

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

SECTION OF THE COUNTRY BETWEEN THE
MOUTH OF THE MAGAGUADAVIC AND THE
OROMOTO.

Having thus made a section of the primary and transition rocks lying between Saint John and the great coal field of the Province, my labours were next devoted to explore a similar line from the Atlantic coast towards the same point, and by which a perfect section across the Province was completed, as the remainder of the line had been explored in the summer of 1837.

The trap rocks at the village of Magaguadavic continue to within a short distance of the "Upper Falls." The red felspar variety forms most of the precipitous mountains on each side of the valley where the river passes. To the distance of eight miles from the village the stream runs through a rich tract of interval, with fine farms on each side. But the high lands in general are barren, and the decomposition of the naked rock is too slow to allow a soil to accumulate to any depth, and the torrents of rain descending with great violence upon the mountains, wash away each particle as soon as it is liberated by other causes.

At the "Upper Mills," the river passes over a considerable fall, and nine saws are kept in motion on the side of a steep cliff, which is one of a series of steps from the sea to the lakes of the more elevated region. The soil at this place is composed of a fine sand, derived from the granite situated to the north; it contains grains of felspar still undecomposed. Between this place and a new village, fifteen miles farther northward, there is a large tract of low, level land; the country then becomes exceedingly mountainous, and exhibits the characteristic features of a granitic district; and it is remarkable that here the lower land is almost barren, while the higher grounds, although situated on the same rock, are covered with fine forest timber. I travelled some distance along the banks of the Pishegan, and found the slate mixed with boulders of other rocks, but did not observe it *in situ* as I had anticipated. The season having been dry, this branch of the Magaguadavic, and other river channels, present a singular appearance, and show to some extent how solid rocks become worn away by running water. Frequently the solid granite has become excavated to the depth of thirty feet, and to a distance on the surface of twenty miles into the wilderness, where each water channel is overhung with the thick foliage of the forest. Deep groves have been cut by the water collected in times of freshet, but at drier seasons of the year, their beds are travelled by the lumberman and his team.

About fifty miles above the entrance of the Magaguadavic, and fifteen from the 'last house,' as it is called, lofty mountains of granitic and trappean rocks rise side by side. Among these bold and declivous hills, Mount Pleasant reaches a greater altitude than any other eminence in this part of the country. I regret that I had not the means of ascertaining, correctly, its exact height, for it is impossible, even with the best barometers, to make accurate calculations when they are carried unsteadily over hills and valleys, when the temperature and density of the atmosphere is constantly changing, and often in this climate becomes materially affected during the time required to ascend any considerable tract of country. According to the best calculations I could make, it is thirteen hundred feet above the level of the ocean. By climbing a tall spruce on the summit of the mountain, the Bay of Fundy, and the settlements along the shore may be seen distinctly, and the eye having wandered over the uninhabited desert, can discover the smoke of the steamboats on the river of Saint John.

Still farther northward, there is a range of hills composed principally of porphyry. Its base is red felspar, and contains imbedded crystals of quartz. This rock if cut and polished would be very beautiful.

After leaving these plutonic mountains of eruptive rocks, the slate and inferior rocks of the carboniferous group, were expected to be found in place; but as it is frequently the case, they are absent, and their places seem to be supplied by the porphyry. The old red sandstone was however found on the banks of Skin Creek, a small branch of the Oromoto. The sandstone probably meets the porphyry, but the surface is so deeply covered with vegetable rubbish and stony detritus, that it is impossible to lay down, on the geological map, the exact boundaries of each of these formations. The slate and carboniferous limestone may appear at some future day, when the dense forest is removed, and villages of settlers spring up and occupy the valleys now only visited by the hardy lumberman, and tenanted by herds of deer, still remaining, and by their fleetness escaping the destroying hand of man.

From Skin Creek to Mr. HART'S Mills, the distance is seven miles, and the rocks are the conglomerates and sandstones of the coal measures. From this place to the entrance of the Magaguadavic, the distance is about fifty-six miles, and to the mouth of the Oromoto is twenty miles, making the whole distance, by the route taken, between these two points, seventy-six miles. The remaining part of this section of the Province, as was before observed, was made in 1837. The rocks were examined from the Oromoto, along the Grand Lake and Salmon River, to the Richibucto, a distance of one hundred miles, making the whole line of section one hundred and seventy miles.

