

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

W-3236

RECORD OF WELL

Location:

Town: Bellevue (NE)
(SW): County Jackson
SE SW SW sec. 7 T 86 N., R. 5 E. Twp.

Well name and number Town of Bellevue (1948)

Owner Town of Bellevue

Address _____

Tenant _____

Address _____

Contractor Varner Well Company

Address Dubuque

Drillers _____

Drilling dates _____

Well data:

Elevations: Drilling curb 622 feet; Land surface _____ feet

Determined by _____

Topographic position Terrace on Mississippi River

Total depth: Reported _____ feet, Measured _____ feet

Drilling method Cable tool

Hole and casing data 19" (0-100'), 12" (100-535'), 10" (535'-1500')

Casing: 13 3/8" OD w/ shoe (0-100') cem. in from 100'-0'

10" liner w/ shoes (475'-535')

Well flows when not pumped.

Original depth to water _____ ft. above _____ ft. 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 9' drawdown at 200± 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 _____

Fe₂O₃-Mn₂O₃-Al₂O₃ _____

Alkali as sodium _____

Calcium _____

Magnesium _____

Iron (unfiltered) _____

Manganese _____

Nitrate _____

Fluoride _____

Chloride _____

Sulfate _____

Bicarbonate _____

Hardness (ppm) _____

Hardness (gpg) _____

Remarks _____

Laboratory data:

Sample storage location CD2-6.789Sample range 0-1500 No. sps. 292 No. dupls. & cond. 284 Fair-GoodSpls. prepared by RKS & WJR Washed range 40-1500 by EMRDriller's log and cond. None

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

Microscopic study 0-1500 strip log 7-29-48Gen. log _____ Correl. by R. Wehner

Varner Well Drilling Company

Telephone 3691

INCORPORATED

P. O. Box 237

Turbine Pumps

Turbine Pump Service

905 American Trust Bldg.

DUBUQUE, IOWA,

Re: Town of Bellevue Well
Bellevue, Iowa

DATE STARTED 10-17-47 DATE COMPLETED 5-27-48

DEPTH 1500'

DIAMETERS: 20" hole from surface to 100'; 12" hole from 100' to 535'; 10"
hole from 535' to 1500'.

CASING: 41' of 20" drive pipe from 25 to 38'; 100' of 13 3/8" O.D. pipe
from surface to 100', cement grouted from surface to 100' with neat cement;
60' of 10" liner with shoes from 475' to 535'.

STRATA RECORD DEPTH:

From	To	Thickness	Description of Beds
Top	55	55	Rock & sand
55	280	225	Limestone
280	283	3	Blue shale
283	350	67	Limestone
350	355	5	Blue shale
355	362	7	Shale & sandstone
362	450	88	Sandstone
450	486	36	Limestone
486	500	14	Limestone & red rock
500	700	200	Limestone
700	725	25	Lime, sandstone & shale
725	747	22	Sandstone
747	760	13	Lime, granite & dolomite
760	794	34	Dolomite
794	807	13	Brown limestone
807	816	9	Limestone & dolomite
816	839	23	Limestone
839	860	21	Limestone & dolomite
860	863	3	Limestone & shale
863	892	29	Limestone
892	1097	205	Sandstone; some dolomite
1097	1107	11	Dolomite
1107	1199	92	Sandstone; some shale
1199	1213	14	Sandy limestone
1213	1260	47	Limestone
1260	1266	6	Red rock & shale
1266	1305	9	Sandstone
1305	1310	5	Limey sandstone
1310	1316	6	Sandstone & dolo.
1316	1500	184	Sandstone, dolomite; little lime.

Town of Bellevue Well Record (cont'd)

STATIC WATER LEVELS:

Top	to	60'	0'
60'	to	287'	36'
287	to	400	34'
400	to	405	28'
405	to	450	26'
450	to	535	25'
535	to	725	23'
725	to	770	18' 6"
770	to	917	18'
917	to	926	16'
926	to	1017	13'
1017	to	1026	6' 5"
1026	to	1097	6'
1097	to	1145	5'
1145	to	1175	4'
1175	to	1184	2' 6"
1184	to	1300	2'
1300	to	1372	1'
1372	to	1500	Flowing

Bellevue Town Well (1948)

Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 7, T. 86 N., R. 5 E.

Contractor: Varner Well Co., Dubuque, Iowa

Elevation: Drilling curb 622 feet

Drilling dates: Completed May 27, 1948

Total depth: 1500 feet

Casing and hole data: Hole size - 19 inches from 0 to 100 feet, 12 inches from 100 to 535 feet, 10 inches from 535 to 1500 feet. Casing - 13 3/8 inch O.D. steel pipe with shoe from 0 to 100 feet cemented in from 0 to 100 feet. 10 inch liner with shoes from 475 to 535 feet.

Production: 200+ gallons a minute with 9 feet drawdown. Well flows when not pumped.

Remarks: Well is located on terrace along Mississippi River.

