

SECOND REPORT ON THE GEOLOGICAL SURVEY OF THE PROVINCE OF NEW BRUNSWICK. By Abraham Gesner, Provincial Geologist, &c. [Continued.]

CHIGNECTO BAY COAL FORMATION.

We have already briefly adverted to the fossil plants found at Grindstone Island, and other localities along the shores of Chignecto Bay. Such as have been found on the east side of this Bay, in Nova Scotia, have been noticed in a work devoted to the geology of that Province, published in 1836; and in a communication prepared for the Geological Society of London. The object of this report will not admit of a full description of these vegetable relics, and therefore they will be but briefly considered at present.

The same fossils which occur at Cape Enrage, New Horton, Grindstone Point, and Grindstone Island, were also discovered at Cape Meraguin. Among these are trees, frequently of large dimensions, which have been considered most nearly allied to the *conifera*, (fir tribe) of the warmer latitudes. The trunks and branches of these trees are lying in all directions in the rocks. They are seen at low water extending directly downwards, and often penetrating the strata at right angles. Again, they appear situated obliquely along the sides of the cliffs; and in other instances, between the strata of shale and sandstone, to the inclination of which they sometimes conform.

Some of these relics of ancient vegetation, are two feet in diameter, after the bark (now changed into coal,) has been removed. From their dimensions as still seen, they were lofty trees, and far surpassed in beauty and grandeur, any now flourishing on the soil that covers their graves. Their woody parts have been converted into coal, lignite, sulphate of barytes, and iron pyrites. These minerals are so collected, that the original vegetable fibre of plant remains distinct, and the annular rings of one species are still as well defined as they are in the living oak.

These monuments of the herbage of a remote era, appear like the decayed stumps of a forest overthrown by fire. In particular situations, the sandstones and shale abound in the remains of smaller plants, and leaves, which have been scattered abroad, and are now sealed up in the solid rock; of the latter, one variety belonging to the fern tribe was only discovered at one locality.

Four species of the *syngonodendron* were procured at different situations along this shore. They were plants of considerable size, and differ from the *calamites* in having no joints, and the greater distance between the flutings. None of the *cactæ*, and but one species of the *phytolithus* (steinhauer) were discovered at Cape Meraguin: this circumstance is somewhat remarkable, as they are abundant on the opposite shore. *Calamites* are numerous. These fossils are distinguished by their jointed and striated stems. One of these was procured, which before it was removed from the rock, had the remains of its leaves still adhering to its surface. The *calamite* was supposed by BRONGNIART to have been allied to the *equisetacea* (horse tail tribe,) plants still living in cold climates; but even those now growing between the tropics are very inferior in size to these of the coal period, being seldom more than an inch in diameter. We have one in our possession, in a fossil state, from Chignecto Bay, no less than four inches and a half in thickness. This shows how favourable the climate and soil were at former periods in the history of this earth, to the production of these vegetables.

Besides these we have two species of *Sigillaria*, (Brongniart), which, if not altogether different from any described by fossil botanists, are very rare.

The trunks of these plants are from one to three feet in diameter, and must have been from forty to sixty feet high. The scars on the stems are in parallel rows on the flutings, and the sections of the vessels leading to the leaves, are still visible. There can be but little doubt, that these vegetables were arborescent ferns, but they have no successors on the earth in its present state, that can vie with them in grandeur and beauty.

Cactæ, and other plants common to coal formations may be collected at many places along these shores, but we forbear entering upon a minute description of them, as it would exceed the limits intended for this report.

The fact that coal is of vegetable origin, is now established and believed by every geologist who has impartially examined its relation to the ancient vegetation of the earth. And its situation in separate troughs or basins, offers an explanation of the manner in which the vegetables it was derived from were accumulated. Near Cape Enrage, there are two strata of black, shaly limestone, containing the remains of fresh water muscles. At the South Joggin, on the Nova Scotia side of the Bay, there are three strata exactly similar in their characters and organic remains. These strata are placed one above another at a distance of several hundred feet, and at the latter place, two strata of coal of considerable thickness, are interposed between them. Thus it appears evident, that this coal basin had successive deposits of mineral and vegetable matter spread over its surface, and that there were periods when moluscous animals were permitted to occupy its whole area, without being disturbed by those violent causes by which other succeeding strata were formed; and it also appears evident that this basin was a lake, and not open to the sea, as all its fossil shells belong to fresh water species.

