

Howard

**RESULTS OF PUMPING TEST MADE ON
PROTIVIN TOWN WELL NO. 2
March 3, 1950**

NAME: Town of Protivin No. 2

LOCATION: SW NW SE sec. 13, T. 97 N., R. 11 W., Howard County

CONTRACTOR: Hoeg & Ames, Lincoln, Iowa

DRILLER: Ed Martin

DRILLING DATES: Jan. 2-Mar. 3, 1950

TOTAL DEPTH: 699 ft.

CASING AND HOLE DATA: 16-in. pipe from 1.4-ft. a.l.s. to 41-ft.
10-in. pipe from 1.6-ft. a.l.s. to 294-ft.
8-in. pipe from 491-ft. 6-in. to 622 ft.
6-in. pipe from 615-ft. to 699-ft. T.D.
With slots approximately $\frac{1}{8}$ -in. wide and 10-in long
in bottom 40-ft.

Plans call for hole to be cemented down 16-in.
and 12-in. holes to within 100-ft. of surface,
crushed rock to be placed from 100-ft. to 41-ft.
and cement from 41-ft. to land surface.

TEST PUMP: Turbine, belt driven from tractor. 200-ft. of $3\frac{1}{2}$ -in. column;
11 stages 6-ft. in length, no tailpipe. Base of pump during
test was 2.6 ft. above land-surface.

WATER LEVEL MEASUREMENTS: Reference point for water level measurements
was top of 10-in. pipe 1.6-ft. above land surface.

DISCHARGE MEASUREMENTS: Discharge rate obtained by timing flow of water into
metal tank of known capacity.

TEMPERATURE MEASUREMENTS: The temperature of the water was measured at the
end of 15 feet of 3-in. metal discharge pipe.

REMARKS: Periodic measurements were made on confined water in the space
between the 10-in. pipe and the 12 and 16-in. hole. Observations
and measurements made during test by J. B. Cooper, Geological
Survey, Iowa City, Iowa.

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<u>TIME</u>	<u>DEPTH TO WATER (FT.)</u>	<u>GALLONS PER MINUTE</u>	<u>TEMP. OF</u>	<u>DEPTH TO WATER BETWEEN 10" PIPE & 12 & 16" HOLES</u>	<u>REMARKS</u>
Mar. 3					
11:28 AM	79.25			49.25	
11:30					Pump on
11:31	102.2				
11:31+					Pump off
11:32					Pump on
11:33	100.9				Water muddy
11:34	110.0				
11:35	114.7				
11:36	117.3				
11:37	119.0				
11:38	120.7	210	48		Some sand with water
11:39	121.8				
11:40	122.5				
11:41	123.3				
11:42	124.3				
11:43	125.3				
11:45	126.6				
11:47	128.1				
11:49	129.5				
11:51	130.5				
11:53	131.4				
11:55	132.2				H ₂ S odor
11:57	133.1				Some sand in water
11:59	133.8				
12:01 PM	134.6				
12:03	135.2				
12:05	135.7				Water cloudy gray
12:07	136.3			49.25	
12:09	136.9				
12:13	136.3				
12:14	136.1				
12:16	135.0				
12:18	136.2				
12:20	136.1	202			
12:24	140.0				
12:26	139.2				
12:28	141.1				
12:32	141.6				
12:36	141.6				Measurement using elec-
12:38	142.4				tric line owned by Hoeg
12:38	142.2				& Ames
12:40	142.8				Measurement using elec-
12:43	143.1				tric line owned by Hoeg
12:45	143.5				& Ames

<u>TIME</u>	<u>DEPTH TO WATER (FT.)</u>	<u>GALLONS PER MINUTE</u>	<u>TEMP. °F</u>	<u>DEPTH TO WATER BETWEEN 10" PIPE & 12 & 16" HOLES</u>	<u>REMARKS</u>
12:47	143.7				
12:49	144.0				
12:51	144.3				
12:53	144.3				
12:55	144.5	202			
12:57	144.6				
1:00	144.7				
1:05	145.0				
1:10	145.3				
1:15	145.6				
1:20	146.0				
1:25	146.3				
1:30	146.9				
1:35	147.1				
1:40	147.6				
1:45	148.1				
1:50	148.3				
1:55	148.9				
2:00	149.2				
2:05	149.7				
2:15	149.8				
2:20			48	49.25	
2:30	150.6				
2:35		202			Water fairly clear
2:45	151.8				
3:15	153.5				
3:30	154.3				
3:45	154.7				
4:00	155.1				
4:15	155.6				
4:30	155.6				
4:45	155.8				
4:55			48		Water sample - clear
5:00	156.1				
5:01					Pump off
5:02	108.2				Recovery measurements
5:03	104.2				
5:04	103.1				
5:05	102.3				
5:06	101.7				
5:07	101.1				
5:08	100.6				
5:09	100.1				
5:10	99.7				
5:11	99.3				
5:12	98.9				
5:13	98.5				

(3)

<u>TIME</u>	<u>DEPTH TO WATER (FT.)</u>	<u>GALLONS PER MINUTE</u>	<u>TEMP. OF</u>	<u>DEPTH TO WATER BETWEEN 10" PIPE & 12 & 16" HOLES</u>	<u>REMARKS</u>
5:14	98.3				
5:15	97.9				
5:16	97.6				
5:17	97.4				
5:18	97.2				
5:19	97.0				
5:20	96.7				
5:22	96.4				
5:24	96.0				
5:26	95.5				
5:28	95.2				
5:30	94.9				
5:32	94.6				
5:35	94.2				
5:40	93.5				
5:45	92.9				
5:50	92.4				
6:00	91.4				Pump on well No. 1
6:10	90.5				
6:20	89.75				
6:30	89.00			50.1	
6:35	86.6				
Mar. 4					
7:30 AM	73.5°				Measurement by driller

1440
4320

