More samples to come?

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey
RECORD OF WELL

W 6146

Location:

Town: Varina (NE) (SW) :County Pocahontas

NE NW SE sec. ___ T. 91 N., R. 34 E. W. ___ Twp.

Well name and number Varina Town well #2 (1953)

Owner ___ Address ___

Tenant ___ Address ___

Contractor Jess de Vaul Address Havelock, Iowa

Drillers ___

Drilling dates 195

Well data:
Altitudes: Drilling curb ___ feet; Land surface 1268 feet

Determined by ___

Topographic position ___

Total depth: Reported 589' ? feet, Measured ___ feet

Drilling method ___

Hole and casing data 6"

Original depth to water ___ ft. above below ___ Date ___

Source of data ___

Sources of water: Principal ___

Others ___

CASING DIAGRAM

Vertical Scale _____

LOG

gell	5-20	Hd	367½-378
turning blue	20-25	softer	378-380
Blue	-40	hd	380-385
Gray	40-45	Softer	385-390
blue & sdy	45--120	M sd, hd, gl	390-415
Gr sdy	120-160	Lt Br m hd	415-435
turn yel	160-165	Dk Brn Br	435--438
yel	165-190	Brn Br, med hd	445
Blue	190-220	wh Br med hd	515
" sdy	220-295	Bl-gn Br	554
sd muddy	295-300	wh Br mica Br	554-563
f. sd	300-305	Bl sh clay	68
Sd & f grav	303-307	Blue sh	74
Br hd	307-316	Blsh & ss	581
Br & sh.	316-325	Gn. Br hd	589
Br hd	325-334		
Br sh seams	34-34½		
Br hd	341-348	Tested 415 no water	
Soft spot	348-350	Zone H-I @ 415-435	
Stone ck	350-355	1 inch hole	
ls hd	-355	15 gal 140'; 20 gal 170'	
soft spots	355-360	Water 65', 210' level	
Hd	360-366		
Softer	366-367½		

Production Data

Date	7/6/62			
Static water level	72			
Measuring point				
Pumping water level	92			
Yield (g. p. m.)	20			
Duration of pumping				
Specific capacity				

Pump Data

Type pump _____ Column diameter and length _____

Cylinder or bowls diameter and length _____

Suction pipe _____ Airline _____

Power _____ Production _____ g. p. m. for _____ hours per day

Use of water _____

Dissolved constituents and properties (in parts per million except as indicated)

Date sampled				
Sampled by				
Silica (SiO_2)				
Iron (Fe)				
Manganese (Mn)				
Calcium (Ca)				
Magnesium (Mg)				
Potassium (K)				
Sodium (Na)				
Carbonate (CO_3)				
Bicarbonate (HCO_3)				
Sulfate (SO_4)				
Chloride (Cl)				
Fluoride (F)				
Nitrate (NO_3)				
Dissolved solids				
Hardness (as $CaCO_3$)				
Total				
Grains per gallon				
Noncarbonate				
Alkalinity (as $CaCO_3$)				
pH				
Specific conductance (micromhos at 25°C)				
Temperature (°F)				
Analysis No.				

Laboratory Data

Loc EF5-9,10

Well No. W 6146 Sample range 5 - 584 No. of samples 119

No. of dupls. and cond. 119 - Good Washed range 300 - 584.5

Samples prepared by LOCK, PALENSKY, DE ROMA Date 9/16/53

Logged by NORTHROP Date 3/10/55

Correlations by NORTHROP Date 3/10/55

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Local Well No. 091-34W-31DBA
Aquifer Code(s) DX
Owner's Name VARINA TOWN WELL (#3)
W Number 06146

Water Quality
(ppm)

Card Q

State: IOWA (19) County: POCAHONTAS (76) Town: VARINA, IOWA

Well No. Latitude 42 39 08 N (5–11) Longitude 094 54 00 (12–18) Seq. No. 1 (19) Date M D Y 07 17 62 (20–25)

Sampling Depth 589 (26–29) Type 1 (30) Kx10^6 1410 (31–35) pH 7.3 (36–38) Temp. °F (39–41)

SiO_2 17. (42–44) Ca 144. (45–49) Mg 54. (50–53) Na 106. (54–58) K 7.4 (59–61)

