

Memo 4-23-74

RE: Grinnell City Well Ed Winslow brought in samples from 1600'- 1980' for determination of casing point. Proposed casing to be set @ 270' below the base of the St. Peter. KB is 13' above ground level.

Grinnell

COMP	ANY			FARM	WELL NO.		
SEC.	TWP.	. RGE.	LOC.	COUNTY	STATE		
CONTE	RACTOR			SIZE HOLE	DRILL PIPE		
REMA	RKS			SIZE PUMP LINERS	LENGTH STROKE		

		15-	
DEPTH	TIME O'CLOCK	MIN.	REMARKS
1662		20	
67	K	20	
61		45	
65		24	
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65.		13	
67		-8	
68 69		14	
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DEPTH	TIME O'CLOCK	MIN.	REMARKS
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35		12	
36		23	
31		15	-
38		14	
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41		25	
42		30	
43	_	30	
44		28	
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46		35	
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48		45	
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 51 57 55 57 58		12 15 15 14 20 25 30 25 30 25 35 27 35 16 19 25 0 15 35 16 19 25 0 15 35 27 35 16 19 25 0 25 30 25 35 27 35 15 15 16 19 25 0 25 3 25 3	
50		30	
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57		45	
58		50	· · · · · · · · · · · · · · · · · · ·
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Grinnell

COMPANY	FARM	WELL NO.
SEC. TWP RGE. LOC	COUNTY	STATE
CONTRACTOR	SIZE HOLE	DRILL PIPE
REMARKS:	SIZE PUMP LINER	S LENGTH STROKE

2	DATE			
	DEPTH	TIME O'CLOCK	MIN.	REMARKS
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	24		12	
	80		31	
	81		20	
	82		31	
	83		15	
	84			
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	- OG		10	
	- 94		16	
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DEPTH	TIME O'CLOCK	MIN.	REMARKS
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11		15	
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Grinnell

	<u> </u>			FARM	WELL NO.		
SEC.	TWP.	. RGE.	LOC.	COUNTY	STATE		
CONTRA	ACTOR			SIZE HOLE	DRILL PIPE		
REMAR	KS:			SIZE PUMP LINERS	LENGTH STROKE		

DEPTH	TIME O'CLOCK	MIN.	REMARKS
1831		22	
33		19	
		22	
35		96	
36		pp	
		44	
37		44	
38			
- 39		1-21	
¥0		13	
- 41			
42		33	
43		16	
44		24	
45		11	
46		14	
47		18	
48		11	
49		15	
50		15	
49 50 51		20	
52		30	
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57		16	
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DEPTH	TIME O'CLOCK	MIN.	REMARKS
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an			
83		28	
84		25	
85		18	
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88		42	
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94		26	
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05		35	
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Chinnell

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COMPANY	FARM	WELL NO.
SEC. TWP RGE. LOC.	COUNTY	STATE
CONTRACTOR	SIZE HOLE	DRILL PIPE
REMARKS:	SIZE PUMP LINERS	LENGTH STROKE

DEPTH	TINE O'CLOCK	MIN.	REMARKS	DEPTH	TIME O'CLOCK	MIN.	REMARK
9134		25		1960		17	
-17-		17		62		12	
16		13		63		11	
17		25		64		A	
18		25		65		16	
19		25		64		23	
20		15		67		30	
21		25		68		25	
77		30		69		30	
23		20		2/1)		15	
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25		50		72	·		
26	ļ	30		- 75		30	
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28	<b></b>	25			+	15	
29		36		1 17	+	30	
30		25			+	45	
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37		30	<u> </u>	-		+ +	
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60							
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KB + 13;"

1990 presently

515-2368383 want 270'below. Case of St. Peter.

