



# The New Zealand Gazette.

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THURSDAY, JANUARY 13, 1859.

**PROCLAMATION.**

By His Excellency Colonel THOMAS GORE BROWNE, Companion of the Most Honorable Order of the Bath, Governor and Commander-in-Chief in and over Her Majesty's Colony of New Zealand, and Vice-Admiral of the same, &c., &c., &c.

**W**HEREAS by an Act of the General Assembly of New Zealand, intituled "The Naturalization Act, 1858," it is enacted that "all and singular the Persons who shall be declared to come within the operation of this Act by any Proclamation to be issued in that behalf by His Excellency the Governor or Officer administering the Government, shall, as from the time to be in the respective cases in that behalf specified by such Proclamation, be deemed and taken, until the termination of the next Session of the General Assembly, to be and to have been, as from such specified time, natural-born Subjects of Her Majesty within the Islands of New Zealand, as fully to all intents and purposes as if their names had respectively been inserted in the Schedule hereunto annexed. Provided always, that every such Proclamation shall contain the description, occupation, or calling of the Person or Persons therein named, and of his or their residence at the date of such Proclamation."

Now, therefore, I, the Governor of the Colony of New Zealand, in pursuance of the power and authority in me vested by the said Act, do hereby proclaim and declare that the Persons hereinafter mentioned, shall come within the opera-

tion of the said Act, from the several dates hereinafter respectively specified, viz.,

HENRY LAMBRET,

From the First day of January, One thousand eight hundred and fifty-six, Native of Belgium, Brickmaker, Residence Auckland, Province of Auckland.

JOHN JOHNSON,

From the First day of December, One thousand eight hundred and fifty eight, Native of Bergen, in Norway, Settler, Residence Pukekohe, Province of Auckland.

Given under my hand, and issued under the Public Seal of the Colony of New Zealand, at Government House, at Auckland, this first day of January, in the year of our Lord One thousand eight hundred and fifty nine.

THOMAS GORE BROWNE.

By His Excellency's command,

E. W. STAFFORD.

GOD SAVE THE QUEEN!

**PROCLAMATION.**

By His Excellency Colonel THOMAS GORE BROWNE, Companion of the Most Honorable Order of the Bath, Governor and Commander-in-Chief in and over Her Majesty's Colony of New Zealand, and Vice-Admiral of the same, &c., &c., &c.,

**W**HEREAS by an Act made and enacted in the Imperial Parliament holden in

the fifteenth and sixteenth years of the reign of Her Majesty Queen Victoria, intituled "An Act to grant a Representative Constitution to the Colony of New Zealand," it is amongst other things enacted that whenever any Bill shall have been assented to by the Superintendent as in the said Act provided, the Superintendent shall forthwith transmit to the Governor an authentic copy thereof, and it shall be lawful for the Governor at any time within three months after any such Bill shall have been received by him, to declare, by Proclamation, his disallowance of such Bill, and that any such disallowance shall make void and annul the same from and after the day of the date of such Proclamation, or any subsequent day to be named therein.

And whereas the Ordinance hereinafter specified has been enacted by the Superintendent of the Province of Otago, with the advice and consent of the Provincial Council thereof, and the said Ordinance was received by the Governor on the eighth day of December, 1858.

And whereas it is expedient that the said recited Ordinance should be disallowed,

Now, therefore, I, the Governor of New Zealand, in pursuance of the authority vested in me in that behalf by the said recited Act of Parliament, do hereby proclaim and declare my disallowance of the following Ordinance passed by the Superintendent and Provincial Council of the Province of Otago, viz. :—

"The Otago Pastoral Districts Ordinance, 1858."

Given under my hand, and issued under the Public Seal of the Colony of New Zealand, at Government House, at Auckland, in the Colony aforesaid, this twelfth day of January, in the year of our Lord one thousand eight hundred and fifty-nine.

THOMAS GORE BROWNE.

By His Excellency's command,

E. W. STAFFORD.

GOD SAVE THE QUEEN!