At Mr. HART'S Mills, much to the credit of the proprietor, the conglomerate has been excavated, to allow the salmon, and shew to pass up the stream, where they deposit their ova. I here found the trunks and branches of fossil trees imbedded in the solid rock. Coniferous, or those belonging to the pine and fir tribes, are most abundant, and may be procured in pieces of large dimensions. One species of the *calamita* was procured, and of a size far exceeding any of the present growth. These

fossils, or petrifications, as they were formerly called, are surrounded by a coating of coal, which has resulted from the original bark of the plant. The woody part is converted into carbonaceous matter, calcareous spar, and iron pyrites: but notwithstanding the remarkable changes they have been submitted to, and the conversation of vegetable into mineral substances, the fibrous texture of the plant is still discernable, and under the microscope displays the most regularity and beauty. The inhabitants suppose that all these fossils were formerly birch and maple; but they do not belong to any species of trees now found in the forests of North America.

Similar fossils, and many other varieties, are common throughout the rocks belonging to the great Coal District of the Province.

The banks of the north branch of the Oromoto, are composed altogether of sandstones, shale, and conglomerate, abounding in the remains of plants which flourished upon the earth, previous to the revolutions that changed the climate and all its animal and vegetable productions.

Ten miles up this stream there is an outcropping of coal, the vein is only four inches thick, and appears in the banks of the river between strata of bituminous shale, where fossil remains are abundant. That there are thick beds of coal beneath, there can be no doubt, and the time is rapidly advancing, when the fuel now concealed in the rocky strata of New Brunswick, will be required to meet a demand that must continue to increase on the whole coast of America.

From the bridge to the mouth of the main stream, all the rocks belonging to the coal measures already mentioned. The river runs along a broad tract of fine interval. The uplands are light and sandy. Formerly the large area situated at the base of the mountains, was covered with extensive forests of pine timber. These have been destroyed by fire, and the lofty trees now stand leafless, decayed, and ready to fall to the ground. A light and stunted growth of birch and alder is succeeding them. Thus the country has suffered an irreparable loss, and much of its original beauty has faded before the devouring element.

Each portion of the uninhabited districts is carefully searched by the enterprising lumberman, and parties from the settlements along the Saint John now meet those from the shores of the Bay of Fundy, in the wilderness. Almost ever rivulet has been cleared to "drive" the logs down to the mills. Stitches were observed in the centre of the forest, and the expense of procuring lumber for the English market is yearly increasing.

In the rocks between the Magaguadavic and the Saint John, no minerals of any importance were discovered, except the coal, which will be noticed hereafter. Although the porphyry may at some future day be required to ornament the dwellings of the wealthy, its distance from navigation, and the infant state of the country, render it useless in regard to its application to architecture.

Eastward of the head of the Oromoto, the slate appears; and is succeeded, occasionally, by the old red sandstone, and carboniferous limestone, dipping beneath that part of the coal field, which is situated on the south side of the Saint John. These formations do not always appear at the surface, as they are often covered by large tracts of sand, and gravel. They were, however, discovered at such a number of distinct points, as enabled me to recognize the boundaries of this part of the great coal district of the country.

IRON ORE.

About six miles north east of HARDING'S Inn, on the Nerepis Road, the slate was again seen, with its strata placed perpendicular, and running east north east. Near the church a specimen had been found which was supposed to be coal; upon examination it proved to be the hydrate of iron, and from being attached to pieces of argillaceous slate, I was led to suppose that large quantities might be found, by a careful examination of the schistose rock.

The first indications of the ore, were observed about half a mile eastward of the church. At Coot Hill, a considerable quantity had been dug from the side of a steep slope, to repair the road: and it was afterwards pursued in an easterly direction, to the distance of two miles. But the superficial deposits sometimes placed above it, and the covering of vegetable matter laid in the trackless forest, were obstacles not to be overcome, without incurring an expense not justifiable under all the circumstances; and, therefore, my object to follow the deposit to the main river was frustrated, although I had the satisfaction afterwards of finding the best indications of its existence, near the Saint John, where its transportation would be attended with but little expense. The ore is situated between the strata of argillaceous slate. It is sometimes rendered magnetic, by the heat which it has evidently received from the eruption of the trap dikes; and it is curious to observe at such places, how the magnetic needle becomes affected.

