W-3292

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

RECORD OF WELL

Location:

Town: Salem (N E / S W): County Henry

SW NW NW sec. 24 T 70 N., R. 7 W. E. Twp.

Well name and number Salem Town Well No. 1 (1948)

Owner Town of Salem Address

Tenant Address

Contractor T. W. Van Winkle & Son Address

Drillers Leland Van Winkle

Drilling dates Started May 10, 1948 Finished May 20, 1948

Well data:

Elevations: Drilling curb 723 feet; Land surface 723 feet

Determined by Hand-Level from C. B. & Q. R.R. Sta. using Elev. 716'

Topographic position

Total depth: Reported 120 feet, Measured feet

Drilling method Cable tool

Hole and casing date 6-inch casing to 89 feet. Open 6-inch hole from 89 to 120 feet.

Original depth to water 42.50 ft. ~~below~~ above Land Surface Date May 17, 1948

Original elevation of water level ft.; Source of data Obs.

Sources of water: Principal ; Others

Production data: Date _____

Static depth to water _____ Measuring point _____
Pumping level _____ at _____ g.p.m.

See pump test data in folder

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 ALALYSES (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 _____

Sample range 0-120 No. spls. 31 No. dupls. & cond. 31 Fair
Spls. prepared by RKS Washed range 88-120 by RKS
Driller's log and cond. None

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____
Microscopic study EMR strip log Feb. 16, 1950
Gen. log _____ Correl. by _____

WATER LEVEL DATA

Measuring point Various points - measurements adjusted to Land Surface

Date	Depth to water	Altitude	Remarks
May 17, 1948	42.5		Non pumping
May 24, 1948	46.35		" "
June 3, 1948	46.33		" "

REMARKS

3292

Name: Salem town well No. 1

Loc: SW NW NW 24-70N-7W Henry Co.

T.D. 120'

Drilled: Van Winkle & Son May 1948

75% of Pop on city SYS

Log: W-3292 Rodin

Casing: 6" from +2' to 89'; open 6" hole from 89 to 120'

$\frac{1.1}{31} = 3.6 \times 10^{-2}$

Prod. data.

SWL	42.5' (original)	46.35'	6/23/48	
PWL	?	65.6		
Yield	?	20.7 gpm		

46 1:1 ap cap
20)21.
30
10

723
46
677

Analyses. No. 6434 5/24/48; No. 6558 6/3/48; No. 1540 (3228) 7/18/50
No. 2799 (4072) 4/18/63

.0255
31 / 1.100
93
170
155
150

Check if used - both No. 1 & No 2 (shallow wells) 6/62 STANDBY
or for standby (DEEP WELL MAIN SUPPLY) No. 1

Remarks:

~~Soft water apparently derived from thin sand overlying bedrock.~~

Elevation 723'

Formations	Depth	Top	Base
Top Miss Ls. (St. Louis?)	87	636	

RESULTS OF PRODUCTION TEST MADE ON SALEM TOWN WELL NO. 1

Salem, Iowa

May 17, 1948

NAME: Salem Town Well No. 1, 1948.

LOCATION: SW NW NW Sec. 24, T. 70 N. R. 7 W.

ELEVATION: Land-surface, about 723 feet above sea level.

OWNER: Town of Salem.

CONTRACTOR: T. W. Van Winkle & Son, Salem, Iowa.

ENGINEER: Stanley Engineering Co., Muscatine, Iowa.

DRILLING DATE: Started May 10, 1948.

PRESENT DEPTH: 90 feet.

CASING RECORD: 6-inch casing extends from above surface to a depth of about 89 feet.

PRINCIPAL AQUIFER: Thin sand bed overlying bedrock and creviced bedrock.

TEST PUMP: Lift pump setting 84½ feet below land-surface, operated by drill rig.

MEASURING POINT: Water level measurements were referred to top of clamp, 2.3 feet above land-surface. Measurements by electric line.

DISCHARGE MEASUREMENTS: Discharge rate obtained by measuring into barrel 1.85 feet in diameter and 2.8 feet deep.

