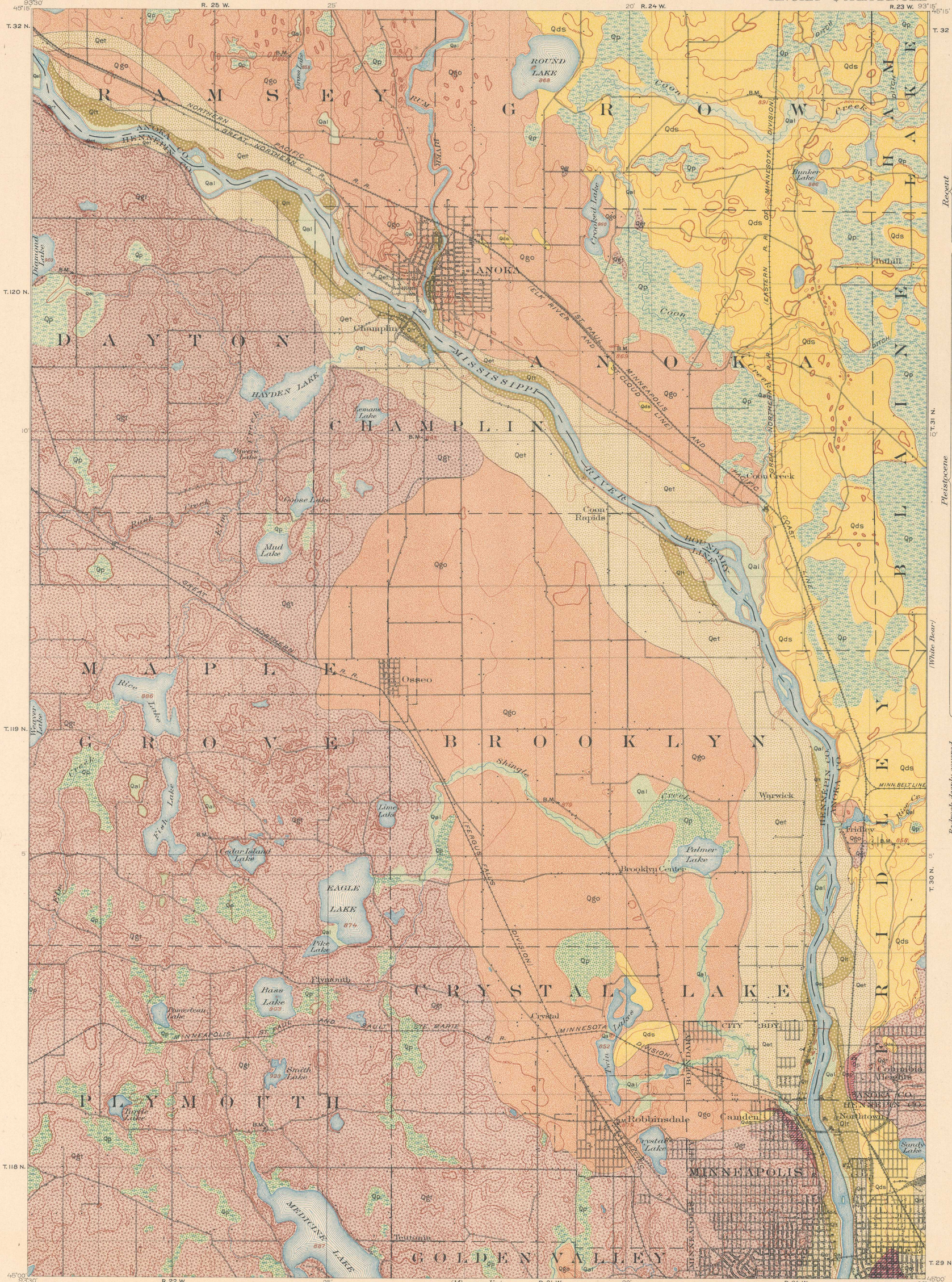
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

AREAL GEOLOGY

MINNESOTA
ANOKA QUADRANGLE



LEGEND

SEDIMENTARY ROCKS

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

Recent

- Qp — Peat and muck in marsh land
- Qal — Alluvium and lacustrine deposits *(chiefly sand and fine silt)*
- Qds — Dune sand *(derived from glacial river gravels and outwash from young gray drift)*
- Qlt — Later terrace gravels of glacial Mississippi River *(deposited during River Warren time)*

Pleistocene — QUATERNARY

Wisconsin stage — Late Wisconsin

- 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 Mississippi River *(issued from young gray drift, includes some nearly bare till surfaces)*
- Qgo — Gray outwash gravel of the young gray drift
- Qgt — Young gray till *(thin sheet, chiefly ground moraine)*

Middle Wisconsin

- Qrt — Red till *(red bowlder clay containing few limestone pebbles)*

Bedrock deeply covered in most places by glacial deposits — ORDOVICIAN

- Op — Platteville limestone *(blue to gray limestone with clay beds at the base)*
- Osp — St. Peter sandstone *(very white, friable, quartzose sandstone)*

⚒ *Quarries*
⚒ *Gravel pits*
⚒ *Clay pits and brickyards*

Economic data.—*Building stone and crushed rock can be obtained from Platteville limestone; clay for common brick and tile from lacustrine deposits Qal; sand for lime-brick and molding sand from St. Peter sandstone; gravel for roads from Qgo, Qet, and Qlt.*

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

Jno. H. Renshawe, Geographer in charge.
Control by Geo. T. Hawkins.
Topography by Wm. H. Griffin.
Surveyed in 1899.

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

APPROXIMATE MEAN DECLINATION 1915.

Scale 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.

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	

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