

Punched Form

WRD Exp. (GW)  
Aug. 1964

Verified PMJ

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

## Water Resources Division Well Schedule Form

MASTER CARD

Record by R.W. COBLE Source of data FILE Date 6/29/65 Map 163360 COUNTY NEW

State IOWA County (or town) POCAHONTAS Sequential number: 7

Latitude: 42 44 N Longitude: 91 40 07 W

Lat-long Accuracy: 92 S, R 32 E Sec 31, NENE, SE 6

Local well number: 01549 Other number: W-1549

Local use: 01549 UTILITY Owner or name: CITY OF POCAHONTAS

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

Ownership: County, Fed Gov't, (M) City, Corp or Co, Private, State Agency, Water Dist M

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

Use of well: Anode, Drain, Seismic, Obs, Oil-gas, Recharge, Spring, Test, Unused, (W) Withdraw, Waste, Destroyed W

DATA AVAILABLE: Well data 1 Freq. W/L meas.: ORIGINAL Field aquifer char. 0

Hyd. lab. data: 0

Qual. water data, type: COMPLETE

Freq. sampling: IRREGULAR Pumpage inventory: no period: 0

Aperture cards: 0

Log data: GEOLOGI

## WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 214 ft Meas. rep. DRL accuracy 3

Depth cased: 176 ft Casing type: STEEL ; Diam. 16 in

Finish: porous gravel w. concrete, (perf.), (C) gravel w. screen, (H) horiz. gallery, end, (O) open perf., (P) screen, sd. pt., (S) shored, (T) open hole, (W) other 6

Method Drilled: (A) air bored, (B) cable, (C) dug, (D) hyd jetted, (E) air percussion, (F) reverse, (G) trenching, (H) driven, (I) drive wash, (J) other 0

Date Drilled: 7/31/41 Pump intake setting: 0 ft

Driller: THORPE WELL CO., DES MOINES, IA

Life (type): (A) air, (B) bucket, cent, jet, (C) multiple, (D) multiple, (E) multiple, (F) none, (G) piston, (H) rot, (I) submerg, (J) turb, other 0 Deep 0 Shallow 40

Power (type): diesel, elec, gas, gasoline, hand, gas, wind; H.P. Trans. or meter no. 0

Descrip. MP AND SURFACE ft above 0 below 1228 lsd, Alt. MP 1228

Alt. LSD: 1228 Accuracy: ALT. 7

Water Level 40 ft above below MP; Ft above below lsd 17 Accuracy: DRL

Date meas: 7/1/41 Yield: 150 gpm Method determined 0

Drawdown: 7.0 ft Accuracy: DRL Pumping period 0 hrs

QUALITY OF WATER DATA: Iron 0.36 ppm Sulfate 553 ppm Chloride 15 ppm Hard. 820 ppm

Sp. Conduct 650 k x 10<sup>6</sup> Temp. 51 °F Date sampled 3/7/62

Taste, color, etc.

Well Number 42, 44, 08, 09, 40, 07  
d m s d m s

## HYDROGEOLOGIC CARD

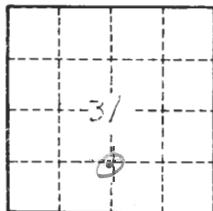
SAME AS ON MASTER CARD		Physiographic Province: <u>CENT. LOW</u>		Section: <u>WEST</u>	
LAKE <u>B</u>		Drainage Basin: <u>DES MOINES</u>		Subbasin: <u>2</u>	
Topo of well site: local depression, flat surface, hilltop, hillside, terrace, valley flat,					
MAJOR AQUIFER: <u>CRETACEOUS</u>		<u>LOWER</u>		<u>DAKOTA SS</u>	
Lithology: <u>MED. GRAIN.</u>		Origin: <u>MARINE</u>		Aquifer Thickness: <u>110</u> ft	
Length of well open to: <u>38</u> ft		Depth to top of: <u>40</u> ft		<u>140</u>	
MINOR AQUIFER:					
Lithology:		Origin:		Aquifer Thickness:	
Length of well open to:		Depth to top of:			
Intervals Screened: <u>176-214</u>		Depth to consolidated rock: <u>140</u> ft		Source of data: <u>SAMPLES</u>	
Depth to basement:		Source of data:			
Surficial material: <u>SANDY TILL</u>		Infiltration characteristics: <u>POOR</u>			
Coefficient Trans: <u>gpd/ft</u>		Coefficient Storage: <u></u>			
Coefficient Perm: <u>gpd/ft<sup>2</sup></u>		Spec cap: <u></u>		Number of geologic cards: <u></u>	

