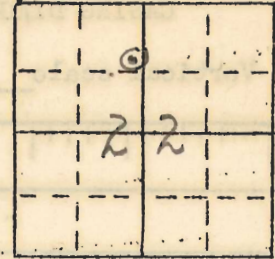


IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-0680

RECORD OF WELL



Location:

Town: Sioux City (N E)
(S W): County Woodbury

SE/4 - NE - NW sec. 22 T 89 N., R. 47 W. Sioux City Twp.

Well name and number City #5

Owner _____ Address _____

Tenant _____ Address _____

Contractor Howard Rasmussen Well Co Address Sioux City

Drillers _____

Drilling dates 1937

Well data:

Elevations: Drilling curb 1107.55 feet; Land surface _____ feet

Determined by _____

Topographic position River flat

Total depth: Reported 340 feet, Measured _____ feet

Drilling method- _____

Hole and casing data 110' of 20-inch casing 0-110'

225' of 16-inch casing 110-335, perforated 110-153 &

174-279

Original depth to water 34 ^{above} ft. below _____ Date _____

Original elevation of water level 1073.5 ft.; Source of data _____

Sources of water: Principal _____ ; Others _____

Production data:

Date _____

Static depth to water 34 Measuring point _____
 Pumping level 101 at 1400 g.p.m. in 6 hours

Specific capacity _____ g.p.m. per ft. drawdown; Temperature 53 °F.

Pump data: Type pump Turbine Column Dia. _____ Length 143
 Cylinder or bowls: Dia. 10" Length _____ Suction pipe 10'

Power Electricity Airline _____

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

Use of water city supply

WATER ANALYSES (in parts per million)

Date samples	<u>April 19, 1938</u>	<u>July 1, 1946</u>	_____	_____
Sampled by	<u>E.J. Marzec</u>	<u>F.W. Pickworth</u>	_____	_____
Total solids	<u>502</u>	<u>476</u>	_____	_____
Insoluble matter	<u>27.5</u>	<u>15</u>	_____	_____
Alkalinity (Meo)	<u>290.0</u>	<u>289</u>	_____	_____
Alkalinity (Phn)	<u>0.0</u>	<u>0</u>	_____	_____
pH	<u>7.0</u>	<u>7.7</u>	_____	_____
Fe ₂ O ₃ + Mn ₂ O ₃ + Al ₂ O ₃	<u>4.0</u>	<u>4</u>	_____	_____
Alkali as sodium	<u>24.8</u>	<u>21</u>	_____	_____
Calcium	<u>101.9</u>	<u>114</u>	_____	_____
Magnesium	<u>24.4</u>	<u>31</u>	_____	_____
Iron (unfiltered)	<u>1.0</u>	<u>0.7</u>	_____	_____
Manganese	<u>0.05</u>	<u>0.1</u>	_____	_____
Nitrate	<u>0.00</u>	<u>0.0</u>	_____	_____
Fluoride	<u>trace</u>	<u>0.6</u>	_____	_____
Chloride	<u>8.0</u>	<u>9.0</u>	_____	_____
Sulfate	<u>114.4</u>	<u>131</u>	_____	_____
Bicarbonate	<u>353.8</u>	<u>376</u>	_____	_____
Hardness (ppm)	<u>357.0</u>	<u>414</u>	_____	_____
Hardness (gpg)	<u>20.9</u>	<u>24.2</u>	_____	_____

Remarks _____

Laboratory data:

Sample storage location _____

Sample range 0-325 No. spls. 55 No. dupls. & cond. 65 good

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. _____

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

Microscopic study 0-325 SEH strip log Oct. 2, 1945 SEH

Gen. log _____ Correl. by S.E. Harris

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources Division

Local Well No. 089-47W-22 BADA

Aquifer Code(s) KIDX

Owner's Name Sioux City #5 (1937)

W Number 00680

Water Quality
(ppm)

Card Q

State: IOWA 1 2 1 9 County: WOODBUZY 3 4 9 7 Town: SIoux CITY, IOWA

Well No. Latitude 4 2 3 0 5 4 N Longitude 0 9 6 2 2 5 4 Seq. No. 1 Date M D Y 1 1 1 7 6 6

