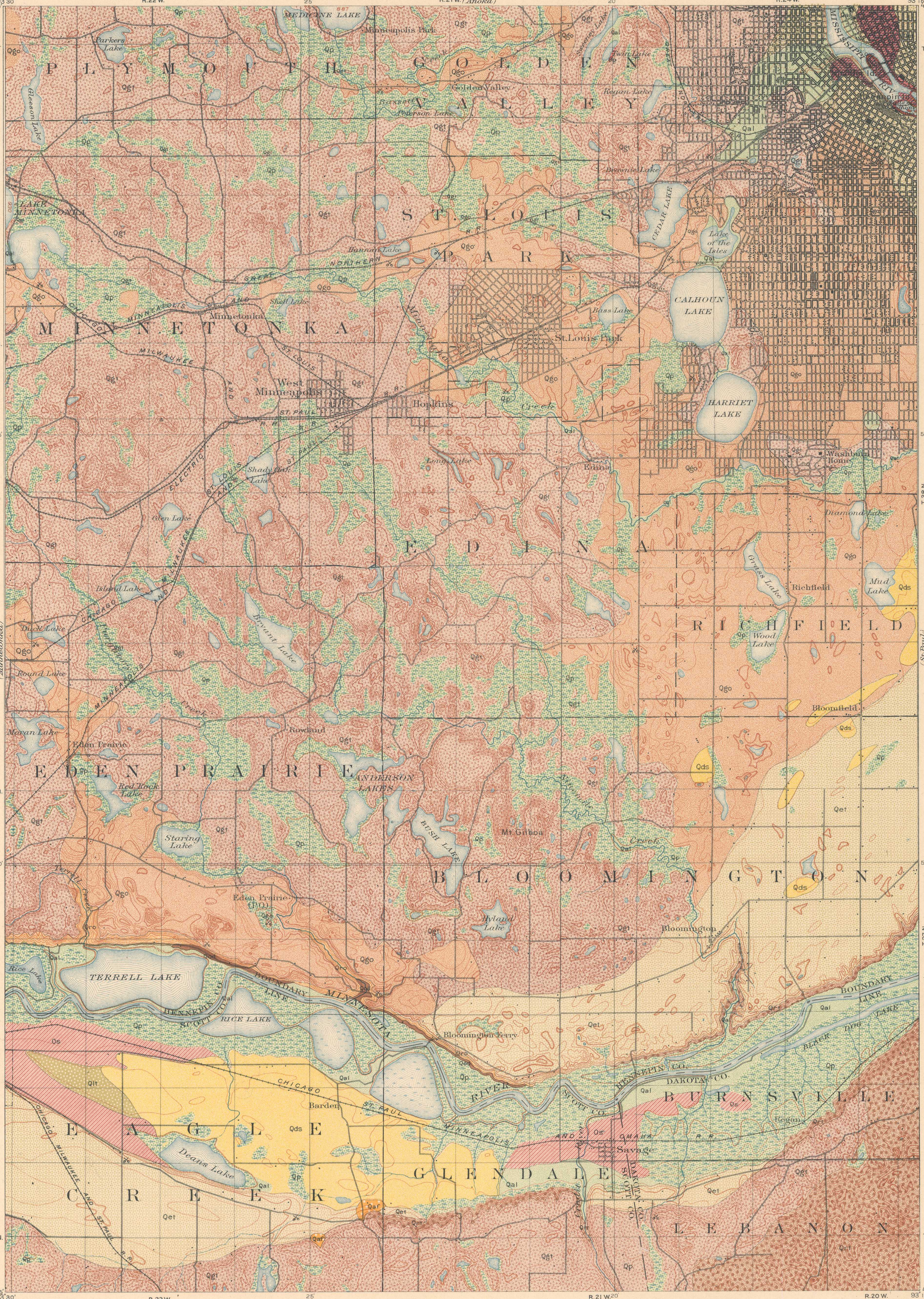
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

AREAL GEOLOGY

MINNESOTA
MINNEAPOLIS SHEET

(Rockford) (White Bear)