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

THE following Bills, passed by the Provincial Council of the Province of Auckland, intituled

"Harbour Debenture Act, 1858,"  
"City Debenture Act, 1858,"

which Bills were reserved for the signification of the Governor's pleasure thereon, having been laid before the Governor, in conformity with the provisions of the Constitution Act, His Excellency has been pleased to withhold his assent from the same.

E. W. STAFFORD.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

THE following Bill, passed by the Provincial Council of the Province of Otago, intituled,

"Loan Ordinance, 1858,"

which Bill was reserved for the signification of the Governor's pleasure thereon, having been laid before the Governor in conformity with the provisions of the Constitution Act, His Excellency has been pleased to withhold his assent from the same.

E. W. STAFFORD.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

THE following Bills, passed by the Provincial Council of the Province of Auckland, intituled

"An Act to amend the City and Harbour Endowments Act, 1858."  
"The Provincial Council Enlargement Act, 1858,"

which Bills were reserved for the signification of the Governor's pleasure thereon, having been laid before the Governor in conformity with the provisions of the Constitution Act, His Excellency has been pleased to assent to the same.

E. W. STAFFORD.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

THE following Ordinance, passed by the Superintendent and Provincial Council of the Province of Taranaki, intituled

"Fencing Ordinance, 1858,"

having been laid before the Governor in conformity with the provisions of the Constitution Act, His Excellency has been pleased to leave the same to its operation.

E. W. STAFFORD.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

THE following Ordinances, passed by the Superintendent and Provincial Council of the Province of Otago, intituled

"Cattle Trespass Ordinance, 1858,"  
"Appropriation Ordinance, 1858," No. 1,  
"The Immigration Fund Ordinance, 1858,"  
"Leases of Jetty Reserves Ordinance, 1858,"  
"Jetties and Wharves Ordinance, 1858,"  
"Appropriation Ordinance, 1858," No. 2,

having been laid before the Governor in conformity with the provisions of the Constitution Act, His Excellency has been pleased to leave the same to their operation.

E. W. STAFFORD.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

HIS Excellency the Governor has been pleased to appoint

ALEXANDER KERR, Esq., of Nelson, and  
 THOMAS RENWICK, Esq., of Nelson,  
 to be the Auditors of the accounts of the receipts and expenditure of the Nelson College.  
 E. W. STAFFORD.

Colonial Secretary's Office,  
 Auckland, 12th January, 1859.

HIS Excellency the Governor, has been pleased to appoint,

THE RESIDENT MAGISTRATE, AUCKLAND,  
 THE RESIDENT MAGISTRATE, NAPIER,  
 THE RESIDENT MAGISTRATE, WELLINGTON,  
 and  
 THE RESIDENT MAGISTRATE, NEW PLYMOUTH,

under the XI Section of the "Militia Act, 1858," to call Special Meetings of the Justices of the Peace, for the purpose of forming Militia Lists.

E. W. STAFFORD.

Colonial Secretary's Office,  
 Auckland, 12th January, 1859.

HIS Excellency the Governor has been pleased to appoint

J. T. W. BACOR, Esq., Staff Surgeon,  
 to be a Member of the Central Board of Vaccination.

E. W. STAFFORD.

Colonial Secretary's Office,  
 Auckland, 12th January, 1859.

HIS Excellency the Governor directs the publication of the following Geological Report by Dr. F. Höchstetter, for general information.

E. W. STAFFORD.

#### R E P O R T

*Of a Geological Exploration of the Coal-field in the Drury and Hunua District, in the Province of Auckland (N. Z.)*

By Dr. FERDINAND HOCHSTETTER,  
 Member of the I. R. Geological Institution of the Austrian Empire,—and Geologist on board the Austrian frigate, "NOVARA."

HAVING been requested by the Government of New Zealand to examine and report upon the Coal-field recently discovered in the neighbourhood of Auckland,—and having received the sanction of Commodore Baron de Wüllerstorff-Urbair, of the Austrian Frigate "Novara," for this purpose; I have the honor to report as follows:—

After having spent the 24th and 25th of December last in making an investigation of the Geological structure of the country in the immediate neighbourhood of Auckland, between the isthmus of Whau on the west, and the isthmus of Otahuhu on the east,—I started on the 28th of December in company with the Rev. A. G. Purchas, Mr. C. Heaphy, Provincial Surveyor, Mr. Drummond Hay, and

several other gentlemen, together with some of my colleagues, for the Drury and Hunua District, to examine, as closely as my time permitted, the Coal, which had recently been discovered there by the Rev. A. G. Purchas, and has since been opened in several places by various settlers.

