

12-15-49	time	P.H	G.F.M	12-16-49	time	P.H	G.F.M
" " "	10:00 AM	168'	140	" " "	11:00 AM	141'	340
" "	10:15	168	140				
" " "	11:00 AM	168'	140	" " "	12:00 AM	140'	310'
" " "	12:00 AM	168'	150	" "	1:00 PM	138'	310
				"	Speed up pump 1:10 PM		Loady
12-16-49	1:00 AM	130'	150	"	1:30	149'	420
" " "	2:00 AM	130'	150	"	2:00	149'	430
" " "	3:00 AM	138'	220	"	2:30	149	430 clearing
" " "	4:00 AM	139'	260	"	3:00	149	430
" " "	5:00 AM	139'	260	"	4:00	149	430
" " "	6:00 AM	139'	260	"	5:00	149	430
" " "	7:00 AM	142'	300	"	6:00	149	430
" " "	8:00 AM	144'	330	"	7:00	149	430
" " "	9:00 AM	142'	300	"	7:10	Speeded up pump.	
				"	7:20	154	500
				"		1748 pump	874 engine
				"	8:00	155	500
					9:00	157	490
					10:00	157	500
					11:00	156	500
					11:05	Speeded up pump	
					RPM	2056	1028
					11:30	165	500
					11:45	Start d	
	10:00 AM	139'-6"	310				

2-27-49	Time	P.H.	G.P.M.	Date	Time	Pumping Head	G.P.M.
" " "	7:00 AM	129'	310	12-27-49	9:00	157	620
" " "	8:00 AM	129'	320	"	10:00	157	620
" " "	9:00 AM	130'	360	"	11:00	157	620
" " "	10:00 AM	130'	360	"	12:00	157	620
" " "	11:00 AM	148'	590	12-28-49	1:00 AM	157	620
" " "	12:00 N	150'	600	" " "	2:00 AM	157	620
" " "	1:00 PM	157'	600	" " "	3:00 AM	157	620
" " "	2:00	151	600	" " "	4:00 AM	157	620
" " "	3:00	154	620	" " "	5:00 AM	157	620
" " "	4:00	156	630	" " "	6:00 AM	157	620
" " "	5:00	157	620	" " "	7:00 AM	157	620
" " "	6:00	157	630	" " "	8:00 AM	157	620
" " "	7:00	157	620	" " "	9:00 AM	157	620
" " "	8:00	157	620	" " "	10:00	157	620

THORPE WELL COMPANY

2340 SIXTH AVENUE
DES MOINES, IOWA

Folder?
Check

Drilled for Certain-teed Products Corp. at Fort Dodge, Iowa

Well is located 3 miles N-E-S-W and 2 miles N-E-S-W from Ft. Dodge

in the ¼ ¼ Section Township Range

Drilling started 19 Completed testing, 1-3-50 19

Well No. 4 Kind of Well Drilled Depth 2060' Size hole started 24 in.

Finish 8" G. P. M. 620 Static Head 117' Pumping level from surface 40' Drawdown

Water was first encountered at 1525' in St. Peter Sandstone Approx. Amt. no test Temp.

Remarks Most of the water comes from below 1695' level where we hit the first crevice in the Jordan formation

(GIVE DETAILS OF PERFORATED PIPE AND SEALS)

RECORD OF PERMANENT PIPE					TEMPORARY PIPE	
SIZE PIPE	AMOUNT OF PIPE	DEPTH TO BOTTOM OF PIPE	DEPTH TO TOP OF PIPE	MAKE OF PIPE	SIZE PIPE	AMOUNT
12"	327'8"	326'	1'8" above surface	Welded pipe		
10"	100'3"	677'	576'9"	" "		
8"	172'3"	1579'	1406'9"	Screwed pipe		

Driller From Surface to feet

Driller From feet to feet

Driller From feet to feet

AMOUNT IN FEET	KIND OF SOIL OR FORMATION (BE SPECIFIC)	TOTAL DEPTH FEET
5	Fill, peat & black dirt	5
11	Clay, gray & blue	16
4	" " " sandy	20
30	" " " with gravel	50
5	" sandy light brown	55
5	Gypsum rock, white	60
10	Shale, red	70
10	Shale, blue	80
25	Shale, black	105
25	Shale, black & gray	130
10	Shale, with limestone, gray	140
5	Shale, red & yellow	145
7	Shale, limey - red & yellow	152
16	Shale, red, green & yellow	168
30	Shale, red	198
46	Limestone, light brown	244
10	Shale, green	254
31	Limestone, gray	285
7	Limestone, graybrown	292
5	Limestone, blue	297
4	Limestone shaley, gray	301
3	Shale, green	304
6	Limestone, gray	310
10	Limestone, gray shaley	320
278	Limestone, gray	598
32	Shale, light green	630
10	Limestone, gray	640
15	Shale, light green	655
75	Limestone, gray	730
20	Limestone, shaley	750