TEMPERATURE: Water temperature was measured at end of 6 feet of 3-inch discharge pipe.

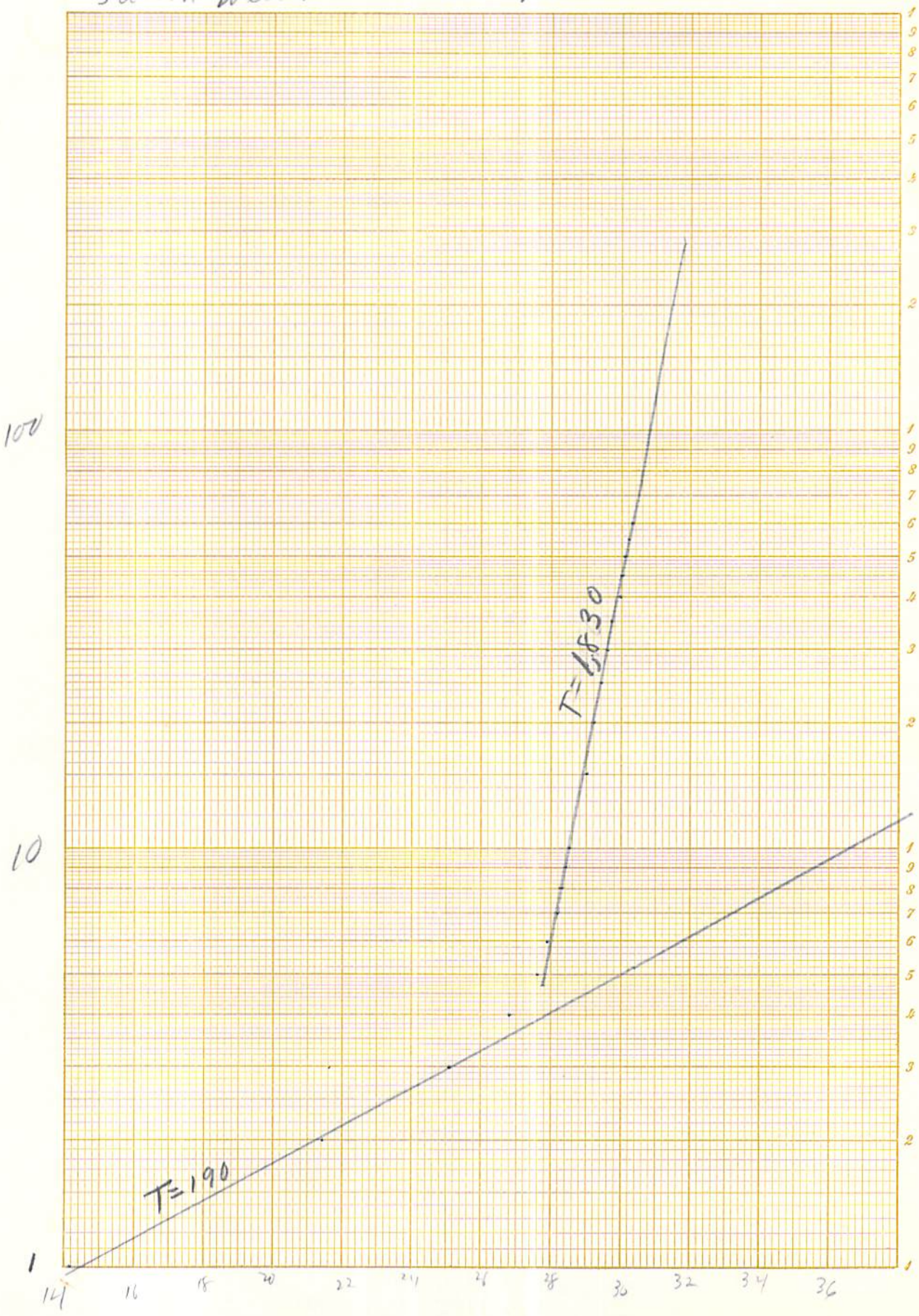
NOTE: Well was pumped on May 15 for about 2 hours at rate of about 20± gallons per minute.

