MAP OF THE WESTERN PART OF SOUTH DAKOTA ADJOINING THE BLACK HILLS

SHOWING ARTESIAN CONDITIONS

By N. H. Darton

Scale 1/250,000

5 0 5 10 Miles

5 0 5 10 Kilometers

Contour interval 100 feet.

Datum is mean sea level.

1918

EXPLANATION

Depth to Dakota sandstone
Artesian water occurs from 5 to 200 feet below top of sandstone

Depth to Minnelusa sandstone, from which artesian flows may be expected in lower lands of northern and east-central parts of the area

Depth to Deadwood sandstone, which contains artesian water probably available in the region adjoining the Black Hills

Approximate area in which water may be expected to flow at the surface	Area in which water will rise within at least 300 feet of the surface		
2500-3000	2500-3000	4000 to 4500 feet	3800+ feet
2000-2500	2000-2500	3500 to 4000 feet	
1500-2000	1500-2000	3000 to 3500 feet	
1000-1500	1000-1500	2500 to 3000 feet	3300 to 3800 feet
500-1000	500-1000	2000 to 2500 feet	2800 to 3300 feet
0-500	0-500	1500 to 2000 feet	2300 to 2800 feet
Kd	Outcrop of Dakota and associated sandstones (*partly covered by permeable Tertiary deposits*)	1200 to 1500 feet	2000 to 2800 feet
	Minnelusa sandstone overlain by shales, limestones, and sandstones	500 to 1200 feet	1400 to 2000 feet
		0 to 500 feet	900 to 1400 feet
Cm	Outcrop of Minnelusa sandstone (*middle water-bearing formation*)		400 to 900 feet (1100 feet locally)
	Deadwood sandstone overlain by limestone 400-700 feet thick		
Cd	Outcrop of Deadwood sandstone (*lowest water-bearing formation*)		
	Crystalline rocks (*not artesian*)		
3100	Contour line showing "head" or approximate altitude above sea level to which the artesian water from Dakota sandstone may rise (*water in lower sandstones has somewhat greater head*)		

- Flowing well reaching Dakota sandstone
- Flowing well reaching Minnelusa sandstone
- Flowing well reaching Deadwood sandstone
- S Flowing well reaching sandstone in Sundance formation
- 470 Figures in red show depth to principal flow
- x Unsuccessful boring
- ⊙ Nonflowing well
- Permanent stream
- Watercourse usually dry in greater part of year

ENGRAVED AND PRINTED BY THE U.S.GEOLOGICAL SURVEY

House Doc. No. , 65th Cong., 2d Sess.