THORPE WELL COMPANY

2340 SIXTH AVENUE

DES MOINES, IOWA

15	Limestone, gray	765	
15	Limestone, shaley & gray	780	
10	Limestone, gray	790	
15	Limestone, gray shaley	805	
5	Limestone, gray	810	
5	Limestone, brown	815	
40	Limestone, gray brown	855	
25	Limestone, brown	880	
30	Limestone, gray	910	
65	Limestone, brown	975	
17	Limestone, shaley graybrown	992	
38	Limestone, shaley gray	1030	
25	Limestone, gray	1055	
20	Limestone, light brown	1075	
110	Limestone, graybrown	1185	
10	Limestone, gray & white	1195	
30	Limestone, light brown	1225	
65	Limestone, gray	1290	
118	Limestone, light brown	1408	
12	Limestone, grayblue	1420	
10	Limestone, shaley grayblue	1430	
10	Limestone, gray blue	1440	
22	Limestone, light brown	1462	
13	Shale, blue green	1475	
3	Limestone, gray brown	1478	
14	Limestone, gray	1492	
8	Shale, blue green	1500	
13	Shale, limey blue green	1513	
12	Shale, sandy blue green	1525	
53	St. Peter sandstone, white	1578	
63	Limestone, white	1641	
14	Limestone, light brown	1655	
30	New Richmond sandstone, limey	1685	
10	Limestone, light brown	1695	
55	Limestone, creviced--cuttings washed away	1750	Water level lowered from
105	Limestone, light brown & white	1855	68' to 118'
15	Limestone, sandy waterbearing & softer--gray	1870	
37	Jordan sandstone, white & gray limey	1907	
25	Limestone, sandy gray	1932	
21	Limestone, light brown	1953	
17	Jordan sandstone, white and fine, water level	1970	
22	Limestone, gray and no grit	1992	
26	Limestone, gray, creviced	2018	
11	Limestone, gray	2029	
20	Limestone, gray softer, creviced, water level	2049	
11	Limestone, gray- bailings thick & soupy.	2060	

Note - sandstone in Jordan section caved.

DRILLER'S NOTEBOOK

①

WELL RECORD

DRILLER

ADDRESS

OWNER

ADDRESS

RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

WHEN RECORD IS COMPLETED PUT IN ENVELOPE AND MAIL TO

THE DIRECTOR

IOWA GEOLOGICAL SURVEY

IOWA CITY, IOWA

WELL RECORD

Well is located ^N~~E~~ ^N~~E~~ ^W~~E~~ ^W~~E~~ miles S and 2 miles S from

~~St~~ Dodge, in ~~Delaware~~,
(Nearest Town) (County)

in the 1/4 1/4 Sec. T. R.

Owner ~~Certantied PC~~ Well No. 4.

Postoffice address ~~St Dodge~~

Contractor ~~Rope Well Co.~~

Address ~~2340-6th Ave.~~

Driller

Well begun, 19;

completed, 19.

Rig used—Cable, Rotary, Jet, or

Depth of well (Feet)

Size of hole (note total amount of each size)

Main water supply at (Feet below surface)

Final water head (Feet above or below surface)

Is well pumped?

Yield (Gallons per minute)

Water level when pumping

Position of well (Upland, valley, side hill, etc.)

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
1	0'	5'	5'	Fill, peats dirt. Black.
2	5'	10'	5'	Clay sandy, grey-blue.
3	10'	15'	5'	" " "
4	15'	20'	5'	" " "
5	20'	25'	5'	" with gravel (hard) "
6	25'	30'	5'	" " " " "
7	30'	35'	5'	" " " " "
8	35'	40'	5'	" " " " "
9	40'	45'	5'	" " " " "
10	45'	50'	5'	" " " " 2" brown.
11	50'	55'	5'	" sandy light brown (soft)
12	55'	60'	5'	Gypsum rock (white)
13	60'	65'	5'	Shale red
14	65'	70'	5'	" "
15	70'	75'	5'	" blue
16	75'	80'	5'	" "
17	80'	85'	5'	" black

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
18	85	90	5	Shale	(black)
19	90	95	5	"	"
20	95	100	5	"	"
21	100	105	5	"	"
22	105	110	5	"	(black-grey)
23	110	115	5	"	"
24	115	120	5	"	" (hard)
25	120	125	5	"	"
26	125	130	5	"	"
27	130	135	5	"	(with limestone) (hard)
28	135	140	5	"	"
29	140	145	5	"	(red yellow)
30	145	150	5	"	with streaks of limestone
31	150	155	5	"	"
32	155	160	5	"	"
33	160	165	5	"	"
34	165	170	5	"	(hard)

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS		
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.		
52	250	254	4	Shale (green gray)		
*53	254	260	6	Limestone (grey) hard		
54	260	265	5	"	"	"
*55	265	270	5	"	"	"
56	270	275	5	"	"	"
*57	275	280	5	"	"	"
*58	280	285	5	"	"	"
59	285	290	5	"	"	"
*60	290	295	5	"	"	"
61	295	301	6	"	"	"
62	301	307	3	Green shale		
*63	307	310	6	Limestone		
64	310	315	5	"	"	shaly
*65	315	320	5	"	"	"
*66	320	325	5	"	"	"
67	325	330	5	Limestone		
68	330	335	5	"	"	"

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
69	335	340	5	Limestone (grey)	
70	340	345	5	"	
X 71	345	350	5	"	
72	350	355	5	"	
* 73	355	360	5	"	
74	360	365	5	"	
X 75	365	370	5	"	
76	370	375	5	"	
77	375	380	5	"	
78	380	385	5	"	
79	385	390	5	"	
80	390	395	5	"	
81	395	400	5	"	
82	400	405	5	"	
83	405	410	5	"	
84	410	415	5	"	
85	415	420	5	"	

(New drilling jaw)

FOR FIGURING, CASING TALLY, ETC.