I was unable to ascertain the exact width of this bed, on account of the collections of detritus always covering a part of the baset. Its thickness was uncovered at one place to the distance of twenty yards, and at another no less than sixty yards. It doubtless exceeds the largest of ordinary deposits of this kind, and would supply the whole of America with iron for many ages. Being exposed on the surface, it can be quarried like freestone, and its removal and use are rendered easy on account of its slaty structure, which allows it to be broken up with the greatest facility. Three varieties of the ore were found, namely, the hydrate of iron, argillaceous oxide of iron, and hematite; upon an average they will yield forty per cent, of pure iron, a richness seldom possessed by the ores extensively worked in England. Every advantage is afforded for manufacturing the iron of this bed. It runs through a forest of hard wood, that will supply an abundance of charcoal; and limestone was afterwards found, suitable for a flux, within a short distance of its range. But should there be no enterprise to erect furnaces, for the smelting of iron, the time has arrived when it will yield a profit by being shipped to England, and the United States. Its proximity to the navigable Saint John, and the sea, are objects of the highest importance,

and many years will not pass away, before it will meet the demand now supplied by other countries. The value of such a discovery, although by no means completed, is too obvious to require a remark.

Four miles northward of the Church, the strata belonging to the coal measures were found overlying the slate, and they continue thence to Gagetown, a distance of about fourteen miles.

I carefully examined the rocks from Gagetown to Oknabog Lake: they are all sandstones and shales of the coal measures, and contain numerous remains, and impressions of plants that have long since ceased to flourish on the earth; and wherever their nearest types have been found, they are situated beneath a tropical sun. But before I proceeded to notice the indications of coal in this district, it will be proper to take a view of the underlying rocks, as a more general description can be applied to their superincumbent strata.

SECTION OF THE ROCKS FROM THE COAL MEASURES TO THE GRANITE.

CARBONIFEROUS LIMESTONE.

About a mile southward of the Oknabog Lake, and on the road leading along the west side of the river, I was much gratified to discover, again, the outcropping of the old mountain, or carboniferous limestone. This formation reaches away in a south west direction, and on the opposite side of the river makes a gentle curve from E. N. E. to S. E. It is not thick where the river intersects its strata, but widens considerably, farther west. Immediately upon this rock, the millstone grit, and the lower members of the coal measures repose. The limestone is crystalline, and will afford marble capable of receiving a high polish. Its colours are white, grayish white, and dark brown; it contains a large quantity of the carbonate of lime—may be calcined by a moderate heat, and therefore its discovery in this part of the country will be extremely useful to its agriculturists. This rock abounds in the remains of marine animals; among them are the ammonite, ennerite, and trilobite. The ostrea, mya, and arca, are common. These with several other species of shells, are not only beautifully figured on the rocks, but frequently the solid models of their originals may be procured in the softer parts of the strata. Frequently the places once occupied by the fleshy parts of these animals, are filled with crystals of calcareous spar, which are covered with the original shell, also converted into the carbonate of lime. But it may appear more extraordinary, that among all these shells, not one belongs to species now inhabiting the earth; nor do they agree exactly with races found in the same rocks in Europe. That period in the earth's history when any of these tribes were animated, has passed away, and other species fitted to the present condition and climate of the country, have succeeded them.

OLD RED SANDSTONE.

Immediately to the southward, and in contact with the carboniferous limestone, appears the old red sandstone, with its strata dipping northward, beneath the superincumbent calcareous rock. This sandstone is of a dull brick red color,—is composed of coarse silicious sand, pebbles, with mica and clay slate, firmly cemented together. On the farm of Mr. GILBERT, it has been broken through by a dike, and changes have been effected similar to those noticed in the beginning of this report. The formation extends four miles along the road to Little River, where in its turn it overlies the slate.

Both the limestone and old red sandstone, rise to considerable altitude, and form large oval hills. The soil upon them is very fertile, and they bear the same general character of similar formations in Europe.

ARGILLACEOUS SLATE.

