WRD Exp. (GW)
Aug. 1964

Punched F
Verified

U. S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by R.W. COBLE Source of data FIELD Date 6/29/65 Map COUNTY HWY 1:63,360

State IOWA (1) County (or town) POCAHONTAS (76)

Latitude: 42 41 [ ] N S Longitude: 094 [9] 07 [ ] Sequential number: 2

Lat-long accuracy: 2 T 92 N S, R 31 E W Sec 31, NENE¼, SE¼, SW¼ 5

Local well number: 9 92 3 W 31 C 4 a a B & M

Local use: SEC 31 T 92 N R 30 W Owner or name: CITY OF POCAHONTAS

Owner or name: POCAHONTAS IOWA Address: POCAHONTAS, IA.

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

Use of water: (A) Air cond, Comm, Dewatering, Fire, Dom, Irr, Ind, (P) PS, (S) Stock, Instit, Unused

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of well: (A) Anode, (D) Drain, (G) Seismic, (O) Obs, (P) Oil-gas, (R) Recharge, (S) Spring, (T) Test, (U) Unused, (W) Withdrawn, (X) Waste, (Z) Destroyed W

DATA AVAILABLE: Well data (S) Freq. W/L meas.: ORIGINAL (C) Field aquifer char.

Hyd. lab. data:

Qual. water data; type: COMPLETE

Freq. sampling: IRREGULAR (I) Pumpage inventory: yes (no) period:

Aperture cards: yes

Log data: GEOLOGIC (G)

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 258 ft 35 (E) Meas, (rept) DRL accuracy

Depth cased: (first perf.) ft Casing type: STEEL ; Diam. 8 in

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

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

Date Drilled: 1/26/1931 Pump intake setting: ft

Driller: THORPE WELL CO. (name), DES MOINES, IA. (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

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

Descrip. MP LAND SURFACE ft above below lsd, Alt. MP 1231

Alt. LSD: 1231 1231 Accuracy: (source) ALT

Water Level ft above below MP; ft above below lsd Accuracy:

Date meas: Yield: 250 gpm Method determined

Drawdown: 78 ft 78 Accuracy: DRL Pumping period hrs

QUALITY OF WATER DATA: Iron 0.40 ppm Sulfate 510 ppm Chloride 0.5 ppm Hard. 780 ppm

Sp. Conduct 1560 K x 10⁶ Temp. °F Date sampled 12/57

Taste, color, etc.

92-32W-31cdaa

Well Number 42 44 08 S 094 40 [illegible]
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD [1 19] Physiographic Province: CENT. LOW [20 21] Section: WEST

LAKE [22] Drainage Basin: DES MOINES [23 25] Subbasin: [26]

Topo of well site: (D) (F) (H) (S) (T) (V) [27]

MAJOR AQUIFER: CRETACEOUS system, LOWER series [28 29] DAKOTA SANDSTONE aquifer, formation, group [30 31]

Lithology: SANDSTONE [32 33] Origin: MARINE [34] Aquifer Thickness: [35 36] ft

[35 37] Length of well open to: < 90 ft [38 40] Depth to top of: 12 ft [41 43]

MINOR AQUIVER: [44 45] system, series; aquifer, formation, group [46 47]

Lithology: [48 49] Origin: [50] Aquifer Thickness: [51 53] ft

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

Intervals Screened:

Depth to consolidated rock: [illegible] ft [60 63] Source of data: SAMPLES [64]

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

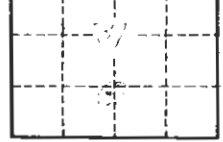
Surficial material: SANDY TILL [70 71] Infiltration characteristics: POOR [72]

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

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

ORIGINALLY TD: [illegible]
CEMENTED BACK TO 21

251 = DAKOTA
258 = MCRAMEC



W-0162

Log of Pocahontas Well.
1900 pop., 40,000 to 80,000 gal. per day, depending on season.
Elev. abt. 4' higher than C.R.I.+P. Sta. track level. Elev. 1231'
Map #11
Test-hole no. 2, north of town hall, developed into gravel-pack well. Drilled, 8", Jan. 26, 1931. Thorpe.

Thick.		Depth.
5	black dirt	5
45'	blue clay	50
15'	yellow "	65
52	blue "	117
5	yellow "	122
4	sand-rock	126
9	yellow clay	135
7	blue shale	142
2	brown "	144
4	yellow clay	148
52	sand-rock	200
8	fine sand	208 shut-off
8	blue shale	216 below.
35	sand	251
7	dark yellow lime-rock	258.

