072-10W-24DBC

V-3535

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

RECORD OF WELL

Location:

Town: Fairfield (N E / S W): County Jefferson

SW NW SE sec. 24 T 72 N., R. 10 W. Center Twp.

Well name and number City of Fairfield test well No. 4

Owner City of Fairfield Address

Tenant Address

Contractor Nelson Well Company Address Fairfield

Drillers

Drilling dates January, 1949

Well data:

Elevations: Drilling curb 748± feet; Land surface 748± feet

hand level from well #3

Determined by W.E.H.

Topographic position slope near west shore of Reservoir No. 1

Total depth: Reported 220± feet; Measured feet

Drilling method Cable tool

Hole and casing date 6" casing extends to depth of feet; slotted 5 3/4" pipe from to 220'.

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 _____

Static depth to water _____ Measuring point _____
Pumping level _____ at _____ 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 AIALYSES (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				
Chlordie				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location CE 6-4

Sample range _____ No. spls. _____ No. dupls. & cond. _____
Spls. prepared by _____ Washed range _____ by _____
Driller's log and cond. _____
Insoluble residues: Prepared by _____ Studied by _____ Strip log _____
Microscopic study _____ strip log _____ Feb 25 1949
Gen. log _____ Correl. by _____

W 3535
Folder

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RESULTS OF PRODUCTION TEST OF FAIRFIELD TEST WELL NO. 4
Fairfield, Iowa August 2, 1949

NAME: City of Fairfield Well No. 4

LOCATION: SW NW SE Sec. 24, T. 72 N., R.10.W.

COMPLETION DATE: January, 1949

CONTRACTOR: Nelson Well Co., Fairfield, Iowa

TOTAL DEPTH: 220 feet

ELEVATION: 746 feet above sea level

CASING & HOLE DATA: 6"-casing top. 5-3/4" slotted bottom

TEST PUMP: Electric turbine

WATER LEVEL MEASUREMENTS: Depth to water measurements were made with an electric measuring line. Reference point for measurements was top of casing 1.11 feet above land surface. The measuring point has an elevation of 135.06 feet.

DISCHARGE MEASUREMENTS: Discharge rate was measured with a meter graduated in cubic feet. One dial registering cubic feet from one to ten and a second dial registering total amount of water discharged.

REMARKS: Elevations using 100 as datum have been established for measuring points of the four wells in the Fairfield well field. During pumping of well #4 measurements were made on well #1 and well #2. These measurements, along with the elevation of the water level for each depth to water measurement, accompany this report.

Observation and measurements were made by J. B. Cooper, C. W. Lane, and E. M. Rodin, Geological Survey, Iowa City, Iowa

FAIRFIELD WELL NO. 4

TIME Aug. 2, 1949	WATER LEVEL IN FEET Depth To	Elevation	DISCHARGE Meter (Cu.Ft.)	G.P.M.	REMARKS
11:23 A.M.	44.0	91.06	57,148.7		
11:27					Pumping started
11:28	49.75	85.31			
11:29	49.77	85.29			
11:30	49.83	85.23			
11:32	49.89	85.17			
11:35	50.00	85.06			
11:36			57,413	220	Water clear. No sand.
11:40	50.10	84.96			
11:45	50.20	84.86			
11:50	50.26	84.80			
11:55	50.36	84.70			
12:00 Noon	50.43	84.63			
12:05 P.M.	50.50	84.56			+ check
12:10	49.44	85.62			
12:12			58,460	197 gpm	
12:15	49.60	85.46			
12:20	49.64	85.42			
12:25	49.68	85.38			
12:30	49.77	85.29			
12:35	49.80	85.26			
12:38			59,120	190 gpm	
12:40	49.85	85.21			
12:45	49.88	85.18			
12:55	49.88	85.08			
1:05	50.08	84.98			
1:09			59,930	195 gpm	
1:15	50.15	84.91			
1:25	50.17	84.89		205	
1:35	50.34	84.72			
1:45	50.44	84.62			
1:55	50.47	84.59			
2:05	50.46	84.60			
2:15	50.47	84.59		198 gpm	check
2:26			61,960	195	
2:30	50.71	84.35		200	
2:45	50.81	84.25			
3:00	50.90	84.16			
3:15	51.00	84.06		202 gpm	
3:27			63,610	205	
3:30	51.10	83.96			
4:00	51.21	83.85			
4:30	51.26	83.80			

x slide rule

3

FAIRFIELD WELL NO. 4 (Cont.)

