



STANDARD WATER ANALYSIS REPORT

Orlando Laboratories, Inc.

P. O. Box 8025A • Orlando, Florida 32806 • 305/843-1661

Report to: Varner Well & Pump Co.Appearance: ClearDate: November 26, 1975Sampled by: ClientReport Number: 10981Identification: Well #2City of Waukee, Iowa

METHODS

This water was analyzed according to "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF.

		RESULTS	
Determination	Data Significance	Determination	Data Significance
	p.p.m.		p.p.m.
Total Dissolved Solids	x. <u>1280</u>	Total Hardness, as CaCO ₃	x. <u>320</u>
Phenolphthalein Alkalinity, as CaCO ₃	x. <u>0</u>	Calcium Hardness, as CaCO ₃	x. <u>310</u>
Total Alkalinity, as CaCO ₃	x. <u>260</u>	Magnesium Hardness, as CaCO ₃	x. <u>10</u>
Carbonate Alkalinity, as CaCO ₃	x. <u>0</u>	Calcium, as Ca	x. <u>124</u>
Bicarbonate Alkalinity, as CaCO ₃	x. <u>260</u>	Magnesium, as Mg	x. <u>2.4</u>
Carbonates, as CO ₃	x. <u>0</u>	Sodium, as Na	x. <u>255</u>
Bicarbonates, as HCO ₃	x. <u>315</u>	Iron, as Fe	x. <u>0.1</u>
Hydroxides, as OH	x. <u>0</u>	Manganese, as Mn	x. <u><0.05</u>
Carbon Dioxide, as CO ₂	x. <u>18</u>	Copper, as Cu	x. <u><0.1</u>
Chloride, as Cl	x. <u>120</u>	Silica, as SiO ₂	x. <u>3</u>
Sulfate, as SO ₄	x. <u>430</u>	Color, PCS	<u>0</u>
Fluoride, as F	x. <u>3.5</u>	Odor Threshold	x. <u>0</u>
Phosphate, as PO ₄	x. <u>0.1</u>	Turbidity, NTU	x. <u>2.5</u>
pH (Laboratory)	x. <u>7.5</u>		
pHs	x. <u>7.1</u>		
Stability Index	x. <u>6.7</u>		
Saturation Index	x. <u>0.4</u>		

Signed: Donna Turkish

Chemist

(To convert ppm to grains per gallon, divide ppm by 17.1 - p.p.m. = mg/l)

DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

Date Thurs. Oct 2, 75

Job Wauke, Iowa

Hole No. #2

Rig No. Brewster

Tour M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
2220	2221	12:52	12:56	4			Sand.	
	22		1:00	4				
	23		1:04	4				
	24		1:10	6				
	25		1:36	26			sdg dol.	
	26		1:57	21				
	27		2:13	16				Conn @ 2227
	28	2:29	2:44	15				SER RIG
	29		3:04	20				LINER LEAK
2230			3:25	21			SD-DOL. CHERT	2nd OILER SIDE OF PUMP
	31		3:53	28				
	32		4:20	27				
	33		4:40	20				
	34		4:55	15				
	35		5:22	27			Dolo + Chert	
	36		5:38	16				
	37		6:04	26			TRIP FOR BUTTER BIT.	
	38	11:25	11:35	10				
	39		11:43	8				
2240			11:52	9				
	41		12:30	38				
	42		12:48	15				
	43		1:05	20				
	44		1:31	26				
	45		2:16	45			Dolo - Sand + Chert	
	46		2:31	15				
	47		2:40	9				
	48		2:49	9				
	49		3:00	11				
2250			3:12	12			Dolo. M. +	

ADDITIONAL REMARKS, ETC.

