

Time	Depth to Water (Feet)	Discharge Rate		Temp.	Remarks
		Orifice Ins.	GPM		
Jan. 29					
1.58 PM	62.24				
Jan. 30					
9.50 AM	62.34				
10.00					Pumping started
10.22	161.28	13	1275		Water muddy
10.57	162.07	15	1375	62	Water muddy (gray)
11.10	163.20	15	1375		
11.19	164.33	15 1/2	1381		Water very cloudy
11.24		16 1/2	1425		
11.25	165.09				
11.30	165.09	16 1/2	1425	61 1/2	Water cloudy
11.34	165.83				
11.43	166.17	16 1/2	1425		
11.52	166.08	16 1/2	1425	61	Water clearing
12.51 PM	166.58	16	1412	61.5	Water cloudy
1.01	166.59	16 1/2	1425		
1.13	167.9	15 3/4	1400		Water cloudy
1.15	168.10				
1.22	168.25	15 3/4	1400		
1.27	167.6				
1.43	167.62			61	Water slightly cloudy. Some sand.
1.53	168.73				
2.05	168.93	15 3/4	1400		
2.15		18	1500		Pumping rate increased
2.18	176.92				
2.24	176.05	17 1/2	1475		
2.34	177.50				
2.41	178.00				
3.00	176.62				
3.23	177.92	17 1/2	1475		
3.32	177.98	17 3/4	1490	61	Water almost clear
3.50	178.97				
3.57	178.36				
4.02	178.23	16.50	1435		
4.30	178.45				
5.00	176.00				
5.10	175.80	16.50	1435		
5.25	176.53	17	1460		
7.43	177.30	16 3/4	1450		
7.50	177.83	16 1/2	1435		
8.00	177.83	16 3/8			
8.15	178.00	16 1/2	1435	61	Water almost clear. Little sand
11.01		16 1/2	1425		
11.12 PM		16 1/2	1425		
11.32	177.98	16 1/2	1425		
Jan. 31					
8.25 AM	178.16	16 1/2	1425		
8.32	177.73				
8.49	178.53	16 1/2	1425		
9.03	179.23	16 1/2	1425	61	
10.48	178.66	16 1/2	1435	61	Water clear, trace of sand.
11.20	179.81	16.0	1412		
11.40	179.83	16 1/2	1425	61	Water clear. Water sample collected.
11.42					Pumping stopped.
11.43	91.00				Recovery measurements

Time	Depth to Water (Feet)
11.44	80.75
11.45	77.08
11.46	75.00
11.47	74.46
11.48	73.97
11.49	73.63
11.50	73.40
11.56	72.38
12.00 PM	71.83
12.05	71.40
12.10	71.11
12.15	70.35
12.20	70.65
12.25	70.45
1.10	69.45
1.25	69.22
1.35	69.12
3.18	68.40
4.18	68.32

RESULTS OF PUMPING TEST ON E. I. DU PONT'S

"CELLOPHANE" PLANT WELL NO. 5

CLINTON, IOWA

March 25-27, 1947

NAME: Du Pont's "Cellophane" Plant well No. 5.

LOCATION: NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 22, T. 81 N., R. 6 E.

ELEVATION: Drilling Curb 588 feet above sea level.
Land Surface 585.5 feet above sea level.

OWNER: E. I. Du Pont de Nemours and Company.

CONTRACTOR: Varner Well Company.

DRILLERS: Ingman Rude, Mel Reedy

DRILLING DATES: Started August 6, 1946. Finished March 27, 1947.

DEPTH: 1662 feet.

HOLE SIZE & CASING RECORD: 238 feet of 20-inch pipe from 0 to 238 feet.

(Cemented in) 125 feet (6 lengths) of 16-inch liner to be set at 783 feet. Open 19-inch hole from 238 feet to 683 feet. Open 15 $\frac{1}{8}$ -inch hole from 783 to 1662 feet. Shot at 1565 feet with 140 quarts of nitro. About 45 yards of sand removed.