Our head quarters were at Mr. Young's Hotel, at Drury, from the top of which the Austrian Flag floated as a pleasant token of welcome. Our reception was most gratifying; nearly all the settlers in the neighbourhood were assembled, showing the great interest that was felt in our mission. I would here state that it was mainly owing to the excellent arrangements made by the Government, to the energy and perseverance of the accompanying gentlemen, and to the useful information afforded by some of the settlers, that I have been enabled, in the very short time at my disposal, to visit and examine the most important points of the portion of the Coal-field brought under my notice,—and likewise to pay a hasty visit to the Waikato River between Mangatawhiri and Tuakau. I have thus obtained a general view of the geological formation of that part of the country; and have arrived at results, which I trust will in some measure answer the expectations of the Government, and prove of value to the people of Auckland by leading to the development of so important a source of national wealth. I shall confine myself at present to matters having a *practical* bearing, reserving my report on the strictly scientific portion of the subject until my return to Vienna, in order to afford time and opportunity for a careful examination of the fossils, and an analysis of the various minerals and rocks, of which I have collected specimens.

The Plains of Papakura and Drury on the eastern shore of the Manukau Harbor are of an undulating character, and but slightly elevated above the sea. They are bounded on the south-east and south by a thickly wooded range of hills of moderate elevation, perhaps from 1000 to 1500 feet in height.

The general direction of this range is from south-west to north-east, from the Waikato to the Wairoa; except a portion near Drury, which runs nearly north and south, and rises almost immediately from the plain. On the slope of that portion, in more or less deep gullies, seams of Coal are exposed, in some places by the natural action of the water, and in others by the exertions of the settlers.

1. The first, and the southernmost, place we visited was on Mr. Farmer's land near Drury, on the right bank of a small stream in a gully just inside the forest, where a shaft about 20 feet deep has been opened by Mr. Turnbull, exposing three seams of coal, separated by thin layers of shale, and amounting altogether to about 15 feet in thickness. A considerable quantity has been raised from this shaft; but, on account of the water it contained at the time of my visit, I could not examine as accurately as I should have wished the section and character of the seam. The dip here is

10° towards south-west. The roof is a soft argillaceous sandstone which passes above into bituminous shale, containing vegetable impressions. The bottom was not exposed, but large basaltic boulders, filling up the bed of the creek and lying on the brow of the hill at the edge of the forest, seem to belong to a basaltic conglomerate below the coal.

2. Some openings at Mr. Hall's and Mr. Pollock's farms.

(a.) A small hole near Mr. Hall's house just at the foot of the range exhibits a decomposed basaltic conglomerate, large boulders of which are lying for some distance along the face of the hill, extending as far as Mr. Pollock's house; where an abrupt hill seems to consist of a compact mass of eruptive basalt.

(b.) At a somewhat lower elevation and a little farther on, to the north, a shaft has been sunk to the depth of thirty-eight feet, with the following section:—

Yellowish clay	feet.
Fire clay, of a bluish grey color	10
Shales, alternating with a hard argillaceous sandstone, both containing fossil plants, and very thin layers of coal	8
	20

(c.) Still farther to the north, and at a level of about 200 feet below the last-mentioned stratum, a tunnel has been excavated by Mr. Pollock through basaltic conglomerate interspersed with large boulders. It was reported to me that a few marine fossil shells were found in this conglomerate,—but I did not see any specimen of them. If a coal seam exists in this portion, I think it will not be found below the last-mentioned basaltic conglomerate; but in the strata not yet exposed, lying between the conglomerate and the shales found in the lower part of shaft (b).

