



AUCKLAND PROVINCIAL GOVERNMENT GAZETTE.

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VOL. VIII.]

AUCKLAND, SATURDAY, JANUARY 29, 1859.

[No. 2.

ANNIVERSARY OF THE COLONY.

Superintendent's Office,
Auckland, January 26, 1859.

I HEREBY notify for general information ~~that the Offices of the Provincial Government will be closed on Monday next the 31st instant, that day having been appointed to be observed in celebration of the Anniversary of the Colony.~~

J. WILLIAMSON,
Superintendent.

PROCLAMATION.

By JOHN WILLIAMSON, Esquire,
Superintendent of the Province
of Auckland.

WHEREAS an Act was passed by the Provincial Council of the Province of Auckland, in the 22nd year of the Reign of Her Majesty, intituled "An Act to enlarge the Provincial Council," and the same was reserved by me for the signification of the Governor's pleasure thereon.

Now, therefore, I do hereby proclaim and declare, that the said Act has been laid before His Excellency the Governor, and His Excellency has assented to the same.

Given under my hand at Auckland,
this nineteenth day of January,
one thousand eight hundred and
fifty-nine.

J. WILLIAMSON,
Superintendent.

PROCLAMATION.

By JOHN WILLIAMSON, Esquire,
Superintendent of the Province
of Auckland.

WHEREAS an Act was passed by the Provincial Council of the Province of Auckland, in the 22nd year of the Reign of Her Majesty, intituled "An Act to amend the City and Harbour Endowments Act, 1858," and the same was reserved by me for the signification of the Governor's pleasure thereon.

Now, therefore, I do hereby proclaim and declare, that the said Act has been laid before his Excellency the Governor, and His Excellency has assented to the same.

Given under my hand, at Auckland,
this nineteenth day of January,
one thousand eight hundred and
fifty-nine.

J. WILLIAMSON,
Superintendent.

TENDERS.

Superintendent's Office,
Auckland, 28th January, 1859.

TENDERS will be received at this Office, on or before Monday, the 28th day of March next, from persons willing to lend for a period of seven years the sum of £25,000 upon security of the Land granted to the Superintendent of the Province of Auckland upon Trust for the improvement of the Harbour of

Auckland and the construction and maintenance of such Docks Piers and other works therein as may be deemed advisable by the said Superintendent for facilitating the Trade and Commerce of the City and Port of Auckland, stating the rate of interest at which the money will be advanced.

The sum of £10,000 to be advanced immediately upon the execution of the deed of Mortgage, and the remainder by instalments of not less than £5,000 each. Twenty-one days' notice to be given to the Mortgagee when any further advance may be required.

All money advanced to be payable to the Superintendent, at the Office of the Oriental Bank Corporation in Auckland, without any deduction, and the interest to be payable in like manner at the Office of the said Bank, either in Auckland, Sydney, or Melbourne, at the option of the Mortgagee.

The Mortgagee from time to time to join in granting Leases of portions of the Lands at rack rents, the expense of obtaining the signature of the Mortgagee to all Leases to be paid by the Superintendent.

Each Tender to state whether the person tendering will be prepared at a future period to advance any, and if any, what, further sum of money upon the security of the said Lands.

Full particulars of the property may be obtained at Auckland, at the Office of the Waste Lands Commissioner; at Sydney, of Messrs. Spain, Young and Roxburgh; and at Melbourne, of Messrs. Bright, Brothers, & Co., Flinders Lane.

J. WILLIAMSON,
Superintendent.

TENDERS.

Superintendent's Office,
Auckland, 28th January, 1859.

TENDERS will be received at this Office on or before Monday, the 28th day of March next, from persons willing to lend for a period of seven years the sum of £15,000, upon security of the Land granted to the Superintendent of the Province of Auckland, upon Trust for the improvement and benefit of the City of Auckland, stating the rate of interest at which the money will be advanced.

The sum of £5,000 to be advanced immediately upon the execution of the deed of mortgage, and the remainder by instalments of not less than £5,000 each. Twenty-one days' notice to be given to the Mortgagee when any further advance may be required.

All money advanced to be payable to the Superintendent, at the Office of the Oriental Bank Corporation in Auckland, without any deduction, and the interest to be payable in like manner at the office of the said Bank, either in Auckland, Sydney, or Melbourne, at the option of the Mortgagee.

The Mortgagee from time to time to join in granting leases of portions of the Lands, at rack rents, the expense of obtaining the signature of the Mortgagee to all leases to be paid by the Superintendent.

Each tender to state whether the person tendering will be prepared at a future period to

advance any and if any what further sum of money upon the security of the said Lands.