RESULTS OF PRODUCTION TEST MADE ON SALEM TOWN WELL NO. 1 - May 17, 1948

Time	Depth to Water	Discharge G.P.M.	Temp. °F.	Remarks
May 17				
9:07 am	44.8			
9:17	44.82			
9:23				Pumping started.
9:25	58.8	15	54	Water rusty color and cloudy.
9:30	64.3			
9:35	67.9			
9:43	69.3	14.2		Water almost clear, trace sand.
9:50	70.7		54	
9:57	71.2			
10:03	71.55	14.5		
10:12	71.35			Water almost clear, trace sand.
10:27	71.0	14.5	54	Water almost clear, trace sand.
10:42	72.55			
10:55	72.75			
10:57				Shut down to adjust pump column.
11:01	48.18			
11:03				Pumping resumed.
11:15	70.80	14.9		
11:25	70.90	14.2		
12:07 pm	71.30	14.2		
12:14	71.20			Water almost clear, some sand.
12:33	71.30			Water almost clear, some sand.
12:40		15±		Increase discharge rate.
12:46	74.5			
12:51	74.75	15±		
12:53				Shut down to change stroke.
12:55	57±			Resume pumping.
1:07	77.4	16.5		
1:16	78.0	16.5		
1:41	77.7			
1:57	77.15	16.3		
2:16	78.3			
2:20	78.1	15.9		Water almost clear, some sand.
2:35	78.3			
2:49	78.3	16.1	54	Water clear, some sand.
3:08	78.5			
3:20	77.85	15.2		
3:37	76.40	15.5		
3:40	77.25	15.5		
3:52				Shut down, engine trouble.
3:54	58.47			
3:55	53.75			
3:55				Pumping resumed.
3:58	70.0			
4:02	76.2	16.0		

Time	Depth to Water	Discharge G.P.M.	Temp. °F.	Remarks
May 17				
4:11 pm	77.5			
4:20	78.3			
4:22		15.5		
4:30	78.1			
4:41	77.5	15.2		
4:50	77.55			
5:00	78.1			
5:04		15.5		
5:08	79.5			
5:11	79.7			
5:14	80.0	16.2		
5:17	80.64			
5:20	80.3			
5:27	79.8	16.1		
5:37	79.75			
5:40	79.35			
5:48	79.0			
5:52	79.5	15.9		
5:59	79.75			
6:05	80.1		54	Water clear, trace of sand.
6:11	79.38			Water sample collected for mineral analysis.
6:18	79.65	15.9		
6:21				Pumping stopped.
6:22	65.8			Recovery measurements.
6:23	58.64	50.10		
6:24	54.9			
6:25	53.18			
6:26	52.4			
6:27	52.10		79.10	
6:28	51.8			
6:29	51.73			
6:30	51.59			
6:31	51.5			
6:36	51.03			
6:41	50.8		80	
6:46	50.55		51	
6:51	50.39			
6:56	50.25		29	
7:01	50.08			
7:06	49.99			
7:11	49.89			
7:16	49.80			
7:21	49.72			
May 18				
Morning	44.66			Measurement by driller

Salem well 1 5/17/48 90ft TD



RESULTS OF PRODUCTION TEST MADE ON SALEM TOWN WELL No. 1

Salem, Iowa

May 24, 1948

NAME: Salem Town Well No. 1, 1948.

LOCATION: SW NW NW Sec. 24, T. 70N. R. 7W.

ELEVATION: Land-surface, about 723 feet above sea level.

OWNER: Town of Salem.

CONTRACTOR: T. W. Van Winkle & Son, Salem, Iowa.

ENGINEER: Stanley Engineering Co., Muscatine, Iowa

DRILLING DATE: Started May 10, 1948.

PRESENT DEPTH: 120 feet.