CHIEF AQUIFER: St. Lawrence Formation and Cambrian sandstones.

TEST PUMP: Setting 190 feet to bowl. Powered by 150 hp. electric motor.

PRODUCTION MEASUREMENTS: Made using 8 $\frac{1}{2}$ -inch orifice in 10-inch pipe.

WATER LEVEL MEASUREMENTS: Depth to water measurements referred to pump base .96 feet above top of casing.

WATER TEMPERATURE: Measurements on water temperature made at end of 15 feet of 10-inch discharge pipe.

REMARKS: Hole was deepened from 1620 feet to 1662 feet consequent to pumping test of January 29. Blue shale was encountered from 1620 feet to 1652 feet and red marl from 1652 feet to 1662 feet.

E. I. Du Pont's "Cellophane" Plant -2-
Well No. 5

March 25-27, 1947

REMARKS (continued)

During current test, Well No. 3 was pumped continually at a rate varying from 1475 gpm to 2175 gpm. Likewise Well No. 4 was pumped continually at a rate which varied from 1280 gpm. to 1750 gpm. These readings were obtained from flow meters mounted on pump house walls. Water level measurements on Wells Nos. 2, 3, and 4 were obtained by use of air line gages. On No. 1 Well, steel measuring tape was used to measure water surface, using as a reference point a plug in the pump housing at a elevation of 588.58 feet above sea level.

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RESULTS OF PUMPING TEST MADE ON DU PONT'S "CELLOPHANE" PLANT WELL NO. 5 AT

CLINTON, IOWA March 25-27 1947

<u>DATE</u> <u>TIME</u>	<u>DEPTH</u> <u>TO</u> <u>WATER</u>	<u>DISCHARGE RATE</u> <u>ORIFICE</u> <u>(INCHES)</u>	<u>GPM</u>	<u>TEMP.</u>	<u>REMARKS</u>
March 25					
1:00 pm	75.21				
2:00	74.19				
3:38	73.00				
4:00					Pumping started.
4:03	134.95				
4:04	138.11	13½	1300		Water very muddy (brown)
4:05	139.68				
4:06	140.95				
4:07	140.95	13	1275		
4:08	141.07				
4:09	141.57				
4:10	141.99	12-3/4	1259		
4:11	142.44				
4:12	142.82				
4:13	142.95				Water muddy (brown)
4:14	143.15	12½	1243		
4:15	141.78				
4:16	140.35			59°	Water muddy (gray)
4:17	140.03				
4:18	139.74	12-3/4	1259		
4:19	139.57				
4:20	139.61				
4:23	139.61	13	1275	60°	Water muddy (gray)
4:28	139.86				
4:36	139.86				
5:44	141.03	12	1210	62°	Water still gray (clearing somewhat)
6:15	141.35	12	1210		
6:47	142.05	12	1210		
7:17	142.43	12	1210		
7:52	143.03	12	1210		
8:37	143.35	12	1210	62°	Water slightly muddy (gray)
9:23	143.35	12	1210		Water milky
10:20	143.11	12	1210	61°	
10:32	172.53	18½	1509		Pumping rate increased
10:33	173.43				
10:34	173.70				
10:35	174.11				
10:36	174.43				
10:37	174.70	18	1500		
10:38	174.86				
10:39	174.95				
10:47	175.86	21½	1618		Pumping rate increased (wide open)
10:49	185.11				
10:50	185.35				
10:51	185.61				
10:52	185.78				