Length of jaw 7' 11"
 Box 6' 3 3/8" Pins 6' 1 1/8"
 Stroke 9". Collar 6' 1 1/8"

— 12" BIT - 5 1/2" P.I. —

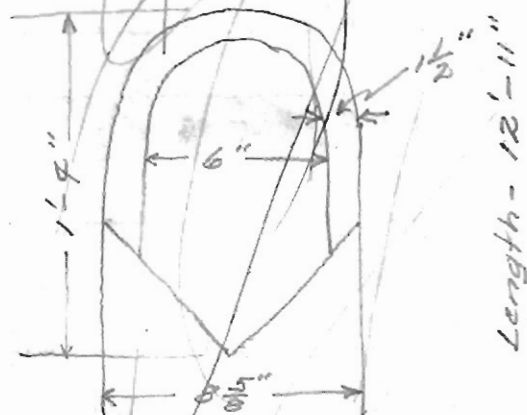
Stock - 10 1/2"

Square - 6"

Collar - 7 11/16" x 1'-3" long

Length - 4'-6"

— D.B. BAILER —



— 12" BIT - 5 1/2" P.I. —

Stock - 10 3/4"

Square - 5 9/16"

Collar - 7 5/8" x 1'-0" long

Length - 5'-9"

(12" Added casing)

FOR FIGURING, CASING TALLY, ETC.

2 3' 9" with shoe on hand
 8" 59" = 67"
 5' 9"

Remnant casing in well

Bottom of 326'-
 Cemented from bottom
 to top surface:
 3 3' 9"
 4 6'
 291'

333'-7"

324.8

327.8

12" pipe 20' above surface

Certaineed Products Corp.
Well # 4.

FOR FIGURING, CASING TALLY, ETC.

Temporary casing in well.

20" OD - 1 length 19' 2" Bottom 20'

16" OD - 4 lengths 55' 3" made up.

19' 2" - 19' 7" - 11' - 6" - 0.5' - total

Length of 20" reamer 6' 9"

stock " " 17"

Collar (7" pin) " 9 3/8"

~~1 length of 2 3/4" pipe~~

~~2 1/2" in hole~~

~~16" pipe~~

~~19' 2 1/2'~~

~~19' 11 1/2'~~

~~20' - 1~~

~~20' - 1~~

~~20' - 1~~

~~20' - 1~~

~~20' - 1~~

~~20' - 1~~

~~19' 11' 1/2'~~

~~11' 1/2'~~

~~5' 1/2'~~

~~19' 5' 4"~~

FOR FIGURING, CASING TALLY, ETC.

Length of long 16" bit 6' 1" - 7" pin.

stock 13" - collar 9 1/2"

O - 3.6107

J - 5.9839

P - 6.7160

S - 5.4968

A - 7.4846

B - 6.8236

81' 9 1/2" over M Line

from top of 12" casing

to back of steering platform

on back of walking beam.

84' 10 1/2" over sandline

from top of 12" casing

to top of rig frame above

sandline reel.

12" hole

200

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
86	420	425	5	Limestone (gray)	
87	425	430	5	" "	
88	430	435	5	" "	
89	435	440	5	" "	
90	440	445	5		
91	445	450	5	" "	
92	450	455	5	" "	
93	455	460	5	" "	
94	460	465	5	" "	
95	465	470	5	" "	
96	470	475	5	" "	
97	475	480	5	" "	
98	480	485	5	" "	
99	485	490	5	" "	
100	490	495	5	" "	
101	495	500	5	" "	
102	500	505	5	" "	

B² hole

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
103	505	510	5	Limestone gray	
104	510	515	5	" "	
105	515	520	5	" "	
106	520	525	5	" "	
107	525	530	5	" "	
108	530	535	5	" "	
109	535	540	5	" "	
110	540	545	5	" "	
111	545	550	5	" "	
112	550	555	5	" "	
113	555	560	5	" "	
114	560	565	5	" "	
115	565	570	5	" "	
116	570	575	5	" "	
117	575	580	5	" "	
118	580	585	5	" "	
119	585	590	5	" "	

12" hole

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
120	590	595	5	Limestone (gray)
121	595	598	3	" "
122	598	600	2	Shale (light green)
123	600	605	5	" "
124	605	610	5	" "
125	610	615	5	" "
126	615	620	5	" "
127	620	625	5	" "
128	625	630	5	" "
129	630	635	5	Limestone (gray)
130	635	640	5	" "
131	640	645	5	Shale (light green)
132	645	650	5	" "
133	650	655	5	" "
134	655	660	5	Limestone
135	660	665	5	" "
136	665	670	5	" "