TD - expected to ber 2500' Stanley Engr., Muscatine Gil Tavner 319-263-9494

1995@ 3:30



			Grinkel	H	S Well	2		
COMPAN	VY			FARM				WELL NO.
SEC.	TWP.	. RGE.	LOC.	COUN	TΥ	1	S	TATE
CONTRA	ACTOR			S	ZE HOLE		D	RILL PIPE
REMAR	KS:			S				LENGTH STROKE
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			Whay 23-74		depth	te ar	e 13	1 lose, i.e 2015=200
DATE	TIME			7			1	
DEPTH	TIME O'CLOCK	MIN.	REMARKS		DEPTH	TIME O'CLOCK	MIN.	REMARKS
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20	30	55			20.55		5	
21	3.7	17			56	21	17	
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26	59	5			61	53	6	
27	1204	5	9	_	. 62	603	10	
28	1209	5		_	63	10	07	
29	19	10	· · · · · · · · · · · · · · · · · · ·	-	Slot	a personal data in the second second second second		CONNY GRADE
30	28	9		-	20 65	CONTRACTOR OF THE PARTY OF	a frankrik stra frankrik statem	. Swikel
31	12.36	8	-10-1		66	43	5	
32	12:42	6	CONIN	-	67		17	
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2035				-	20 70	707	5	
36	1:15	4		-	71	714	7	
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38		-40-		-	73	28	8	
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	2:59	7	1	1	85	43	9	
49	3:06	7	Losing fluid		84		19	V150 44
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1	4				39	32	9	
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GARINN	ELL #8 HELL	
COMPANY	FARM	WELL NO.
SEC. TWP RGE. LOC.	COUNTY	STATE
CONTRACTOR	SIZE HOLE	DRILL PIPE
REMARKS:	CF SIZE PUMP LINERS	LENGTH STROKE
6/04/1	7	

DATE			
DEPTH	TIME O'CLOCK	MIN.	REMARKS
2100,	11:16	7	9 1/2hrs.
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3	38	8	Vise 48
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11	29	8	63
12	1233	4	10
13	241	8.	
14	50	9.	
21 15	59	19:	
16		9.	
	1	119	112
17	19	1	
18	20	-4-	Rough 10/2 hrs
19		11	0
21 20	45	11.	
21	517	12	
22	2:07	10.	VISC41
23	218	11.	
24		10.	
21 25		10.	
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24	2:48	10	COMM de
21		6.	1.5
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21 30	26	.5.	
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DEPTH	TIME O'CLOCK	MIN-	REMARKS
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52	211		
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54	-28	1	
21 55	44	- 4	CONAL
56	-15	H-	CONA
57	5-14	2.	
58	606	6.	*
59	6:12	67	
21 60	6.17		
	6:25	4-	
6%	21	6	
63	39	8	
64	45	6.	Dal A El
2165	51	6	find a start
66	7:03	12	100
67	7:09	6	
68	7:18	9	
69	7:26	1.2	41 & R. P.M.
21 70	7:34	8	V15 48
71	7:41:	7	
72	7149	8	
73	7:57	8.	34 P.P.W
174-	8:06	9	and the second part of the second sec
21 75	812	6 :	U15 58 WT 9.44
1 76	8,20 8126 832	8 G .	R.H.11+ 14.4.6.
77	8126	6.	HERPM
78	832	6	
19	837 8:38 8:40	6.	197
21 80	8:40	2	
. 81	8:44	4.	
82	8:48	1h	
83	01.54	14.	213
84	8:58	4	62.96
21 35	19:05	7	31,59
36	110	5	31.37
	15	5.	
88	20	5.	CONY
89			KELLYOFE
21 90	19:42	Constant of the line	2. CKR. 114, 8.
91 92 93	945	3	
92	578	3-	
93	55	5	
94	10:07	7	
2195	10:06	4	243
96	10	4	
97	15	5	
97 98 99	15	4	E 10 3
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99 2200	23	4	375 /04/9

COMPANY Ginnell

SEC. TWP. . RGE. LOC.