TIME Aug. 2, 1949	WATER LEVEL IN FEET Depth To	Elevation	DISCHARGE Meter (Cu.Ft.)	G.P.M.	REMARKS
5:00	51.52	83.54			
5:01			66,190	205	
5:15	51.60	83.46			
5:17			66,640	211	Water temperature 54 F. Water has H.S. odor/
5:30	51.70	83.36			
5:31			67,032	~~209~~	Pumping stopped.
5:32	46.42	88.64		209	Recovery measurements.
5:33	46.40	88.66			
5:34	46.35	88.71			
5:35	46.30	88.76			
5:37	46.27	88.79			
5:40	46.15	88.91			
5:42	46.10	88.96			
5:44	46.05	89.01			
5:46	46.05	89.01			
5:50	45.98	89.08			
5:55	45.93	89.13			
6:00	45.88	89.18			
6:05	45.80	89.26			
6:10	45.80	89.26			
6:20	45.70	89.36			
6:30	45.63	89.43			

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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GPO 6—9333

Fairfield #1

	1949 Time Aug 2	Water level in feet Depth to	Elev.	Discharge Meter cu. Ft	G.P.M.		Elev. of w/l						
	11:23A	44.0		5714.87			91.06	[Elev. of M.P. = 135.06'					
	11:27							Pumping started					
1	11:28	49.75					85.31	MP TC 1.18' below BM]					
2	11:29	49.77					85.29						
3	11:30	49.83					85.23						
5	11:32	49.89					85.17						
8	11:35	50.00					85.06						
	11:36			5714.3	220			Water clear & no sand					
13	11:40	50.10					84.96						
18	11:45	50.20					84.86						
23	11:50	50.26					84.80						
28	11:55	50.36					84.70						
33	12:00	50.43					84.63						
38	12:05	50.50					84.56						
43	12:10	49.44					85.62						
	12:12			5846									
48	12:15	49.60					85.46					1000#	
53	12:20	49.64					85.42						
58	12:25	49.68					85.38						
63	12:30	49.77					85.29						
68	12:35	49.80					85.26						
	12:38			5917.0									
73	12:40	49.85					85.21						
78	12:45	49.88					85.18						
88	12:55	49.98					85.08						
108	1:05	50.08					84.98						
	1:09			5993.0									
118	1:15	50.15					84.91						
128	1:25	50.17			205		84.89	[75 gal in 22 sec. (Drop Weir)]					
138	1:35	50.34		23			84.72						
148	1:45	50.44		22.7			84.62						

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UNITED STATES
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GPO 6—9333

5 4402 5

5 2202 3:73 4627

Fairfield #4

	Time	D/W		Discharge Meter ft³	GPM		Elev. of W/L						
158	1:55	50.47	24.5				84.59	[189' gas line]					
168	2:05	50.46	22.8				84.60						
178	2:15	50.47					84.59						
	2:26			61960	195			[75 sec in		23 sec.	(Stop watch)		
193	2:30	50.71			200		84.35	150 sec in		45 sec.			
208	2:45	50.81					84.25						
223	3:00	50.90					84.16						
238	3:15	51.00					84.06						
	3:27			63610	205			[75 / 150	in	22 / 44	(Stop watch)]		
253	3:30	51.10					83.96						
283	4:00	51.21					83.85						
313	4:30	51.26					83.80						
343	5:00	51.52					83.54	[75	in	22 sec.			
	5:01			66190	205			150	in	43½ sec	(Stop watch)		
358	5:15	51.60					83.46	75	in	22 sec.			
	5:17			66640				Water temperature 54°F. water has					
373	5:30	51.70					83.36	H_2S odor.					
	5:31			67032				Pumping stopped.					
	5:32	46.42					88.64			Recovery Measurement			
	5:33	46.40					88.66						
	5:34	46.35					88.71						
	5:35	46.30					88.76						
	5:37	46.27					88.79						
	5:40	46.15					88.91						
	5:42	46.10					88.96						
	5:44	46.05					89.01						
	5:46	46.05					89.01						
	5:50	45.98					89.08						
	5:55	45.93					89.13						
	6:00	45.88					89.18						
	6:05	45.80					89.26						

[8 gauges 5" from top 96' / 25" 62' rod & meter]

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. Washington 6
District ....

GPO 6—9333

Fairfield #4

Time	P/w					Elev. of W.L.						
6:10	45.80					89.26						
6:20	45.70					89.36						
6:30	45.63					89.43						

John C. Moore Corporation, Rochester, N. Y. Binder and holes in leaves Patented. FORM 427575

MOORE'S MODERN METHODS

Fairfield

Feb. 7, 1949
JBC - CWL.