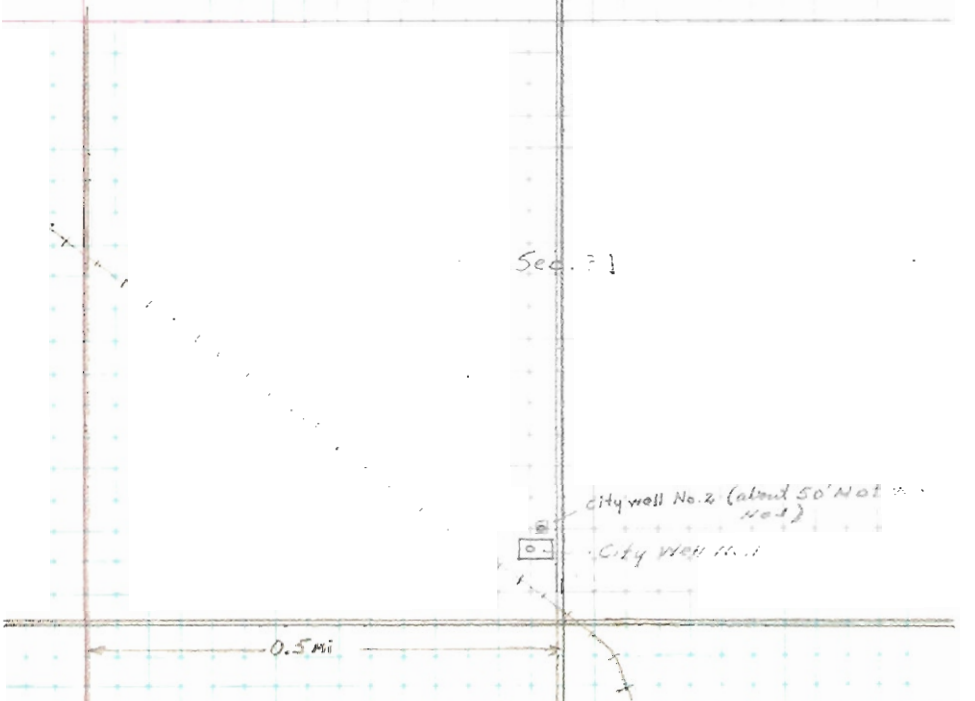
Pumped 44 hrs test 400 gal per min. 120' cylinders.
Normal pump 250 g.p.m. Drawdown 78', pumps 5 hrs per day. Water hard, but satisfactory

1231
251
980

John C. Moore Corporation, Rochester, N. Y. Binder and holes in leaves Patented. FORM 416905

Pocahontas Town Wells
Loc. SE¼ SE¼ SW¼ Sec. 31

Pocahontas County
T. 92 N., R. 32 W.



Well 1 originally referred to the 1350 ft well. This well has been plugged back to 208 feet and is used as gravel-packed well 208' deep now the present No. 1 well which was drilled in 1941

Well No. 2 is 212' deep this well was drilled in 1930.

Both wells 1 & 2 were evidently drilled to depths of 300 feet or more but were filled back to 208'-212'

Sec. 6

No 87226
Public Well 210'
Coll. Aug 17, 1934

No 87225
Public Well 1350'
Coll. Aug 17, 1934

ADDITIONAL INFORMATION OF THE POCAHONTAS CITY WELL

The only information available on the wells drilled here is that on the present city well, and a test well, drilled 600 feet south of the city well. No information of the old city well is available, other than the depth, 1350 feet.

The Supt. of water works, A.J.Sedlacek told me that he had already given the log of the present well the Mr. Stookey, but I am listing it here in case this information has been lost. Mr. Sedlacek also told me that he gave Stookey samples from the present well.

Log of City Well, Pocahontas #2

Drilled: 1930, Thorpe Company. Gravel Pack.

5'	Black dirt	5
45'	Blue clay	50
15'	Yellow clay	65
52'	Blue "	117
5'	Yellow clay	122
4'	Sand	126
9'	Yellow Clay	135
7'	Blue clay	142
2'	Brown "	144
4'	Yellow clay	148
52'	Sandstone	200
8'	Fine sand	208
8'	Blue shale	216
35'	sandstone	251
7'	Dark yellow limestone	258

W-0162

This part of well has been filled with concrete.

Log of Test Well #1, 600 feet South of City Well
Drilled by Thorpe Co. Elev. 1227'

#12 on county blueprint map

5'	Black soil	5
55'	Blue clay	60
4'	Sand	64
21'	Blue clay	85
43'	Yellow clay	128
19'	Hard sand	147
3'	Brown clay	150
11'	Hard sand	161
5'	Brown clay	167

(Log continued on next page)

18'	Blue shale ----------	185
25'	Gray " ----------	210
7'	Brown " ----------	217
13'	"quick sand" ----------	230
30'	Sandy, yellow shale --------	260
1	Limestone ----------	261

I hope that this information will complete the records of wells in Pocahontas.