CASINI:

16" 0-176

10" 54-174

10" SCREEN 174-214

ORIGINAL HOLE TO 500  
SAMPLE LOGALSO SIDE TEST HOLE W/ SAME  
SECTION TO 310' - 1. US GIL. CITY  
AND W. AYNES CREEK.



W-1549

Pocahontas, Iowa Sept. 23, 1942

T. F. McCarten, city clerk

A. J. Sedlacek, water supt.

Water samples collected - 1:15 PM after pumps  
had been running  $\frac{1}{2}$  hrTemp. 50°F after water had run through 20' copper tubing  
air temp - 50°FPumping level 92 feet below floor eye-meas.  
Static level 40 feet " " reported

Pumping rate 200 gpm

Peerless water lub pump - 10 hp motor

Line - 150 feet in length

W. E. Hale

NOTES \_ 6/10/1994 J. Gilmore

Information concerning these holes and samples is fragmentary and confused.

W-1549 Main Well & W-1783

This is the main well. It is a gravel packed well that was originally drilled to 250 ft. A drillers log of this hole however goes to 272 ft.. The screen was apparently pulled back and the TD was then considered 214 ft.. Two side holes were drilled nearby. Side hole #1 (W-1783) was drilled to 310 ft. The sample set from the main hole (W-1549) contains 9 samples from side hole #1 to a depth of 310 ft. Thus from the samples it "appears" that the main well is 310 ft deep. Side hole #2 was given W# 1782. Due to some unknown confusion these samples were apparently thrown out and the W# was reassigned to another unrelated well. The main well W-1549 has been referred to as #1, #2 and #3.

W-1840 Unknown #3

Fragmentary records of this hole were associated with the above records. The samples range from 270- 470 ft..

IOWA GEOLOGICAL SURVEY  
Water Well Data Sheet

Survey Number **W-1549**

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

Name Pocahontas Town well #1 Location NE 1/4 - SE 1/4 SW 1/4, Sec. 31

Contractor Thorpe Well Co Driller Edgar Hurtt Use Municipal  
Drilling

Construction gravel pack Drilling Dates \_\_\_\_\_ Depth \_\_\_\_\_

Topog. Upland Curb Elev. 1228 Ref. Hand level - C.R.I.E.P Total Depth 250\*

Final above  
Static below Pumping Draw Time  
Level curb Level \_\_\_\_\_ down \_\_\_\_\_ gpm \_\_\_\_\_ pumped \_\_\_\_\_ Date \_\_\_\_\_  
Depth to bot. pump \_\_\_\_\_ ft. with \_\_\_\_\_ ft. suction pipe. drawdown \_\_\_\_\_ Calc. g/ft. Prin. Prod. \_\_\_\_\_  
Producing \_\_\_\_\_  
Horizons \_\_\_\_\_

Water levels and pumping tests on various horizons during drilling:

Depth Range	Stat. Level	Pump Level	Draw down	gpm.	Temp.	Producing horizons	Producing formations	Formations cased out

Additional information \* gravel pack well with 2 side holes. 9 of the samples are from side hole #1 side hole #1 goes to 310' - the main hole goes to 250' depth.

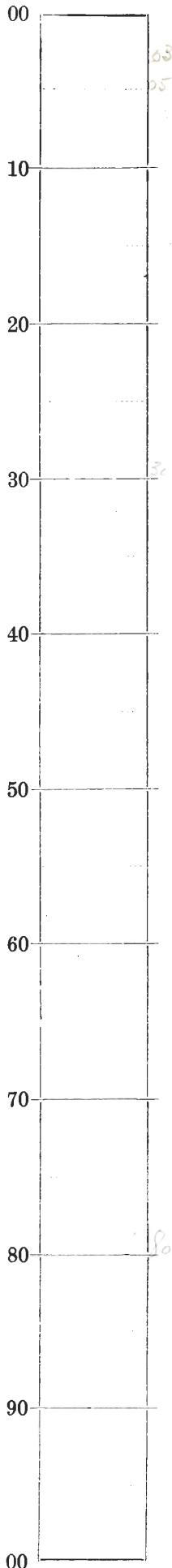
Laboratory Data  
Sample range 0'-310' Number samples 33 Number Duplicates 33 Cond. good