Bottom of 12" hole at 677'

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS			
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.			
137	670	675	5	Limestone (gray)			
138	675	680	5	"	"	"	"
139	680	685	5	"	"	"	Hard
140	685	690	5	"	"	"	"
141	690	695	5	"	"	"	"
142	695	700	5	"	"	"	"
143	700	705	5	"	"	"	"
144	705	710	5	"	"	"	"
145	710	715	5	"	"	"	"
146	715	720	5	"	"	"	"
147	720	725	5	"	"	"	"
148	725	730	5	"	"	"	"
149	730	735	5	"	Shaly	"	"
150	735	740	5	"	"	"	"
151	740	745	5	"	"	"	"
152	745	750	5	"	"	"	"
153	750	755	5	"	"	"	"

10" hole

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
154	755	760	5	Limestone	(gray)
155	760	765	5	"	"
156	765	770	5	"	shaly
157	770	775	5	"	"
158	775	780	5	"	"
159	780	785	5	"	"
160	785	790	5	"	"
161	790	795	5	"	(shaly)
162	795	800	5	"	"
163	800	805	5	"	"
164	805	810	5	"	"
165	810	815	5	"	HARD BROWN
166	815	820	5	"	(Brown & gray sand)
167	820	825	5	"	"
168	825	830	5	"	"
169	830	835	5	"	GRAY
170	835	840	5	"	"

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
171	840	845	5	Limestone	(GRAY)
172	845	850	5	"	"
173	850	855	5	"	"
174	855	860	5	"	"
175	860	865	5	"	Brown
176	865	870	5	"	"
177	870	875	5	"	"
178	875	880	5	"	"
179	880	885	5	"	gray
180	885	890	5	"	"
181	890	895	5	"	"
182	895	900	5	"	"
183	900	905	5	"	"
184	905	910	5	"	"
185	910	915	5	"	BROWN
186	915	920	5	"	"
187	920	925	5	"	"

New 12" drilling tools

FOR FIGURING, CASING TALLY, ETC.

Length of ~~minut socket~~ 2' 11"
 Body " " 6 3/4"
 Neck 4 1/2" length of neck 6" $\oplus$

Length of ~~spans~~ 7' 8"
 Collar " " 6 1/8"
 Box " " 6 3/8"
 Reins " " 6 1/4"
 Stroke " " 1' 2"

Length of ~~stem~~ 9' 7"
 Collar " " 6 3/16"
 Body " " 6"
 Box " " 7 3/4"

Length of ~~12" bit~~ 5' 9"
 Collar " " 7 1/16"
 Body " " 10 3/4"

Length of ~~short 12" bit~~ 4' 6"
 Collar " " 7 1/16"
 Body " " 10 3/8"

FOR FIGURING, CASING TALLY, ETC.

FISHING TOOLS

— W.P. SOCKET — 3 3/4" Box —

Box — 5 1/2" x 9" long
 Square — 4"
 Body — 4 1/2"
 Neck — 3 3/8" x 5" long
 Length — 2' 3"

— STEM — 3 3/8" P. — 4 1/4" B. —

Box — 6 1/2" x 7" long
 Square — 4 3/8"
 Body — 4 3/8"
 Square — 3 3/8"
 Collar — 5 1/4" x 3 1/2" long
 Length — 8' 6 1/2"

— JARS — 4 1/4" P. & B. —

Box — 6 1/2" x 10 1/2" long
 Squares — 5"
 Reins — 6 5/8"
 Stroke — 3' 5 1/2"
 Collar — 6 1/2" x 6 1/2" long
 Length — 12' 5 1/2"

— SUB — 4 1/4" P. — 3 3/4" B. —

Box — 5 1/2" x 11 1/2"
 Square — 4 3/4"
 Collar — 6 1/2" x 7" long
 Length — 2' 3"

— SLIP SOCKET — P. —

Body — 9 5/8" — 4 1/4" pin
 Square — 6 1/2"
 Collar — 6 1/2"
 Length — 2"

10" Welded pipe.

FOR FIGURING, CASING TALLY, ETC.

18-8 $\frac{1}{2}$ (Permanent
10 Lines

20-2 $\frac{1}{4}$

17-10 $\frac{3}{4}$

22-3 $\frac{1}{2}$

19-9 $\frac{1}{2}$

Bottom 677'
top 577'

98-10 $\frac{1}{2}$ plus 2 shoes

1-4 $\frac{1}{2}$ →
100'-3" total length of liner

~~NEW 10" BIT
PIN 5"
COLLAR 7" BY 11"
WRENCH SQUARE 7 $\frac{1}{2}$ " BY 5" X 7"
BODY 8 $\frac{1}{4}$ " DIAMETER
LENGTH 8' 6"~~

1 stem 5" bar 4 1/4" pin.
1 or 2 10" bits 5" pins.
1 Shaker. 1 wood plug
for 10" shal.

WHEN RECORD IS COMPLETED PUT IN ENVELOPE AND MAIL TO

-THE DIRECTOR

IOWA GEOLOGICAL SURVEY

IOWA CITY, IOWA

DRILLER'S NOTEBOOK

③

WELL RECORD

DRILLER.....