Full particulars of the property may be obtained at Auckland, at the Office of the Waste Lands Commissioner; at Sydney, of Messrs. Spain, Young, and Roxburgh; and at Melbourne, of Messrs. Bright, Brothers, & Co., Flinders Lane.

J. WILLIAMSON,
Superintendent.

Superintendent's Office,
Auckland, 20th Jan., 1859.

TENDERS will be received at the Provincial Road Surveyor's Office, until noon of Tuesday the 1st proximo, for painting certain buildings and structures situated in the City and Suburbs of Auckland, also for Painting certain bridges already erected or about to be erected on the following roads:

Great North from Oakley's Creek to the
Wau Wau Creek,
Great South Road,
Waiuku " "
Wairoa " "
Hunua " "
Howick " "

Information can be obtained on application at the Roads' Office.

J. WILLIAMSON,
Superintendent.

WATER TANK, OFFICIAL BAY.

Superintendent's Office,
Auckland, Jan. 25th, 1859.

TENDERS will be received at the Provincial Road Surveyor's Office, until noon of Wednesday next, the 2nd February, for erecting a Fence around the above Tank.

Information can be obtained at the Roads' Office.

J. WILLIAMSON,
Superintendent.

Superintendent's Office,
Auckland, Jan. 20th, 1859.

TENDERS will be received at the Provincial Road Surveyor's Office, until noon of Monday the 7th February, for cutting and clearing a portion of Bush between Maxwell's and Harris's Stations, on the line of the Great North Road.

Particular information can be obtained on application at the Roads' Office.

J. WILLIAMSON,
Superintendent.

Superintendent's Office,
Auckland, Jan. 20, 1859.

TENDERS will be received at this Office, until noon of Monday, the 7th February next, for the erection of an addition to the Provincial Hospital.

Plan and specification can be seen on application at the Provincial Road Surveyor's

Office, where printed forms upon which Tenders are required to be sent in, may be obtained.

Tenders to be sealed and endorsed, Tender for addition to Provincial Hospital.

J. WILLIAMSON,
Superintendent.

ELECTION NOTICE.

ELECTORAL DISTRICT OF THE SOUTHERN DIVISION.

IN PURSUANCE of the provisions of an Act of the General Assembly of New Zealand, intituled, "The Regulation of Elections Act, 1858," I, Charles Henry Montessor Smith, Returning Officer for the Electoral District of the Southern Division, do hereby give notice that by virtue of a Writ, bearing date the 10th day of January, 1859, issued under the hand of his Honor the Superintendent of the Province of Auckland, New Zealand, an Election will be held for the return of a qualified person to serve as a Member of the Provincial Council for the said Electoral District, and that the nomination of Candidates will take place at Onehunga on Wednesday, the 2nd day of February, 1859, and that the Poll (if necessary) will be taken on Thursday, the 10th day of February, 1859.

Dated this 25th day of January, 1859.

C. H. M. SMITH,
Returning-Officer.

The following places are Polling Places for the Electoral District of the Southern Division.

POLLING PLACE.

- At Onehunga—Court House
- At Panmure—Ferry House
- At Howick—Court House
- At Otahuhu—Police Station
- At Waiheki—Such place on that Island as the Deputy Returning Officer may name
- At Waiuku—Resident Magistrate's Station.
- At Coromandel—Post Office
- At Papakura—Resident Magistrate's Station
- At Ranghiawhia—Resident Magistrate's Station
- At Kawhia—Custom House
- At Raglan—Resident Magistrate's Station.

Dated the 25th day of January, 1859.

C. H. M. SMITH,
Returning Officer.

Superintendent's Office,
Auckland, January 11, 1859.

THE following Tenders have been received, and are published for general information.

J. WILLIAMSON,
Superintendent

Carting for the six months ending 30th June 1859.
(Tenders received December 27, 1858.)

ACCEPTED TENDER.

NAME.	Delivery of Stones or Scoria Ash in any portion of the City, at per cubic yard.		Delivery of Stones or Scoria Ash in any portion of the Suburbs, at per cubic yard.		Carting of Stones from Stockade at Mount Eden, to Auckland Gaol Yard, at per cubic yard.		Carting Broken Stones from Gaol Yard to any portion of the City, at per cubic yard.		Carting Broken Stones from Gaol Yard to any portion of the Suburbs at per cubic yard.		Single Team, per diem.		Double Team, per diem.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
George Bray	3	3	3	3	2	1	3	5	3	5	10	3	15	3
Thomas Speechley	3	6	3	5	2	2	3	5	3	11	11	2	15	0
Thomas Sampson	3	4	3	2	2	2	3	6	3	10	10	6	15	6
John McGrath	3	5	3	1	2	2	3	1	3	10	10	3	14	10
Alexander Whisker	3	9	3	6	2	2	3	9	3	11	11	5	17	10
Patrick Coyle	3	8	3	6	2	0	3	6	3	11	11	0	16	0
John Barribal	3	8	3	6	2	0	3	6	3	10	10	0	16	0

Supply of Timber for the 6 months, ending 30th June, 1859.