3. Symond's Creek:—

(a.) On Mr. Symond's farm, just at the point where the creek which bears his name emerges from the gorge on the right bank of the stream, I saw some rocks of a soft tuffaceous sandstone, containing numerous small marine shells, and gravelly particles of various basaltic and aphanitic rocks. This is the lowest exposed stratum in this valley. Higher up in the forest we find on the surface of a stiff clay soil the same large boulders as at Mr. Pollock's.

(b.) Farther up the stream, near Mr. Campbell's house, seams are exposed at three different points almost close together, just at the level of the stream on its right bank. At the first point in going up, the coal is about two feet thick, a few feet above the water; at the second point the coal is in the bed of the stream, and therefore its thickness could not be ascertained; at the third point, at a bend of the stream, the coal is seen again of a thickness of about seven feet, part of which is below the level of the water. As on this place the layers are nearly in a horizontal position, I am of opinion that the coal on these three points belongs either to one and the same seam,

varying in thickness, or to a set of seams similar to that described in Section 1.

The roof of the Coal was on all places a soft yellowish-white sandstone.

(c.) Another point visited by us, also on Mr. Campbell's farm, is a short distance before one comes to Mr. Clare's house, and at a considerable height above the last-mentioned places, where, in a small gully, the Coal was first discovered a few months ago by the Rev. A. G. Purchas, and opened, at his direction, by Mr. Campbell. The Coal has here a somewhat different appearance from that of the other places, its structure being mere laminated. The first specimens brought to Auckland were obtained from this seam.

4. Mr. Fallwell's farm:—

(a.) A shaft, 25 feet deep, southward from the house, in the forest, on the other side of a small gully, contains in the upper part fire-clay and in the lower dark-gray bituminous shale, with fossil plants and thin layers of Coal. In the valley between this and the house occurs, in the bed of the stream, a dark aphanite in rocky masses of a considerable size.

(b.) On the northern slope of the hill on which Mr. Fallwell's house stands, this gentleman has made a cutting, affording the best view of the strata that can be obtained in any of the places we visited. The section is from the surface downwards as follows:—

On the surface, stiff clay soil, with nodules of argillaceous iron ore, about	feet
Soft shales, with vegetable impressions, more or less sandy, about	3
Coal, about	30
	6

This seam consists of three portions; the upper part a laminated coal of inferior quality, one foot; then a band of shale, two inches; the middle part coal of a good quality, one and a half feet; then a band of bituminous shale, six inches; the lowest part, coal of the best quality I have seen, two and a half feet. Thus the whole thickness of the Coal itself may be considered to amount to about five feet. The floor of the Coal consists of bituminous shale, with fossil plants, passing into yellowish clay, (*Thoumergel*).

The strike of the strata is from W. 20° N., to W. 20° S.;—the dip 20—30° to S. 20° W.

(c.) A shaft North from Mr. Fallwell's house at a lower level on the left bank of Symonds' Creek, twenty-six feet deep, shows in its upper part nearly horizontal strata, consisting of three bands of bituminous shale, alternating with sandy layers;—in the lower part greenish earthy tufas of a dioritic character, which I take to be the bottom of the coal formation.

(d.) The same dioritic tufas, unstratified, occur in another pit, which is sunk at a lower level on the left bank of Symonds' Creek, near Mr. Clare's house. I do not believe that Coal will be found even if this pit should be

sunk to a lower depth;—but am inclined to think that the carboniferous strata will be found to run out in the higher parts of the hills behind Mr. Clare's house, where, I was told, indications of their out-cropping have been found.

In the upper part of Symonds' Creek, higher up than Mr. Clare's house, occur rocky masses of aphanite, over which the stream falls in a cascade of considerable height.

Farther observations on other points were rendered impracticable on account of the thickness of the forest, and the consequent inaccessibility of the country. Moreover, the shortness of time did not permit us to extend our examinations over other districts; as, for instance—Wairoa, Karaka, &c., where Coal probably likewise occurs. The following general conclusions may therefore not be considered as established facts;—but as *probabilities*, resulting from a very limited number of observations.

