Canada
Department of Mines
HON. SIR JAMES A. LOUGHEED, MINISTER; CHARLES CAMSELL, DEPUTY MINISTER.
GEOLOGICAL SURVEY
W. H. COLLINS, DIRECTOR.

SOILS

Issued 1921

LEGEND

Unconsolidated Rocks upon which soils are developed.		Soils
QUATERNARY	RECENT	Muck and peat — swamp and pond deposits	S10 — Muck and peat. Peat or more in depth. The swamp deposits are generally only from 1 to 3 feet deep, except in the central parts of swamps and, in treeless bogs, large areas can be drained and converted into agricultural land.
		Dune-sand — aeolian deposits	S9 — Dune-sand. soil of little agricultural value.
		Alluvial sand and silt — flood-plain deposits of present streams.	S8 — Fine sand and sandy loam. soil highly productive; areas subject to overflow.
		Beach-sand and gravel — littoral deposits of glacial Lake Agassiz.	S7 — Gravelly sand and coarse sand. soil, in most places deficient in organic matter and easily affected by drought, surface in the form of low ridges.
	PLEISTOCENE	Lacustrine sand, silt and clay, stratified valley-fill, deltas, and Lake-bed deposits of glacial Lake Agassiz; includes some alluvial, flood-plain deposits.	S6 — Fine sand and sandy loam. soil in places deficient in organic matter, not easily affected by drought because of nearness to surface of ground, waterlevel, surface nearly level or gently sloping.
			S5 — Sandy loam. (clay loam subsoil) soil good; surface nearly level or gently sloping.
			S4 — Clay loam and clay. (clay subsoil) soil good, but in places poorly drained; surface nearly level or gently sloping.
		Glacial till or boulder clay and outwash sand and gravel, unstratified drift, in small part stratified deposits of ice-sheets, Wisconsin stage of glaciation.	S3 — Fine sandy loam. (clay loam subsoil) soil good, but stony in places, surface undulating.
			S2 — Stony loam. soil, for the most part too stony for agricultural purposes except for grazing; surface undulating or hilly.
			S1 — Fine sand and sandy loam. soil deficient in organic matter and, easily affected by drought; surface undulating or hilly.
			Bedrock outcrop. (little or no soil covering) areas of low agricultural value; better adapted for forest cultivation.

Symbols

- Terminal moraine areas — surface undulating or hilly.
- Hay marsh
- Glacial striæ
- Soil boundary — approximate
- 1234 — Figures showing elevations in feet above sea-level