93°30'
45°00'
R.22 W.
25'
R.21 W. (Anoka)
20'
R.24 W.
93°15'
T.118 N.
T.29 N.
PLYMOUTH
GOLDEN VALLEY
ST. LOUIS PARK
MINNETONKA
EDINA
RICHFIELD
EDEN PRAIRIE
BLOOMINGTON
EAGLE CREEK
GLENDALE
BURNSVILLE
LEBANON
MEDICINE LAKE
Parkers Lake
Gleeson Lake
LAKE MINNETONKA
Minneapolis Park
Golden Valley
Bassett
Peterson Lake
Twin Lake
Sweeney Lake
Kegan Lake
Brownie Lake
CEDAR LAKE
Lake of the Isles
CALHOUN LAKE
HARRIET LAKE
Bass Lake
St. Louis Park
Hannan Lake
Shell Lake
Minnetonka
West Minneapolis
Hopkins
Edina
Washburn Home
Long Lake
Shady Oak Lake
Glen Lake
Island Lake
Duck Lake
Round Lake
Moran Lake
Eden Prairie
Red Rock Lake
Staring Lake
Bryant Lake
Rowland
ANDERSON LAKES
BUSH LAKE
Mt. Gilboa
Hyland Lake
Diamond Lake
Grass Lake
Richfield
Mud Lake
Wood Lake
Bloomfield
Bloomington
Eden Prairie (P.O.)
Bloomington Ferry
TERRELL LAKE
Rice Lake
RICE LAKE
MINNESOTA RIVER
BOUNDARY LINE
HENNEPIN CO.
SCOTT CO.
DAKOTA CO.
BLACK DOG LAKE
Barden
Deans Lake
Savage
Regan
MISSISSIPPI RIV.
Nicollet Id.
Hennepin Id.
GREAT NORTHERN
CHICAGO MINNEAPOLIS AND ST. PAUL
MILWAUKEE
ST. LOUIS
ST. PAUL R.R.
ELECTRIC
CHICAGO ST. PAUL MINNEAPOLIS AND OMAHA R.R.
CHICAGO MILWAUKEE AND ST. PAUL R.R.
T.117 N.
T.116 N.
T.115 N.
T.28 N.
T.27 N.
55'
50'
(Minnetonka)
(St. Paul)
44°45'
93°30'
R.22 W.
25'
R.21 W. 20'
R.20 W.
93°15'

LEGEND

SEDIMENTARY ROCKS

(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles)

QUATERNARY

Recent

Qp — Peat and muck in marsh land

Qal — Alluvium and lacustrine deposits *(chiefly sand and fine silt)*

Qaf — Alluvial fans *(chiefly gravel and sand)*

Pleistocene — *Wisconsin stage* — *Late Wisconsin*

Qds — Dune sand *(derived from glacial river gravels and outwash from young gray drift)*

Qlt — Later terrace gravels of glacial River Warren *(outlet of glacial Lake Agassiz)*

Glacial Mississippi River channel floor on Platteville limestone *(cut in bedrock during and after deposition of earlier terrace gravels)*

Qet — Earlier terrace gravels of glacial Minnesota and Mississippi rivers *(issued from young gray drift; includes some nearly bare till surfaces and some later wash on terrace slopes)*

Qgo — Gray outwash gravel of the young gray drift

Qgt — Young gray till *(thin sheet, chiefly ground moraine)*

Middle Wisconsin

Qro — Red outwash gravel of the red drift *(red sand and gravel containing few limestone pebbles)*

Qrt — Red till *(red bowlder clay containing few limestone pebbles; chiefly terminal moraine)*

Kansan stage

Qod — Old gray drift *(till and sand)*

ORDOVICIAN

Bedrock deeply covered in most places by glacial deposits

Op — Platteville limestone *(blue to gray limestone, with clay beds at the base)*

Osp — St. Peter sandstone *(very white, friable, quartzose sandstone)*

Os — Shakopee dolomite *(chiefly massive-bedded dolomite with some sandstone)*

⚒ *Quarries*
⚔ *Gravel pits*

Economic data: *Building stone and crushed rock can be obtained from Platteville limestone, and rough stone for ballast from Shakopee dolomite; lime from Shakopee dolomite; clay for common brick and tile from lacustrine deposits, Qal, and red till, Qrt; sand for lime-brick and molding sand from St. Peter sandstone; building sand and gravel for concrete from Qro, and gravel for roads from Qro, Qgo, Qet, and Qlt.*

Much of the area marked Qgt and Qrt is first-class agricultural land; Qal and Qp are good lands when properly drained; Qro, Qgo, Qet, and Qlt are level productive lands with soil of loose texture; Qds and Qaf are undulating lands with dusty sandy soils.

Henry Gannett, Chief Topographer.
Jno. H. Renshawe, Topographer in charge.
Triangulation by U.S. Coast and Geodetic Survey.
Topography by H.L. Baldwin Jr.
Surveyed in 1894.

TRUE NORTH — MAGNETIC NORTH — 8½°
APPROXIMATE MEAN DECLINATION 1915.

Scale $\frac{1}{62500}$

1 ½ 0 1 2 3 4 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level.
Edition of Sept. 1915.

DIAGRAM OF TOWNSHIP

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

Geology by F. W. Sardeson.
Quaternary geology surveyed under supervision of Frank Leverett.
Surveyed in 1911.