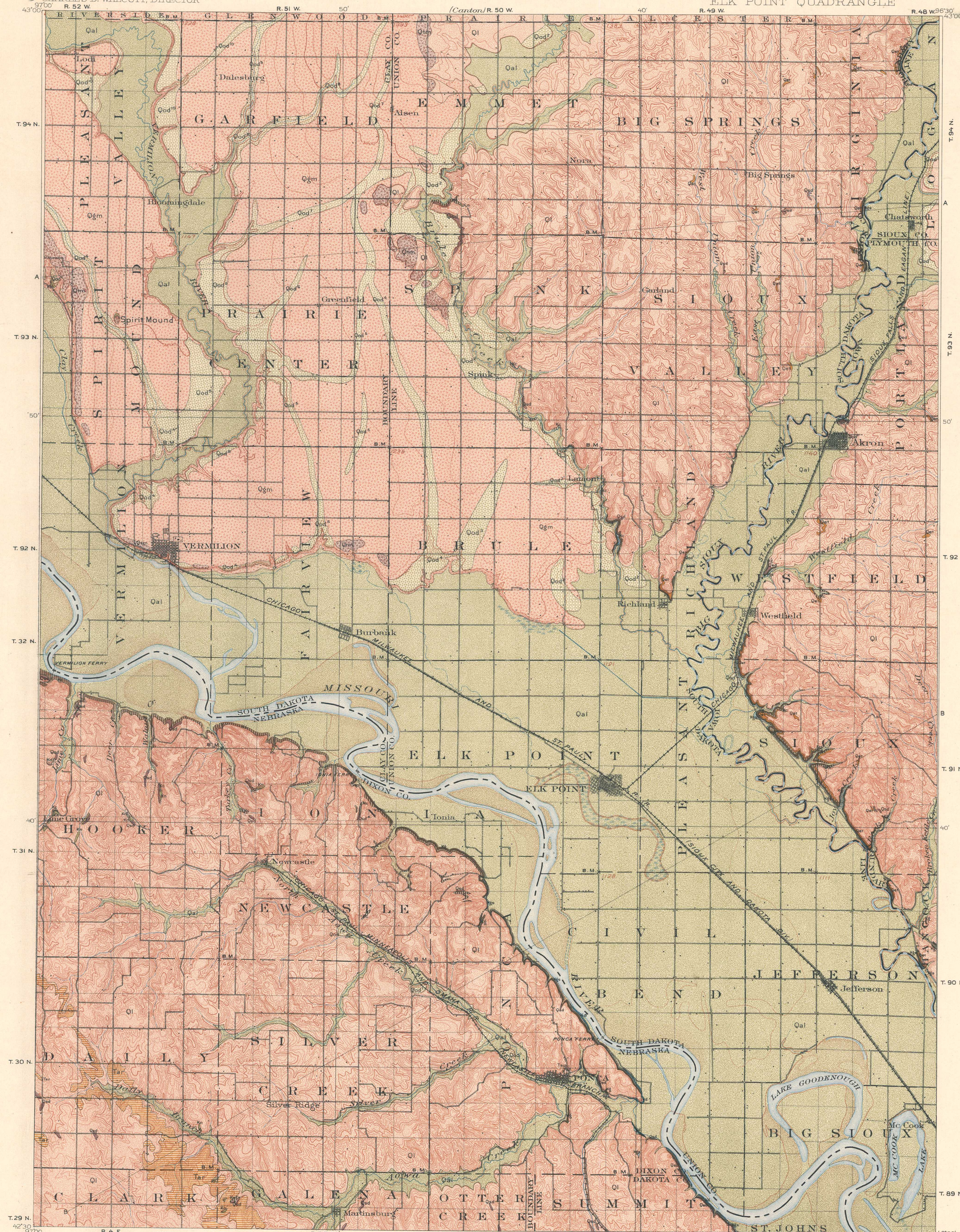


U.S. GEOLOGICAL SURVEY
 CHARLES D. WALCOTT, DIRECTOR

AREAL GEOLOGY

SOUTH DAKOTA-NEBRASKA-IOWA
 ELK POINT QUADRANGLE



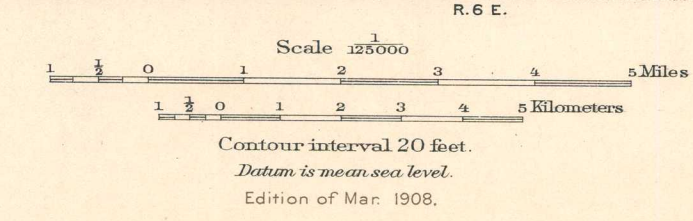
LEGEND

SEDIMENTARY ROCKS

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

- | | | |
|--|--|---|
| <p>Recent</p> <p>Wisconsin Stage</p> <p>Pleistocene</p> <p>Pre-Wisconsin</p> <p>Tertiary</p> <p>Cretaceous</p> | <p>Qal
Alluvium
<i>(only the larger deposits represented)</i></p> <p>Qod
Old stream deposits
<i>(occupying channels of glacial stream channels; slope indicated by numbers)</i></p> <p>Qgm
Altamont terminal moraine
<i>(clay, gravel, and boulders)</i></p> <p>Qgm
Ground moraine
<i>(unstratified clay, sand, gravel, and boulders)</i></p> <p>Ql
Loess
<i>(fine clay, and cemented by lime and iron oxide)</i></p> <p>Qsd
Earlier stratified drift
<i>(sand, gravel, and clay)</i></p> <p>Qst
Earlier glacial till</p> <p>Tar
Arikaree formation?
<i>(sand and silt)</i></p> <p>Kn
Niobrara formation
<i>(cherty limestone and soft gray shale)</i></p> <p>Kc
Carlisle shale
<i>(dark shale containing iron concretions with sandstone near top)</i></p> <p>Kg
Greenhorn limestone
<i>(thin-bedded limestone alternating with blue cherty shale)</i></p> <p>Kgs
Graneros shale
<i>(dark shale containing sandstone and thin seams of lignite coal at base)</i></p> <p>Kd
Dakota sandstone
<i>(light-brown sandstone and shale, with thin beds of lignite)</i></p> | <p>QUATERNARY</p> <p>QUATERNARY</p> <p>TERTIARY</p> <p>TERTIARY</p> <p>CRETACEOUS</p> <p>CRETACEOUS</p> |
|--|--|---|

Jno. H. Renshaw, Geographer in charge.
 Control by Mo. Riv. Commission and Geo. T. Hawkins.
 Mo. Riv. from surveys by Mo. Riv. Commission 1892.
 Topography by Wm. H. Griffin.
 Surveyed in 1898.



Geology by J.E. Todd,
 under the supervision of N.H. Darton.
 Surveyed in 1904.

DIAGRAM OF TOWNSHIP

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