ADDRESS.....

OWNER.....

ADDRESS.....

RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

Sample No.

[illegible]

101 hole

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
205	1010	1015	5	Limestone (shaly) gray	
206	1015	1020	5	" " " "	
207	1020	1025	5	" " " "	
208	1025	1030	5	" " " "	
209	1030	1035	5	" " " "	
210	1035	1040	5	" " " "	
211	1040	1045	5	" " " "	
212	1045	1050	5	" " " "	
213	1050	1055	5	" " (hard) " "	
214	1055	1060	5	" (waterbearing) (light brown)	
215	1060	1065	5	" " " "	
216	1065	1070	5	" " " "	
217	1070	1075	5	" " " "	
218	1075	1080	5	" " " "	
219	1080	1085	5	" " " "	
220	1085	1090	5	" " " "	
221	1090	1095	5	" " " "	

5" hole

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
222	1095	1100	5	Limestone (light brown)
223	1100	1105	5	" " "
224	1105	1110	5	" " " GRAY
225	1110	1115	5	" " "
226	1115	1120	5	" (HARD) GRAY BROWN
227	1120	1125	5	" " " "
228	1125	1130	5	" " " "
229	1130	1135	5	" " " "
230	1135	1140	5	" " " "
231	1140	1145	5	" " " "
232	1145	1150	5	" " " "
233	1150	1155	5	" " " "
234	1155	1160	5	" " " "
235	1160	1165	5	" " " "
236	1165	1170	5	" " " "
237	1170	1175	5	" " " "
238	1175	1180	5	" " " "

10" hole

6210
73'

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
	From	To		
239	1180	1185	5	Limestone (graybrown)
240	1185	1190	5	" " (graywhite)
241	1190	1195	5	" " " "
242	1195	1200	5	" " " " LIGHT BROWN
243	1200	1205	5	" " " "
244	1205	1210	5	" " " "
245	1210	1215	5	" " " "
246	1215	1220	5	" " " "
247	1220	1225	5	" " " " graybrown
248	1225	1230	5	" " " " gray
249	1230	1235	5	" " " " " "
250	1235	1240	5	" " " " " "
251	1240	1245	5	" " " " " "
252	1245	1250	5	" " " " " "
253	1250	1255	5	" " " " " "
254	1255	1260	5	" " " " " "
255	1260	1265	5	" " " " " "

C 298
93'

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
256	1265	1270	5	Limestone (gray)	
257	1270	1275	5	" " "	
258	1275	1280	5	" " (Brown)	
259	1280	1285	5		
260	1285	1290	5	" " (light Brown)	
261	1290	1295	5	" " "	
262	1295	1300	5	" " "	
263	1300	1305	5	" " "	
264	1305	1310	5	" " "	
265	1310	1315	5	" " "	
266	1315	1320	5	" " "	
267	1320	1325	5	" " "	
268	1325	1330	5	" " "	
269	1330	1335	5	" " "	
270	1335	1340	5	" " "	
271	1340	1345	5		
272	1345	1350	5		

(10" hole

E of 10
73

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
273	1350	1355	5	Limestone (light brown)	"
274	1355	1360	5	"	"
275	1360	1365	5	"	"
276	1365	1370	5	"	"
277	1370	1375	5	"	"
278	1375	1380	5	"	" (hard ship)
279	1380	1385	5	"	"
280	1385	1390	5	"	"
281	1390	1395	5	"	"
282	1395	1400	5	"	" E of 10
283	1400	1405	5	"	grey blue 69
284	1405	1410	5	"	"
285	1410	1415	5	"	"
286	1415	1420	5	"	"
287	1420	1425	5	Shaly Limestone	" (hard)
288	1425	1430	5	"	"
289	1430	1435	5	Limestone (grey blue)	"

FOR FIGURING, CASING TALLY, ETC.

~~Length of sub 20"~~
~~Collar 5 7/8" box 5 5/8"~~
~~Length of Reamer 4' 9"~~
~~Collar 5 7/8" body 2 3/4"~~
~~6 lugs~~

10" TOOLS

FOR FIGURING, CASING TALLY, ETC.

~~- SW SOCKET - 4 7/8" B. -~~
~~Box - 6 1/4"~~
~~Square - 5"~~
~~Body - 6 1/2"~~
~~Neck - 4 1/2" x 6" long~~
~~Length - 2' - 11"~~
~~- JARS - 4 1/2" P. & B. -~~
~~Box - 6 3/4" x 10" long~~
~~Squares - 5"~~
~~Reins - 6 1/2"~~
~~Stroke - 4' - 2"~~
~~Collar - 6 3/4" x 1 1/2" long~~
~~Length - 7' - 3"~~

~~- STEM - 4 1/2" F. 5" B. -~~
~~Box - 7 1/8" x 10 1/2" long~~
~~Square - 5"~~
~~Body - 5 1/2"~~
~~Square - 5"~~
~~Collar - 6 3/8" x 7" long~~
~~Length - 18' - 0"~~

~~- BIT - 5" P. & B. -~~
~~Stock - 8 5/8"~~
~~Square - 6"~~
~~Collar - 7" x 1' - 1/2" long~~
~~Length - 2' - 4"~~

~~Length of sub 4 1/4" x 3 3/4" 2' -~~
~~body " " 6 1/4"~~

~~Length of 10" driven down tool 4' 9"~~
~~body 11 1/4" Collar 5 1/4" - 3 3/4" pin~~

~~Length of long 10" bit 5' 10" 5" pin~~
~~body 8 1/2" - Collar 7" ⊕~~

1 stem 5" box 4 1/4" pin.
1 or 2-10" bits 5" pins.
1 Shale. 1 wood plug
for 10" shale.