Sampling Depth Type 3 4 0 Kx10⁶ 1 pH 9 1 0 Temp. °F 7 1 5 2

SiO₂ Ca 1 6 Mg 1 3 6 Na 3 3 K 1 7 6 0

HCO₃ CO₃ 4 0 4 SO₄ 0 Cl 1 7 0 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F NO₃ 4 PO₄ 5 B 1 Al 1 Fe 2 4

Mn Cu 2 3 Pb 1 Zn 1

Determined Solids 5 8 3 Calc. 1 7 0 Ca, Mg 4 7 5 Hardness Non-Carb. 1 4 4

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I 1 Alk. as CaCO₃ 3 3 1 Free CO₂ 1 SAR 1

RSC ABS 1 Ra (pc/l) 1 U (ug/l) 1

Alpha (pc/l) Beta (pc/l) 1 Ra (pc/l) 1 U (ug/l) 1

No. S
80

Recorded by: D. AARONSON

Punched by: T Date: 1/17/66

Published: _____

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources Division

Local Well No. 089-47W-22BADA

Aquifer Code(s) KIDX

Owner's Name SIoux CITY #5 (1937)

W Number 00680

Water Quality
(ppm)

Card Q

State: IOWA County: WOODBURY Town: SIoux CITY, IOWA

Well No. 423054N Seq. No. 1 Date 06/16/60

Latitude 423054N Longitude 0962254

Sampling Depth 340 Type 1 Kx10⁶ 880 pH 7.3 Temp. °F 55

SiO₂ 16 Ca 132 Mg 31 Na 115 K 7.4

HCO₃ 405 CO₃ 0 SO₄ 144 Cl 111 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 6 NO₃ 4 PO₄ 2 B 1 Al 1 Fe 80

Mn 22 Cu 1 Pb 1 Zn 1

Solids 628 Hardness 457

Determined 628 Calc. 144 Ca, Mg 457 Non-Carb. 125

Color 1 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 1 I 1 Alk. as CaCO₃ 332 Free CO₂ 1 SAR 1

RSC 1 ABS 1 1

Alpha (pc/l) 1 Beta (pc/l) 1 Ra (pc/l) 1 U (ug/l) 1

No. S
80

Recorded by: D. AARONSON

Punched by: T Date: 11/11/60

Published: _____

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources Division

Local Well No. 089-47W-22BADA

Aquifer Code(s) KIDX

Owner's Name SIoux CITY #5 (1937)

W Number 00680

Water Quality
(ppm)

Card Q

State: IOWA County: WOODBURY Town: SIoux CITY IOWA

Well No. 423054N Seq. No. 1 Date 062455

Sampling Depth 340 Type 1 Kx10⁶ 850 pH 7.9 Temp. °F 55

SiO₂ 128 Ca 128 Mg 34 Na 13 K 7.0

HCO₃ 383 CO₃ 0 SO₄ 161 Cl 6 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 6 NO₃ 27 PO₄ 1 B 1 Al 1 Fe 5

Mn 1 Cu 1 Pb 1 Zn 1

Determined 575 Solids 161 Ca, Mg 460 Hardness 146

Color 1 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 1 I 1 Alk. as CaCO₃ 314 Free CO₂ 1 SAR 1

RSC 1 ABS 1 1

Alpha (pc/l) 1 Beta (pc/l) 1 Ra (pc/l) 1 U (ug/l) 1

No. S
80

Recorded by: D. AARONSON

Punched by: T Date: 10/10

Published: _____

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources Division

Local Well No. 089-47W-22BADA

Aquifer Code(s) KIDX

Owner's Name Sioux City #5 (1937)

W Number 00680

Water Quality
(ppm)

Card Q

State: IOWA County: WOODBURY Town: SIoux City, IOWA

Well No. 423054N Seq. No. 1 Date 041938

Latitude 423054N Longitude 0962254

Sampling Depth 340 Type 1 Kx10⁶ pH 7.0 Temp. °F

SiO₂ Ca 102 Mg 24 Na 25 K

HCO₃ 354 CO₃ SO₄ 114 Cl 8.0 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F NO₃ 0 PO₄ B Al Fe 10

