

**TABLE I**

**Fairfax, Iowa Town Well**

**Location:** NWSE sec. 16, T. 82 N., R. 8 W.

**Total Depth:** 410'

**Elevation of land surface datum:** 770'

**Contractor:** Hoeg & Amos

**Driller:** Ken Kroger

**Date drilled:** November 1959

**Hole size:** 10" hole to 115'; 8" hole to bottom

**Casing data:** 10" casing to 124'; 117' 8" of 8" liner from 115' to 233' 8";  
lead seal 116' to 124'

**Water level:** Static water level was 21.58' below top of casing which was 1.3'  
above land surface datum

**Test pump:** Turbine powered by gas engine with direct drive

**Aquifer:** Silurian limestones

**Measurements:** Water level measurements made by air line. Discharge rate  
determined by periodic measurements of flow into a large  
tank. Air line set at 100'.

TABLE II

## Fairfax, Iowa Town Well

Time (min)	Air- line	Water Level	Draw- down	GPM	Remarks
0	79	21			
1	69	31	10		
2	67	33	12		
3	65	35	14		
4	64	36	15		
5	62	38	17		
6	60	40	19		
7	60	40	19		
8	60	40	19		
9	60	40	19		
10	60	40	19	90	
12	59	41	20		
14	58	42	21		
16	57	43	22		
18	56	44	23		
20	56	44	23		
22	56	44	23		
24	56	44	23		T - 53°
26	56	44	23	105	
28	56	44	23		
30	56	44	23		
35	56	44	23		
40	56	44	23		
45	56	44	23		
50	56	44	23		
55	56	44	23		T - 53°
60	56	44	23	98	
65	56	44	23		
70	56	44	23		
75	55	45	24		
80	52	48	27		
85	50	50	29	112	
90	50	50	29		T - 53°
95	50	50	29		
100	48	52	31		
105	48	52	31		
110	48	52	31		
115	47	53	32		T - 53°

Fairfax, Iowa, Table II

Time (min)	Air- line	Water Level	Draw- down	GPM	Remarks
120	47	53	32	119	
125	43	52	31		
130	43	52	31		
135	47	53	32		
140	47	53	32		
145	47	53	32		
150	46	54	33		
155	45	55	34		
165	45	55	34		
170	47	53	32		
175	47	53	32		
180	47	53	32		T - 53°
185	46	54	33	112	
190	47	53	32		
195	46	54	33		
200	46	54	33		
205	46	54	33		
210	46	54	33		
220	46	54	33		
230	46	54	33		
240	45	55	34	119	
250	44	56	35		
260	44	56	35		
270	43	57	36		
280	43	57	36		
290	42	58	37		
300	42	58	37	119	
310	42	58	37		
320	42	58	37		
330	42	58	37		
345	42	58	37		
360	42	58	37	119	
375	42	58	37		
390	42	58	37		
405	42	58	37	119	
420	42	58	37		

**Fairfax, Iowa, Table II**

<b>Time (min)</b>	<b>Air- line</b>	<b>Water Level</b>	<b>Draw- down</b>	<b>GPM</b>	<b>Remarks</b>
<b>Recovery</b>					
421	66	34	13		
422	76	24	3		
423	78	22	1		
424	78	22	1		
425	78	22	1		
426	78	22	1		
427	79	21	-		
428	78	22	1		
429	77	23	2		
430	77	23	2		
432	78	22	1		
434	79	21	1		
436	79	21	-		
438	79	21	-		
440	79	21	-		
445	79	21	-		
450	79	21	-		
465	79	21	-		
480	79	21	-		

