pelton Gas	13	0	Caradoc	15	6
South Peareth	12	0	Hartlepool	16	6
Tanfield Moor	13	0	Heugh Hall	14	9
Tanfield Moor Butes	13	0	Kelloe	15	6
Walker Primrose	11	9	Shincliffe	15	0
Wylam	15	0	South Hartlepool	15	0
Eden Main	14	9	South Kelloe	15	3
Wallsend—			Thorpe	14	0
Gosford	14	3	Trimdon Hartlepool	16	0
Harton	14	3	Whitworth	14	6
Braddyll's Hetton	15	3	Carway and Duffryn Anthracite*	21	0
Haswell	16	3	Carway and Duffryn Malting	23	0
Hetton	16	3			

* Duffryn Steam Coal sells highest.

H.

ABSTRACT of Report and Letters received from MR. ZEPH. WILLIAMS, *giving an Account of his Proceedings at the St. Paul's River, Swansea, and Prosser's Plains,* 1862.

MR. Williams, at the Red Rock, on the north side of St. Paul's River, found the Fingal seam of Coal 10 feet 4 inches in thickness, and reports that he sunk through it, but found the Coal much perished; and if a sample is required from that locality, a drive must be cut from the shafts some little distance into the Coal.

Mr. Williams next sunk through the Coal at Lewis's Hill, on the south side of St. Paul's River, and found the Coal there divided into seven layers by shale. The total thickness of the seam was 9 feet 10 inches, of which 6 feet 6 inches was Coal and 3 feet 4 inches shale. The four bottom layers of Coal are of good quality, but all divided by bands of shale each 1 inch thick.

Mr. Williams then searched the Swan River and Creeks towards Swansea, and found strong indications of Coal, and the Fingal seam cropping out at various places; but reports it could only be sunk into at considerable expense. At between 12 to 13 miles north east of Swansea he found two inferior seams of Coal, the one 3 feet, the other 4 feet, in thickness. He also traced the Fingal seam to within 16 miles of Swansea: he found most favourable indications and the crop of Coal in all the hills facing Swansea, and the main seam (the best and thickest) lying at an altitude of from 400 to 500 feet above the sea. As this seam between Swansea and the hill is thrown down by a great fault, he is of opinion, on account of the strata he saw in the hills, and afterwards on the flat, that there is a probability of Coal being found at one to three miles from Swansea at a depth of 100 to 150 feet below the surface.

Mr. Williams, on his visit to Spring Bay and Prosser's Plains, found the seam of Coal he was requested to examine cropping out at the Back River; but that it was only 9 inches think, pitched at an angle of 45°, and in a most impracticable place to work into. He afterwards proceeded down the river and found Coal cropping out at various places, and lying nearly horizontal. He also found strong indications within about three miles of Prosser's Bay, and round Buckland in several places. He reports that at Spring Bay the main (best) seam of Coal is found high on the hill at the back of the Township, and the pits there sunk on the flat are in the lower seams, which in general are inferior and seldom exceed two feet in thickness.

Jerusalem, 10th September, 1862.

Sir,

Your favour of yesterday I have just received, and, in reply, I deem it incumbent to inform you of the state of the Coal I am instructed to get 10 tons from. The seam is altogether three feet thick; but it will scarce produce two feet of clean Coal. I never was more deceived than to-day; for on cutting into the seam I found it full of hard stone and of iron pyrites distributed throughout, which in reality makes it good for nothing except for kitchen purposes, as it is quite impossible, without breaking the Coal to pieces, to clean it. This is the Coal there has been so much writing in praise of: the most worthless seam of Coal I ever saw. It is so bad that I don't think it advisable to go to the expense of cutting out ten tons of it; notwithstanding it contains some good Coal. However, I shall continue working it till I hear from you. In consequence of so much stone and iron pyrites scattered through it, it is very expensive getting, and we can scarcely get tools to stand the cutting: in fact it is a seam that never will be worked for any purpose. Waiting your answer with the utmost impatience,

I remain, Sir,
Your very obedient Servant,
ZEPH. WILLIAMS.

W. R. Falconer, *Esquire.*

JAMES BARNARD,
GOVERNMENT PRINTER, TASMANIA.