The characters of the fossil animals, and more especially the flora of the carboniferous period, lead us to infer, that the waters of the ocean and lakes, and also the climate were much warmer, and less variable than that of the latitudes where coal strata are abundant. The existence of large tree ferns, which may be called the descendants of those now found in a fossil state, still growing in hot and humid climates, confirm the opinion that the temperature of the atmosphere and ocean, have been reduced in northern latitudes. If it should be observed that most of the plants of which the coal was evidently *any* or *the* have become extinct, and therefore *trepolis*. As referred to, in support-

ing this argument, yet the whole of their characters, when viewed generally, are such as prove the warmth of the climate when and where they flourished.

Under all these circumstances it is exceedingly difficult to avoid looking backward into time, and taking a view of the condition of the earth at that period when the materials for fuel were produced, and laid up in nature's vast store house, to supply the wants of man, who appears to be among the latest occupants of this planet.

When the present growth of vegetables, covering the dry land of this district, is compared with the fossil flora of the rocks beneath, a contrast the most remarkable and peculiar, cannot fail to strike the mind of the observer. The remains of large tropical trees, not only appear in the cliffs of the shore, but their colossal trunks, broken by the fury of the waves, are scattered in fragments along the beach, or appear like massive columns whose summits are scarcely uncovered by the greatest retreat of the tide; and thus the terrestrial changes to which they have been exposed, have buried them beneath the water of the bay, or lifted them to the tops of the cliffs, where they are ready to fall from their sepulchres, and disappear before the never ceasing attrition of the sea. In the steep embankment lie buried the lofty palm, and *aurucarian* pine, that flourished in a moist and heated atmosphere; while on the surface, the hemlock and the hardy spruce of humbler growth, seem to mock the grandeur of their predecessors, over the graves of which they bid defiance to the winter's snow and frigid vapours.

At Cape Meraguin, and near New Horton, the cliffs at some places are covered with the sulphate of iron, produced by the decomposition of the sulphuret of that metal, and the quantity is sufficient for the manufacture of copperas upon a large scale. In one instance the sulphate of lime in small crystals was observed by the Hon. Judge PARKER, with whom we had the pleasure of making our last visit to this interesting locality.

(To be continued.)

NOTICE.

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THE Subscriber intends running a daily STAGE between Fredericton and Woodstock, commencing on the 23d December, inst.; through which, persons arriving from Saint John, &c., can find an immediate conveyance to Woodstock, Canada, the United States, &c.

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Tuesday,	3, P. M.
Wednesday,	7, A. M.
Thursday,	7, A. M.
Friday,	7, A. M.
Saturday,	3, P. M.
From Woodstock, Monday,	at 7, A. M.
Tuesday,	1, P. M.
Wednesday,	7, A. M.
Thursday,	7, A. M.
Friday,	1, P. M.
Saturday,	1, P. M.

The Stage Books will be kept at Jackson's Hotel, Fredericton, and Mrs. Grover's, Woodstock. Fare, Fifteen Shillings.

JOHN FROWN.

Fredericton, December 5, 1839

FOR SALE OR LEASE, For One or a Term of Years.

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400 do. do. Gerly Lot.

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POST OFFICE.

Fredericton, March 5, 1840.

List of Letters remaining in Office at this date.

A
Mr. T. or J. Allan, Isaac Albert.

B

Daniel M'Bean, Mr. Babin, Robert Baird, S. Burk, Messrs. Duncan Barber, & Co. (2.) John Beyley, James Barrett, Thomas Banks, Duncan Buchanan, A. Barten, J. W. Barker, George Bean.

C

Thomas Camber, Edward Caldwell, Richard Carman, (2.) Owen Conway, Geo. B. Covert, John Campbell, Mary Campbell, John Carson, Wm. Clapperton, James Coy, Enock Currier.

D

Thos. Day, Wm. Dunn, John Denton, Mrs. Doyle, David Daris, Joseph Drapiers.

E

Daniel Easty, Wm. Earle.

F

Bernard Ferney, Wm. Faulkner, Thomas Fuller, A. K. Foster, Wm. Faulkner, Frances, Flanagan, (2.) A. J. Fullerton, James Ferguson.