CASING RECORD: 6-inch casing extends from above surface to a depth of about 89 feet.

PRINCIPAL AQUIFER: Thin sand bed overlying bedrock and creviced bedrock plus bedrock at lower depths.

TEST PUMP: Lift pump setting 84 1/2 feet below land-surface, operated by drill rig.

MEASURING POINT: Water level measurements were referred to top of clamp, 2.3 feet above land-surface. Measurements by electric line.

DISCHARGE MEASUREMENTS: Discharge rate obtained by measuring into barrel 1.85 feet in diameter and 2.8 feet deep.

TEMPERATURE: Water temperature was measured at end of 6 feet of 3-inch discharge pipe.

NOTE: Well was pumped May 15 for about 2 hours at rate of 20 ± gallons per minute, tested May 17 for 9 hours, pumped May 21 and 22 for about 10 hours at rate of 20 ± gallons per minute.

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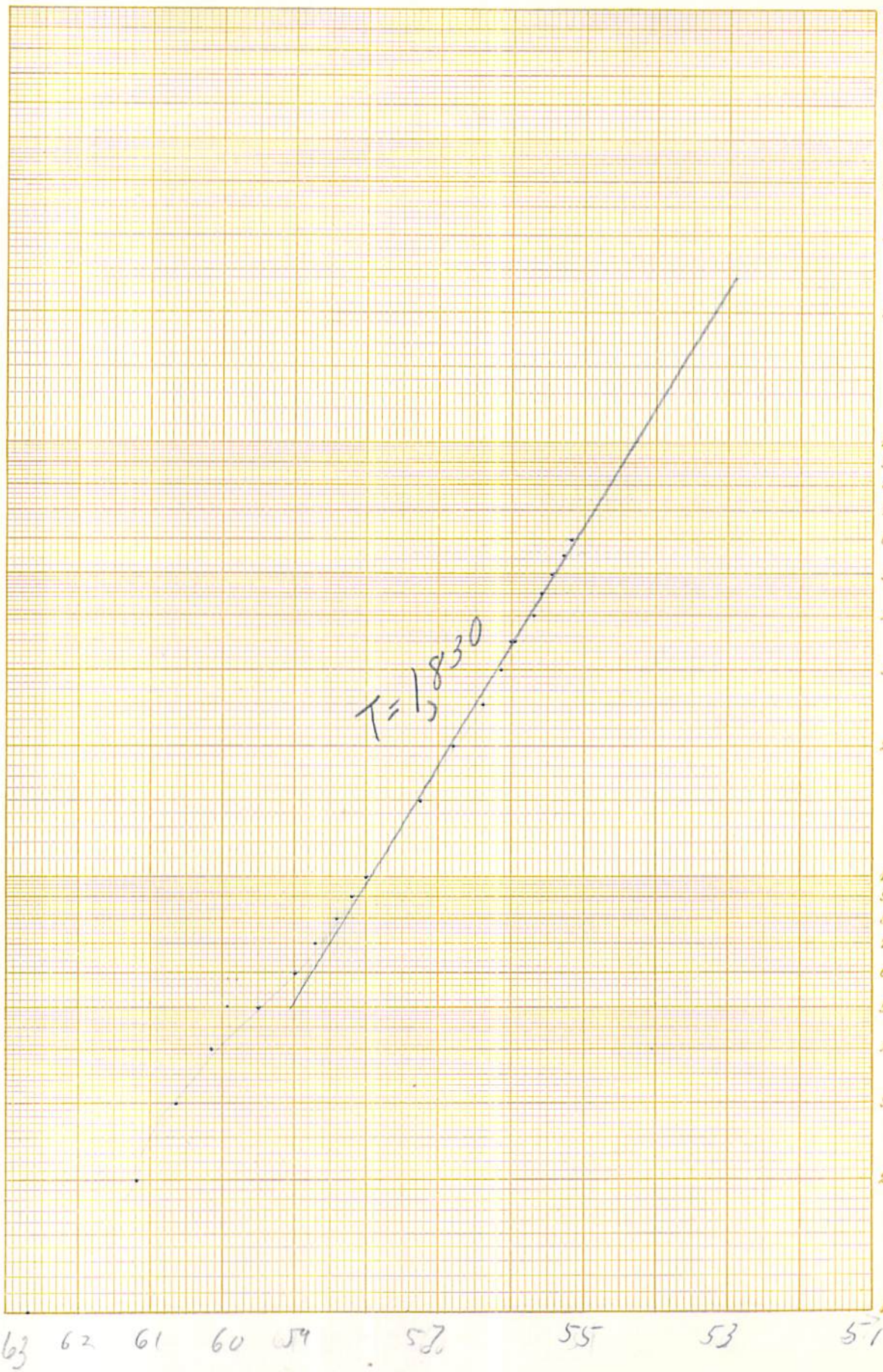
RESULTS OF PRODUCTION TEST MADE ON SALEM TOWN WELL No. 1 -- May 24, 1948