HCO_3 393 (62–65) CO_3 0 (66–67) SO_4 456. (68–72) Cl 9. (73–78) Source No. 3 (79) Q (80)

Card R

Duplicate Columns 1-25 from Card Q

F 1.2 (26–28) NO_3 .4 (29–32) PO_4 (33–35) B (36–38) Al (39–41) Fe .45 (42–45)

Mn .05 (46–49) Cu (50–52) Pb (53–54) Zn (55–57)

Solids Determined 1070 (58–63) Calc. (64–69) Hardness Ca,Mg 582 (70–73) Non-Carb. 260 (74–77)

Color (78–79) No. R (80)

Card S

Duplicate Columns 1-25 from Card Q

Br (26–28) I (29–31) Alk. as $CaCO_3$ 322 (32–35) Free CO_2 (36–38) SAR (39–41)

RSC (42–44) ABS (45–47) (48–50)

Alpha (pc/l) (55–57) Beta (pc/l) (58–60) Ra (pc/l) (61–63) U (ug/l) (64–66)

No. S (80)

Recorded by: D AARONSON

Punched by: _____ Date: _____

Published: _____

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

091-34W-31DBA
DK

W-6196

Water Quality
(ppm)

Card Q

State: IOWA 16 (1 2) County: POCAHONTAS (3 4) Town: VARINA

Well No. Latitude (5–11) Longitude 4540 (12–18) Seq. No. (19) Date M 09 D Y (20–25)

Sampling Depth 389 (26–29) Type (30) $Kx10^6$ 45 (31–35) pH 7.5 (36–38) Temp. °F (39–41)

SiO_2 20. (42–44) Ca 4. (45–49) Mg 1. (50–53) Na (54–58) K 7.0 (59–61)

HCO_3 10 (62–65) CO_3 (66–67) SO_4 45. (68–72) Cl 90 (73–78) Source No. Q (79–80)

Card R

Duplicate Columns 1-25 from Card Q

F (26–28) NO_3 LESS THAN .1 (29–32) PO_4 (33–35) B (36–38) Al (39–41) Fe .60 (42–45)

Mn .10 (46–49) Cu (50–52) Pb (53–54) Zn (55–57)

Determined Solids (58–63) Calc. (64–69) Ca,Mg 620 (70–73) Hardness Non-Carb. 8 (74–77)

Color (78–79) No. (80)

Card S

Duplicate Columns 1-25 from Card Q

Br (26–28) I (29–31) Alk. as $CaCO_3$ 334 (32–35) Free CO_2 (36–38) SAR (39–41)

RSC (42–44) ABS (45–47) (48–50)

Alpha (pc/l) (55–57) Beta (pc/l) (58–60) Ra (pc/l) (61–63) U (ug/l) (64–66)

No. 5 (80)

Recorded by: R. W. COBLE

Verified PMJ
Punched by: Punched FCS Date:

Published:

Punched FCR

WRD Exp. (GW)
Aug. 1964

Verified PMJ

U. S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

COUNTY HWY

Record by R.W. COGLE Source of data FILES Date 6-24-65 Map 1:63,360

State IOWA (16) County (or town) POCAHONTAS (76)

Latitude: 42 39 08 N (deg 7, min 9, sec 11) Longitude: 094 54 00 (12 degrees, 15 min, sec 18) Sequential number: 1 (19)

Lat-long accuracy: 2 (20) T 91 N S, R 34 W E Sec 31, NE ¼, NW ¼, SE ¼ 6

Local well number: 091/34W31dba (21–34) Other number: B & M W-6146

Local use: 061146 53CITY 2 (35–51) Owner or name: VARINA TOWN WELL 2

Owner or name: VARINA IOWA (52–66) Address: VARINA, IOWA

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist — M (67)

Use of water: (A) Air cond, (C) Comm, (D) Dewatering, (F) Fire, (H) Dom, (I) Irr, (N) Ind, (P) P S, (S) Stock, (T) Instit, (U) Unused — P (68)

Use of well: (A) Anode, (D) Drain, (G) Seismic, (O) Obs, (P) Oil-gas, (R) Recharge, (S) Spring, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed — W (69)