**The following were tape measurements:**

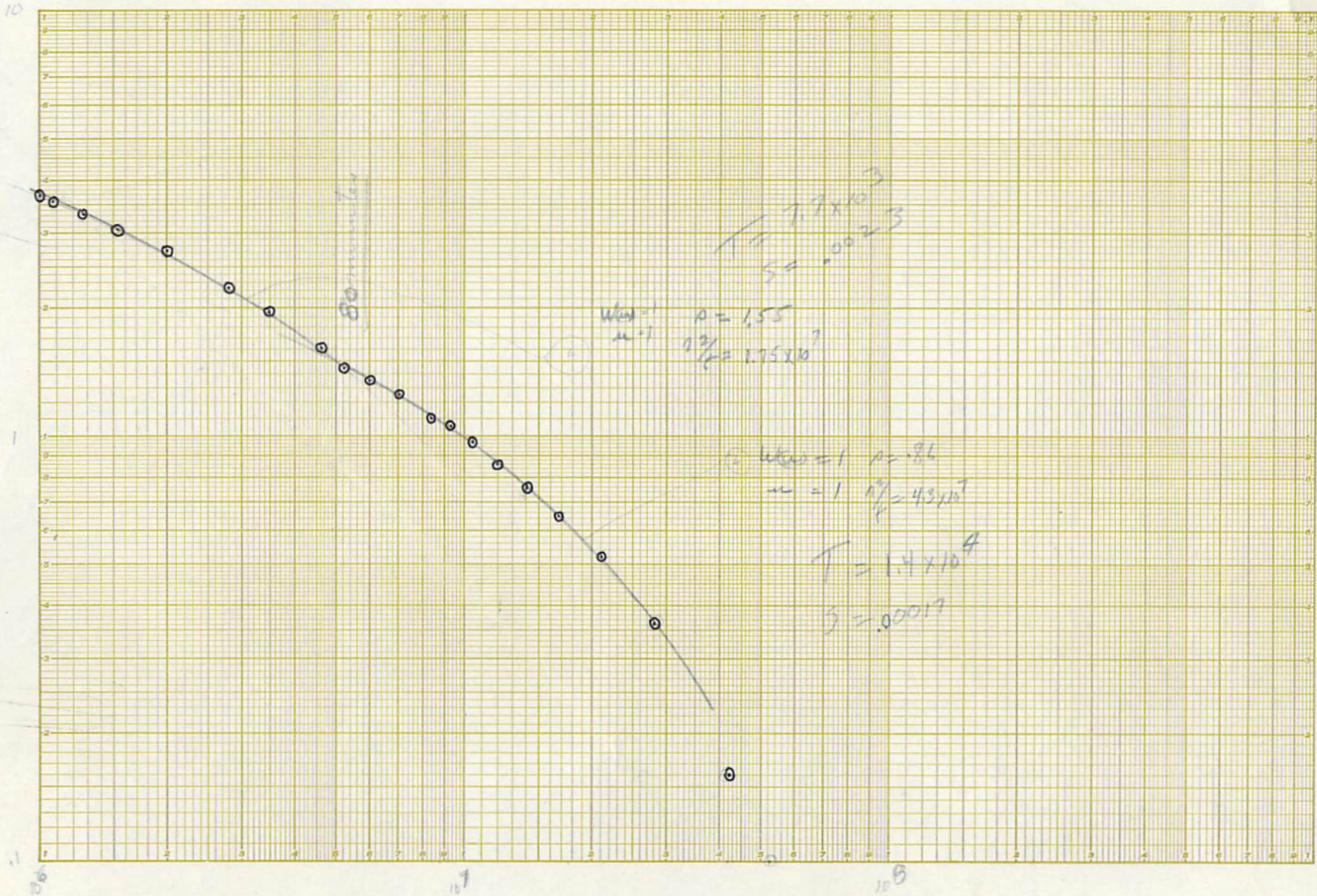
**Tape held at 25.00**  
**Wet 3.42 WL 21.58**  
**Time: 9:20 a. m.**  
**Date: November 24, 1959**