Time	Depth to Water	Discharge G.P.M.	Temp. °F.	Remarks
May 24				
8:34	48.65			
8:37				Pumping started.
8:43	56.85		54	
8:46	57.5	19.5		Water almost clear - some sand.
8:53	58.4			
8:56	58.85			
9:02	59.3	19.5		
9:09	59.6	19.5	54	Water clear - very little sand.
9:13	59.8			
9:21	60.0			
9:28	60.25			
9:34	60.55	19.6		
9:42	60.6			
9:50	60.75	19.4	54	
10.04	60.8			
10:22	61.45	19.5		
10:34	61.65			Water clear - very little sand.
10:43	61.8			
10:51	61.9	19.3	54	
11:05	62.2			
11:26	62.55	19.5		
11:40	62.5			
11:53	62.85			
12:10 pm	63.2			
12:26	63.5	19.6	54	Water clear - very little sand.
12:37	63.5			
12:51	63.9	19.5		
1:00				Pumping rate increased.
1:04	64.4	21 ±		
1:08	65.25			
1:11	65.9	23 ±		
1:12				Pumping stopped to adjust clamp.
1:13	57.8			
1:14	56.5			Pumping resumed.
1:15	62.1			
1:18	66.8	25 ±		Water cloudy - sand.
1:23	68.6			
1:25	69.35			
1:27	69.4	25 ±		
1:32	69.4	24.9		Water cloudy - some sand.
1:35	69.45	25.2	54	
1:38	69.7			
1:41	69.75			
1:49	69.9	25.2		Water almost clear - some sand.
2:05	70.6			
2:15	70.5	25.0		Water clear - very little sand.

Salem Town Well No. 1 - 2 - May 24, 1948

Time	Depth to Water	Discharge G.P.M.	Temp. °F.	Remarks
2:26	70.85			
2:39	70.9			
2:55	70.7	24.7		
3:11	70.4	24.6	54	
3:26	70.85			
3:39	71.45			
3:47	71.4	25.0		
4:00	71.7			
4:14	71.75			
4:30	72.2	24.7	54	Water clear - very little sand. Water sample collected for mineral analysis.
4:35				Pumping stopped.
4:36	62.7			Recovering measurements.
4:37	61.2			
4:38	60.65			
4:39	60.15			
4:40	59.5			
4:41	59.0			
4:42	58.7			
4:43	58.4			
4:44	58.2			
4:45	58.0			
4:50	57.25			
4:55	56.8			
5:00	56.4			
5:05	56.15			
5:10	55.95			
5:15	55.7			
5:20	55.6			
5:25	55.45			
5:30	55.3			
5:35	55.2			
May 25 Morning	48.67			Measurement by well driller.

