

PUMPING TEST AT THE ELDON TOWN WELL

WAPELLO COUNTY, IOWA

A pumping test was performed on the Eldon town well in Wapello County on October 11, 1961. The Geological Survey cooperated in obtaining rate of discharge data and making water level measurements from the pumping well.

The well was pumped for approximately 8 hours with an almost constant discharge rate of 844 gpm after the first 15 minutes of pumping. The static water level was 43.0' and the pumping level after approximately 8 hours was 80.02'. The drawdown was 37.02'; which is a specific capacity of 22.8 gpm/ft. under these conditions. The well recovered to slightly above static in 25 minutes.

Pumping and water level records should be kept when the well is put into production in order to aid any future planning.

This is O.K. - CVB

PUMPING TEST AT ELDON TOWN WELL

WAPELLO COUNTY, IOWA

Location: NE-SW-SE, sec. 26, T. 71 N., R. 21 W.

Total Depth: 1901 feet

Elevation of Land Surface Datum: Approximately 650 feet

Contractor: Thorpe Well Company

Driller: Ed Agers

Date Drilled: May 29 to October 6, 1961

Casing Data: 12" pipe 0' to 260'

10" " 260' to 775'

8" " 775' to 1590'

7 5/8" open hole 1590' to 1901'

All welded joints and reducers

1100 sacks of cement--grouted

Entire length of casing by Haliburton

Water Level: Static water level was 43.0' below the top of the casing which was approximately 1.2' above land surface.

Test Pump: Turbine powered by direct drive from diesel

Aquifer: Oneota, Jordan, and St. Lawrence

Measurements: Water level measured with airline, electric line, and steel tape. Discharge was measured by circular orifice and meter.

Observer: L. L. Steele

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

File No. { Washington _____

District _____
M.P. = 1.2' ALSD.

AIR LINE SET 252'

ELDON TOWN WELL PUMPING TEST

TIME A.M.	MIN	AIRLINE	W / L	D / D	6" OFFICE 8" PIPE	GPM					
* 8:05	0	209	43	0	—	—					PUMP STARTED
* 8:10	5	186	66	23	17	654					
* 8:15	10	180	72	29	24	776					
8:20	15	175	77	34	28.5	838					
8:25	20	175	77	34	29	844					
8:30	25	172	80	37	28 ³ / ₄	841					
8:35	30	172	80	37	29	844					
8:40	35	171	81	38	29	844					T-74°F
8:45	40	172	80	37	29	844					
8:55	50	175	77	34	29	844					
9:00	55	172	80	37	29	844					79.2' ELEC. LINE
9:15	70	172	80	37	29	844					1550 PUMP RPM
9:30	85	172	80	37	29	844					79.3' ELEC. LINE
9:46	101	172	80	37	29	844					
10:00	115	172	80	37	29	844					1550 PUMP RPM
											810 GPM BY METER
											79.8' ELEC. LINE
											290 RPM.
											17 GRAIN } HARDNESS
											0.8 PPM - IRON
											15.5 PPM - CHLORIDE
											0.9 PPM - FLOURIDE
10:20	135	172	80	37	29	844					
10:35	150	ELEC. LINE	80.0	37.0	29.5	851					1575 PUMP RPM
											80.0 ELEC. LINE
11:00	175		79.5	36.5	29.0	844					
11:30	205		80.0	37.0	29.0	844					
Noon	235		79.8	36.8	29.0	844					HELD WET W/L
12:20	255		79.7	36.7							82.0 2.35 79.7 - STEEL TAPE
12:30	265		79.7	36.7	29.0	840					1550 PUMP RPM
1:00	295		80.2	37.2	29.0	844					0 - MANGANESE
											7.2 - P.H.
1:30	325		80.0	37.0	29.0	844					1550 PUMP RPM
2:00	355		79.6	36.6	29.0	844					
2:30	425		80.0	37.0	29.0	844					T-74°F
3:00	455		80.0	37.0	29.0	844					
3:30	525		80.0	37.0	29.0	844					1550 PUMP RPM
3:58	553		80.02	37.02							HELD WET W/L
											82.0 1.98 80.02 - STEEL TAPE

CHEMICAL ANALYSIS BY J. SAMPSON

* READINGS RECORDED BY J. SAMPSON

OCT 11, 1961

UNITED STATES
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GEOLOGICAL SURVEY

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ELDON TOWN WELL PUMPING TEST

MP = 1.2 ALSO

Time P.M.	MIN	HELD	WET	W/ L	RECOVERY					
4:00				80.02			Pump OFF			
4:01	1	ELEC.	LINE	47.15	32.87					
4:02	2	"	"	44.05	35.97					
4:03	3	"	"	43.55	36.47					
4:04	4	"	"	43.30	36.72					
4:05	5	"	"	43.15	36.87					
4:06	6	"	"	42.97	37.05					
4:07	7	"	"	42.90	37.12					
4:08	8	"	"	42.83	37.19					
4:09	9	"	"	42.80	37.22					
4:10	10	"	"	42.75	37.27					
4:12	12	"	"	42.71	37.31					
4:14	14	"	"	42.68	37.34					
4:16	16	"	"	42.65	37.37					
4:18	18	"	"	42.62	37.40					
4:20	20	"	"	42.60	37.42					
* 4:25	25	45.00	2.30	42.70	37.32					
* 4:30	30	45.00	2.26	42.74	37.28					
* 4:35	35	45.00	2.28	42.72	37.30					

* MEAS. BY STEEL TAPE