

Geological Survey Department,

Canada.

HONOURABLE EDGAR DEWDNEY, MINISTER
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1890.

SURFACE GEOLOGY.

1: N.E.

Notation and Geological Colouring.

M 3 (a) Fresh Water Recent Deposits.
M 3 (b) Marine.

M 2 (a) Non-fossiliferous inland deposits.
M 2 (b) Rolling Surface.
M 2 (c) Even Surface. Saccava sand and Leda clay. (Marine fossils).
M 2 (d) Rolling Surface.

M Boulder Clay.
Rolling Surface.

▲▲▲▲▲ Boulders.

●●●●● Gravel.

~~~~~ Kames.

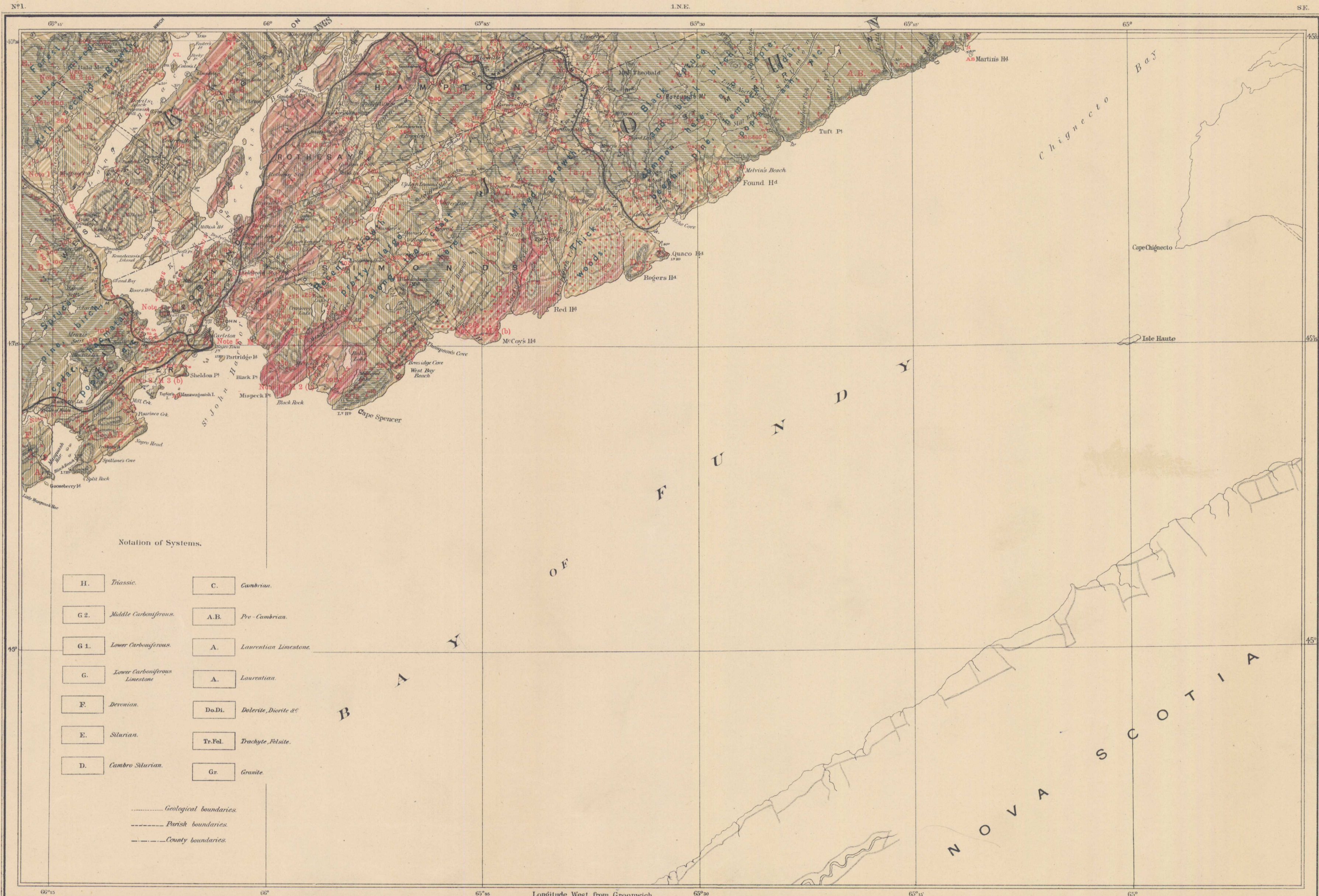
—○— Glacial Stria.

Old growth.  
Recent growth.

Notation of Systems.

|                                   |                                |
|-----------------------------------|--------------------------------|
| H. Triassic.                      | C. Cambrian.                   |
| G 2. Middle Carboniferous.        | A.B. Pre-Cambrian.             |
| G 1. Lower Carboniferous.         | A. Laurentian Limestone.       |
| G. Lower Carboniferous Limestone. | A. Laurentian.                 |
| F. Devonian.                      | Do. Di. Dolerite, Diabase, &c. |
| E. Silurian.                      | Tr. Vol. Trachyte, Felsite.    |
| D. Cambro Silurian.               | Gr. Granite.                   |

..... Geological boundaries.  
- - - - - Parish boundaries.  
- - - - - County boundaries.



NOTE 1. M 3 (a)  
Peat bogs of considerable extent occur in the Parish of Lancaster, also in the vicinity of Miramichi, east of St. John, (Report p. 70 N.) The one at Musquash is described on p. 80 N, and the peat there is now being utilized in the preparation of "moor litter." Smaller bogs were observed in numerous other places, but no use has yet been made of the peat here except at Musquash as stated.  
Lacustrine deposits, such as shell-marl and infusorial earth were noted in this district. The former occurs at Lawlor's Lake, and has been described by G. F. Matthew (Report of Progress 1877-78, p. 84 E E). An extensive bed of infusorial earth was found at Fitzgerald Lake, near Latimore L. St. John county, which is probably 10 feet deep, and covers an area of 60 acres or more, (Report p. 90 N.)

River flats were observed at the mouth of Nerepis River, also along the Kennebecasis River and its affluents. These formations are, however, of limited extent within the area of this sheet, but are nearly all cleared and under cultivation.

NOTE 2. M 3 (b)  
Salt marshes skirt the Musquash River, and are also met with at Taylor's Island, and at Courtenay Bay, east of the City of St. John. These are all dyked and under cultivation and yield large quantities of hay. The Courtenay Bay marsh grows cereals and root crops as well as hay.  
Dunes of sand occur at Courtenay Bay and at Quaco.