**Tape: 25.0**  
**Wet 2.8 WL 22.2**  
**Date: November 25, 1959**  
**Time: 9:05 a. m.**

FAIRFAX  
also well



7 HCL



10<sup>4</sup>

$$\frac{2^2}{\epsilon} = \frac{(540)^2}{\epsilon/440}$$

$$2 = 540'$$

$$Q = 120$$

$$\frac{2^2}{\epsilon} \left( \frac{H^2}{2g} \right) \frac{42 \times 10^7}{t}$$

Time $t$ (min)	dd-st $\alpha$		
2	70.05		
4	70.04		
6	.03	<del><math>1.4 \times 10^{+10}</math></del>	$7 \times 10^7$
8	.10	<del><math>4.2 \times 10^{+9}</math></del>	$5.25 \times 10^7$
10	.16	<del><math>2.6 \times 10^{+9}</math></del>	$4.2 \times 10^7$
15	.36	<del><math>1.7 \times 10^9</math></del>	2.8
20	.52	<del><math>8.07 \times 10^8</math></del>	2.1
25	.65	<del><math>6.46 \times 10^8</math></del>	1.68
30	.76	<del><math>5.5 \times 10^8</math></del>	1.4
35	.86	<del><math>4.88 \times 10^8</math></del>	1.2
40	.97	<del><math>4.34 \times 10^8</math></del>	1.05
45	1.05	<del><math>4.0 \times 10^8</math></del>	$9.33 \times 10^6$
50	1.10	<del><math>3.82 \times 10^8</math></del>	8.4
60	1.26	<del><math>3.34 \times 10^8</math></del>	7.0
70	1.36	<del><math>3.09 \times 10^8</math></del>	6.0
80	1.46	<del><math>2.88 \times 10^8</math></del>	5.25
90	1.61	<del><math>2.59 \times 10^8</math></del>	4.67
120	1.96	<del><math>2.14 \times 10^8</math></del>	3.5
150	2.23	<del>1.88</del>	2.8
210	2.72	<del>1.6</del>	2.0
270	3.05	<del>1.38</del>	1.55
330	3.32	<del>1.27</del>	1.27
390	3.57	<del>1.18</del>	1.08
420	3.64	<del>1.15</del>	1.00



9-230  
 25.  
 7.12  
 17.88

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY

File No. { Washington \_\_\_\_\_  
 District \_\_\_\_\_

24 Nov 59

Obo well 540' from pumping well  
 M1? 1.15 also

9:30 A

t (min)	HR	W <sub>st</sub>	W <sub>L</sub>	dd'									
0	20.00	(static)	17.88										
2		2.17	17.83										
4		2.16	17.84										
6		2.09	17.91	0.03									
8		2.02	17.98	0.10									
10		1.96	18.04	0.16									
15	21.00	2.76	18.24	0.36									
20	20.00	1.60	18.40	0.52									
25		1.47	18.53	0.65									
30		1.36	18.64	0.76									
35		1.26	18.74	0.86									
40		1.15	18.85	0.97									
45		1.07	18.93	1.05									
50		1.02	18.98	1.10									
60		0.86	19.14	1.26									
70		0.76	19.24	1.36	x/c								
80	21.00	1.66	19.34	1.46	211	422	4:32	(2)	2200	0.55	21.45	3.57	
90	21.00	1.51	19.49	1.61	106	424		4	"	0.64	21.36	3.48	
120	"	1.16	19.84	1.96	71	426		6					
150	"	0.89	20.11	2.23	53.5	428		8	25.00	2.59	22.43	4.55	
1:00	22.00	1.40	20.69	2.72	43	430		10	23.00	1.51	21.49	3.61	
2	270	1.07	20.93	3.05	36	432		12	22.00	0.82	21.18	3.30	
3	330	0.80	21.20	3.32	29	435		15	"	1.02	20.98	3.10	
4	390	0.55	21.45	3.57	21	440		20	"	1.18	20.82	2.94	
4:30	420	0.48	21.52	3.64	17.8	445		25	21.00	0.32	20.68	2.80	
					15	450	5:00	30	"	0.46	20.54	2.66	
					11.5	460		40	"	0.61	20.39	2.51	
					9.4	470		50	"	0.52	20.48	2.60	
					8	480	5:30	60	"	0.86	20.14	2.26	
					4.5	540	6:30	120	"	1.30	19.70	1.82	
					3.8	570	7:00	150	"	1.50	19.50	1.62	
					3	630	8:00	210	"	1.76	19.23	1.35	
					2.56	690	9:00	270	"	1.85	19.15	1.27	
					2.16	780	10:30	360	"	2.04	18.96	1.08	u/ab.
					1.51	1245	6:15	825	"	2.69	18.31	0.43	25 Nov

