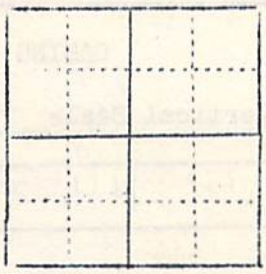
field located Karsten 1978

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

M. 5741

RECORD OF WELL



Location:

Town: Marion (N E / S W) :County Linn

NENENE NW NENENW sec. 1 T 83 N., R. 7 E. W. Twp.

Well name and number City Well No. 2 (1953)

Owner City of Marion Address

Tenant Address

Contractor Hoeg & Ames Address Lincoln, Ia.

Drillers Homer Rhodes

Drilling dates Nov 1952 —

Well data:

Elevations: Drilling curb feet; Land surface feet

Determined by

Topographic position

Total depth: Reported 441 feet, Measured feet

Drilling method Cable tool

Hole and casing data 20' 4" OF 20" SURFACE PIPE

119' 9" OF 12" CASING - CEMENTED BOTTOM TO TOP

5' MORE 12" TO BE ADDED FOR FILL

Original depth to water ft. above / below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal ; Others

Production data: Date 1/14/53

Static depth to water 12.64 Measuring point _____

Pumping level 144' at 470 GPM. g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity _____ g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data: Type pump _____ Column Dia. _____ Length _____

Cylinder or bowls: Dia. _____ Length _____ Suction pipe _____

Power _____ Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a day

Use of water _____

WATER ANALYSES (in parts per million)

Date samples				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
$Fe_2O_3+Mn_2O_3+Al_2O_3$				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location EA5-1,2

Sample range 0-441 No. spls. 89 No. dupls. & Cond. 89 good

Spls. prepared by DeRoma Washed range 20-441 by DeRoma

Driller's log and cond. _____

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study _____ strip log JW.T. FEB. 1953

Gen. log _____ Correl. by NORTHUP

9-220 Well #1 Ob. well

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

Pumping Test at Morton City Well #2 (1953) Jan 17, 15 & 16, 1953

Time (min)	Date	Time	D/W	GPM	dd		Time (min)	Date	Time	D/W	GPM	dd	
	1-14-53	1:08 pm	10.40	SWL			187	1-14-53	4:15	53.05		42.65	
16		1:24	10.57		.17		192		4:20	53.96		43.56	
22		1:30	10.55		.15		202		4:30			Pump off	
27		1:35	10.54		.14		215		4:43	23.55		13.15	
32		1:40	10.52		.12		233		5:01	21.90		11.50	
37		1:45	10.49		.09		317		6:25	21.68		11.28	
42		1:50	10.47		.07		334		6:42	21.79		11.39	
47		1:55	10.57		.17		352		7:00	21.94		11.54	
52		2:00	10.77		.37		369		7:17	22.08		11.68	
57		2:05	10.96		.56		383		7:31	22.17		11.77	
62		2:10	11.25		.85		396		7:44	22.25		11.85	
67		2:15	11.63		1.23				7:45		530	Pump on	
72		2:20	12.05		1.65		411		7:59	58.92		48.52	
77		2:25	12.43		2.03		427		8:15	61.97		51.57	
82		2:30	12.76		2.36		442	✓	8:30	63.53		53.13	
87		2:35	13.11		2.71		459		8:47	65.10	475	54.70	
92		2:40	13.43		3.03		471		8:59	65.78		55.38	
97		2:45	13.67		3.27		490		9:18	66.57	470	56.17	
102		2:50	13.90		3.50		509		9:37	67.18		56.78	
107		2:55	14.16		3.76		525		9:53	67.60	465	57.20	
112		3:00	14.37		3.97		541		10:59	68.20	445	57.80	
117		3:05	14.42		4.02		628		11:36	67.27	440	56.87	
122		3:10	14.55		4.15		652	✓	12.00	65.59	430	55.19	
127		3:15	14.72		4.32		677	1-15-53	12:25a			Pump off.	
132		3:20	14.95		4.55		782		2:10	30.97	37	20.57	drillers measurements
137		3:25	15.25		4.85		897		5:45	24.00		13.60	
142	10	3:30	15.49		5.09		1162		8:30	30.99		20.59	
152	10	3:40	16.09		5.69		1177		8:45	28.08		17.68	
162	10	3:50	16.61		6.21		1192	✓	9:00	25.48		15.08	
167	5	3:55			Pump turned off		1207		9:15	23.42		13.02	
182	15	4:10	57.17		40.77		1222		9:30	23.28		12.88	