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CONTRACTOR REMARKS: 5/24/74

T.F. 8	FARM	2	WELL NO.
	COUNTY	ST	ATE
	SIZE HOLE	11 DR	ALL PIPE 44/3
4	SIZE PUMP L	INERS 7	LENGTH STROKE 1 14
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A statement

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$\begin{array}{c} 4 & 10;447 & 3 \\ 5 & 10:53 & 6 \\ 6 & 11:00 & 7 & . \\ 7 & 11:04 & 6 & . \\ 8 & 11:16 & 10 & . \\ 99 & 11:04 & 5 \\ 121 & 0 & 1; 25 & 4 \\ 11 & 28 & 3 \\ 12 & 3.4 & 2 \\ 13 & 3.44 & 2 \\ 14 & 3.24 & 2 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 15 & 3.9 & 3 \\ 14 & 3.24 & 2 \\ 15 & 3.9 & 3 \\ 15 & 4.5 & 2 \\ 17 & 18 & 4.5 & 2 \\ 18 & 10 & 5.7 & 7 \\ 18 & 14.5 & 2 \\ 19 & 10 & 5.7 & 7 \\ 19 & 14 & 2 \\ 19 & 10 & 5 \\ 21 & 10 & 5 \\ 21 & 10 & 5 \\ 21 & 10 & 5 \\ 21 & 10 & 5 \\ 3 & 10 & 10 \\ 10 & 10 & 10 \\ 10 & 10 & 10$	5.4 5.6 57 53 57 53 57 62 61 62 62 62 64 65 64 65 64 65 64 65 64 65 64 65 64 77	
$ \begin{array}{c} 5 & 1053 & 6 \\ 6 & 1100 & 7 \\ 7 & 1104 & 4 \\ 8 & 11.16 & 10 \\ 99 & 1104 & 5 \\ 11 & 38 & 3 \\ 12 & 34 & 8 \\ 13 & 34 & 8 \\ 14 & 36 & 3 \\ 14 & 36 & 3 \\ 15 & 39 & 3 \\ 14 & 36 & 3 \\ 15 & 39 & 3 \\ 16 & 17 & 14 & 3 \\ 17 & 14 & 3 & 6 & 2 \\ 18 & 145 & 2 & 31160 \\ 19 & 18 & 45 \\ 23 & 10 & 57 & 9 \\ 18 & 145 & 2 & 31160 \\ 19 & 18 & 45 \\ 23 & 10 & 7 \\ 18 & 135 & 4 \\ 23 & 10 & 7 \\ 24 & 145 & 3 \\ 37 & 50 & 5 \\ 38 & 55 & 5 \\ 39 & 55 & 5 \\ 39 & 30 & 100 & 3 \\ 31 & 108 & 3 \\ 32 & 108 & 3 \\ 32 & 108 & 3 \\ 32 & 108 & 3 \end{array} $	5% 5% 57 53 57 60 61 62 63 64 65 64 65 64 65 64 65 64 65 64 65 64 67 67 77	
$ \begin{array}{c} 6 & 11.00 & 7 \\ 7 & 11.04 & 6 \\ \hline \\ 8 & 11.16 & 10 \\ \hline \\ 9210 & 11.24 & 5 \\ \hline \\ 11 & 98 & 3 \\ \hline \\ 12 & 34 & 8 \\ \hline \\ 13 & 34 & 8 \\ \hline \\ 14 & 32 & 3 \\ \hline \\ 15 & 39 & 3 \\ \hline \\ 17 & h & 3 & 2 \\ \hline \\ 18 & 4.5 & 2 \\ \hline \\ 31 & 60 \\ \hline \\ 19 & h9 \\ \hline \\ 10 & 17 \\ \hline \\ 10 & 17 \\ \hline \\ 10 & 10 $	56 57 58 59 60 61 62 63 64 65 64 65 64 65 64 65 64 65 64 65 64 67 77	
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DEPTH	TIME O'CLOCK	MIN-	REMARKS
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REMARKS:

Dunie of

SEC. TV/P. . RGE. LOC.

5/23/14

FARM COUNTY STATE

WELL NO.