(Tender received December 27th, 1859.)

Accepted Tender, (the only one received)

Henderson & Macfarlane.—Boards 9 inches and under, planks, joists, and scantling, 16s. per 100 feet.

Boards above 9 inches, 18s. per do.

For eradicating noxious Thistles from 1st January to 31st December, 1859.

Accepted Tender.

Sub-District, No. 1, North Shore.

Benjamin Menary £20

IMPOUNDED at the Public Pound, Otahuhu, by William Absolam, for trespass in a grass paddock at Otahuhu,

1 Light Bay Gelding, white on near hind foot, shod, no visible brand, owner unknown.

If not claimed within eleven days after the date of this notice, application will be made to a Justice of the Peace for an order for the sale of the above mentioned horse, agreeably to the provisions of the Impounding Act, 1856.

JOHN HALL,
Pound-keeper.

Public Pound, Otahuhu,
25th January, 1859.

RETURN OF ALL LANDS SOLD AT THE WASTE LANDS' OFFICE, AUCKLAND, FROM THE 1ST TO THE 30TH NOVEMBER, 1858.

Date.	Purchasers.	Locality.	Lot.	Contents.	Amount paid.		Land orders exercised.	Totals.	
					Cash.	Scrip.			
Nov. 1	Weekes Henry.....	Hunua.....	168 & 177	A. R. P. 498 0 0	£ s. d. 249 0 0	0 0 0	0 0 0	£ s. d. 249 0 0	
2	Campbell Kenneth...	Waipu.....		100 0 0	50 0 0	0 0 0	0 0 0	0 0 0	
	Williams John								
	Gibbins Thomas.....	Hunua.....	170	168 0 0	0 0 0	0 0 0	180 0 0	0 0 0	
	Deekes Henry.....								
4	Mills Edward	Mangawai....	61	91 2 0	5 15 0	40 0 0	0 0 0	0 0 0	
	Pivott Robert								
5	McGregor Niel.....	Waipu.....		40 0 0	20 0 0	0 0 0	0 0 0	0 0 0	
	Norman Charles.....	Mangawai....	54	107 3 0	0 0 0	0 0 0	120 0 0	0 0 0	
	Bullen Benjamin.....								
	Byrne Richard.....								
	Low Thomas.....	Hunua.....	178	232 0 0	0 0 0	0 0 0	240 0 0	0 0 0	
	Keams James.....								
8	Cameron Richard ...	Parahaki....	23	53 2 0	2 15 0	0 0 0	0 0 0	0 0 0	
	Stewart James	Whareora ..	51	41 0 0	0 10 0	20 0 0	0 0 0	0 0 0	
9	South Patrick.....								
	Silverthorn George..								
	McCaffrey Thomas..	Hunua.....	173	297 0 0	0 0 0	0 0 0	300 0 0	0 0 0	
	Flatman George.....								
	McGuire Thomas ...								
	Conway James	Mangawai ..	71	63 0 0	1 10 0	0 0 0	60 0 0	0 0 0	
	Brophy Edward								
	Flynn Wm. Henry....	Hunua.....	17 ⁴	284 0 0	2 0 0	0 0 0	280 0 0	0 0 0	
	McQuillins John ..								
	Conley James.....								
	Peck William.....	Hunua.....	143	97 0 0	0 0 0	0 0 0	120 0 0	0 0 0	
	McCann William ...								
	Parker James.....								
	Gilden John								
	Todd Robert	Hunua.....	172	320 0 0	0 0 0	0 0 0	320 0 0	0 0 0	
	O'Neill James								
	Noobes William....								
10	Rowe John.....	Mangawai ..	53	100 0 0	0 0 0	0 0 0	120 0 0	0 0 0	
	Baker Charles								
	Whelan John	Karaka	86	133 0 0	0 0 0	0 0 0	140 0 0	0 0 0	
	Murphy James								
	Whittingham Moses								
	Balmer John	do.	35	160 0 0	0 0 0	0 0 0	180 0 0	0 0 0	
	McCrum Hugh								
	Shea John								
	Hall Thomas	do.	36	160 0 0	0 0 0	0 0 0	180 0 0	0 0 0	
	Fairweather William								
	McDonald Cullen ...	Waipu.....		160 0 0	80 0 0	0 0 0	0 0 0	0 0 0	
	Sutherland James ...	do.		80 0 0	40 0 0	0 0 0	0 0 0	0 0 0	
17	Mackesy E. R.	Parahaki....	4 & 5	212 0 0	0 0 0	0 0 0	212 0 0	0 0 0	
	Hellingham William	Whaingaroa .	60	57 1 0	0 0 0	0 0 0	60 0 0	0 0 0	
24	Davoren William ..	Mangawai ...	73	100 2 0	0 0 0	0 0 0	120 0 0	0 0 0	
	Mahan James.....								
27	McInnis Hugh	Waipu.....		40 0 0	20 0 0	0 0 0	0 0 0	0 0 0	
29	McKenzie Donald ...	do.		40 0 0	20 0 0	0 0 0	0 0 0	0 0 0	
25	Sterndale H. B.	Village of Drury	24	0 1 7	2 10 0	0 0 0	0 0 0	0 0 0	
	Mulloy James.....	do.	9 & 10	0 2 17	5 0 0	0 0 0	0 0 0	0 0 0	
	Jackson, Samuel, jun.	ditto	13,14,15 } 52 }	1 0 2	8 10 0	0 0 0	0 0 0	0 0 0	
					3639 1 26	512 10 0	80 0 0	2632 0 0	512 10 0