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9-220

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District 2

Well #1

	Date	Time	D/W	GPM	dd		2nd	Date	Time	D/W	GPM	dd	
1237	1-15-53	9:45 a	23.80		1350		2257	1-16-53	2:45	71.1	410	60.70	
1252		10:00	24.40		14.00		2332		4:00	71.1	410	60.70	
1267		10:15	24.72		14.32		2392		5:00	71.1	410	60.70	
1282		10:30	25.02		14.62		2452		6:00	71.1	410	60.70	
1297		10:45	25.20		14.80		2482		6:30			Pump off	
		10:46		490	Pump	on	2632		9:00	28.5		18.10	
1822		11:10	62.60	470	52.20		2752		11:00	34.8		24.40	
1350		11:38	65.81	462	55.41		2785		11:33	29.57		19.17	
1488		1:56 p	70.50	440	60.10		2947		1:45	20.99		10.49	
1516		2:24	71.00	440	60.60		3000		3:08	16.63		6.23	
1537		2:45	71.40	140	61.00								
1562	✓ 26hrs	3:10	71.75	440	61.35								
1582		3:30	71.97	490	61.57								
1606		3:54	71.96	410	61.56								
1618		4:06	71.93	435	61.53								
1627		4:15	71.99	435	61.59								
		~~4:30~~ 4:50			Pump	off							
1762		6:30	32.14		21.74								
		7:35			Pump	On							
1837		7:45	64.4	520	54.00								
1867		8:15	69.2	500	58.80								
1912	✓	9:00	71.5	460	61.10								
1942		9:30	71.9	455	61.50								
1972		10:00	71.8	450	61.40								
2002		10:30	71.8	440	61.40								
2037		11:05	71.8	435	61.40								
2062		11:30	71.8	430	61.40								
2092	✓	12:00	71.6	420	61.20								
2122	1-16-53	12:30	71.2	415	60.80								
2152	✓	1:00	69.9	410	59.50								
2192		1:40	71.0	410	60.60								

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9-230

Well #2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... / District .....

1

Pumping Test at Marion City Well #2 (1953) Jan 14 1-4 16, 1953

Date	Time	GW	GPM	dd								
1-14-53	12:53p	12.64	SWL									
	1:24	14.90										
	1:28	10.91										
	1:34	12.64										
	1:45	12.53										
	1:48			Pump started								
	1:30	59.70										
	1:52:30	86.51		Pump rate increased								
	1:54	85.05										
	2:02	70.00		Pumping rate unsteady								
	2:04			Pumping rate increased								
	2:22	124.17										
	2:27	124.75										
	2:32	121.51		Pumping rate fluctuating badly								
	2:41	119.65										
	2:58			Pump off								
	3:04			Pump on engine missing badly								
	4:30	145.00		Engine ok pump rate increased								
	4:53	147.26										
	4:58			Pump off to fix discharge pipe								
	5:20	144.06		Pump on								
	6:30	144.00	460	Pump steady								
	7:00	142.12										
	7:37	142.73										
	8:00	143.15										
	9:55	144.65	470									
	10:10	144.84										
	11:35	145.22	460									
	11:46	145.75										
1-15-53	12:15a	145.12										
	12:34	145.40										
	2:35	143.1										

M.P. top of 12" csg approx 1' above lsd

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9-230

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

Well #2

2

Date	Time	D/W	GPM								Time	D/W
1-15-52	7:00a	141.4									12:56	29.93
	8:25	142.03									12:59	29.16
	8:27				Increased pumping rate						1:01	26.77
	8:30				Pump off to change pulley						1:05	25.53
	9:15				Pump on						1:11	24.11
	9:17				Water Level below pump bowls at 160'							
	1:25p		640		52° F						1:15	23.35
	4:30		610								1:20	22.61
	6:30		625								1:25	21.89
	7:30		610								1:30	21.42
	8:30		610								1:40	20.48
	8:55		620								2:00	19.09
	10:00		620								2:15	18.22
	10:30		610								2:30	17.54
	11:30		610								Pump turned on again	
1-16-52	12:30		610									
	1:30		610									
	6:10				Engine stopped							
	7:10		610									
	7:30		610									
	8:15		610									
	8:40		610									
	9:15		610									
	9:30		610									
	10:05		500		Reduced pump speed							
	10:45	140.50	510									
	10:55	140.92	510									
	11:35	140.00	510									
	11:45	139.3	530									
	12:50p				Pump off, broken belt							
	12:54	32.10										

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