SIZE HOLE DRILL PIPE

SIZE PUMP LINERS LENGTH STROKE

DATE

DATE			
DEPTH	TIME O'CLOCK	MIN.	REMARKS
2200	127/	1	
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	18	3	
12	22	4	
13	26	4	
14	32	6	CONN
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17	114	-	
-10	41	2	
-17	51	4	
18	55	4	
19	10:01	6	Geg left & HUTEL
2320	1007	6	
21	10.14	7	
17	10.70	1/2	
17	-21	4	
20	20	1.12	
24	32	6	
2325	139	17	
26	45	4	
27	51	6	-
	59	17	
20	58		
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23 30		14	
31		St-	
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_33		4	
34	36	10	
2335	1	17	
221	lasca		
24-24	1:50	12	
37	57	11_	
F .38	12:02	5	5/24/7.4 H.MT
39	07	5	
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41		12	
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	TIME		
DEPTH	TIME O'CLOCK	MIN-	REMARKS
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52	12	4	
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54	20	24	
23.55	23	3	
56	2.6	3	
51	30	4	
58	35	5	
29	10	E	
1-12/0	HC-	F.	
2360	10	2	
471	47	-7-	
62	54	5	1 1
623	58	4	
6-4	205	7	
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61	19	5	
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23 10	36	12	
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13	44	4	
174	57	8	
237.5	1302	5	
76	307	554	
77	312	5	CONN: OB @ 523
78	3 201	4	8B@ 523
179	32	5	
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1 31	342	5	
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- 01-	41	5-4	
83	51	4	
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COMPANY	2 hourse	1 18	FARM	WELL NO.
SEC. TWP	RGE.	LOC.	COUNTY	STATE
CONTRACTO	2		SIZE HOLE	DRILL PIPE
REMARKS:			SIZE PUMP LINERS	LENGTH STROKE

DATE	5/2	5/7	4
DEPTH	TIME O'CLOCK	MIN.	REMARKS
2400	5:04	2_	
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4	14	2-	·
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24.10	51	7	
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12	601	4	
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14	09	2	
2415	613	4	
16	17	4	
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18	27	5	
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42	\$2.2	4	OB 8:18
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DEPTH	TIME	MIN.	REMARKS
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5-51	1-12	1-	
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54	239	2	
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56	52	14	
54	1008	16.	V150, 43
55	17	9	
39	3.2	15	
2460	11.3	11	
41	53	10	
62	1105	1.5	
63	25	17	
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24 65	40	2	
64	46	4	
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170	1217/6	4	((())))
73	23	17	
1724	1232	9	
2475	12:44	12	
76	12:56	12-	
	1:02	6	
78	1:08	4	
79	1:113	5	
24 80		4	
51	1:22	5	
52	1. 29	7	
- 83	1:37		
7,101	1. 4.5	12	
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94	34	11	
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25:01,	11:23	13	E Cuttings receiv

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COMPANY		FARM	WELL NO.
SEC. TWP.	.RGE. LOC.	COUNTY	STATE
CONTRACTOR		SIZE HOLE	DRILL PIPE
REMARKS:	, 100	SIZE PUMP LINERS	LENGTH STROKE
	auto hole @	5.16 PM	
DATE	U		

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DEPTH	TIME O'CLOCK	MIN.	REMARKS
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5--27-74

Grinnell 1974 Jordan well # B Ed Winslow brought cuttings to dapth of 2500' (2510' contract TD) Drilling sturted 3-19=74 Csq schedule: 235' of 26" and csg. 715' of 20", 3/8" wall csg. 1,290' of 12" csg. computed in 171/2" hole 11" open hole 12" csg. extende 3' above ground Driller's Tops ! Jordan 2185 St. Lawrence 2239 Top of Franc. from preliminary study of wet wattings: approx. 2480

Grunell Well folde

l

2500

May 31, 1974

Mr. Gil Tavner Stanley Engineering Company Stanley Building Muscating, Iowa 52751

Dear Mr. Tavner,

Ed Winslow delivered drill cuttings to a depth of 2400" in the new Grinnell City well #8 on May 27, 1974. Preliminary analysis of wet samples indicates that the top of the Franconia was encountered at a depth of about 2480'.

Very truly yours,

Donald L. Kech Chf. Subsurface Geol.