APPROVED BY

DRILLER

DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237 DUBUQUE, IOWA 52001

Date Thurs. Oct. 2, 1975

Job Whiskey, Iowa

Hole No. 2

Rig No. Brewster

Tour M

M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
2190	2191	5:20	6:15	55			WILE	
	92		7:10	55				
	93	7:32	7:55	18				11 Mud line
	94		8:02	7				
	2195		8:07	5			SALE	
	96		8:12	5				
	97		8:18	6				
	98		8:25	7				Conn. @ 21:18
	99	9:25	9:28	3			Sand	Min 20 sec Gen. +
	2200		9:31	3				Work On Machine
	01		9:33	2				
	02		9:35	2				
	03		9:38	3				
	04		9:40	2				
	2205		9:43	3			SAND	
	06		9:45	2				
	07		9:47	2				
	08		9:49	2				
	09		9:51	2				
	2210		9:53	2				
	11		9:59	6				
	12		10:12	13				
	13		10:25	13				
	14		10:46	21				
	2215		11:06	20				
	16		11:34	28				
	17		12:00	26				
	18		12:18	18				
	19		12:43	25				
	2220		12:52	9			sd	

ADDITIONAL REMARKS, ETC.

will call monday morning

APPROVED BY

DRILLER

VARNER WELL & PUMP CO.

DUBUQUE, IOWA

WELL TEST DATA SHEET

PAGE 1 OF 3

Job _____ City of Waukee, Iowa

Date tested November 20, 1975

Location Well #2

Tested by Varner Well & Pump Co.

Dia. of well 16" x 9 7/8"

Pump used: Driver "1671" GMC Detroit

Depth of well 2730'

Column and shaft 8" x 1 1/2"

Length of airline 460'

Stages 8 stage

Non-pumping level 330'

Manufacturer Peerless

Orifice size 6" flow meter

Serial No.

TIME	PIEZOMETER READING (IN.)	G. P. M.	AIR GAUGE READING (PSI)	PUMPING LEVEL	DRAWDOWN	DISCH. PRESSURE		TOTAL PUMPING HEAD	H. P.	REMARKS
						PSI	FEET			
	0	0	130		0		0			START OF TEST
4:00		1000	100	360	30					Motor @ 1425 I
4:02		1000	98	362	32					
4:04		1000	95	365	35					
4:06		1000	95	365	35					
4:09		1000	95	365	35					
4:15		1000	95	365	35					
4:30		1000	95	365	35					
4:45		1000	95	365	35					
5:00		1000	95	365	35					
5:30		1000	95	365	35					30 min. test
6:00		1000	95	365	35					
6:30		1000	95	365	35					
7:00		1000	95	365	35					
7:30		1000	95	365	35					
8:00		1000	95	365	35					
8:30		1000	95	365	35					
9:00		1000	95	365	35					
9:30		1000	95	365	35					
10:00		1000	95	365	35					
10:30		1000	95	365	35					
11:00		1000	95	365	35					
11:30		1000	95	365	35					
12:00		1000	95	365	35					
12:30		1000	95	365	35					
1:00		1000	95	365	35					

VARNER WELL & PUMP CO.
DUBUQUE, IOWA

WELL TEST DATA SHEET

PAGE 2 OF 3

Job City of Waukee, Iowa

Date tested November 21, 1975

Location Well #2

Tested by Varner Well & Pump Co.

Dia. of well 16" x 9 7/8"

Pump used: Driver "1671" GMC Detroit

Depth of well 2730'

Column and shaft 8" x 1 1/2"

Length of airline 460'

Bowls 8 stage

Non-pumping level 330'

Manufacturer Peerless

Orifice size 6" flow meter

Serial No.

TIME	PIEZOMETER READING (IN.)	G. P. M.	AIR GAUGE READING (FEET)	PUMPING LEVEL	DRAWDOWNS	DISCH. PRESSURE		TOTAL PUMPING HEAD	TEMP.	REMARKS
						PSI	FEET			
	0	0			0		0			START OF TEST
1:30		1000	95	365	35					Clear
2:00		1000	95	365	35					
2:30		1000	95	365	35					
3:00		1000	95	365	35					
3:30		1000	95	365	35					
4:00		1000	95	365	35					
4:30		1000	95	365	35					
5:00		1000	95	365	35					
5:30		1000	95	365	35					
6:00		1000	95	365	35					
6:30		1000	95	365	35					
7:00		1000	95	365	35					
7:30		1000	95	365	35					
8:00		1000	95	365	35					
8:30		1000	95	365	35					
9:00		1000	95	365	35					
9:30		1000	95	365	35					
10:00		1000	95	365	35					
10:05		525	105	355	25					Reduce pumping rate
10:10		525	107	353	23					
10:15		525	107	353	23					
10:30		500	115	345	15					
11:00		500	115	345	15					
11:30		500	115	345	15					
12:00		500	115	345	15					

PAGE 3 OF 3

Date tested November 21, 1975

Tested by Varner Well & Pump Co.