#### I. QUALITY OF THE COAL.

The Coal is a tertiary Coal. With respect to its quality, it belongs to the best sort of brown Coal,—to the so-called "*Glanz-kohle*," with conchoidal fracture. It has quite the appearance of a Cannel Coal, but does in fact not belong to the old carboniferous formation, but to that of a tertiary, probably, Miocene age. A future palæontological examination of the fossil plants which are found in the bituminous shale connected with the seam, as well as that of fossil marine shells found in different strata above and below the coal, will lead to a more exact determination of the geological age of the Coal,—and furnish an opportunity for making a comparison with similar tertiary Coal-formations in Europe.

The practical quality of the Coal, for steam purposes and for producing gas, can only be proved by experiments. A chemical analysis of the Coal will be made at the laboratory of the Imperial Geological Institution in Vienna, from the specimens collected at the different localities;—and its result duly reported to the Government of New Zealand.

The Iron pyrite does not occur in the Coal in such a quantity as to lessen materially its value.

The fossil gum found in the Coal is a kind of "*Retinite*," derived from a coniferous tree, probably closely related to the Kauri, but by no means the same species.

There is no great difference in the quality of the Coal found at the places 1, 3 *b*. and 4 *b*.

#### II. THICKNESSES OF THE SEAM.

I was not able to convince myself of the existence of different series of seams, one above the other, in different levels. I am much rather of opinion that the same series occurs at the localities 1, 3, and 4, a difference of thickness in the same series of seams at different spots is quite a common occurrence. The fact that the same seam is found at varying heights above the level of the sea, and with

different dips, is accounted for by the occurrence of disturbances and dislocations having taken place after the formation of the Coal-measures—such as must have accompanied the eruption of the later volcanic hills in the vicinity of Auckland.

The average thickness of the seam, which at the locality No. 1 is greater than at 3 and 4, may be estimated to amount to above six feet. The sections through the Coal seam show, both at 3 and 4, distinctly, that the seam consists of three parts;—an upper, middle, and lower part. The section which has been described as 4 *b*, can be taken as a fair average.

#### III. EXTENT OF THE COAL-FIELD.

The existing openings seem to justify the conclusion that the Coal-field extends from the southernmost opening, No. 1, in a N.N.E. direction, as far as the out-cropping in Mr. Campbell's farm, for a breadth, from the base of the hill inwards of about two miles. In a southern direction it probably extends still farther; while in a more northern direction the Coal-field seems to be interrupted in the higher ridges near Mr. Clare's house, (see 4 *d*), and near Hay's Creek, where, in the vicinity of a Native Settlement, eruptive basaltic and dioritic masses, and conglomerates occur.

#### IV. THE DRURY AND HUNUA COAL-FIELD IS IN REALITY BUT A PART OF A LARGE BASIN OF TERTIARY FORMATION, EXTENDING OVER A CONSIDERABLE PORTION OF THE PROVINCE OF AUCKLAND.

From information, (for which I am indebted to the Hon. Mr. Whitaker, Mr. Heaphy, Rev. Mr. Purchas, and others), on the general geological features of the neighbourhood of Auckland, the probable boundaries of this basin may be described as follows:—

On the south and east its boundaries are formed by the range of hills running from Waikato Heads, along the course of the river to Mangatawhiri, thence through the Hunua to the Wairoa, and along the course of that river to the sea. This range consists of eruptive basalt, breaking through older formations, and interspersed with a thick stratum of conglomerate (Boulder formation). These basaltic eruptions belong to a geological period of an older date than the volcanic hills near Auckland.

On the eastward the line runs across the island of Motutapu, to the east of Tiritirimatangi, between Motuketi and Kawau, across Takatau Peninsula towards Cape Rodney. Thence it turns to the westward, along a range of hills of older geological formation,—running to the West Coast, and following that Coast to Waikato Heads.

The middle of this tertiary basin is occupied by a marine formation, consisting of beds of a soft sandstone, alternating with bands of a yellow clay (*Thoumergel*). Some of these strata contain numerous marine shells,—(as for instance, at Hobson's Bay), and small

pieces of drift wood changed into lignite. To this formation, I believe, belong likewise the interesting and valuable beds of limestone, discovered by Messrs. Smith and Cooper in the Wairoa district, abounding in marine shells. I do not think that workable Coal will be found either in or below this formation;—which is exposed in steep cliffs at the entrance, and along a considerable portion of the Coasts of the Waitemata Harbour.