WHEN RECORD IS COMPLETED PUT IN ENVELOPE AND MAIL TO

THE DIRECTOR

IOWA GEOLOGICAL SURVEY

IOWA CITY, IOWA

10
#4.
DRILLER'S NOTEBOOK

WELL REPORT

DRILLER.....

ADDRESS.....
.....
.....

OWNER.....

ADDRESS.....
.....
.....

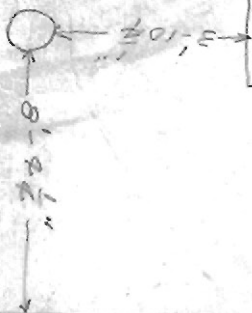
RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

WHEN RECORD IS COMPLETED PUT IN ENVELOPE AND MAIL TO

THE DIRECTOR

IOWA GEOLOGICAL SURVEY

IOWA CITY, IOWA



10" hole

e. of w
69.

Sample No.	DEPTH		THICKNESS
	From	To	
290	1435	1440	5
291	1440	1445	5
292	1445	1450	5
293	1450	1455	5
294	1455	1460	5
295	1460	1462	2
296	1462	1465	3
297	1465	1470	5
298	1470	1475	5
299	1475	1480	5
300	1480	1485	5
301	1485	1490	5
302	1490	1492	2
303	1492	1495	3
304	1495	1500	5
305	1500	1505	5
306	1505	1510	5

DESCRIPTION OF BEDS	
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
Limestone (grey blue)	hard
" " (light brown)	"
" " "	"
" " "	"
" " "	"
" " "	"
" " "	"
Shale (bluegreen)	"
" " "	"
" " "	"
Limestone (grey brown)	"
" " "	"
" " "	"
" " "	"
Shale (bluegreen)	"
" " "	"
" " "	"
" " "	"
" " "	"
" " "	"

10" hole

2012

691

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
307	1510	1515	5	Shale (blue-green)	2.11
308	1515	1520	5	"	2.11
309	1520	1525	5	"	2.11
310	1525	1530	5	St. Peter's L. Sand	2.11
311	1530	1535	5	"	2.11
312	1535	1540	5	"	2.11
313	1540	1545	5	"	2.11
314	1545	1550	5	"	2.11
315	1550	1555	5	"	2.11
316	1555	1560	5	"	2.11
317	1560	1565	5	"	2.11
318	1565	1570	5	"	2.11
319	1570	1575	5	"	2.11
320	1575	1578	3	"	2.11
321	1578	1580	2	Limestone (white)	1.00
322	1580	1585	5	"	2.11
323	1585	1590	5	"	2.11

1579

8" Rule)

C of W
69

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
324	1590	1595	5	Limestone (white)	11
325	1595	1600	5	"	11
326	1600	1605	5	"	11
327	1605	1610	5	"	11
328	1610	1615	5	"	11
329	1615	1620	5	"	11
330	1620	1625	5	"	11
331	1625	1630	5	" (sandy)	11
332	1630	1635	5	"	11
333	1635	1640	5	"	108
334	1640	1645	5	" (light brown)	11
335	1645	1650	5	"	11
336	1650	1655	5	"	11
337	1655	1660	5	New Richmond sandstone	11
338	1660	1665	5	" (white)	11
339	1665	1670	5	"	11
340	1670	1675	5	"	11

8" hole

e 8 10
68

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
341	1675	1680	5	Men Richmond sandstone (white)	"
342	1680	1685	5	"	"
343	1685	1690	5	Limestone (light brown) (hard)	"
344	1690	1695	5	"	"
345	1695	1700	5	Revised, cuttings washed away	68
346	1700	1705	5	"	73
347	1705	1710	5	"	118
348	1710	1715	5	"	softer "
349	1715	1720	5	Plenty of cuttings	"
350	1720	1725	5	"	"
351	1725	1730	5	most of cuttings washed away	"
352	1730	1735	5	"	"
353	1735	1740	5	very fine cuttings	"
354	1740	1745	5	"	"
355	1745	1750	5	"	"
356	1750	1755	5	Plenty of cuttings	harder
357	1755	1760	5	"	"

8th

e 812

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
358	1760	1765	5	Limestone (white) (hard)	118' 8"
359	1765	1770	5	"	"
360	1770	1775	5	"	"
361	1775	1780	5	"	119'
362	1780	1785	5	"	"
363	1785	1790	5	"	"
364	1790	1795	5	"	"
365	1795	1800	5	"	"
366	1800	1805	5	"	"
367	1805	1810	5	"	"
368	1810	1815	5	"	83' 6"
369	1815	1820	5	"	"
370	1820	1825	5	"	"
371	1825	1830	5	"	"
372	1830	1835	5	"	"
373	1835	1840	5	"	"
374	1840	1845	5	" (light brown) "	"