G

Thos. Gill, Michael Graham, John Gordon, Joseph Graham, Dennis Godfrey, Ichabod Grant, Gilbert Golding, Joseph Gibson, Margaret Gallagher, James Groves, Wm. Goodwin.

H

James Hull, Stephen Hill, Samuel Huston, (2.) Donald Hossack, Edward Hamilton, G. W. Hartt, Alex. Hanning, Timothy Harrington, Michael Harrington, C. L. Hathaway, George Hartt, C. A. Harding.

I & J

Joseph Joynea, H. Ingram, Sophia Jackson, Margaret Jones.

L

Joshua Lewis, Mrs. G. T. Lathman, Andrew Little, M. Latham, Abraham Long, Nathaniel Lock, John Lindsay, A. C. Lowell.

M & Mc.

James M'Gregor, John Murray, (2.) C. Mountain, John N. Gibbon, Rev. J. Mann, (2.) M. Keigen, Ann M'Guier, James M'Mahon, Miles & Smith, (3.) John Murphy, William M'George, John L. Marsh, (2.) Jas. M'Bride, P. M'Sorley, John M. Kiuna, John M'Vey, John M'Canny.

N

Matilda Neill.

O

John O'Brien, Daniel O'Neil, John Osborn,

P

Amos Pickard, Mrs. R. Porter, William Pringle, D. Palmer, Mary Ann Playforth, Charles Paterson, John L. Paterson, John Partley,

Q

Thomas Quigley.

S

Mrs. E. Sloat, Samuel Sharp, Isabell Sharp, David Smith, Hugh Savage, Mary Stevenson, Thomas Sennet, John Swift, Geo. Sutherland, H. Smith, Lactetes Smith, John Lane, Robt. Steward, Stephen Smith.

T

John Temple, Wm. Torrens, Margt. Topping, Miss M. Thompson, John Thompson, Daniel Timmings.

U & V

Wm. Upton, Edward Vincient,

W

Hugh Wiley, Wm. Wilmot, Ellin Winn, B. J. Wheeler, George Wightman, John Wiley, George White, Thos. Wilson, David White, Alex. Wilson, Thos. Woods, John Wilson, E. Wire.

Y

Elias Yerxa.

N. B. Persons asking for any of the above will please say that they are advertised.

W. B. PHAIR, Post Master.

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NOTICE.

IF this should meet the eyes of SETH GRISWOLD and JOHN GRISWOLD, sons of JOHN GRISWOLD, late of Litchfield, in the State of Connecticut, and Grand Nephews of SETH GRISWOLD of Queensbury, in the County of York and Province of New Brunswick, deceased, and if they will come to this Province of New Brunswick, and apply to DAVID M'ROBERTS, IRA INGRAHAM or LEWIS HUESTIS, of the said Parish of Queensbury, Executors of the last Will and Testament of the said SETH GRISWOLD, deceased, they will hear of something to their advantage.

Queensbury, 29th Oct. 1839.

The Editors of the New York Albion or Emigrant, Montreal and Quebec Gazettes, are requested to give the above three insertions in their respective papers, and forward their accounts to this Office for payment.

DEEDS, LEASES,

Bonds and Mortgages.

for sale at this Office.

By Authority.

RETURN of sums which became due at the Crown Land's Office from the 1st December 1839, to the 29th February, 1840, inclusive, for Land, and which have not been paid. Published for the information of the Parties, by order of His Excellency the Lieutenant Governor.