#1 May 24, 1948



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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington / District } Henry Co. 1

Results of pumping test on Salem city well field

Salem, Iowa
June 23, 24, 28, 1948

NAME: Salem city well field

LOCATION: Well No 1 - SW NW SW sec 27, T70N, R7W, Henry County
Well No 2 - 212.5 ft south of well No. 1
Schwartz well - 509.4 ft SW of well No. 1 and 385.5 west and south of well No 2

OWNER: City of Salem

CONTRACTOR: T.W. VanWinkle & Son, Salem, Iowa

ELEVATION: 723 ft

DRILLER: Leland Van Winkle

DRILLING DATES: May 10, 1948 to May 20, 1948

TOTAL DEPTH: Well No 1 - 120 ft, Well No 2 - 120 ft, Schwartz well - 118 ±

CASING AND HOLE DATA: Well No 1 - 6 in. casing to 89 ft. Open 6 in. hole from 89 to 120 ft
Well No 2. - 6 in. casing from +4 ft. to 84'. Open 6" hole from 84 ft to 120 ft.

TEST PUMP: Well No. 1 pumped with Jet pump on June 23, 24, pumped with lift pump on June 28, 1948.

DISCHARGE MEASUREMENTS: Made into tank of known capacity

WATER LEVEL MEASUREMENTS: Well No. 1. - measuring point was top of 6 in casing 2.3 ft above land surface.
Well No. 2 - measuring point was top of 6 in. casing 3.7 ft. above land surface.
Schwartz Well - measuring point was concrete platform at land surface.

REMARKS: Water level recorder installed on Well No 2. Schwartz well pumped as little as possible, probably 2 to 5 gpm for short periods a few times during the day.
Observations made by W.E. Hale and C.W. Lane of Geological Survey and A Gauvin of Stanley Engineering Company, Muscatine, Iowa.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

GPO 6—9333

Results of pumping test on Salem city well field - June 23, 1948

Time	Depth to Water Well 1	Well 2	Schwarz Well	Discharge Rate GPM Well 1			Remarks					
June 23							[Ref. point is top of 6 in. casing]					
9:32 AM	49.67	50.9										
9:35	49.73						Pulling pump on well no. 2					
9:46			44.40									
9:48			44.38									
10:26	49.54											
10:30	49.54	50.93					Pumping started at well No 1					
10:33		51.56										
10:35	58.33			20.4			[M.P. at No 2 is 1.1 ft above No. 1]					
10:40	59.27						[M.P. at Schwarz well is about 6.5 ft					
10:45	60.00	53.56		20.2			below MP at No. 2]					
10:50	60.63											
10:55	61.10											
10:57		54.18										
11:00	61.33											
11:02		54.70										
11:05	61.58											
11:10	61.77											
11:15	61.91	55.21		20.0								
11:20	62.07											
11:25	62.23		47.41				Schwarz well not pumping					
11:30	62.33	55.65		19.7								
11:35							Pumping rate increased					
11:45	63.62			20.9								
12:00	63.89	56.57										
12:06 PM			48.44									
12:15	64.12	56.87										
12:20		56.96		20.7								
12:30	63.56	57.06										
12:35				19.2			Pumping rate increased					
12:40				20.85								

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

ere 6—9333

Results of pumping test on Salem city well field - June 23, 1948

Time	Depth to water Well 1	Well 2	Schwartz Well	Discharge Rate GPM Well 1			Remarks					
June 23												
12:45 p	64.65'											
1:17		57.76										
1:20	64.89											
1:25	64.97			20.1								
1:30	65.02											
1:34		58.08										
1:40				20.2								
1:45	65.33	58.25										
2:00	65.63	58.48										
2:10			50.30									
2:15	65.62			20.3								
2:20		58.71										
2:30	65.73											
2:33		58.85										
2:45	65.79	58.96		20.2			[Cht - 19.2 min./division]					
3:10	65.86			19.8								
3:28							Schwartz pump off - pump about 10± min					
3:30	66.79			20.8								
3:31		59.58										
3:45	67.02											
3:58		59.91										
4:00	67.16			20.8								
4:04			51.63									
4:30	67.49											
4:33		60.27										
4:35	67.57											
4:55			52.13									
5:00	67.81	60.56										
5:08	67.89			20.5								
5:30	68.24	60.88										