Sheet No. ..... Name of Well. Pocahontas - Town ... Well No. 2 ... Survey No. W-0162

Location Pocahontas, Pocahontas Co. ... Date Drilled ... Analyst Hershey

Preliminary study

0

No sample

5'

10

20

Sand, silt & clay mixed - gray with trace of yellow. Sand predom.; maj. gr. ½-¼ mm, prin. subs. ¼-⅛, 1-½ mm, max. 5 mm.; ang. to sub. ang. qtz. chiefly with ls., dolom., dark & light igneous, qtzite. Calc.

30

40

50

50'

Sand, silt & clay - light yellowish brown; percentage of clay higher than in 5'-50' Sand: maj. gr. ¼-⅛ mm, prin. subs. ⅛-1/16, ½-¼ mm. max. 2 mm., ang. to curv qtz. chiefly with ls., dolom., dark & light igneous., qtzite. Calc.

60

65'

70

80

Sand, silt & clay and Shale or clay -

Sand silt & clay - gray, calc.; sd maj. gr 1-½ mm, chiefly ang. to curve qtz.; much gravel maj. gr 4-2 mm, max 12 mm., ang to sub ang. ls., dolom., qtz., dark & light lg.

Shale or clay - red, light gray, yellow, mottled, non-calc. but containing calc. fragments, and qtzite? fragments.

90

00

- sample interval goes to 117'

Sheet No. 2 Name of Well. Pocahontas - Town Well No. 2 Survey No. W-016-2

Location Pocahontas, Pocahontas Co. Date Drilled Analyst Hershey

00
10
20
30
40
50
60
70
80
90
200

117' Clay, silt & sand - dirty buff; calc. Sd. maj. gr. ½-¼ mm, prin. subs. ½-¼ mm, ang to sub ang. qtz., ls., dolom., dark igneous, ss., qtzite.

122 Sand? - buff, maj. gr. 1-½ mm, prin. subs ½-¼, 2-1 mm. ang to curve qtz. highly predominant, in part frosted; some ss, ig. material, qtzite, chert, little ls. or dolom.

126 No sample

135 Clay? - gray, calc. in part, contains some qtz. & ls up to 7 mm. Some aparent shaly structure ?? Small amt. carbonaceous material

141? Shale? - mottled, red, yellow, gray, non-calc., contains considerable amt. of sand. Numerous gravel granules from drift (from above ?)

144 Shale - yellow & some gray, non-calc, but enclosing some ls fragments probably from above. Much cave? glacial material No real shaly structure seen. Bit sample

148 [Regular sample from this interval - clay, sd, & silt; buff calc (Drift)]

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Local Well No. 092-32W-31 CDAA
Aquifer Code(s) KIDI
Owner's Name POCAHONTAS CITY #2 (1930)
W Number 00162

Water Quality
(ppm)

Card Q

State: IOWA (1 2) 19 County: POCAHONTAS (3 4) 76 Town: POCAHONTAS, IOWA

Well No. Latitude 42 44 08 N (5–11) Longitude 094 40 07 (12–18) Seq. No. 2 (19) Date M D Y 04 05 39 (20–25)

Sampling Depth 258 (26–29) Type 1 (30) $Kx10^6$ (31–35) pH 7.4 (36–38) Temp. °F (39–41)

SiO_2 (42–44) Ca 207 (45–49) Mg 66 (50–53) Na +K 88 (54–58) K .C (59–61)

HCO_3 542 (62–65) CO_3 (66 67) SO_4 561 (68–72) Cl 60 (73–78) Source No. 3 (79) Q (80)

Card R

Duplicate Columns 1-25 from Card Q

F 0 (26–28) NO_3 0 (29–32) PO_4 (33–35) B (36–38) Al (39–41) Fe .2 (42–45)

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

Solids Determined 1240 (58–63) Calc. (64–69) Hardness Ca,Mg 787 (70–73) Non-Carb. 343 (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 $CaCO_3$ 444 (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. ABRONSON

Punched by: T Date:

Published:

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

092-32W-31 CDAA,2

KDD

Water Quality
(ppm)

Card Q

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

Well No. (5–11) Latitude: 0 R | Longitude: 9 4 4 0 1 (12–18) | Seq. No. 2 (19) | Date (20–25) M 1 2, D, Y 1