At Little River, the strata of this formation dip beneath the sandstone, which conforms to its inclination. From that place it extends to the southward three miles, where it is met by the granite of the primary mountain chain. Its strata in general are argillaceous, except where they approach the granite, and pass into mica slate. Indications of the existence of the iron ore, before mentioned, were found near the river, where a large quantity of the oxide of iron has been washed by rains from the side of a hill.

Excellent roofing slate may be quarried near the road crossing this formation; at several situations it was examined, and the strata were often found admirably adapted for covering buildings. On the surface, the slate has been much broken by the frost, but by removing the fractured crust, to the depth of a few feet, the rock assumes its true character, and is capable of being split into pieces of the ordinary thickness. It is to be hoped that the attention of enterprising individuals will be directed to the use of this domestic slate, which, if carefully explored and properly worked, will equal in value any hitherto imported from Wales.

* It has not been considered proper in the present report, to give a minute description of these fossil shells; a more detailed account of them may yet appear in a work not altogether devoted to the mineral resources of the Province.

CONSIGNMENT.

THE Subscriber has just received by the latest Steamers, a large quantity of TEAS; consisting of Gunpowder, Hyson, Twanky Young Hyson, Souchong, Congo of different kinds, and Bohea, part of the Clifton's and part of the Hon. East India Company's Teas, comprising an excellent assortment for family, use or Retailers.

Also—Very superior WINES, Bottled in Cases and Barrels: put up for the Mess of the 65th Regiment.
Best Golden SHERRY, Best L. P. MADIERA, Old CLARET, Old PORT, and Pale BRANDY.

One Bale 7, 9 and 10-4 BLANKETS; an assortment of FURS, consisting of Caps, Mitts, Boas, &c.
Likewise on hand—Lisbon and Sherry Wine. Bottled in Barrels, best Cognac BRANDY in wood, best Government Manilla SEGARS, with a variety of other articles.

MARK NEEDHAM.
Fredericton, Nov. 13, 1838.—tf.

FOR SALE.
A neat and commodious COTTAGE, at present occupied by the Rev. Dr. SOMERVILLE, consisting of Drawing Room, Dining Room, Breakfast Room, large Pantry and Kitchen on first floor; on the second are two large Bedrooms, to one of which is attached a Dressing Room, or if required, a small Library with shelves. In the Bedroom is a Clothes Press and open Fire place; in the Dressing Room is a Stove; one other large Bedroom is heated by pipes from the Hall Stove, as also a smaller room on the same floor. Servants' room, with access from the Kitchen. An excellent Well under cover in a porch adjoining the House. A good Cellar the length and breadth of the House, with double windows. The out-houses are as follows, viz: A large Closet plastered and shelved for holding fresh meat in winter, another built Closet for holding saddles, bridles, &c. &c. Barn with double floor, wood-house sufficiently large to contain 12 or 14 cords of wood. Stable for 2 horses, hay loft above all three buildings that will hold 4 or 5 tons of hay. These all in good order, the greater part having been built two years ago. A large Garden well stocked with fruit trees, and in excellent order.
Fredericton, 16th Feb. 1839.

NOTICE.

ALL Persons indebted to the Rev. Dr. SOMERVILLE, are hereby notified to make payment of the same, on or before the 1st day of May next; and all those who may have any just demands against him, are hereby requested to present them for payment.
Fredericton, 16th Feb. 1839.

THE Subscriber intending to bring his business in this Town, to a close, respectfully requests those indebted to him to make payment of their accounts immediately; and those to whom he is indebted are requested to present their accounts for settlement.
GEORGE WHITE.
Fredericton, February 12, 1839.

CENTRAL BANK STOCK.
SEVERAL Shares in the above Bank for Sale, enquire at this Office.
Fredericton, 19th March, 1839.

NOTICE.

ALL persons, Inhabitants of the Parish of Fredericton, and also non-residents and their Agents, liable to be taxed for Rates, are hereby requested forthwith to give in a statement of their Real and Personal Property "if they shall think fit," to either of the Subscribers, Assessors for said Parish.
THOMAS STEWART, } Assessors.
ASA COY, }
MARK NEEDHAM, }
Fredericton, 18th March, 1839.

FOR SALE.

And possession given the 1st May next.
THE HOUSE occupied by the Subscriber, situate in King Street, nearly opposite the dwelling House of Mr. JOHN L. MARSH. The premises may be viewed at any time, and further particulars made known, on application to
GEORGE WHITE.
Fredericton, Feb. 12, 1839.