Mn 05 Cu Pb Zn

Determined 502 Solids Ca, Mg 357 Hardness Non-Carb. 67

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO₃ 290 Free CO₂ SAR

RSC ABS

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

No. S
80

Recorded by: D. ARANSON

Punched by: Date:

Published:

Verified PMJ
Punched PMJ

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by TWENTER Source of data FILES Date 7/8/65 Map COUNTY HIGHWAY 1:63,260

State IOWA County (or town) Woodbury 9 7

Latitude: 42°30'54"N Longitude: 092°22'54"W Sequential number: 1

Lat-long accuracy: 20 T. 89 S, R. 42 E, Sec. 22, NE 1/4, SE 1/4, NE 1/4, NW 1/4

Local well number: 08947W2263d2 Other number: W-0690

Local use: 0068037CITY Owner or name: CITY OF SIOUX CITY

Owner or name: SIOUX CITY, IOWA Address: SIOUX CITY, IOWA

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

Use of water: (A) Air cond, (C) Comm, (D) Deswating, (F) Fire, (H) Irr, (I) Ind, (P) P-S, (S) Stock, (T) Instit, (U) Unused P

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

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

Hyd. lab. data: 0

Qual. water data; type: COMPLETE

Freq. sampling: INTERMITTENT Pumpage inventory: yes 0 no, period: 0

Aperture cards: 0

Log data: SAMPLE LOG

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD

Depth well: 390 ft Meas. accuracy: 340 24 6

Depth cased: 110 ft Casing type: STEEL Diam. 20 in 29 0

Finish: (C) porous concrete, (F) gravel w. concrete, (H) gravel w. (screen), (G) horiz. open perf., (P) screen, (S) sd. pt., (T) shored, (X) open hole, (Z) other 0

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) jetted, (J) air rot, (P) air percussion, (R) reverse, (T) trenching, (V) driven, (W) drive wash, (Z) other 0

Date Drilled: 1937 9 3 7 Pump intake setting: 174 ft 36 174

Driller: RASMUSSEN WELL CO. address SIOUX CITY, IA

Lift (type): (A) air, (B) bucket, (C) cent, (J) multiple, (L) multiple, (M) none, (N) piston, (P) rot, (R) submerg, (S) turb, (T) other 0 Deep 0 Shallow 40

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

Descrip. MP LSD ft above below lsd, Alt. MP 1107.6

Alt. LSD: 1107.6 Accuracy: 1108 47 7 (source) ALTIMETER

Water Level: 34 ft above below MP; Ft below lsd 34 Accuracy: DRILLERS LOG 52 3

Date meas: 1937 5 3 7 Yield: 1400 gpm 1400 Method determined 0

Drawdown: 67 ft Accuracy: 67 Pumping period: 6 hrs 6

QUALITY OF WATER DATA: Iron 0.7 Sulfate 131 Chloride 9.0 Hard. 414

Sp. Conduct 699 K x 10⁶ Temp. 4 Date sampled 7/1/46 77 6

Taste, color, etc.

Well Number 923059 ^N 096.22.54.1
 d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD Physiographic Province: CENTRAL LOWLAND Section: DISSECTED TILL

PLAIN Drainage Basin: FLOYD Subbasin: 36B

Topo of well site: local depression, flat surface, hilltop, hillside, terrace, valley flat,

MAJOR AQUIFER: CRETACEOUS LOWER K11 DAKOTA SANDSTONE DIX

Lithology: SANDSTONE Origin: MARINE Aquifer Thickness: _____ ft

Length of well open to: 143 ft Depth to top of: 67 ft

MINOR AQUIFER: _____ _____ _____ _____ _____

Lithology: _____ Origin: _____ Aquifer Thickness: _____ ft

Length of well open to: _____ ft Depth to top of: _____ ft

Intervals Screened: _____

Depth to consolidated rock: 67 ft Source of data: SAMPLE LOG

Depth to basement: _____ ft Source of data: _____

Surficial material: ALLUVIUM Infiltration characteristics: EXCELLENT

Coefficient Trans: _____ gpd/ft² Coefficient Storage: _____

Coefficient Perm: _____ gpd/ft²; Spec cap: 2.1 spm/ft; Number of geologic cards: _____

CASING:
 20" casing = 0 to 110'
 16" casing = 110' to 335'

Personnel from 110 to 153' and from 174 to 274'