Due.	Name.	County.	Nature of Debt.	Amount.
Dec. 2,	Hamilton, George	Charlotte,	4th Instalment.	£25 0
" 5,	Wetmore, Justus S.	Queen's,	4th ..	30 0 0
" "	Millican, James	St. John,	4th ..	75 0 0
" "	Robinson, George D.	"	4th ..	75 0 0
" 8,	Robinson, Daniel L.	"	4th ..	75 0 0
" 9,	Smith, Thomas	King's,	4th ..	75 0 0
" 10,	M'Carthy, Michael	Northumberland,	4th ..	6 0 0
" "	M'Kim, Robert	Queen's,	4th ..	6 0 0
" 13,	M'Kim, George	"	4th ..	5 0 0
" "	Ruel, Robert	Carleton,	4th ..	5 0 0
" 15,	Ruel, John	St. John,	4th ..	34 10 7½
" "	Kinne, James	"	4th ..	2 8 9
" "	Greaves, Riley	"	4th ..	4 2 6
" "	Farley, Nathaniel	Carleton,	4th ..	5 0 0
" "	Robicheau, John B.	Kent,	4th ..	8 3 1½
" "	Pearce, Robert	Carleton,	4th ..	4 7 6
" "	Cormac, William E.	"	4th ..	6 5 0
" "	Fitzherbert, James	"	4th ..	21 17 6
" "	Matthews, John	St. John,	4th ..	7 10 0
" "	Hogan John	Northumberland,	4th ..	4 2 6
" "	Hunter, William	King's,	4th ..	3 10 0
" "	Sinkler, Finlay	St. John,	4th ..	5 9 4½
" "	Dumaresq, Perry Jr.	Gloucester,	4th ..	10 0 0
" "	Cox, Abraham	Carleton,	4th ..	8 15 0
" "	Maddox, Patrick	Northumberland,	4th ..	4 7 6
" "	Starrett, William	Carleton,	4th ..	7 0 0
" "	Pye, John	Charlotte,	4th ..	4 7 6
" "	Long, John	York,	4th ..	2 9 0
" "	Smith, James	King's,	4th ..	5 0 0
" "	Tunny, James	"	4th ..	6 5 0
" "	Tuff, Richard	St. John,	4th ..	4 2 6
" "	Tippin, Joseph	"	4th ..	2 10 0
" "	Donavan, Timothy	"	4th ..	5 0 0
" "	Downing, Alexander	Carleton,	4th ..	5 0 0
" 16,	Dunlop, James	Kent,	4th ..	7 10 0
" "	Corbit, William	Charlotte,	4th ..	4 7 6
" "	Ellis, Francis	Gloucester,	4th ..	5 5 0
" 17,	M'Elhenny, Thomas	Northumberland,	4th ..	2 3 9
" "	Coglan, John	St. John,	4th ..	5 0 0
" "	Ellis, George	York,	4th ..	4 10 0
" "	Delong, Aaron	St. John,	4th ..	7 10 0
" "	Chaisson, Frederick	Gloucester,	4th ..	7 10 0
" "	Barber, Duncan	Charlotte,	4th ..	1 10 0
" "	Fraser, James, Jr.	"	4th ..	12 10 0
" 19,	Laundrie, Peter	Gloucester,	4th ..	8 15 0
" "	King, Joseph	Charlotte,	4th ..	8 15 0
" "	Godine, Moyes	Gloucester,	4th ..	6 3 9
" "	Fitzgerald, Patrick	Westmorland,	4th ..	2 10 0
" "	Duncan, Andrew	Gloucester,	4th ..	3 15 0
" "	M'Clelland, William	Charlotte,	4th ..	15 0 0
" "	M'Kenzie, John	York,	4th ..	10 0 0
" 20,	M'Quey, Thomas	"	4th ..	17 10 0
" "	Dowd, William	Charlotte,	4th ..	10 0 0
" "	Black, Samuel	Carleton,	4th ..	5 0 0
" "	M'Lawren, Archibald	St. John,	4th ..	3 0 0
" "	M'Millin, Mary	Northumberland,	4th ..	18 2 6
" 21,	M'Curdy, Peter	Charlotte,	4th ..	6 5 0
" "	Broder, James	King's,	4th ..	4 8 6
" 23,	Bedell, William J.	York,	4th ..	7 0 0
" 28,	Hutson, John	Northumberland,	4th ..	357 7 11
" 29,	Mazrall, Lazard	Gloucester,	4th ..	4 7 6
" "	Starrett, William	York,	4th ..	3 15 0
" "	Burns, Peter	Northumberland,	4th ..	2 19 6
" 30,	Hooke, Bridges J.	Sunbury,	4th ..	10 0 0
" 26,	Wright, Caleb	York,	2d ..	21 17 6
Jan. 4,	Smith, Samuel	St. John,	4th ..	12 10 0
