

W-1573

○		
30		

Town: Sergeant Bluff { NE }
 { SW } : County Woodbury
NE 1/4 SW 1/4 NW 1/4 sec. 30 T 88 N., R. 47 W. Woodbury Twp.

Owner	Address

[illegible]

Contractor H. Rasmussen Address Sioux City (Iowa)

Drillers Howard Rasmussen

Drilling dates May 1942

Elevations: Drilling curb 1093.20 feet; Land surface 1093.20 feet

Determined by

Topographic position: Missouri River flat

Total depth: Reported 279 feet, Measured feet

Drilling method

Hole and casing data: 177" of 16" casing -- (3' above l.s.)

206' of .12" casing from 168' - 274', perforated
5/8" at 4" centers from 200 - 206'

Original depth to water 28 ft. below ^{above} curb Date

Original elevation of water level 1065.2 ft.; Source of data

Sources of water: Principal Dakota 200-266 ; Others

Production data:

Date _____

Static depth to water 28 Measuring point _____
 Pumping level 200 at 500 g.p.m. in 20 hours

Specific capacity 2.9 g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data: Type pump Turbine Column Dia. _____ Length 200'
 Cylinder or bowls: Dia. _____ Length _____ Suction pipe 15'
 Power Electric 75h.p. Airline _____
 Estimated rate of production: _____ g.p.m. for _____ hrs. a day
 Use of water Industrial

WATER ANALYSES (in parts per million)

Date samples	_____	_____	_____	_____
Sampled by	_____	_____	_____	_____
Total solids	_____	_____	_____	_____
Insoluble matter	_____	_____	_____	_____
Alkalinity (Meo)	_____	_____	_____	_____
Alkalinity (Phn)	_____	_____	_____	_____
pH	_____	_____	_____	_____
Fe ₂ O ₃ + Mn ₂ O ₃ + Al ₂ O ₃	_____	_____	_____	_____
Alkali as sodium	_____	_____	_____	_____
Calcium	_____	_____	_____	_____
Magnesium	_____	_____	_____	_____
Iron (unfiltered)	_____	_____	_____	_____
Manganese	_____	_____	_____	_____
Nitrate	_____	_____	_____	_____
Fluoride	_____	_____	_____	_____
Chloride	_____	_____	_____	_____
Sulfate	_____	_____	_____	_____
Bicarbonate	_____	_____	_____	_____
Hardness (ppm)	_____	_____	_____	_____
Hardness (gpg)	_____	_____	_____	_____
Remarks	_____			

Laboratory data:

Sample storage location _____

Sample range 0-279 No. spls. 58 No. dupls. & cond. 58 fair

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. YCSS

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

Microscopic study 0-280 DAD strip log JUNE 25, 1942 DADGen. log _____ Correl. by D.A. DAVIS

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey Number **W-1573**

Town Sergeant Bluff County Woodbury T. 88 N., R. 47 W.

Name Sioux City Air Base #1 Location NE 1/4 - SW 1/4 NW 1/4, Sec. 30

Contractor Howard Rasmussen Driller H. Rasmussen Use Public - Industrial
Drilling

Construction Drilled Drilling Dates May - 1942 Depth

Topog. Missouri River Flat Curb (Ground) Total
Elev. 1093.20 Ref. Depth 279

Final above

Static below Pumping

Level 28 curb Level 200 Draw down 500 gpm Time pumped 5 days - 20 hrs Date

Depth to Calc. g/ft. Prin.

bot. pump ft. with ft. suction pipe. drawdown Prod.