Note

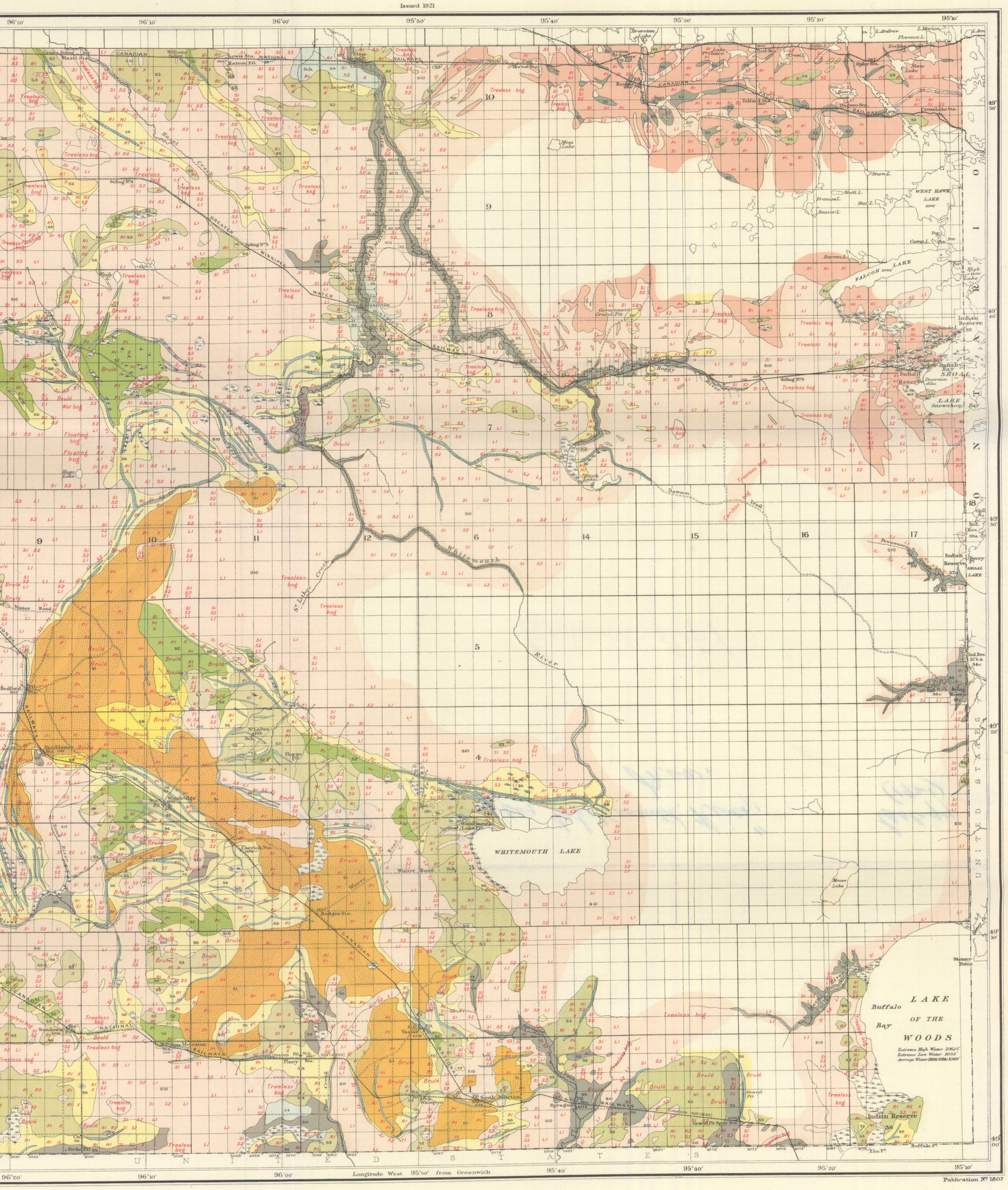
Clay suitable for making bricks occurs in the lacustrine clay and clay loam; sand and gravel for road material, ballast and structural purposes in the beach, sand and lacustrine fine sand; peat for fuel in the deep bogs.

Dia gram
Shewing Subdivision of Townships

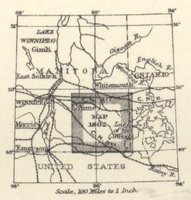
31	32	33	34	35	36	
30	29	28	27	26	25	
19	20	21	22	23	24	
18	17	16	15	14	13	
7	8	9	10	11	12	
6	5	4	3	2	1	

Forest Cover

Pj	Pinus Banksiana	Jack Pine
Sj	Picea canadensis	White Spruce
S2	Picea mariana	Black Spruce
Tl	Thuja occidentalis	Cedar
Ll	Larix laricina	Tamarack
Pt	Populus tremuloides	Aspen Poplar
P2	Populus balsamifera	Balsam Poplar
Nj	Betula papyrifera	Paper-Birch
Mj	Acer Negundo	Manitoba Maple
Pl	Fraxinus pennsylvanica	Green Ash
El	Ulmus americana	White Elm
Z	Alnus	Alder
X	Salix	Willow



C.O. Senécal, *Geographer and Chief Draughtsman.*
A. Braidwood, *Draughtsman.*



UPPER WHITEMOUTH RIVER

(TOWNSHIPS 1 TO 10, RANGES 8 TO 18, EAST OF PRINCIPAL MERIDIAN)

MANITOBA

Scale, 1/250,000
Miles 0 1 2 3 4 5 6 7 8 9 10
Kilometres 0 2 4 6 8 10 12
3 MILES TO 1 INCH

GEOLOGY
W. A. JOHNSTON 1916

Publication No. 1802

To accompany Memoir by W. A. Johnston.