Sampling Depth (26–29) 2 5 | Type (30) | Kx10^6 (31–35) 1 | pH (36–38) 3 | Temp. °F (39–41)

SiO_2 (42–44) 1 | Ca (45–49) 1 9 7 | Mg (50–53) | Na (54–58) 7 | K (59–61) 1

HCO_3 (62–65) | CO_3 (66–67) 0 | SO_4 (68–72) 1 0 | Cl (73–78) X | Source No. (79–80)

Card R

Duplicate Columns 1-25 from Card Q

F (26–28) X | NO_3 (29–32) 4 | PO_4 (33–35) | B (36–38) | Al (39–41) | Fe (42–45) X 4 0

Mn (46–49) X 6 8 | Cu (50–52) | Pb (53–54) | Zn (55–57)

Determined Solids (58–63) 2 6 0 | Calc. (64–69) | Ca,Mg Hardness (70–73) 8 | Non-Carb. (74–77)

Color (78–79) | No. (80) X

Card S

Duplicate Columns 1-25 from Card Q

Br (26–28) | I (29–31) | Alk. as $CaCO_3$ (32–35) 4 2 | Free CO_2 (36–38) | SAR (39–41)

RSC (42–44) | ABS (45–47) | (48–50) | (51–54)

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

Verified PMJ

No. (80)

Recorded by: R.W. COBLE

Punched by: Punched FCH Date:

Published:

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

W-2162

RECORD OF WELL



50' North of well #1

Location:

Town: Pocahontas (N E S W); County Pocahontas

NE SE SW sec. 21 T. 92 N., R. 32 W. Roosevelt Twp.

Well name and number Pocahontas Town Well #2

Owner Town of Pocahontas Address

Tenant Supt Mr Sedlacek Address

Contractor Thorpe Well Co Address Des Moines

Drillers

Drilling dates Jan. 26. 1930

Well data:

Elevations: Drilling curb 1225 feet; Land surface 1225 feet

1231' on gulf log. 1225 on file record card
4' higher than C.R.I.P.

Determined by

Topographic position

Total depth: Reported 208 feet, Measured feet

Drilled to 258; cemented to 208 Was test hole #2 *see remark

Drilling method cable

Hole and casing data Gravel pack
(Give amount, size, kind, and depth of all casing; type and
8" hole
position of seals and packers; cementing; how finished--perforated pipe, screen,
gravel pack, open hole, etc.)

Original depth to water ft. above below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal Dakota Ss ; Others

CASING DIAGRAM

Vertical scale _____

LOG

0 - 5	Black dirt
5 - 50	Blue clay
50 - 65	Yellow clay
65 - 117	Blue "
117 - 122	Yellow "
122 - 126	Sand
126 - 135	Yellow clay
135 - 142	Blue "
142 - 144	Brown "
144 - 148	Yellow "
148 - 200	Sandstone
200 - 208	Fine sand cemented below 208'
208 - 216	Blue shale
216 - 251	Sandstone
251 - 258	Dark yellow limestone

Production data: Date _____

Static depth to water _____ Measuring point _____

Pumping level drawdown 78' at 200-250 g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity _____ g.p.m. per ft. drawdown; Temperature 50 °F.

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

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

Power _____ Airline _____

Estimated rate of production: 250 g.p.m. for 5 hrs. a day

Use of water city supply

WATER ANALYSES (in parts per million)

Date sampled	April 5, 1939			
Sampled by	W.A. Sampson			
Total solids	1239			
Insoluble matter	18.0			
Alkalinity (Meo)	444.0			
Alkalinity (Phn)	0.0			
pH	7.4			
Fe_2O_3+ Mn_2O_3+Al_2O_3	6.0			
Alkali as sodium	87.7			
Calcium	207.2			
Magnesium	65.5			
Iron (unfiltered)	0.2			
Manganese	trace			
Nitrate	0.00			
Fluoride	0.0			
Chloride	6.0			
Sulfate	560.7			
Bicarbonate	541.7			
Hardness (ppm)	787			
Hardness (gpg)	46.02			

Remarks _____

Laboratory data: Sample storage location _____

Sample range 5-126, 135-250, 251-58 No. spls. 19 No. dupls. & cond. 15 fair

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. _____

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

Microscopic study Hershey strip log Gulf

Gen. log _____ Correl. by _____

WATER LEVEL DATA

Measuring point _____

Date	Depth to water	Altitude	Remarks

REMARKS

* Test hole #1, 600' south of City well #2, drilled by Thorpe Well Co. Elev. 1227' #12 on county blueprint map T.D. 261' For log see folder for city well #2