RENT RECEIVED FOR CREDIT LAND.

11	Fifield, John	Maungatapere	58 0 0	2 18 0	2 18 0
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RENT RECEIVED FOR SPECIAL OCCUPATION LAND.

13	Bradley, Joseph	Hunua	52	100 0 0	2 10 0	2 10 0
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PENSIONER'S PRE-EMPTION PAYMENT.

9	Swan, Margaret, first instalment	Opaheke ..	5 0 0	1 13 4	1 13 4
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Total amount of cash received....£519 11 4

JAMES BABER,
Deputy Waste Land Commissioner.

Superintendent's Office,
Auckland, January 29, 1859.

THE following Warrant, Notices, and Report, are re-published, from the *New Zealand Government Gazette*, for general information.

J. WILLIAMSON,
Superintendent.

By His Excellency Colonel THOMAS GORE BROWNE, Companion 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.

TO ALL TO WHOM THESE PRESENTS SHALL COME
GREETING :

WHEREAS by an Act of the General Assembly, intituled "The Regulation of Elections Act, 1858," it is enacted that it shall be lawful for the Governor, by Warrant under his hand, from time to time to appoint Polling places for each Electoral District within or without the limits thereof, and to appoint any one of such places to be the Principal Polling Place for the District, and all or any of such Polling Places at any time to abolish, and appoint other Polling Places in lieu thereof. AND WHEREAS by another Act of the General Assembly intituled "The Provincial Elections Act, 1858," it is enacted that, subject to certain provisions therein contained, all the provisions of "The Regulation of Elections Act, 1858," shall apply to the Elections of Superintendents and Members of Provincial Councils.

NOW KNOW YE that I, Thomas Gore Browne, the Governor of the said Colony, in pursuance of the power and authority in me vested by the said Acts, do hereby appoint the following places to be the Polling Places for the District of the Southern Division of the Province of Auckland for the Election of Members of the Provincial Council of the said Province, namely,—

At Onehunga.—The Court House.
At Panmure.—The Ferry House,
At Howick.—The Court House.
At Otahuhu.—The Police Station.

At Waiheke.—Such place on that Island as the Deputy Returning Officer may name.

At Waikuku.—The Resident Magistrate's Station.

At Coromandel.—The Post Office.

At Papakura.—The Resident Magistrate's Station.

At Rangiawhia.—The Resident Magistrate's Station.

At Kawhia.—The Custom House.

At Raglan.—The Resident Magistrate's Station.

and I do further appoint the Polling Place at Onehunga to be the Principal Polling Place for the said District.

Given under my hand, at Government House, at Auckland, this 24th 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.

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 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, 26th January, 1859.

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

- “The Auckland Building Act, 1858,”
- “The Sheep Act, 1858,”
- “The Road Act, No. 1, 1858,”
- “The Road Act, No. 2, 1858,”
- “The Licensing Act, 1858,”
- “The Local Improvement Act, 1858,”
- “The Appropriation Act, 1859,”

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 directs the publication of the following Geological Report by Dr. F. Hochstetter, 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:—

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

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

low 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 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.

