SURFACE GEOLOGY.

PROVINCE OF NEW BRUNSWICK.

1890.

NOTES

To accompany Sheet No. 1, N.E.

NOTE 1. M 3 (a)

Peat bogs are not so numerous in the area included in this sheet as in St. John and Charlotte counties except, perhaps, upon the Carboniferous plain to the north of Canaan River and Grand Lake. The elevated and broken character of the region in the southern part appears to be unfavourable to their growth. Swampy tracts are, however, common, in which decayed vegetable matter or humus is found, often of considerable thickness.

Lacustrine deposits, consisting of black peaty material, occur around the borders of most of the lakes, and infusorial earth (tripolite) is found in Pollett River Lake, Mechanics' Settlement, and at Pleasant Lake, some miles south of the latter, (see report p. 90 N.) That at Pollett River Lake was analysed by Mr. Hoffmann, (Geo'l. Survey Report of Progress, 1878-79, p. 4 H.)

River-flats (fresh-water alluviums) are extensively developed in King's, Queen's and Sunbury counties, especially in the areas occupied by Carboniferous rocks. Along the Kennebeccasis and its affluents, viz: Millstream, Trout Brook, Smith's Creek, South Branch, etc., they comprise valuable tracts of land. Intervales of greater or less extent also form the bottom of Belleisle Creek valley, but it is along the St. John River in Queen's and Sunbury counties that these formations are exhibited in their widest extent. All the islands and river-borders here are alluvial, and together they comprise a large area of valuable land. They are cropped year after year without the application of any fertilizing material, except such as is supplied from the river floods every spring.

NOTE 2. M 3 (b)

Salt marshes are found at Germantown Lake and along the Petitcodiac River. At the last mentioned place they form a valuable part of the farms adjoining the river. For the production of hay they are superior to all other kinds of soil in the region.

NOTE 3. M 2 (a)

The areas lying above the 220 feet contour line present a varied surface, being elevated, hilly and broken in the southern part of the sheet, and flat and monotonous in the northern. Much of the highland district is boulder-strewn, and the soil often consists largely of coarse gravel and pebbles, with but little finely comminuted material. Upon the Carboniferous area there is a deeper and more sedentary soil, derived chiefly from the underlying strata, and boulders are less abundant. But the general flatness causes swampy or peaty tracts to form in the hollows, or imperfectly drained parts which are thus rendered almost useless for agricultural purposes. Notwithstanding this, much of the area included under this note comprises land of much value to the agriculturist.

NOTE 4. M 2 (b)

The deposits of this class (Leda clay and Saxicava sand) occupy only limited belts along the coast; but in the Petitcodiac and Kennebeccasis valleys, as also in the Belleisle valley, they are quite extensive, and terraces, indicating the upper limit of the submergence, are numerous. Generally speaking, the soil is superior to that of the higher grounds, and large portions of the area are cleared and under cultivation.

No evidence of submergence beneath the sea was observed in the Washademoak or Grand Lake region, although according to existing levels, this and the St. John valley throughout the Carboniferous area should have been invaded by the sea during the Post-Tertiary subsidence. The conclusion reached, therefore, is, either that the St. John valley was closed at a point immediately above the entrance to Belleisle Bay, or that different relative levels of the interior and coastal areas obtained in the period referred to. The deposits occupying these districts are therefore coloured as inland.

NOTE 5. M 1.

The boulder-clay deposits occur in sporadic and lenticular sheets in numerous sections of the area, and are better exposed on the higher ground of the central and southern parts than elsewhere. Usually they exhibit a rolling or hummocky surface, but occasionally form level tracts. They yield a heavy clay soil which, when cleared of boulders, is rich and productive.

Boulder-clay, supposed to have been produced by other agencies than glacier-ice, was observed in the district. The localities and modes of occurrence of this material are described in the report, p. 22 N.

Except the railway levellings, all the elevations noted on this sheet are from aneroid measurements made by myself and W. J. Wilson, the datum being mean tide level of the Bay of Fundy. The courses of strie are referred to the true meridian.

Geological Survey Department,
Canada.

HONOURABLE EDGAR DEWDNEY, MINISTER
ALFRED R.C.SELWYN, C.M.G., LL.D., F.R.S. &c., DIRECTOR.
1890.

SURFACE GEOLOGY.

Notation of Systems.

Notation and Geological Colouring.

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

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

Stratified Deposits: M 2 (a) Non-fossiliferous inland deposits; M 2 (a) Rolling Surface; M 2 (b) Even Surface; M 2 (b) Saxicava sand and Leda clay. (Marine fossils); M 2 (b) Rolling Surface.

M 1. Even Surface. Boulder Clay.
M Rolling Surface.

Boulders.
Gravel.
Kames.
Glacial Strie.

Forest-covered areas: Old growth; Recent growth.

Geological boundaries.
Parish boundaries.
County boundaries.

Compiled and drawn by R.W.Ells, assisted by Wallace Broad, from Plans made by the Admiralty, Crown Lands and Geological Surveys [illegible] added by Robert Chalmers 1890

1 S E.

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

Longitude West from Greenwich.

To illustrate Reports by Messrs Bailey, Matthew & Ells, 1871-79.
Surface Geology by Robert Chalmers Part X Annual Report, Vol. IV. 1888-89
Mineral occurrences to 1890 by R.W. Ingall M.E.