FOR SALE.

And possession given immediately.
THE Premises lately occupied by the Paymaster of the 65th Regt. situated at the upper end of King's Street, comprising four Town Lots, has convenient out Buildings, and a good Garden.
If the above Property is not disposed of at Private Sale by the 20th of April next, it will then be offered at Public Auction.
J. A. MACLAUCHLAN.
Fredericton, March 6, 1839.

NOTICE.

ALL persons having any legal demands against the Estate of JOHN GARDEN late of the Parish of Sheffield, County of Sunbury, deceased, are requested to present their accounts, duly attested, within three Calendar Months from this date to the undersigned, and all persons indebted to said Estate are required to make immediate payment to
JOANNA T. GARDEN,
Administratrix.
Parish of Sheffield, County of Sunbury,
March 9, 1839.

NOTICE.

ALL Persons who have any demands against the Estate of the late HENRY GEORGE CLOPPER, Esquire, deceased, will render accounts thereof, within six months from this date, at the Office of JOSEPH BEEK, Esquire, in Fredericton; and those who are indebted to the said Estate, will make immediate payment to the said JOSEPH BEEK who is authorised to settle and give discharge, therefor.
Dated at Fredericton, the 19th day of December, 1838.
MARY ANN CLOPPER, } Ex'rs
RICHARD KETCHUM, }

WANTED.

AN Experienced COOK, either Male or Female, can get a situation by applying at Jackson's Hotel; the wages will be high, but none need apply without a satisfactory character.
H. JACKSON.
Fredericton, 19th March, 1839.

LOST.

ON Thursday last W. N. ACKERLY'S note, in favour of, and endorsed by SAMUEL ACKERLY, dated 31st October, 1838, and payable three months after date, for £26 8s. 6d. There is an indorsement on said note of £13 1s. 3d. made on the 30th January last; all persons are hereby cautioned against purchasing said note, as the payment thereof has been stopped; and any person finding the same and leaving it at the Store of SPAFFORD BARKER, will be rewarded.
WILLIAM HAMMOND.
Fredericton, March 18, 1839.—3w.

POST OFFICE. Fredericton, March 5, 1839.

List of Letters remaining in Office at this date.

A
James Armstrong, John Anderson, Albert Adams.

B
John Bone, Jean B. Babbin, (2.) C. Brown, (4.) Chas. Bailie, R. Bouchier, Jas. or Robt. Burnett, Margaret Burke, Walter Britt, Elizabeth Banks.

C
John Cambridge, (2.) Wm. Chambours, S. Carman, (4.) J. Cashman, E. Curren, Dan. Currie, Wm. A. Crosby, N. Cousins, Patrick Campbell, Mrs. E. Coy, C. Connolly, M. Currier, John Carter, Wm. Chalmers, Denison Cox, Mary Crawshaw.

D
Mary Depole, Robt. B. Dickey, James De Veber, John W. Dow, Alex. Donald, Junr. E. Drummond, Wm. Duffus, Asa Dow, Joseph Dunphy, Wm. Duffus, John E. Dow.

E
Fras. Evans, James Elliot.

F
W. Furbish, Dan. Ford, Mary Farrelly, Toner, Francis, Eli Frost, R. Ferguson, Jno. Feemy, Mr. Fross.

G
E. S. Goff, Maria Good, Aza Gould, James Grass, Lerr. Grant, W. A. Garrison, Pat. Golar, Daniel Goodwin, David Goggin, Ben. Good, George Gavrity, Benjamin Glasier, John Grimman, John Gray, Capt. J. Grant, Philip Gaynon, Seth Greswold.

H
Mary Hare, J. W. Hartt, J. Harding, J. R. Hea, Mrs. Hook, G. Henderson, J. Hitchings, G. T. Harden, Tos. Horbet, G. Henderson, Ben. Hanson, Thos. Herbert, Richard Hartt, Jeremiah Haley.

J & K
Andre Joulie, John Jarvis, Robt. Kilburn, Fris. Kilburn, Thos. Kay, Jane Kilburn, Sarah F. Kilburn, Jas. Keoln.