8" hole

e of W
119'

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
375	1845	1850	5	Limestone (light bluish gray)	Hard (water)
376	1850	1855	5	"	"
377	1855	1860	5	" (sandy gray)	(soft)
378	1860	1865	5	"	"
379	1865	1870	5	"	"
380	1870	1875	5	Jordan Sandstone	"
381	1875	1880	5	" (very fine)	limy
382	1880	1885	5	"	"
383	1885	1890	5	"	"
384	1890	1895	5	"	"
385	1895	1900	5	"	"
386	1900	1905	5	"	"
387	1905	1907	2	(a showing of shale)	" harder
388	1907	1910	3	Limestone gray	(hard)
389	1910	1915	5	"	"
390	1915	1920	5	"	"
391	1920	1925	5	"	" (sandy)"

11-1-49

~~threads on~~

FOR FIGURING, CASING TALLY, ETC.

Threads of
ASING TALLY, ETC.

22. set

22-14

22-14

21.9%

17.78

2. 2. 2.

21.6

21.9

174-

8

5

3.

265

7.

530

4

21-10³/₄

22-9 $\frac{3}{4}$

91-9

56

11-1

29-118

20-9 $\frac{3}{4}$

17-4

172-

Bottom at 1579'
top 1407'

10" Drilling Tools 10-18-49.

FOR FIGURING, CASING TALLY, ETC.

Length of $3\frac{3}{4}$ " top socket: $2' 6\frac{1}{2}"$
body: $5' 4\frac{3}{4}"$ neck: $3\frac{1}{2}"$

Length of $3\frac{3}{4}$ " J gas: $7' 10\frac{1}{4}"$
body: $5\frac{1}{4}"$ reins: $5\frac{3}{8}"$
collar: $5\frac{1}{8}"$ box: $5\frac{3}{16}"$
stroke: $1' 10\frac{1}{4}"$

Length of $3\frac{3}{4}$ " pin, 5" hot stem: $13' 4"$
collar: $5\frac{1}{4}"$ body: $5"$
box: $7\frac{1}{4}"$

Length of long 10" bits, 5" pin: $8' 7"$
body: $8\frac{3}{8}"$ collar: $7"$

Length of tools:

$2' 6\frac{1}{2}"$
 $7' 10\frac{1}{4}"$
 $13' 4"$
 $8' 7"$

$32' 3\frac{3}{4}"$

#5. MR. FLYNN

DRILLER'S NOTEBOOK

#5

WELL RECORD

DRILLER

ADDRESS

OWNER

ADDRESS

RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

8" hole

water level 119'

Sample No.	DEPTH		THICKNESS	DESCRIPTION OF BEDS	
	From	To		KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
392	1925	1930	5	Limestone (gray) (hard) (sandy)	11
393	1930	1935	5	"	"
394	1935	1940	5	" (lighter) "	"
395	1940	1945	5	" " "	"
396	1945	1950	5	" " "	"
397	1950	1953	3	" " "	"
398	1953	1955	2	Jordan sandstone (white)	"
399	1955	1960	5	" " (limy)	118'
400	1960	1965	5	" " "	"
401	1965	1970	5	" " coarser	116'
402	1970	1975	5	Limestone (gray) hard	"
403	1975	1980	5	" " (cracked)	115'
404	1980	1985	5	" " "	"
405	1985	1990	5	" " "	112'
406	1990	1995	5	" " (cracked)	"
407	1995	2000	5	" " "	"
408	2000	2005	5	" " "	"

8" hole

Water level 112'

DEPTH

DESCRIPTION OF BEDS

Sample
No.

From

To

THICKNESS

KIND OF ROCK, COLOR, HARD OR SOFT. WATER, ETC.

409	2005	2010	5
410	2010	2015	5
411	2015	2020	5
412	2020	2025	5
413	2025	2030	5
414	2030	2035	5
415	2035	2040	5
416	2040	2045	5
417	2045	2050	5
418	2050	2055	5
419	2055	2060	5

Limestone (gray)	crushed	Water	111'
"	"	"	"
"	"	"	110'
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	108'
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	107'

Finish
12-14-49

DESCRIPTION OF BEDS

KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.

Pump test

160' setting

150 gpm - 350' head

240 - 50 gpm.