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

o r o 6—9333

Results of pumping test on Salem city well field - June 23, 1948

Time	Depth to Water Well 1	Well 2	Schwarz Well	Discharge Rate GPM Well 1			Remarks					
June 23												
5:35	68.31		52.53									
6:00	68.31	61.13		20.7								
6:05	68.50											
6:30	68.61	61.41										
6:35	68.65											
6:37			53.07									
6:39							Schwarz well on					
6:42			54.63									
6:48			54.43									
6:49							Schwarz well off					
6:55	68.97											
7:00	69.02	61.73		20.7								
7:45	69.17											
7:55				20.0								
7:57		62.13										
8:00	69.23											
8:03			53.80									
8:15	69.28			20.1								
8:30	69.32	62.35										
8:55				20.1								
9:00	69.50	62.59										
9:30	69.87	62.85		20.3								
9:33			54.43									
10:00	70.16											
10:10	70.03			20.0								
10:20	70.09											
10:30	70.16											
10:31		63.29										
10:37			54.94									
10:45	70.31											

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington 5
District .....
ero 6—9333

Results of pumping test on Salem city well field - June 23, 1948

Time	Depth to Water Well 1	Well 2	Schwarz well	Discharge rate GPM Well 1			Remarks					
June 23												
11:00 pm	70.54											
11:03		63.51										
11:05				20.1								
11:35	70.67	63.73										
11:37		63.93										
June 24												
12:10 AM	70.86			20.0								
12:30		64.08										
12:33			55.74									
12:35	71.01											
1:30	71.51											
7:45	73.35			20.0								
8:20	73.59											
8:30		67.22										
8:43			59.77									
8:48			60.13				Schwarz well started pumping					
9:15			58.99									
9:25	74.04			19.8								
9:45				20.3								
9:48	74.83											
10:00	74.58			20.00								
10:05	74.59						Reduced pumping rate					
10:15		67.72										
11:02	74.68			20								
11:07	74.69											
11:12		68.11										
11:22			59.63									
11:28	74.64						Pump adjusted					
11:45	75.05			20.0								
12:14 PM		68.39										

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington 6
District .....
ere 6—9333

Results of pumping test on Salem City well field - June 24, 1948

Time	Depth to Water Well 1	Well 2	Schwarz Well	Discharge Rate GPM Well 1			Remarks					
June 24												
12:21			61.44									
12:25			60.56									
12:27							Schwarz well stopped pumping					
12:32			60.17									
12:45	75.75											
2:15	76.67											
2:58	76.95						Stopped pumping at No 1					
4:15	64.35											

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington 7
District

Results of pumping test on Salem city well field - June 28, 1948

Time	Depth to Water Well 1	Well 2	Discharge Rate GPM	Pumping Strokes Per Min.			Remarks					
June 28												
8:58 AM		55.32										
9:06	53.74						Pump started at well No 1					
9:07	68.94											
9:08	72.24											
9:09	76.14											
9:10	77.74											
9:11	78.54											
9:12	78.16		36.4									
9:14	79.36											
9:15		58.95										
9:16	79.49											
9:18	79.89											
9:20	80.54											
9:22	81.14											
9:24	81.14		35.6									
9:26	81.52											
9:28	81.34											
9:30	81.66											
9:32	81.44											
9:34	81.49											
9:36	81.61	61.95										
9:38	81.91		34.6									
9:40	83.89											
9:42	90.17		46									
9:44	91.44											
9:46	91.34											
9:48	91.44		42.7				36 strokes/min. on pump. Water very dirty					
9:50	91.58	63.75										
9:52	92.44		42.8									
9:54	97.34											

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

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Results of pumping test on Salem city well field - June 28, 1948