Coeval with, and subsequent to the deposit of this marine formation, there existed on the flat margins of the sea-basin marshy forests of a considerable extent, from which, in the course of time, the brown Coal now found on the margin and along the above-described inner edge of the basin, was formed. Coal deposits similar to those of Hunua and Drury may therefore exist at different places within these boundaries;—as for instance in the creeks running into the western portion of the Waitemata, and the North-western portion of the Manukau harbours; also in the high land of the Karaka and Wairoa Districts.

The volcanic eruptions in the middle of the basin, in the neighbourhood of Auckland, must have taken place at a comparatively recent period, subsequent to the formation of the Coal. To the same period belong the strata found on the Eastern and Southern boundaries of the Manukau Harbour, extending over the flat portions of Papakura and Drury.

In the tidal Creeks, and other places where wells have been sunk, a soft lignitic deposit, nearly allied to peat, is found at different depths, and in beds varying in thickness from a few inches to twenty feet. This deposit is covered in many places by a greater or less thickness of a remarkable white siliceous matter in a state of very fine division. The latter seems to be derived from a hot lake of large extent, in connection with the recent volcanic eruptions in the neighbourhood of Auckland;—but its *true* nature can only be determined by future microscopic and chemical examination.

I have thus given a slight sketch of the geological history of Auckland and its neighbourhood; and expect to be able, on my return to Vienna, to furnish a more minute and ample description, illustrated by a map of the geological features of the country, compiled from the materials which I have now collected, and from those, which I hope hereafter, to receive from my friends in New Zealand.

#### V. THE WORKING OF THE COAL.

There exists no doubt that the Province of Auckland is, as we have seen, rich in the possession of abundance of good workable Coal,—which will prove of the greatest importance, both for steam navigation and manufacturing purposes.

With regard to the questions, *where* and *in what manner* the working of the Drury and Hunua Coal-field should be carried on, I venture to offer the following suggestions:—

1. I consider the locality of Mr. Farmer's place as one of the most suitable for commencing a systematic mining. For this purpose it would be desirable to construct a tunnel, commencing from the most convenient point at the foot of the range of the hills,—to be carried in an Eastern direction, inclining upwards, just enough to allow the water to drain off. This tunnel will run below the Coal, or, perhaps, strike it. A shaft should then be sunk from above to meet the tunnel, avoiding the present working (No. 1.) This shaft will pass through the Coal-seams, and the working will then be carried on in the usual manner,—the produce of the mine being removed through the tunnel, and the shaft supplying air to the workings. A railway from the mouth of the tunnel to Slippery Creek can be constructed without any difficulty.

2. In a similar way working could be carried on at Mr. Campbell's and Mr. Fallwell's; and a railway through the valley of Symonds' Creek may convey the produce of both mines to the Manukau Harbour. If it would be desirable to work the lower seams in the stream itself, the water can be used as a motive power to drive the pumping machinery, which would be required in this locality.

3. It is of great importance to ascertain whether the coal is confined to the ranges, or extends underneath the plains stretching from Papakura to Karaka and Mauku, at a lower level than the above mentioned recent lignitic deposit. As I was unable to see any natural section of the lower strata in these plains, I would recommend that *borings* be made in the following places:—

One on the low land between Young's Inn at Drury and the range;

Another at Chisholm's bush;

A third on one of the higher undulations of of the Karaka District;

And perhaps a fourth on the flat between Papakura and Wairoa.

I would also recommend that a similar exploration *by boring* should be made on the widest part of the Mauku flats.

Should these suggestions be carried out, I should be highly gratified to have the results communicated to me at Vienna without delay; in order that my promised report may be made as complete as possible.

And now I conclude with the German Miner's hearty

“*Glück auf!*”

FERDINAND HOCHSTETTER, Dr.P.H.

Auckland, January 4, 1859.

Colonial Secretary's Office,  
Auckland, 12th January, 1859.

NOTICE is hereby given that the Public Offices of the General Government have been removed to Graham's Buildings, opposite the Government House Gate.

W. GISBORNE,  
Under Secretary.