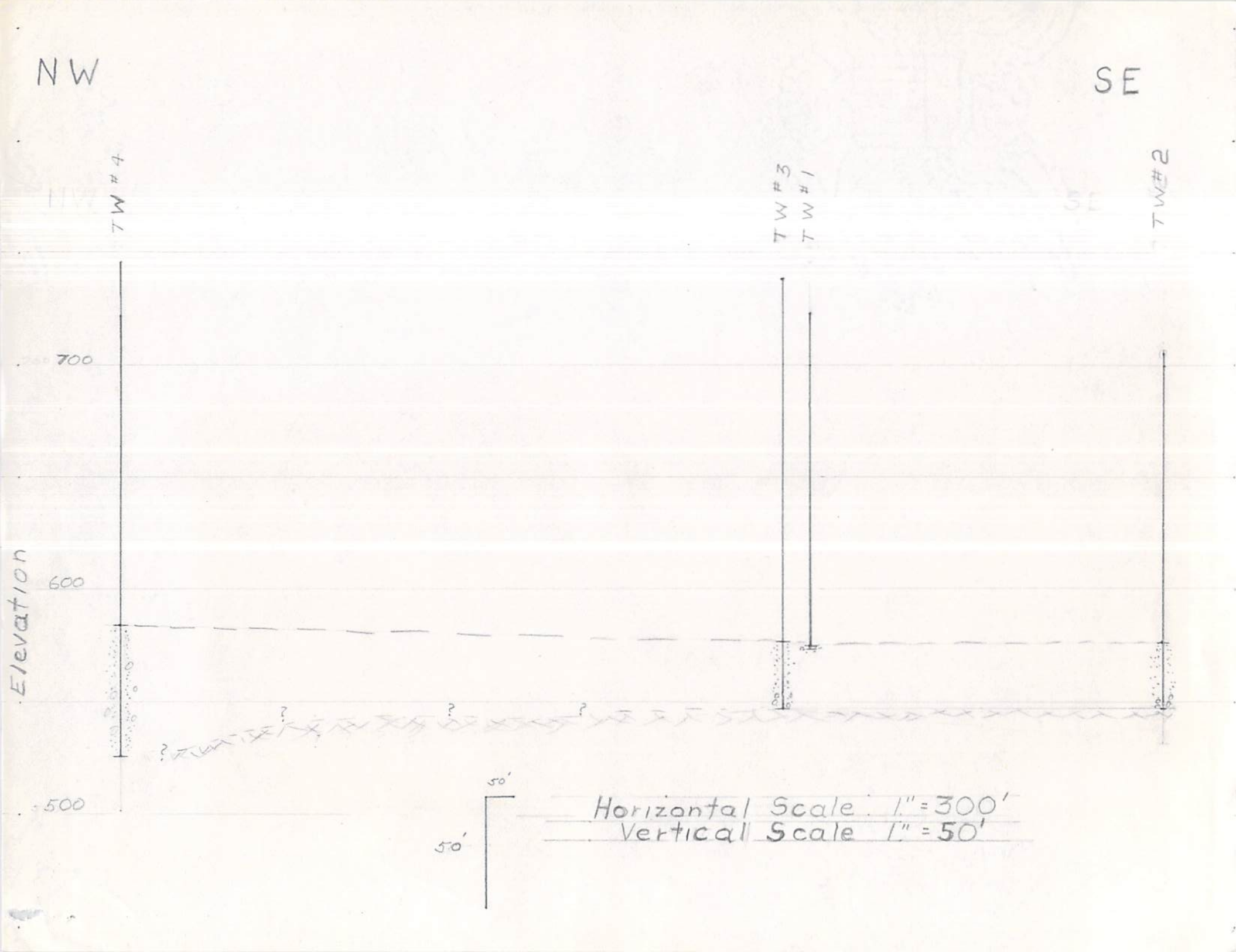
Wells in deep Sd & SR.

V. A. Blair Sec. 6 or 7 - 72. 9
NW 1/4 Sec 7 or NE of Sec 6

J. W. Wheatley - SW 1/4 Sec. 19, T. 72 N. 9W
2nd house on E. side Road & well
is 200' ± TD - drilled 1916 by Nelson -
well 20' N. of house.

Raymond (Dutch) Zeigler - NENE Sec. 23,
T 72 N R 10 W. 7 1/2 N 1/4 W Fairfield

4 test well - 232' TD - 64' to Sd. & SR -
SWL 63' ⇒ Newer pump tested -
will test in Spring.


NW
SE
TW #4
TW #3
TW #1
TW #2
700
600
500
Elevation
?
?
?
50'
50'
Horizontal Scale 1" = 300'
Vertical Scale 1" = 50'