Time	Depth to Water Well 1	Well 2	Discharge Rate GPM	Pumping strokes per min			Remarks					
June 28												
10:05a	↑		38.0	33			Water almost clear					
10:15			38.0	33+			Pumping air and water, accurate water level					
10:18				33			readings not possible					
10:20		65.65										
10:27				33								
10:29			38									
10:30												
10:36			38	33								
10:44				33+								
10:47			38									
10:50		66.66										
10:55				33+								
10:57	116±		36.8									
11:05		67.16		33								
11:08			36.8									
11:17			38	34+								
11:28			35.2	36+								
11:38		68.00										
11:39				36+								
11:41			34.6									
12:13 PM		68.71										
12:15			34.6	36								
12:35				36								
12:38				36								
1:01				36								
1:03			33.2									
1:06		69.66										
1:23				36								
1:25			33.2									
1:38		70.12										
1:42	↓		32.9	36								

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

9

Results of pumping test on Salem city well field - June 28, 1948

Time	depth to water Well 1	Well 2	Discharge Rate GPM	Pumping strokes per min.			Remarks					
June 28												
2:06		70.51										
2:07							Pumping rate reduced					
2:08				25								
2:10		70.56										
2:11	96.14											
2:15	93.14											
2:17	89.31											
2:20	P8.39											
2:21		70.50										
2:25	87.41	70.46										
2:27			29.2									
2:30	P7.36	70.43										
2:35				23								
2:37	P5.59											
2:40			24.8									
2:41		70.04										
2:42	P1.58											
2:45	81.84	69.81										
2:49	P0.99											
2:50			23.7									
2:54	P1.30											
2:55		69.52										
3:00	81.84		25									
3:05	P1.74	69.47										
3:10	81.74		24.4									
3:15	P1.26											
3:20	81.41											
3:27		69.44										
3:30	81.49											
3:35	81.74											

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington 10
District .....

Results of pumping test on Salem city well field - June 28, 1948

Time	Depth to water Well 1	Well 2	Discharge Rate GPM	Pumping stroke per min.			Remarks					
June 28												
3:40p	81.59	69.42										
3:45	81.29		24.4									
3:50	81.54											
3:51		69.44										
3:55	81.71		24.6									
4:00	81.74											
4:05	81.54		24.6									
4:06		69.50										
4:15	81.69											
4:17		69.57										
4:20			24.4									
4:25	81.42											
4:30			23.6									
4:35	81.64		25.7									
4:40			23.1									
4:45	80.97		24.1									
4:55	81.62		24.2									
5:05	81.60											
5:06		69.77										
5:10			23.9									
5:17	81.64											
5:20		69.88										
5:25	81.21											
5:30			23.9									
5:35	81.59											
5:45	81.41		23.5									
6:00	81.14		23.6									
6:06		70.05										
6:10	81.19											
6:20	80.94											

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... / District ..... } 11

Results of pumping test on Salem City well field - June 28, 1948

Time	Depth to water Well 1	Well 2	Discharge Rate GPM	Pumping strokes per min			Remarks					
June 28												
6:30 P	81.09											
6:40	80.90											
6:46		70.25										
6:51	81.46		23.6									
6:54	81.34											
7:00	81.57											
7:05			23.6									
7:06		70.38										
7:07	81.54											
7:10							Pump broke down					
7:15							Pumping resumed					
7:20	79.74		22.9									
7:25			25.1									
7:30	82.44											
7:34		70.50										
7:35	82.81											
7:40	83.01		25.1									
7:47		70.79										
7:50	83.07											
7:55			25.1									
8:00	83.14											
8:06		71.00										

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30.8
28.5
2.3

(A)

$T = 264(16)/22.2$

366
14.4
22.2

$T = 1900$

(B)

$T = 264(16)/2.3$

$T = 1830$ gpd/ft

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... / District ..... } 3

t	s											
1	14.2											
2	21.4											
3	25.1											
4	26.8											
5	27.6											
6	27.9											
7	28.1											
8	28.3											
9	28.4											
10	28.5											
15	29.0											
20	29.2											
25	29.4											
30	29.6											
35	29.7											
40	29.9											
45	30.0											
50	30.1											
55	30.2											
60	30.3											
1500±	35.3											

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