NOTE 3. M 2 (a)  
The higher grounds delineated on this sheet like those of Charlotte county, are rugged and boulder-strewn, and large portions are still in a wilderness state. The general character of the deposits is that of rotted rock, or boulder-clay, with the upper portion more or less modified by atmospheric action. From its coarse, gravelly nature, much of the soil is therefore unsuited for agriculture.  
Lake terraces occur at Loch Lomond; and fluvatile gravels, often terraced, are well developed at Ratcliffe's Stream and in other parts of the district. These occasionally form kames.

NOTE 4. M 2 (b)  
The areas below the 220 feet level are covered in many places with coarse gritty debris and gravels, but in other parts the materials have been more finely comminuted and yield a good soil. Marine terraces occur on both sides of the St. John and along the Kennebecasis, also eastward on the coast as at Miramichi, Black River, Quaco, etc. Fossils have been found in the Leda clay and Saccava sands at Sand Cove, Fairville, Lawlor's Lake, Quaco, etc.

NOTE 5. M 1.  
Boulder clay was observed in a number of places, but it is usually overlain by stratified deposits. A well developed exposure of this material occurs at Negrotown Point, just west of St. John harbour, described, p. 24, Geol. Survey Report, Vol. IV. Part N.

The elevations indicated on this sheet were obtained as follows:—those in the vicinity of St. John and in the Loch Lomond district from instrumental levelings made by Wm. Murdoch, G. E.; those in the remainder of the area from aneroid measurements, made by myself, based on railway profiles, and on the meteorological station at St. John, the datum being mean tide level of the Bay of Fundy. The courses of striae are all referred to the true meridian.  
The Report referred to in these notes is An. Rep. Geol. Survey, Vol. IV. 1888-89.

The non-fossiliferous inland deposits are those lying above the 220 foot contour line above sea level.

Compiled and drawn by R. W. Ellis, assisted by Wallace Broad, from Plans made by the Admiralty, Crown Lands and Geological Surveys  
Topography corrected and hill features added by Robert Chalmers 1890.

The Burland Lithographic Co. Montreal  
PROVINCE OF NEW BRUNSWICK  
Nat. Scale, 253,440.  
Scale 4 miles to one inch.  
1 0 5 10 15 Miles  
\* Diops. & Fe. Lam. & Cu. Copper. \* Mn. Manganese. \* Ag. Pb. Argentiferous Galena. Blue cross-bars, Gypsum, © Fossils.

Illustrate Reports by Messrs Bailey, Matthew & Ellis, 1871-79.  
Surface Geology by Robert Chalmers Part V Annual Report, Vol. IV, 1888-89.  
Mineral Occurrences in 1890 by R. W. Ellis, M. A.

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