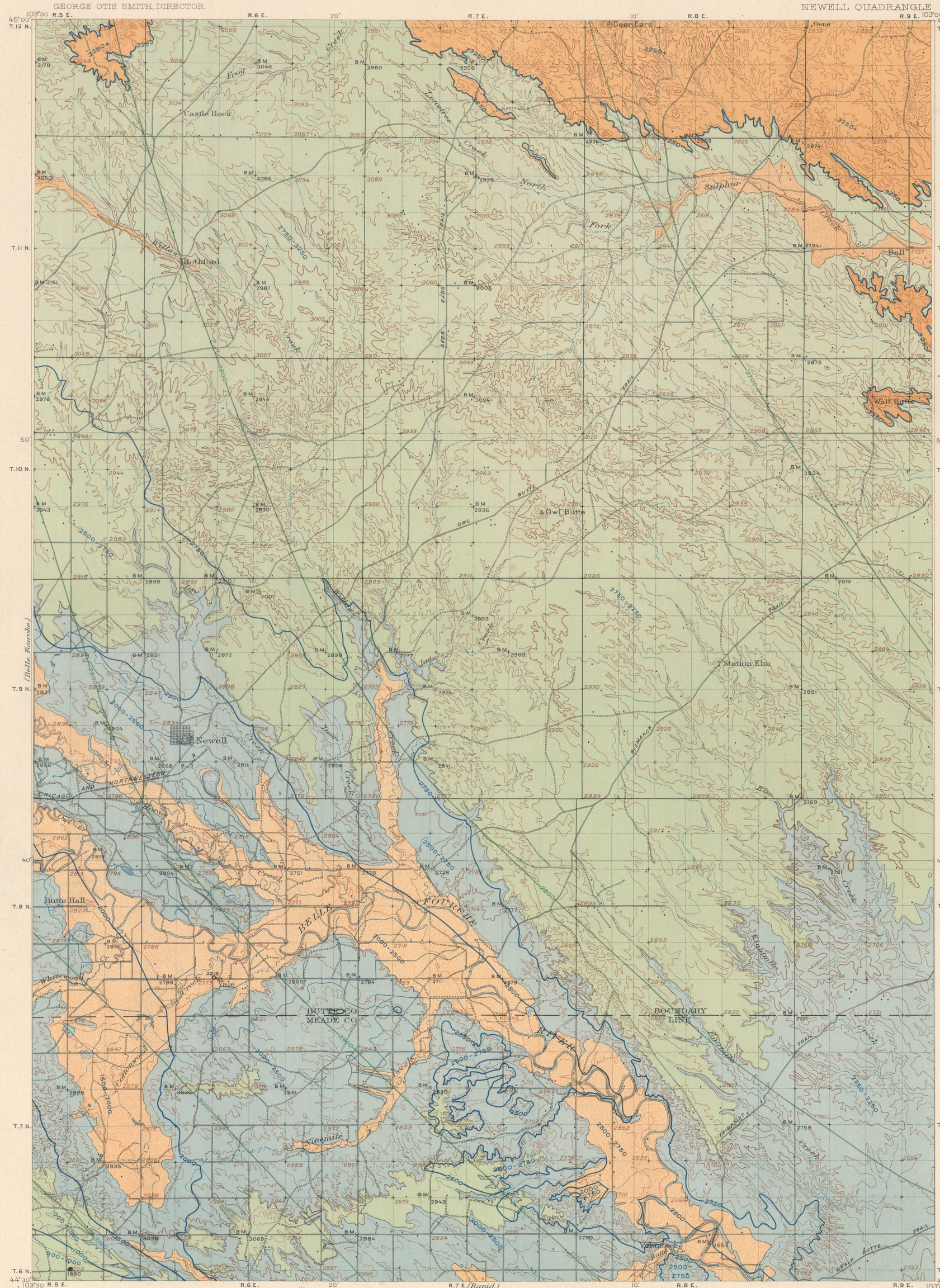
DEPARTMENT OF THE INTERIOR
FRANKLIN K. LANE, SECRETARY
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

ARTESIAN WATER

SOUTH DAKOTA
NEWELL QUADRANGLE



LEGEND

Area in which Dakota and Lakota sandstones will probably yield flowing wells

Area in which Dakota and Lakota sandstones will probably yield pump wells

2500 – 2750 / 2500 – 2750

Depth to Dakota sandstone

(artesian water may be expected in the Dakota and underlying sandstones; volume will be greater and pressure higher in the Lakota sandstone, 150 to 300 feet below the top of Dakota sandstone. The 2750-foot depth line is at base of principal "tepee butte" concretion zone; 2250-foot depth line at base of Fox Hills? sandstone)

Area underlain by Fox Hills? sandstone which in most areas contains water obtainable by pump wells of moderate depth

Area of alluvium which contains water obtainable at most places by wells 5 to 40 feet deep

2800

Artesian head of water in Lakota sandstone

(lines indicate altitude to which the water from Lakota sandstone will rise in wells; water from Dakota sandstone will not rise so high; datum is sea level; interval, 100 feet)

○ 2215 *Flowing well in Dakota sandstone*

Depth in feet

● 1560 *Flowing well in sandstone of the Sundance formation*

Depth in feet

Note: *In areas of flowing wells the artesian head is higher than the surface; in areas of pump wells it is lower than the surface, and the difference in elevation represents the depth to the surface of water in wells that penetrate the Lakota sandstone water horizon. Some artesian water may also be had from sandstone in the Sundance formation about 450 feet below the Lakota sandstone. Water in shallow wells that does not come from alluvial sand or Fox Hills? sandstone is mostly unsatisfactory in amount and quality.*

(Sturgis) 82000

R.B. Marshall, Chief Geographer.
Sledge Tatum, Geographer in charge.
Topography by Glenn S. Smith, C.P. Gross, and H.L. Caldwell, and from Vale sheet.
Irrigation ditches by U.S. Reclamation Service, 1913.
Control by A.F. Dunnington, R.B. Robertson, and H.M. Hadley.
Surveyed in 1904 and 1910.

TRUE NORTH
MAGNETIC NORTH
16°
APPROXIMATE MEAN DECLINATION 1910.

Scale $\frac{1}{125000}$

1 ½ 0 1 2 3 4 5 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 50 feet.
Datum is mean sea level.
Edition of June 1917.

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

Hydrology by N.H. Darton.
Surveyed in 1912.