Log NO Cond. \_\_\_\_\_ Boxed Hawkins Range 0'-310' Date 5/15/42

Remarks \_\_\_\_\_

Microscopic Study Range 0-310 Carrier 6-25-42 Strip Log  Gen. Log \_\_\_\_\_ Blue Print \_\_\_\_\_ Samples Washed in part  
Insol. Res. Study Range \_\_\_\_\_ Strip Log \_\_\_\_\_ Gen. Log \_\_\_\_\_ Insol. Res. Prepared \_\_\_\_\_ Well Corel. \_\_\_\_\_

Location NE 1/4 SE SW 31-92-32 Date Drilled 94? Analyst Carrier 6/24/42



El. 1228

Sd. glacial Herange-yellow tncse, med. 70% to 30% A, frosted, napolish mostly qtz with tr dol med gr & sh. chalc. conic. H. gr. v.

Sd. like silty with small amt. tr. st. & few coarse grains emb. in scale

Clay + bt. string dk. brn. silty, w tr. coarse sd emb. v. calc with. coarse dol. ls.

clay ls. of scale, soft & silty, with tr. lspe qtz &igs of emb

Spie ditto

plane above silty, w. rounded med. med. well orange

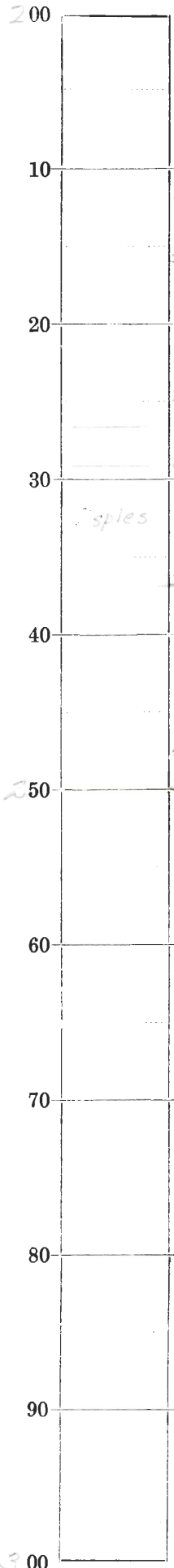
lay. of graysh bt. v. calc. v. silty with ls. pebb. - polished rounded - tr. & tr. pebbles (rounded) med. gr. sh. nencate, hard, ...

... silty qtz

Two

1. Clay is brown, silty, calc. silty, w. 10-15% subangular qtz med. sh. grains
2. Clay is ... l. streaked lt. or scale with grains lt. bt. brn. soft. fa. grains ls. emb.





Two Samples 12-21' interval

1. Sand v. coarse 10% coarse 20% med. 70% tr. fr. v. tr. v. silt, A to d. rounded corners polished & treated, mostly qtz clear, yellowish, & pink, with dk. sps. polished tr.

2. Sd. v. coarse etc. as above with ls. interst. pebb. - 40% tr. cem. by hematite chert full gran ep. in pebbles upto - 20mm diam. chert rounded 30% Sh. lt. granulated yellow silty calc. soft structureless less than usual 12%

212

216

Sd. coarse 10% med 30% A to d. polished etc. as above. Silty silty lt. yellowish brn mostly qtz - few dk. sps. - sand may be coarse.

Sh. lt. med gr. non-calc, micae, soft, structureless; few coarse sd. grains emb. nit - 60%

225

229

Sd. as above v. silty coarse 10% med 30% to 20% A to d. polished etc. above, bonded by lt. clay

Sh. lt. gr. non-calc, soft, structureless - 20%

Sd. v. coarse to coarse med. A to d. 15% tr. treated etc. as above 15%

Sh. lt. med gr. silty calc. etc. as in 216-225-25% Tr. whitish chert

231

1. S. granules - 10% v. coarse 10% med. 70% fr. 10% to A to d. silty treated and well polished mostly clean yellow qtz with tr. weathered chert & med gr. siltstone & some dk. gr. sps. dirty.