Recovery

pumps on several times - dinner time

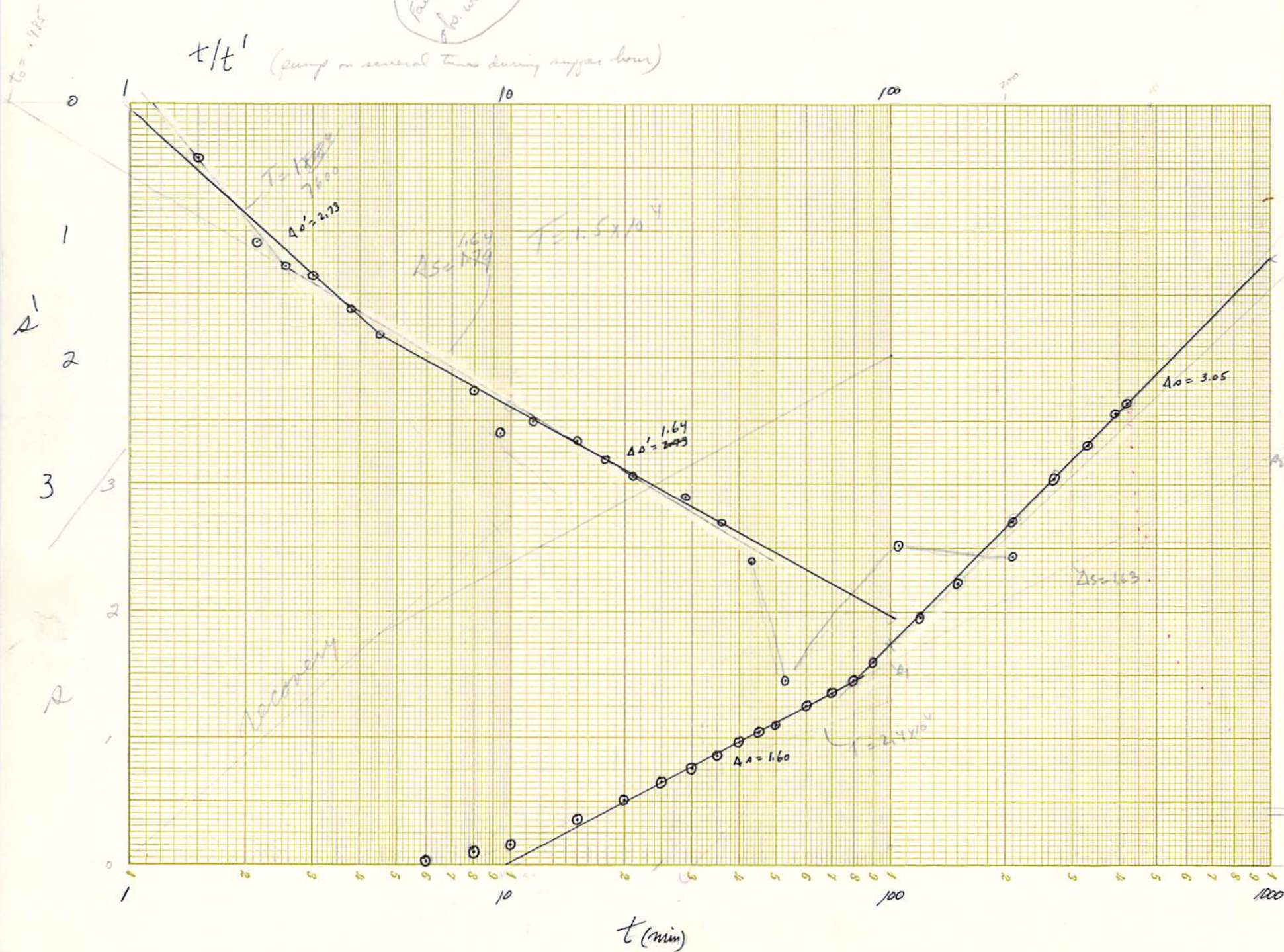
before pump on in AM



2.57  
1.77

*Fairfax  
No. 100*

$x/t'$  (pump on several times during sugar hour)



*A'*

*t (min)*

*3*  
*2*  
*1*  
*0*



Table 3  
 observation well  
 Fairfax, Iowa

Well 230' deep; 6" diameter; rock-85'; static water level 17.88'

Time (min)	Hour	Wet	Water level	dd	Remarks
0	(9:30)	25.10	7.12		static water level = 17.88'
2					
4					
6					
etc					

390

420 (4:30 P)

Recovery

422 (4:32 P)

424 (4)

426 (6)

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY

File No.