" "	DeCantillon, John	Northumberland,	4th ..	9 0 0
" 19,	Burke, Robert	Gloucester,	4th ..	3 2 6
" 20,	Wilson, Martin	Westmorland,	4th ..	5 0 0
" "	Parlee, Abraham	King's,	4th ..	4 2 6
" 21,	M'Laughlin, Daniel	Charlotte,	4th ..	7 10 0
" "	O'Shea, James	Northumberland,	4th ..	4 7 6
" "	Wall, John	Gloucester,	4th ..	4 7 6
" "	Dougherty, Bernard	Westmorland,	4th ..	8 15 0
" 24,	Caruthers, Mathew	Northumberland,	4th ..	2 19 6
" "	Donavan, Florence	St. John,	4th ..	3 15 0
" 25,	Maher, Thomas	Northumberland,	4th ..	7 10 0
" "	Robicheau, Charles	Gloucester,	4th ..	3 15 0
" "	Pratt, James	York,	4th ..	10 16 0
" 26,	Shaw, James	Charlotte,	4th ..	4 10 0
" "	Robinson, Joseph	Gloucester,	4th ..	2 10 0
" "	Pinnette, Marcelle	"	4th ..	4 7 6
" "	Rodgers, Andrew	"	4th ..	6 9 9
" "	M'Brien, William Jr.	Carleton,	4th ..	5 12 6
" "	Stone, Thomas	Charlotte,	4th ..	2 10 0
" "	Cardiff, Edward	Queen's,	4th ..	2 10 0
" 27,	Wilson, John	Northumberland,	4th ..	3 5 0
" "	Pemroy, Joseph Y.	Charlotte,	4th ..	3 14 4½
" "	Clarke, William	"	4th ..	25 0 0
" "	Jepson, Robert	Queen's,	4th ..	7 15 0
" "	Vernon, James	Northumberland,	4th ..	5 19 10½
" "	Killgrace, Noble	Charlotte,	4th ..	3 0 0
" 30,	Christal, John	Queen's,	4th ..	20 12 6
" "	Meny, L'Ange	Kent,	4th ..	3 15 0
" 16,	Watson, George	"	4th ..	3 15 0
" 18,	Ross, James	King's,	4th ..	3 0 0
" 22,	Heafy, James	Charlotte,	3d Instalment.	3 15 0
" "	M'Clusky, James	Carleton,	3d ..	3 15 0
" 23,	Hetherington, Joseph	Sunbury,	3d ..	3 15 0
" 31,	Price, Robert	Charlotte,	3d ..	3 15 0
" 29,	Dowling, William	King's,	3d ..	2 1 3
Feb. 6,	Crosil, William	York,	2d Instalment.	3 15 0
" 8,	Coughlan, Charles	Charlotte,	4th Instalment.	3 10 0
" 10,	Leak, Jacob	Gloucester,	4th ..	3 0 0
" "	Moran, James	King's,	4th ..	4 7 6
" "	Moore, Josephus	St. John,	4th ..	31 5 0
" "	Hayes, James	Charlotte,	4th ..	12 10 0
" 15,	Hill, John	Gloucester,	4th ..	2 10 0
" "	Maille, Firman	York,	4th ..	375 0 0
" "	Bluemortier, Charles G.	Gloucester,	4th ..	3 15 0
" "	Parle, John	Charlotte,	4th ..	2 3 9
" 17,	Boudreaux, Jerome	Gloucester,	4th ..	2 10 0
" "	Eady, William Jr.	"	4th ..	3 13 6
" "	Eady, William	"	4th ..	3 2 6
" "	Eady, John	"	4th ..	3 2 6
" "	Good, Edward	Gloucester,	4th ..	3 2 6
" "	Good, William	"	4th ..	1 17 6
" "	Collis Timothy	"	4th ..	1 17 6
" "	Murphey, Jeremiah	"	4th ..	2 0 7½
" "	Mahoney, Thomas	"	4th ..	3 19 4½
" "	Dailey, Joseph	"	4th ..	4 6 3
" "	Caro, John	"	4th ..	3 2 6
" "	Smith, James	"	4th ..	2 10 0
" "	Smith, John	"	4th ..	3 2 6
" "	Kerr, Gavin	"	4th ..	3 2 6
" 20,	Smith, William	"	4th ..	5 0 0
" 8,	Marshall, Joseph	"	4th ..	4 7 6
" "	Marshall, John	King's,	3d Instalment.	3 15 0
" "	Waters, Patrick	"	3d ..	3 15 0
" 19,	White, Robert	Charlotte,	3d ..	3 15 0
" "	Manning, Robert	King's,	2d Instalment.	3 15 0
" "	Avery, Peter	"	2d ..	3 15 0
" 1,	Melvin, John	"	2d ..	3 15 0
" "	"	York,	4th Instalment.	9 2 0