2. Sple. ditto # 1-washed

48

50

Sd. as above with pebs of chert chert siderite & limonite cemented sd. tr.

Samples



00  
10  
20  
30  
40  
50  
60  
70  
80  
90  
00

128

Sd / base with dirty 10% mud 60% to 30% v to 10% A very little  
tracing of pebbles, clay etc. 1/4 - 1/2 in. H. of dol.

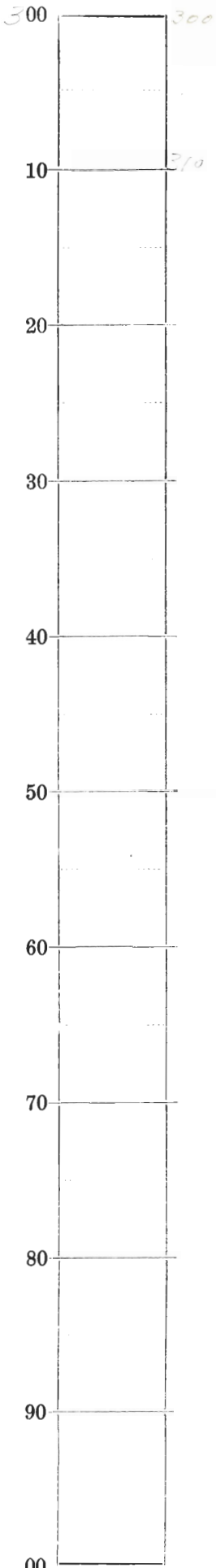
145



Sheet No. 6 Name of Well Paschentas Town Well Survey No. W1549

(Side Hole #1)

Location Date Drilled 1942 Analyst Carrier 6-25-42



(to 100 ft) (iron stained red & yellow)  
 Ch. 14 gr & dr. to full, coarse to fine  
 Ed. 14 soil. ht. to ground, x10, 4-10-42  
 granular to sandy silty dolm.  
 30%

L.S. 310

T.D. 310

IOWA GEOLOGICAL SURVEY  
Generalized Log Based on Detailed  
Description of Drill Cuttings

Name of Well Pocahontas Town Well No. 1 Survey No. W-1549  
 Location NE/c SE SW sec. 31, T. 92 N., R. 32 W., Pocahontas County  
 Drilled by Thorpe Bros. Well Co., Edgar Hurtt, driller  
 Total Depth 310 ft. Curb Elevation 1228 ft. Static Level \_\_\_\_\_ ft.  
 Pumping Test \_\_\_\_\_ Hours \_\_\_\_\_ Min; Gal. per min. \_\_\_\_\_ Drawdown \_\_\_\_\_ ft. in \_\_\_\_\_ min.  
 Casing Data \_\_\_\_\_

Note: Main hole samples to 250 feet depth, side hole No. 1 samples 250 to 310 feet  
Description of Formations

<u>No.</u>	<u>Rock Unit</u>	<u>Thick.</u>	<u>From</u> <u>(feet)</u>	<u>To</u>
<b>PLEISTOCENE SYSTEM</b>				
1.	Sand, major grade medium ( $\frac{1}{8}$ - $\frac{1}{4}$ mm.) angular, frosted in part, mostly quartz with traces of dolomite and chalcedonic chert	3	0	3
2.	Soil, black, silty, noncalcareous, with small amount fine sand	2	3	5
3.	Clay, light buff and gray stained yellow and dark brown, very calcareous, with traces of quartz and igneous sand, pebbles of limestone and shale, medium gray, noncalcareous, hard, slightly silty	75	5	80
4.	Clay, light brownish buff, slightly calcareous and silty, with 20% medium angular to subangular quartz sand and traces of limestone pebbles embedded. One sample	40	80	120
5.	Sand, slightly silty, mostly medium and fine, angular, slightly frosted and polished, quartz and dark igneous grains, with 5% limestone and dolomite granules. One sample	20	120	140

Notes:

Survey No. W-1549

<u>No.</u>	<u>Rock Unit</u>	<u>Description</u>	<u>Thick</u>	<u>From</u>	<u>To</u>
CRETACEOUS SYSTEM					
Dakota formation					
6.		Sandstone, free, well sorted, chiefly medium and fine, angular, very little frosting or polishing, silty	10	140	150
7.		Sandstone, fairly well sorted, major grade medium ( $\frac{1}{2}$ - $\frac{1}{4}$ mm.), angular, very little frosting or polishing except on grains larger than $\frac{1}{2}$ mm. diameter	62	150	212
8.		Chert pebbles (up to 20 mm. diameter) 50% rounded, dull, granular, weathered. Sandstone, to trace cemented by Hematite, mostly medium with 10% to 20% coarse and very coarse, angular to subangular, polished. Shale 10%, light gray streaked yellow, slightly calcareous, soft, nonfissile	4	212	216
9.		Shale, light medium gray, noncalcareous, micaceous, soft, massive, with 15% to 60% sand, as in 212 to 216 feet	13	216	229
10.		Sandstone, clear to translucent orange and pink, trace siderite cemented, major size grade medium, angular to subangular, mostly quartz with few granules dolomite, chert, and dark igneous material	21	229	250
Samples from side hole No. 1					
11.		Shale, light buffish gray, to medium gray, slightly calcareous and silty, waxy and plastic appearing, with 10% sand as in 229 to 250 feet, and traces of carbonized wood 250 to 252 feet	22	250	272
MISSISSIPPIAN SYSTEM					
Eagle City (?) formation					
12.		Limestone 50% to 75%, light buff to gray, fine-grained, crystalline, dense, hard, oolitic in part. Sandstone, cemented by limonite, hematite, and siderite in upper 3 feet (Dakota cave), major grade medium, angular to subangular, with some polish and rounding	9	272	281
13.		Limestone 20%, light cream to gray, fine-grained, dense to very porous, oolitic. Dolomite 15%, light buffish cream, fine-grained, saccharoidal. Sandstone 65%, as in 275 to 281 feet (probably cave)	9	281	290
Maynes Creek (?) formation					
14.		Chert 45%, light to light medium gray and brown, dull, dense, conchoidal opaque, trace chalcedonic. Limestone 35%, light yellowish buff, fine-grained, subsaccharoidal, oolitic in part. Sandstone 20%, as in 281 to 290 feet	10	290	300

Survey No. W-1549

<u>No.</u>	<u>Rock Unit</u>	<u>Description</u>	<u>Thick</u>	<u>From</u>	<u>To</u>
15.	Chert 80%, light to light medium gray and drab, dull, granular to subvitreous, conchoidal, slightly dolomitic. Dolomite 15%, light yellowish buff, fine-grained, crystalline, dense. Limestone 5%, light buff, very fine-grained, oolitic		10	300	310
Total depth					310

Notes on Pocahontas Town Well No. 3  
Pocahontas County  
Survey No. W-1549

Samples of this well are taken at very irregular intervals, especially the drift samples. Intervals range from 2 to 50 feet.

The sample from 120 feet to 140 feet consists of dirty, silty, quartz sand, angular, slightly frosted and polished, major grade medium, but not well sorted. With the quartz sand are granules of limestone and dolomite. This sample is interpreted to be glacially reworked Dakota in part due to the presence of limestone and dolomite and to the poor sorting. Directly below this sample is quartz sand, free, dirty, silty, angular, about half medium and half fine, and well sorted, with practically no polish or frosting. This material is believed to be Dakota. Due to the fact that none of the grains attain a diameter greater than  $\frac{1}{2}$  mm., they do not show typical rounding and polishing of Dakota.

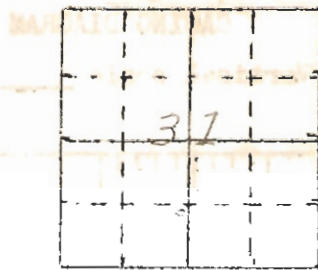
The shale from 250 to 272 feet in the adjacent test hole is rather peculiar. It is a light buff gray semiwaxy or unctuous, slightly calcareous and silty clay or shale. It does not seem typically Cretaceous shale or glacial cave.