Washington

District

3

70.00

110

68.90

HAWKEYE VILLAGE

#2

SEPT. 30, 1959

E tape 68.3

DATE TIME	LINK	Depth to Water	SWL = 68.9	Time	Depth		
1:30				3:35	120'0"		
1:34				3:40	120'4"		
1:37		121'11"		3:45	120'8"		120
1:41		125'6"		3:50	120'11"		17
<del>1:51</del>		<del>120'0"</del>		3:55	121'3"		118.5
1:52		152'6"		4:00	121'3"		120
1:54		152'4"		4:05	121'4"		10
2:00		152'4"		4:10	121'7"		32
2:05		152'6"		4:15.30	121'11"		
2:10		152'7"		4:20	122'4"		
2:15		132'3"		4:25	122'4"		
2:17		128'0"		4:30	122'5"		
2:18		122'3"		4:35	122'6"		
2:19		119'3"		4:40	122'7"		
2:20		118'5"		4:45	122'9"		
2:22		118'5"		4:50	122'11"		
2:24		118'2"		4:55	123'0"		
2:26		118'8"	155 G.P.M.	5:00	123'3"		
2:30		117'8"	152 G.P.M.	5:05	123'7"	← #1 shut off	
2:35		117'5"		5:07	122'10"		
2:40		117'3"		5:09	122'6"		
2:45		117'3"		5:11	122'0"		
2:50		117'3"		5:13	121'7"		
2:55		117'5"		5:15	121'3"		
3:00		117'11"		5:17.30	120'11"		
3:05		118'1"		5:19	<del>98.00</del>	Pump OFF #2	
3:10		118'4"		5:20	98.00		
3:15		118'7"		5:22	97.00		
3:20		119'2"		5:30	91'11"		
3:25		119'6"					
3:30		119'6"					
3:45							

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

File No. { Washington \_\_\_\_\_  
District \_\_\_\_\_

71.00  
0.79  
69.21

308  
225  
83

HAWKEYE VILLAGE #1 - SEPT. 30, 1959

308  
163  
145  
308  
158  
150  
308  
158  
150  
308  
164  
147  
308  
158  
140  
308  
160  
148  
308  
156  
152

Date SEPT. 30 1959 Time	Line	Read	Depth	SWL (G.P.M.)					
1:40	69.21								
1:55		56.8		170 GPM					
1:59		62.8		170 GPM					
2:00		59.8							
2:02		59.8							
2:03		59.8							
3:05		60.00							
<del>1:40</del>	<del>69.21</del>			SWL 69.21					
1:55		AIRLINE		170 GPM - PUMP ON					
2:10		145							
2:13		148							
2:18		150							
2:23		150							
2:25		148							
2:30		150							
2:35		150		162 GPM					
2:40		144		153 GPM					
2:50		144							
3:05		146							
3:15		146		153 GPM					
3:30		148							
3:45		148							
4:00		148							
4:15		148							
4:30		152							
4:45		152							
5:00		152							

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

File No. { Washington \_\_\_\_\_  
District \_\_\_\_\_

	TIME	AIR LINE	WATER LEVEL	DRAW DOWN	GPM							
280	2:10	43	57	36								
290	2:20	42	58	37								
300	2:30	42	58	37	119							
310	2:40	42	58	37								
320	2:50	42	58	37								
330	3:00	42	58	37								
345	3:15	42	58	37								
360	3:30	42	58	37	119							
375	3:45	42	58	37								
390	4:00	42	58	37								
405	4:15	42	58	37	119							
420	4:30	42	58	37								
441 (1)	4:31	66	34	13								Recovery
2 (2)	32	76	24	3								
3 (3)	33	78	22	1								
(4)	34	78	22	1								
(5)	35	78	22	1								
(6)	36	78	22	1								
(7)	37	79	21	—								
(8)	38	78	22	1								
(9)	39	77	23	2								
430 (10)	40	77	23	2								
(12)	42	78	22	1								
(14)	44	78	22	1								
(16)	46	79	21	—								
(18)	48	79	21	—								
440 (20)	50	79	21	—								
(25)	55	79	21	—								
450 (30)	5:00	79	21	—								
(40)	5:10	79	21	—								
480 (44)	5:30	79	21	—								

9<sup>55</sup> AM 25 Nov 59 Type 250-2.8 = 22.20 W/L

Town Clerk - P. A. ...

W. A. B. - NAMES -

P.O. Box 670 ...

CARL BECHNER - ENR ...