DATA AVAILABLE: Well data 3 (70) Freq. W/L meas.: INVENTORY Ø (71) Field aquifer char. (72)

Hyd. lab. data: (73)

Qual. water data; type: COMPLETE C (74)

Freq. sampling: INTERMITTENT I (75) Pumpage inventory: yes (no); period: (76)

Aperture cards: yes (77)

Log data: GEOLOGIC G (78 79)

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD (1–19) Depth well: 589 ft 5819 (20–23) Meas. rept. accuracy REPT 6 (24)

Depth cased (first perf.): ft (25–28) Casing type: STEEL; Diam. 6 in 6 (29 30)

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) open perf., (S) screen, sd. pt., (T) shored, (W) open hole, (X) other, (Z) other (31)

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, rotary, (R) reverse trenching, (T) driven, (V) drive wash, (W) other, (Z) (32)

Date Drilled: 1953 9 5 3 (33–35) Pump intake setting: 215 ft 215 (36–38)

Driller: JESS DEVAUL (name), HAVELOCK, IOWA (address)

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple, (cent.), (M) multiple, (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other; Deep Shallow (39 40)

Power (type): nat diesel, elec, gas, gasoline, hand, LPG gas, wind; H.P. (41) Trans. or meter no.

Descrip. MP LAND SURFACE ft above below lsd, Alt. MP 1268

Alt. LSD: 1268 1268 (42–45) Accuracy (source): ALTIMETER 7 (47)

Water Level 72 ft above below MP; Ft above below lsd 72 (48–51) Accuracy: TAPED 0 (52)

Date meas: 7/6/62 7 6 2 (53–55) Yield: 20 gpm 20 (56–60) Method determined (61)

Drawdown: 20 ft 20 (62–64) Accuracy: REPT. 6 (65) Pumping period hrs (66–68)

QUALITY OF WATER DATA: Iron 6.0 ppm 7 (69) Sulfate 451 ppm 7 (70) Chloride 9 ppm 0 (71) Hard. 620 ppm 8 (72)

Sp. Conduct 1450 K x 10^6 5 (73) Temp. °F (74–76) Date sampled 4/29/64 4 6 4 (77–79)

Taste, color, etc. Yellow on Receipt at Lab.

91-34W-31 dba

Well Number 42 39 08 N S 094 54 00.1
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: CENTRAL LOWLANDS [12] (20–21) Section: WEST.

LAKE [B] (22) Drainage Basin: RACCOON [25A] (23–25) Subbasin: [ ] (26)

Topo of well site: local depression, flat surface, hilltop, hillside, terrace, valley flat, [ ] (27)
(D) (F) (H) (S) (T) (V)

MAJOR AQUIFER: DEVONIAN, system; [D] (28–29) series; [X] (30–31) aquifer, formation, group

Lithology: FINE DOLOMITE [2D] (32–33) Origin: MARINE [6] (34) Aquifer Thickness: [ ] ft

[ ] (35–37) Length of well open to: [ ] ft [ ] (38–40) Depth to top of: 574 ft [5741] (41–43)

MINOR AQUIFER: [ ] (44–45) system, series; [ ] (46–47) aquifer, formation, group

Lithology: [ ] (48–49) Origin: [ ] (50) Aquifer Thickness: [ ] ft

[ ] (51–53) Length of well open to: [ ] ft [ ] (54–56) Depth to top of: [ ] ft [ ] (57–59)

Intervals Screened:

Depth to consolidated rock: 307 ft [307] (60–63) Source of data: SAMPLES. [C] (64)

Depth to basement: [ ] ft [ ] (65–68) Source of data: [ ] (69)

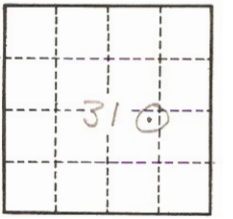
Surficial material: [ ] (70–71) Infiltration characteristics: [ ] (72)

Coefficient Trans: [ ] gpd/ft [ ] (73–75) Coefficient Storage: [ ] [ ] (76–78)

Coefficient Perm: [ ] gpd/ft²; Spec cap: 1.0 gpm/ft; Number of geologic cards: [ ] (79)

CASING:
6" - ?

MISS + DEV



GPO 844-225