The large percentage of sand in the Mississippian is believed to be Dakota cave. No sand was found embedded in the limestone and the sand itself looks like Dakota. The Mississippian beds were assigned to Eagle City and Maynes creek respectively, on the basis of an oolitic limestone followed by heavy chert. This sequence is shown in Iowa Falls sections (Ralston Purina) and in composite surface sections of north central Iowa.

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

W-1783 (side hole)  
W-1549 (main hole)

RECORD OF WELL



Location:

Town: Pocahontas ( N E )  
( S W ); County Pocahontas  
E.  
NE/4 - SE - SW sec. 31 T. 22 N., R. 32 W. Roosevelt Twp.

Well name and number Pocahontas Town Well #1

Owner Town of Pocahontas Address \_\_\_\_\_

<sup>Supt.</sup>  
Tenant Mrs. Sedlacek Address \_\_\_\_\_

*Well is approx 100' SE of standpipe behind brn brick bldg. Side hole #1 is 5' W. of main hole*

Contractor Thorpe Well Co. Address \_\_\_\_\_

Drillers Edgar Hurtt

Drilling dates May 8, 1941 - July 31, 1941

Well data:

Elevations: Drilling curb 1228 feet, Land surface 1228 feet

Determined by Hand level - C.R.L. & P.

Topographic position \_\_\_\_\_

Total depth: Reported 214 feet, Measured \_\_\_\_\_ feet

\* *Gravel pack well with 2 side holes. Main hole drilled to 252'; cemented to 214' (see remarks)*

Drilling method cable tool

Hole and casing data Gravel pack 39" to 16" hole

(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.)  
176' 10" of 16" std blk casing from +10" to 176'  
40' of 10" Everdur screen (1 1/2 x 1/8 slot) from 174' to 214'  
20' of 10" blank Everdur pipe attached to screen from 159' to 174'

\* 1' 6" of 9" W.I. pipe attached to 10" pipe from 152' 6" to 154'

Original depth to water \_\_\_\_\_ ft. above \_\_\_\_\_ ft. below \_\_\_\_\_ Date \_\_\_\_\_

Original elevation of water level \_\_\_\_\_ ft.; Source of data \_\_\_\_\_

Sources of water: Principal Dakota; Others \_\_\_\_\_



Production data: Date \_\_\_\_\_  
 Static depth to water 40 Measuring point \_\_\_\_\_  
 Pumping level 92 at \_\_\_\_\_ g.p.m.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Specific capacity 4 g.p.m. per ft. drawdown; Temperature 50 °F.

Pump data; Type pump Turbine Column Dia. \_\_\_\_\_ Length \_\_\_\_\_  
 Cylinder or bowls: Dia. \_\_\_\_\_ Length \_\_\_\_\_ Suction pipe \_\_\_\_\_  
 Power Electric motor 10HP Airline \_\_\_\_\_  
 Estimated rate of production: \_\_\_\_\_ g.p.m. for \_\_\_\_\_ hrs. a day  
 Use of water Well not used but pumped to waste every few days

WATER ANALYSES (in parts per million)

Date sampled	<u>Sept 23, 1942</u>	_____	_____
Sampled by	<u>W.E. Hale</u>	_____	_____
Total solids	<u>1318</u>	_____	_____
Insoluble matter	<u>20.0</u>	_____	_____
Alkalinity (Meq)	<u>414.0</u>	_____	_____
Alkalinity (Phn)	<u>0.0</u>	_____	_____
pH	<u>7.1</u>	_____	_____
Fe <sub>2</sub> O <sub>3</sub> + Mn <sub>2</sub> O <sub>3</sub> +Al <sub>2</sub> O <sub>3</sub>	<u>3.0</u>	_____	_____
Alkali as sodium	<u>87.3</u>	_____	_____
Calcium	<u>208.0</u>	_____	_____
Magnesium	<u>74.3</u>	_____	_____
Iron (unfiltered)	<u>0.3</u>	_____	_____
Manganese	<u>1.0</u>	_____	_____
Nitrate	<u>13.0</u>	_____	_____
Fluoride	<u>0.5</u>	_____	_____
Chloride	<u>16.0</u>	_____	_____
Sulfate	<u>552.6</u>	_____	_____
Bicarbonate	<u>505.1</u>	_____	_____
Hardness (ppm)	<u>828</u>	_____	_____
Hardness (gpg)	<u>48.1</u>	_____	_____