<u>Formation and Description</u>	<u>Thickness (feet)</u>	<u>Depth (ft.)</u>	
		<u>From</u>	<u>To</u>
Pleistocene system			
Recent sand and gravel	40	0	40
Ordovician system			
Galena formation (dolomite, some chert)	215	40	255
Decorah-Platteville formation (limestone, a little shale)	95	255	350
St. Peter sandstone	95	350	445
Prairie du Chien formation (sandy and cherty dolomite, some shale)	252	445	697
Cambrian system			
Jordan sandstone	88	697	785
St. Lawrence dolomite	100	785	885
Franconia formation (sandstone and siltstone containing glauconite in upper part)	165	885	1050
Dresbach formation (sandstone, a little shale and dolomite)	450	1050	1500

*Jackson
accompanying company
filed in D. & W. Co.
(march 1948)*

3" Diameter
2" Orifice
1500' Depth

RECORD - WELL CAPACITY TEST

JOB Town of Bellevue LOCATION Bellevue, Iowa DATE 5-8-48
PUMP SETTING 20 FT. AIRLINE None FT. STATIC HEAD Flowing FT.

Time	Inches Tube	G.P.M.	Airline	Drawdown	Pumping Leak	Temper- ature	Remarks
AM							
10.00	Flow		No				
10.05	96"	150		6' 3"			
10.10				6' 8"			Shot pump down, changed oil.
10.30				Flow			
10.32	96"	150		6' 3"			
10.34	90"	145		7' 3"			
10.40	6'	130					
10.50	6' 6"	135		10'			
11.10	6' 8"	130		10' 6"			
11.30	6' 8"	138		10' 8"			
12.00	6' 6"	135		10' 8"			
12.15							Motor acting up. It speeds up, then after awhile it slows down.
12.30	6' 6"	135		10' 8"			
1.00	6' 7"	136		10' 9"			
1.30	6' 7"	136		10' 11"			
2.00	6' 6"	135		10' 11"			
2.30	6' 5"	134		10' 8"			
3.00	6' 5"	134		10' 9"			Shut down by request of water sup't.
3.30	RECOVERY:						
4.00	6 1/2 minutes to start flowing again.						
4.30							
5.00							

RECORD - WELL CAPACITY TEST

JOB Town of Bellevue

LOCATION Bellevue, Iowa

DATE 5-19-48

2022 CLOSING 20

None

Flowing

7. 7. 7.

Time	Pressure	Temp.	Speed	Notes
12.45				Start
12.50	20	142	5' 6"	
12.55	22	149	6'	
1.00	22		6' 3"	
1.05	22	149	6' 3 1/8"	
1.10	22	149	6' 3 1/8"	
1.15	22	149	6' 4"	
1.30	21	145	6' 2"	
1.35				Motor stopped.
1.45				Started up.
2.00	21	145	5' 11"	
2.20				Took carbureator off, put in new gasket. Motor stopped.
2.45				Started up.
3.00	24 1/2	157	6' 8 1/2"	
3.30	25	159	7' 4"	
4.00	25	159	7' 4"	
4.30	23	152	6' 8"	
5.00	24	155	6' 7"	Shut down.

REPORT - 100% CALIBRATION USE

DATE _____

5-21-48

Flowing

Time	Distance	Time	Distance	Time	Distance	Time	Distance
2.10							Start
2.12	40	201	None	7' 9"			
2.15	39 1/2	200		8' 11"			
2.20	39	198		9'			
2.25	38 1/2	197		9' 2"			
2.30	38	198		9' 3"			
2.45	37 1/2	195		9' 6"			
3.00	37	193		9' 7"			
3.15	37	193		9' 8"			
3.30	37	193		9' 8"			
4.00	37	193		9' 9"			
4.30	37	193		9' 9"			
5.00	37	193		9' 9"			
Recovery 30 seconds.							

IOWA GEOLOGICAL SURVEY
Water Analysis Comparison

Town Belleuve County: Jackson Location _____ Sec. _____ T. _____ N., R. _____ E.
W.

Owner _____ Contractor: _____ Date Started: _____

	1	2	3	4	5	6
Well Number or Location	<u>city</u>					
Depth of Sample						
Formation Source	<u>St. Lawrence & Dresbach</u>					
Water Level Below Curb						
How Sampled						
Sampled by						
Date Sampled						
Total Solids	<u>272</u>					
Dissolved Solids						
Insoluble Matter	<u>3.8</u>					
Alkalinity (MeO)	<u>274.</u>					
Nitrite (NO ₂)						
Nitrate (NO ₃)	<u>0.00</u>					
Sodium (Na) & Potassium (K)*	<u>5.5</u>					
Calcium (Ca)	<u>52.2</u>					
Magnesium (Mg)	<u>36.1</u>					
Iron (Fe)						
Iron (Unfiltered)**	<u>0.2</u>					
Manganese (Mn)	<u>0.0</u>					
Aluminum (Al)						
Fluorine (F)	<u>0.0</u>					
Chlorine (Cl)	<u>4.0</u>					
Sulphates (SO ₄)	<u>16.0</u>					
Bicarbonates (HCO ₃)	<u>334.3</u>					
Phosphates (PO ₄)						
Borates (BO ₃)						
Calculated Hardness***	<u>279</u>					
Water Lab. Number						

*Na and K not separated, calculated as Sodium (Na): **Includes iron precipitated or flocculated after sample collected: ***Calculated as CaCO₃.

Completed Depth _____ ft.; Final Static Water Level _____ ft.; Production _____ GPM; Draw-down _____ ft., at _____ GPM; Gallons per foot draw-down _____. Date Completed _____ 194__.

Remarks: _____