1st test brought in 160' sd

2nd " " " 60' sd

FOR FIGURING, CASING TALLY, ETC.

|||| | ||| | ||| | |||
|||

= 2062' $1\frac{3}{4}"$

21' add

2083' $7\frac{3}{4}"$

Product
21' $1\frac{3}{4}"$ to the
ground level

2060 21

to Ground level

Depth of Certain steel well
4 is: 2060'

FOR FIGURING, CASING TALLY, ETC

8" pumpbowl 13 stages including suction

DIA
9 1/4"

11-7"

14-10

15-

14-11 1/2 + 3/4"

15-

14-11 1/2

14-11 1/2

14-11 3/4

15-1

15-1 1/2

14-11 1/2

15-1

14-11 1/2

14-2

2-0

206.6 1/2

Verified ERC Punched FCH

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by **D. AARONSON** Source of data **FILE** Date **12/3/65** Map **LENIGH, QUAD. 1:62,500**

State **IOWA** County (or town) **WEBSTER** **94**

Latitude: **42 28 13 N** Longitude: **09 40 8 36** Sequential number: **1**

Local well number: **08828W05B3BB** Other number: **W-4183**

Local use: **04183** Owner or name: **CERTAIN TEEB PROD. CO. WA** Address: **FT. DODGE, IA**

Ownership: County, Fed Gov't, City, Corp or Co, Private, State Agency, Water Dist **N**

Use of water: (A) Air cond, (C) Comm, (D) Dewatering, (F) Fire, (H) Irr, (I) Ind, (P) Stock, (S) Inst, (T) Unused **N**

Use of well: (A) Anode, (D) Drain, (G) Seismic, (O) Obs, (P) Oil-gas, (R) Recharge, (S) Spring, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed **W**

DATA AVAILABLE: Well data **1** Freq. W/L meas.: **INVENTORY** Field aquifer char. **71**

Hyd. lab. data: **73**

Qual. water data; type: **COMPLETE**

Freq. sampling: **ORIGINAL** Pumpage inventory: **75**

Aperture cards: **77**

Log data: **GEOLOGIST LOG** **6**

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: **2060** ft Meas. **2060** accuracy **6**

Depth cased: **326** ft Casing type: **STEEL** Diam. **12** in **12**

Finish: (C) concrete, (F) porous gravel w. horiz. open end, (H) gravel w. horiz. open end, (I) screen, (P) perf., (S) screen, (T) sd. pt., (W) shored, (X) open hole **X**

Method: (A) air, (B) cable, (C) dug, (D) hyd jetted, (E) air reverse, (F) trenching, (G) driven, (H) drive wash, (I) other **31**

Drilled: **JAN 1950** **950** Pump intake setting: **33** ft **38**

Driller: **THORPE WELL CO.** **DES MOINES, IA.**

Lift: (A) air, (B) bucket, (C) cent, (D) jet, (E) multiple, (F) turb., (G) none, (H) piston, (I) rot, (J) submerg, (K) turb, other **39** Deep **D** Shallow **40**

Power: (type): diesel, elec, gas, gasoline, hand, gas, wind, H.P. **41** Trans. or meter no. **40**

Descrip. MP **LSD** ft above below lsd, Alt. MP **1109**

Alt. LSD: **1109** Accuracy: **ALTIMETER** **47**

Water Level: **117** ft above MP; Ft **117** Accuracy: **DRILLER'S LOG** **48**

Date meas: **JAN. 1950** **150** Yield: **620** gpm **620** Method determined **49**

Drawdown: **40** ft Accuracy: **3** Pumping period **3** hrs **50**

QUALITY OF WATER DATA: Iron **0.1** Sulfate **283** Chloride **27** Hard. **535** **8**

Sp. Conduct **1290** K x 10⁶ **5** Temp. **57** °F **57** Date sampled **10/3/51** **051**

Taste, color, etc. **79**

088-284-05BBBB.1

Well Number **422813** **094, 08, 36**

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD Physiographic Province: **CENTRAL LOWLAND** **12** Section: **WESTERN**

Lake **B** Drainage Basin: **DES MOINES** **25B** Subbasin: **26**

Topo of well site: (D) local depression, (F) flat surface, (H) hilltop, (S) hillside, (T) terrace, (V) valley flat, **27**

MAJOR AQUIFER: **CAMBRIAN** **UPPER** **C3** **JORDAN SANDSTONE** **SJ**

Lithology: **MEDIUM SANDSTONE** **3V** Origin: **MARINE** **6** Aquifer Thickness: **59** ft

Length of well open to: **59** ft **59** Depth to top of: **1851** ft **A85**

MINOR AQUIFER: **ORDOVICIAN** **MIDDLE** **02** **ST. PETER SS.** **MP**

Lithology: **SHALE & SANDSTONE** **V** Origin: **MARINE** **6** Aquifer Thickness: **53** ft

Length of well open to: **53** ft **53** Depth to top of: **1525** ft **A53**

Intervals Screened: **NONE**

Depth to consolidated rock: **55** ft **55** Source of data: **WELL CUTTINGS** **C**

Depth to basement: **55** ft **55** Source of data: **69**

Surficial material: **SANDY TILL** **8T** Infiltration characteristics: **POOR** **72**

Coefficient Trans: **73** Coefficient Storage: **75**

Perm: **15.5** gpm/ft; Spec cap: **15.5** gpm/ft; Number of geologic cards: **79**

CASING:

327' 8" OF 12" WELDED PIPE + 1' 8" TO 326' (CEMENTED IN 0-326')

100' 3" OF 10" LINER WELDED PIPE FROM 576' 9" TO 677'.

172' 3" OF 8" SCREWED PIPE FROM 1406' TO 1579'.

12" HOLE 0-420'
10" HOLE 420'-1579'
8" HOLE 1579'-2060'