Remarks \_\_\_\_\_

Laboratory data: Sample storage location \_\_\_\_\_  
 Sample range 0-310 No. sps. 59 + 33 No. dupls. & cond. 59+33 *fair to good*  
 Spis. prepared by opfell Washed range \_\_\_\_\_ by \_\_\_\_\_  
 Driller's log and cond. Yes *driller's log copied by D. Bohach*  
 Insoluble residues: Prepared by \_\_\_\_\_ Studied by \_\_\_\_\_ Strip log \_\_\_\_\_  
 Microscopic study 0-310 JBC strip log 6-25-A2 JBC  
 Gen. log Carrier Correl. by J. Carrier

WATER LEVEL DATA

Measuring point \_\_\_\_\_

Date	Depth to water	Altitude	Remarks

REMARKS

Well #1 originally referred to 1350' well which has been plugged back to 208' & is used as side hole #2 for gravel pack well which was drilled in 1941 & is present well #1 side hole #1 drilled by Thorpe Well Co to 310' Elev. 1228' Samples W-1783 NS 59 ND 59 Range 0-310 Cond. Fair 5' west of main well

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey  
Water Resources Division

Local Well No. 092-32W-31C DAA

Aquifer Code(s) KIDX

Water Quality  
(ppm)

Owner's Name POCAHONTAS CITY #2 (1941)

W Number 01549

Card Q

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

Well No. Latitude 424408N Longitude 0944007 Seq. No. 1 Date M D Y 022654

Sampling Depth 214 Type 1 Kx10<sup>6</sup> 1250 pH 7.3 Temp. °F 39 41

SiO<sub>2</sub> Ca 204 Mg 77 Na 76 K 50

HCO<sub>3</sub> 486 CO<sub>3</sub> 0 SO<sub>4</sub> 559 Cl 20 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 5 NO<sub>3</sub> 44 PO<sub>4</sub> B Al Fe

Mn 10 Cu Pb Zn

Determined 1430 Solids Calc. Ca, Mg 826 Hardness Non-Carb. 428

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO<sub>3</sub> 398 Free CO<sub>2</sub> SAR

RSC ABS U

Alpha (pc/l) Beta (pc/l) Ra (pc/l) U (ug/l)

No. S  
80

Recorded by: D. A. ARONSON

Punched by: T Date: \_\_\_\_\_

Published: \_\_\_\_\_



UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey  
Water Resources Division

Local Well No. 092-32W-31CDA

Aquifer Code(s) KIDX

Water Quality  
(ppm)

Owner's Name POCAHONTAS CITY #2 (1941)

W Number 01549

Card Q

State: IOWA 1 9 County: POCAHONTAS 7 6 Town: POCAHONTAS, IOWA

Well No. 4 2 4 4 0 8 N Longitude 0 9 4 4 0 0 7 Seq. No. 1 Date M 0 3 D 0 4 Y 6 9

Sampling Depth 2 1 4 Type 1 Kx10<sup>6</sup> 1 7 0 0 pH 6 8 Temp. °F 5 0

SiO<sub>2</sub> 1 9 Ca 2 0 4 Mg 7 8 Na 8 5 K 6 0

HCO<sub>3</sub> 5 2 5 CO<sub>3</sub> 0 SO<sub>4</sub> 5 7 0 Cl 5 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 4 NO<sub>3</sub> 1 PO<sub>4</sub> 1 B 1 Al 1 Fe 5 2

Mn 1 3 Cu 1 3 Pb 1 3 Zn 1 3

Determined 1 2 7 0 Solids 1 2 7 0 Calc. 1 2 7 0 Ca, Mg 8 3 0 Hardness Non-Carb. 4 0 0

Color 1 2 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 1 2 I 1 2 Alk. as CaCO<sub>3</sub> 4 3 0 Free CO<sub>2</sub> 1 2 SAR 1 2

RSC 1 2 ABS 1 2 7 0 1 2 7 0

Alpha (pc/l) 1 2 7 0 Beta (pc/l) 1 2 7 0 Ra (pc/l) 1 2 7 0 U (ug/l) 1 2 7 0

No. S  
80

Recorded by: D. AARONSON

Punched by: T Date: \_\_\_\_\_

Published: \_\_\_\_\_