DATE TIME	DEPTH TO WATER	DISCHARGE RATE ORIFICE (INCHES)	GPM	TEMP.	REMARKS
10:53	186.03				
10:54	186.07	21	1610		
10:55	186.35				
10:56	186.39				
11:01	187.03	20½	1592		
11:07	187.03				Water more milky
11:54	187.78	20	1574	61°	Water milky (fine sand)
March 26					
12:27 am	188.11	19-3/4	1564		
12:49	188.61	19-3/4	1564		Water milky
1:31	188.70	19½	1555		Water milky
3:58	189.53	19½	1555	60°	Water milky
4:28	189.82	19½	1555		Water slightly milky (fine sand)
5:38	190.03	19½	1546		Water slightly milky (fine sand)
5:39	190.03	19½	1546		Water slightly milky (fine sand)
6:11	190.27	19½	1546		
7:01	191.19	19	1537		Water clearing (trace of sand)
7:27	190.95			60°	
7:44	191.03	19½	1546		Water clearing
8:00	190.95	19	1537		
8:54	191.43	19	1537		
9:06	191.31	19½	1546	60°	Water clearing (trace of sand)
9:17	191.47	19½	1546		
9:58	191.35	19½	1546		
10:08	191.07				
11:49	191.82	19	1537		
12:23 pm	191.70	18½	1519	61°	Water fairly clear
1:13	191.61	18-3/4	1527		
1:45	191.82	18-3/4	1527		
2:05	192.01	18½	1519		
2:20	191.49	18½	1519		
2:35	191.47	18½	1519		
3:07	191.65	18½	1519		
3:30	191.82	18½	1519	61°	Water sample collected
3:52	191.95	18½	1519		Water clear (very small trace of sand)
3:55					Pumping stopped
3:56	100.53				
3:57	93.78				
3:58	91.82				Recovery measurements
3:59	91.19				
4:00	90.27				
4:01	89.53				
4:02	88.95				
4:04	88.43				
4:05	88.27				
4:08	87.61				
4:11	86.86				
4:15	86.70				
4:16	86.53				

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RESULTS OF PUMPING TEST MADE ON DU PONT'S "CELLOPHANE" PLANT WELLS NOS. 1, 2, 3, & 4
IN CONNECTION WITH PUMPING TEST ON NO. 5 WELL CLINTON, IOWA, Mar. 25-27, 1947.

DATE	NO. 1		NO. 2		NO. 3		NO. 4			
	TIME	DEPTH TO WATER	TIME	DEPTH TO WATER	TIME	DEPTH TO PRODUCTION	TIME	DEPTH TO PRODUCTION		
March 25 pm	11:58	72.22	11:27	73.0	11:39	83.0	1750	11:47	123.0	1750
	4:59	73.16	5:25	73.5	4:49	84.0	1675	5:13	138.0	1380
	8:08	75.65	8:14	74.5	8:20	90.0	2125	8:01	137.0	1300
	11:36	76.81	11:42	75.8	11:49	88.0	1650	11:21	142.0	1380
March 26 am	1:15	77.80	1:20	76.2	1:26	90.0	1900	1:00	143.0	1400
	4:53	74.66	4:59	77.1	5:32	92.0	1825	4:47	143.0	1360
	6:50	79.58	6:55	78.2	6:59	92.0	1850	6:25	142.0	1340
	8:40	77.62	8:44	78.2	8:47	95.0	2050	8:30	145.0	1400
	9:28	80.29	9:31	78.7	9:38		2125	9:22	143.0	1320
pm	12:44	81.58	12:53	79.3	1:16	93.0	1725	12:34	160.0	1580
	3:31	82.17	3:41	79.9	3:16	93.0	1825	3:23	159.0	1540
	4:36	81.72	4:17	79.9	4:24	91.0	1975	4:29	162.0	1600
	5:25	80.91	5:32	79.3	5:42	92.0	1975	5:16	138.0	1280
	6:44	80.43	6:48	79.3	6:51	94.0	2150	6:34	137.5	1300
	9:10	80.25	9:18	79.1	9:25	94.0	2175	8:48	156.0	1540
March 27 am	9:01	76.77	8:34	77.5	8:51	86.0	1475	9:09	123.0	1330