DLK:mph

GW Grinnell city well (1974)

April 26, 1974

Mr. Gil Tavner Stanley Engineering Company Stanley Building Muscatine, Iowa 52861

Dear Mr. Tavner,

Ed Winslow delivered drill cuttings from the interval 1600' - 1980' in the new Grinnell City well on April 23, 1974. Identified and estimated formation depths are as follows:

St. Peter	1691'
Prairie du Chien	
Willow River	1721'
Root Valley	1890'
Oneota	1980'
Jordan	2185'
St. Lawrence	2240'

Mr. Winslow related that the contract specifications require 12-inch casing to be set 270 feet below the base of the St. Peter. In discussion this part of the casing schedule with you by telephone on 23 April, I made the following statements:

- 1. Comparison of water analyses from existing deep wells at Grinnell and their respective casing records gives no indication that water quality from the well under construction will be significant@yimproved by setting the casing 270 feet below the base of the St. Peter.
- 2. If the Jordan is more tightly cemented at this site than in the other wells, the expected yield might be significantly reduced by casing off the Willow River and Root Valley Members of the Prairie du Chien.

These statements are made as a matter of record to show our conclusions relatige to the casing schedule that you established.

Sincerely,

Donald L. Koch Chf. Subsurface Geol.

DLK:mph



## STANLEY CONSULTANTS, INC

STANLEY BUILDING MUSCATINE, IOWA 52761 TELEPHONE : 319/263-9494 CABLE : STANLEY MUSCATINE IOWA TELEX : 468402

November 11, 1974

Mr. Paul J. Horick Chief Ground Water Geology Iowa Geological Survey 16 West Jefferson Street Iowa City, Iowa 52242

Dear Mr. Horick:

Re: Pumping Tests, Well No. 8 Grinnell, Iowa

Please forgive the delay in answering your request regarding pumping tests for the new Grinnell City Well No. 8. I was in attendance and supervised the first 3 hours of the most recent pumping test which took place on October 21 and 22 but have been awaiting the well drillers' record of the final 21 hours.

Prior to acid treatment the well was pumped for 24 hours on September 12-13 at 1,040 gpm and showed a specific capacity of 5.85 gpm per foot. Static water level, measured with an electric depth gage was 371 feet below the top of the casing at that time.

Following our recommendation to the city to accept the well drillers' proposal for acid treatment, the well was given acid treatment. Particulars of the method used are described in our letter of recommendation to the city, a copy of which was sent to Mr. Walt Steinhilber at your office.

Subsequent to acidizing in this manner, the well was pumped for 24 hours at 1,404 gpm with a resulting specific capacity of 33.8 gpm per foot of drawdown. All depth measurements of this test were made by electric gage. Discharge was measured by standard discharge orifice. Static water level before commencement of pumping was 373'-3" below the top of casing. Maximum pumping level (achieved after 8 hours and held for the remaining 16 hours) was 414'-10".

This acid job improved well yield 483% PSH

Our specifications call for the well drilling contractor to submit a complete record of all pumping test measurements to your office and no doubt you will be receiving this in due course.

My regards to Walt Steinhilber who will be interested to learn of the satisfactory outcome of the acid treatment.

Sincerely,

STANLEY CONSULTANTS, INC.

.e aven G. F. Tavener

u. I. lavellel

GFT:mec:5902

cc: Mr. Thomas H. Hawkins

October 16, 1974

Mr. Gil Tavener Stanley Engineering Company Stanley Building Muscatine Iowa 52661

Dear Mr. Tavener,

Do you have the final construction and production test data on the new Grinnell city well no. 87 I would appreciate a copy of this to complete our file on thes installation. Was the well developed by acidizing or shooting? I would like all details, including before and after development pumping test information on static and pumping levels and pumping rates.

Thank-you.

Very truly yours,

Paul J. Horick Chief, Groundwater Geology

PJH:tls

Grennell No. 8 Surface elevation estimated from NK map 1022 a.s.l. RTHORick

SINCE 1934



Industrial, Municipal, Farm and Home Cable Tool and Rotary Well Drilling

PHONE, DAV. (319) 391-5740 P.O., WALCOTT, IOWA, R. R. 1 52773

November 4, 1974

Iowa Geological Survey 16 West Jefferson Street Iowa City, Iowa 52240

> Ref: Grinnell, Iowa city well

Attention: Mr. Van Heck,

Enclosed you will find two well test from the Grinnell well. One is before acidizing and the other after acidizing by Mr. Ed Winslow's technique.

Sincerely yours,

WINSLOW DRILLING CO.

Phyllie g. Winitour

Phyllis J. Winslow, secretary