

Bremer

**Pumping Test at Sumner, Iowa
May 21, 1955**

A pumping test was made by George Shawver, drilling contractor, May 21, 1955, on a well drilled for the city. The test was made to determine whether the well would yield a satisfactory amount of water to warrant the city's purchasing it as a standby well. The well could not be finished to the contracted depth because of the loss of equipment in the hole. Another hole at a nearby site will be drilled to the contracted depth. The Geological Survey cooperated in obtaining data on the discharge rate of the well and the pumping level in the well.

The well was pumped at a rate of 109 g.p.m. for one hour before trouble with the switch box stopped the test for a short while. The well was then pumped at the rate of 100 g.p.m. for 4½ hours, then increased to a rate of 150 g.p.m. for another ½ hour.

The data obtained indicates a drawdown of about 190 feet while pumping at the rate of 100 g.p.m. and a drawdown of only 210 feet while pumping at the rate of 150 g.p.m. The difference in the specific capacity at the two different rates of pumping is probably due to the difference in the s.w.l. of 40' measured with the hole open to the upper formations and the probable s.w.l. on the St. Peter-Prairie du Chien section of over 150 feet.

From the data it appears that about 200 g.p.m. could be obtained from the well with a 300 foot pump setting.

**Table 1
Town of Sumner
(1954 well)**

Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25, T. 93 N., R. 11 W.

Present depth: 1120 ft.

Contractor: George Shawver

Date drilled: May 1955 (completed)

Hole and casing data: 16" to 140'; 14" from 130' to 235'; open hole from 235' to 295'; 10" casing from 295' to 410'; open hole from 410' to 620' to 750'; open hole 750' to 1120.'

Water level: Depth to water before pumping was 40.04 ft. below the top of the casing which was approximately 2 $\frac{1}{2}$ ft. above l. s. d.

Test Pump: Electric turbine

Measurements: Water level measurements were made with an electric line. Discharge rate was determined by use of a 4" orifice in a 6" pipe.

Observer: R. Gale McMurtrey

Sumner, Iowa
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Time	Depth to water (ft.)	Temperature (deg. F.)	GPM	Remarks
8:00	40.02			nearby pump running
8:05	40.04			
8:24	40.04			
8:30				pump on
8:36	123.96		132	milky
8:38	156.54		126	
8:40	185.18		121	milky
8:42	209.18		116	
8:44	219.94		111	milky
8:47	226.37		109	milky
8:49	228.08			
8:50	228.59			milky
8:52	229.32			
8:54	229.87			
8:57	230.63			
9:00	230.91			water little clearer
9:02	231.19		107	
9:10	231.53	50°		water more milky
9:15	231.11			
9:20	231.64	50°		
9:26				pump off
9:29	170			
9:30	161			
9:33	150			
9:36	138.9			
9:39	128.8			
9:43	116.17			
9:44				pump on & off
9:48				no water removed
9:49				pump on
9:51			128	
9:54	203.09		104	water cleared
10:00	225.02		104	then turned milky
10:01				pump off (lost packing)
10:10	132			
10:20	108.6			
10:32				line stuck at 100'
10:34	129			pump on
10:35	147.5			
11:04	229.57	50°	102	electric line trouble water milky

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Time	Depth to water (ft.)	Temperature (deg. F.)	GPM	Remarks
11:09	230.15		103	
11:14	230.24		104	
11:20	230.31		102	
11:30	230.12		100	water milky
11:45	230.64		100	
12:00	228.64		99	
12:15	229.20		99	
12:30	228.80		99	water milky
1:00	230.00		102	
1:20	229.10		102	
2:00	227.98	50°	102	sample taken at 2:30
2:55	228.90		102	valve opened
3:05	249.5		150	
3:10	251.6		150	
3:15	251.4	50°	148	
3:20	250.7		148	
3:25	251.6		148	