L
A. Long, E. Lunt, A. C. Lowell, John Leslie, (2.) A. C. Lowell, G. Lemont, John Long, Martha Lewis, G. W. Learitt, Wm. Long, Robt. Lilly, J. B. Labin, Jno. Long, Enoch Lunt.

M & Mc.
William Monaghan, (2.) Joseph Moor, Martin Corran, Geo. Morrell, E. Meaghen, T. Murray, Thos. M'Gouldale, Mrs. Manson, F. M'Linche, Anthony A. Mannell, James M'Lauchlin, James Moore, Cathrine M'Laughlin, John M'Connell, R. Miller, Mandy M'Monagle, H. St. George O'Maley, A. M'Dugal, Joseph Moore, Thos. Moore, W. M'Kenzie, Jas. M'Cafferty, John M'Peen, A. M'Ray, C. M'Kenley, Colin M'Kay, Wm. M'Addam, M. M'Elhinney, W. Monagan, D. M'Pherson, Peter M'Guire, John M'Donald, David M'Donald, David M'Roberts, A. M'Donald, Mrs. M'Keen, Bernard Kenna, M. Moore, Mary M'Connell, Fris. Miller, H. S. Miller.

N
Mrs. W. D. Nash, Jno. Nicholson, S. Nicholson, A. Nevers, Thos. L. Nicholson, C. Nevers, Danl. Ramsay.

O
John Oliver, P. O'Neil, (2.)

P
M. Piercy, James Palmer, J. H. Pitsbury, S. Peabody, Fris. Puc, Thos. Parsons, Wm. Pollard, S. Picket, Mrs. S. Peabody, A. Palmer.

R
Edward Riely, Danl. Reed, S. Reely, S. Randall, Mary Anne Reed, John Ross, Mrs. Roy, H. Rowley, James Reid.

S
Messrs. Stone, Hugh Savage, R. Sanborn, A. Shanklin, J. Sutherland, (2.) Dennis Smith, James Stockdale, Gilbert Seely, Rev. W. Smithson, Langly Stephens, Jas. Shortall, Hugh Strawbridge, Moses Sterritt, Herbert Sewell, Mrs. H. W. Smith, Jas. Sutherland, Wm. Salmon.

T
Denis Teirney, Ben. Taylor, Wm. Turner, Jas. Tibbets, Jas. Taylor.

U
Alex. Urquhart.

W
John Williams, James M. Wortman, James Woodman, D. A. Witherow, Jas. Wasson, Nicholas Wheeler, George Wightman, John Whitney, Alex. Wilson, Rebecca Wells, Orsanus Warren, James Wileon, P. Wheelock, D. S. Watson, Henry Walker, Cristoph. Worner, James Wiley, J. Watson, Geo. Warrey, Thos. Withams, Janet G. Wiggins.

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

WM. B. PHAIR, Post Master.

A CARD.

THE Subscriber begs leave to inform the public, that in consequence of his not having sufficient room in his Establishment, or the accommodation of those who generally call on him during the winter season, that he has taken extra apartments only a few yards from his Establishment, and which is now fitted up for that purpose; and trusts by his exertion, to receive a continuance of public patronage.

H. JACKSON.

Jackson's Hotel, Jan. 11, 1839.

THE ROYAL GAZETTE.

TERMS.—Sixteen Shillings per annum, exclusive of postage.

Advertisements not exceeding twelve lines will be inserted for four shillings and sixpence the first, and one shilling and sixpence for each succeeding insertion.

Blank, Handbills, &c. &c. can be struck off at the shortest notice.

AGENTS.

SAINT JOHN,.....Mr. Peter Duff.
SAINT ANDREWS,.....Mr. Wm M'Lean.
DORCHESTER,.....E. B. Chandler, Esq.
SAUBURY,.....R. Scott, Esq.
KINGSTON,.....Asa Davidson, Esq.
HAMPTON,.....Mr. Samuel Hackett.
GAGETOWN,.....Mr. Wm. Bonnell.
SUSSEX VALE,.....J. C. Fain, Esq.
KENT,.....J. W. Weldon, Esq.
NEWCASTLE (Miramichi),.....George Kerr, Esq.
CHATHAM (Miramichi),.....Mr. W. Simpson.
KENT (County of York),.....Geo. Morehouse, Esq.
BATHURST,.....H. Baldwin, Esq.