Pump used: Dwyer "1671" GMC Detroit

Column and shaft. 8" x 1½"

8 stage
bowls

Manufacturer Peerless

Serial No. _____

TIME	PIZOMETER READING (IN.)	G. P. M.	AIR GAUGE READING (FEET)	PUMPING LEVEL	DRAWDOWN	DISCH. PRESSURE		TOTAL PUMPING HOURS	TEMP.	REMARKS
						LB.	FEET			
	0	0			0		0			START OF TEST
12:30		500	115	345	15					
1:00		500	115	345	15					
1:30		500	115	345	15					
2:00		500	115	345	15					
2:30		500	115	345	15					
3:00		500	115	345	15					
3:30		500	115	345	15					
4:00		500	115	345	15					
4:01			118							Well recovery
4:02			126							
4:04			130							
4:06			130							
4:08			130							
4:10			130							

VARNER WELL AND PUMP CO. *Established 1906*

WATER WELLS - DEEP WELL PUMPS - WELL REPAIRS - SOUNDINGS

*Contractors*_____

TELEPHONE: AREA CODE 319 583-8226
P. O. BOX 237-121 E. 4TH STREET
DUBUQUE, IOWA 52001

IOWA GEOLOGICAL SURVEY

December 2, 1975

DEC 3 1975

Iowa Geological Survey
Geological Survey Bldg.
16 West Jefferson
Iowa City, IA 52240

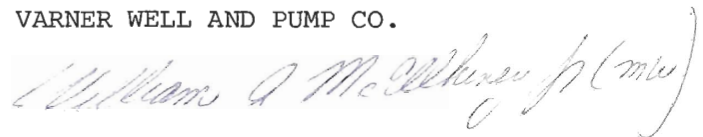
Dear Sir:

Enclosed please find copies of the well test data sheet and the water analysis for well #2 recently drilled at Waukee, Iowa. This well was drilled to a depth of 2730'. The well test was made without any development.

Trusting that the enclosed will be of interest to you, we remain,

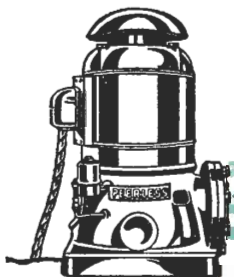
Yours truly,

VARNER WELL AND PUMP CO.



William A. McElhiney, Jr.
President

mw
Enclosures



(DISTRIBUTORS OF PEERLESS PUMPS)

Memo

8/25/75

Bill McElhinney of Varner Well Co. stopped in today and gave me the location of the new municipal well at Waukeet as follows: SE NW SE SW 33 - 79N. - 26 W, Dallas County. This is about $\frac{3}{4}$ mile south of the existing Jordan well.

P.J. Horick

He said They are currently drilling at 400
Bud has gone to pick up samples

8	0-119		OLP	11	2230-2645	QU
NDC	AI	119-550	XUQ	OLW	11	2230-2380 Q X2
MML	13	550-620	QNU	OLR	11	2380-2470 Q
MOW	15	620-635	QN2	OLO	11	2470-2645 Q
MOK	11	635-740	Q2	CSJ	11	2645-2665 UQ
MOB	11	740-805	Q2N	CSL	61	2665-2730 Q
MKG	11	805-820	N			
MKH	11	820-940	QN2			
MKN	11	910-940	NQ2			
DUM						
DMC	13	940-1080	N ^x Q			
DMC	15	1080- ¹⁵²⁵ 1610	Q1			
DMW	11	1525-1610	QU1			
DMK	11	1600-1610	QU1			
DLL	11	1610-1635	2QU			
SX	11	1635-1675	Q			
OUN	11	1675-1975	QX2			
OUF	11	¹⁷⁴⁵ 175 -1855	Q2			
OUC	11	1855-1895	Q			
OUF	11	1895-1975	2Q			
OMG	11	1975-2110	Q			
OME	11	2110-2185	QXU			
OML	11	2185-2195	X			
OMH	11	2185-2195	X			
OMP	11	2195-2230	U			