Producing

Horizons Dakota ss. 176-268

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

Laboratory Data

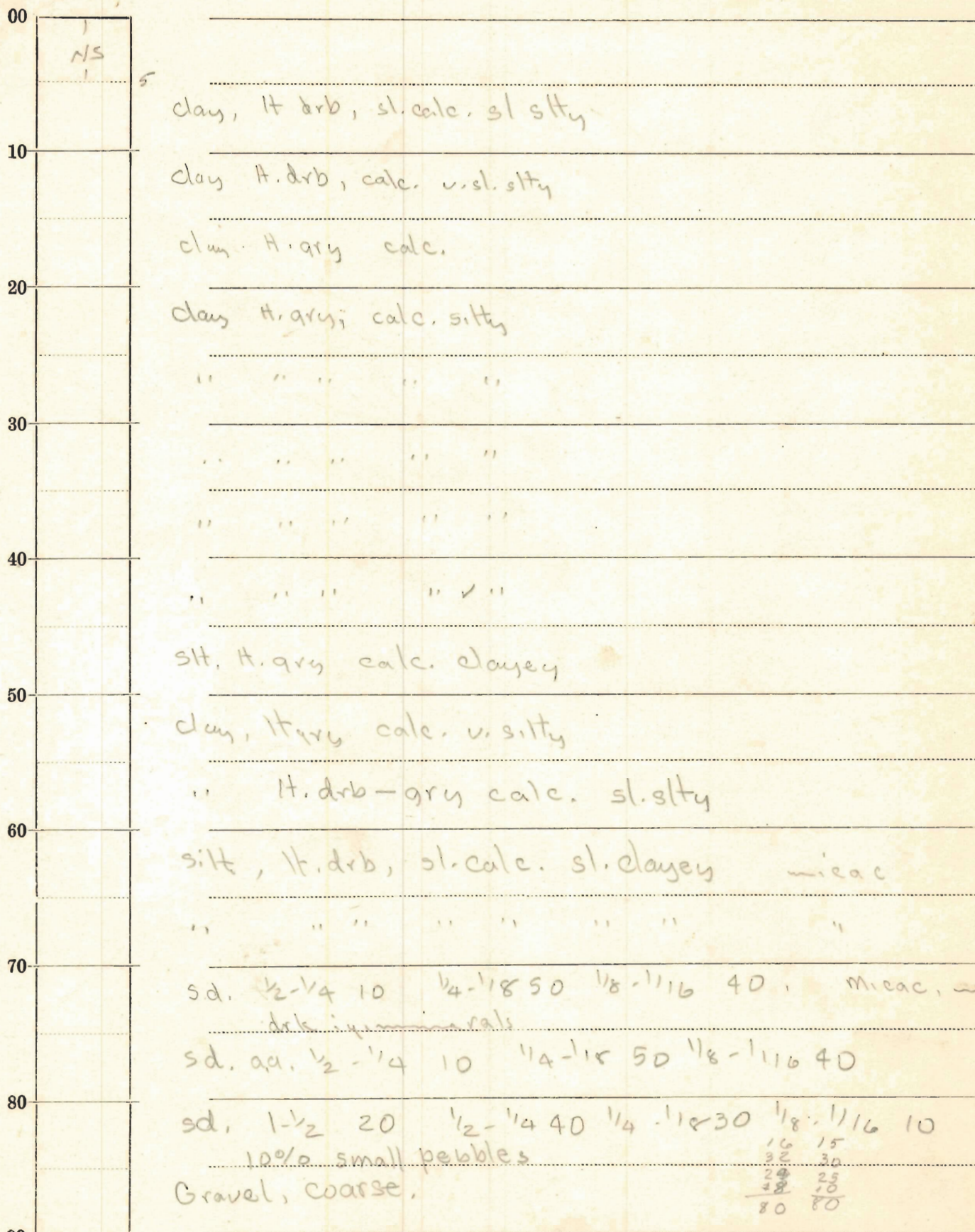
Sample range 0-279' Number samples 58 Number Duplicates 58 Cond. Fair

Log (Yes) No, Cond. Good Boxed DAVIS Range 0-279' Date June 24, 1942

Remarks

Microscopic	Strip	Gen.	Blue	Samples
Study Range	Log	Log	Print	Washed
Insol. Res.	Strip	Gen.	Insol. Res.	Well
Study Range	Log	Log	Prepared	Corel.

Location Date Drilled Analyst Davis June 24-42



NS
23
Gul. 40% - white, in fls. from A-C 10% gules 30% coarse 20% med
95 - (A+95) - Gul. 20% gules 60% m. sd. 20%
(95-100) - Gul. 20% gules 80%
(95-98) - Crse gul.
(98-100) - Gul. 60% gules 25% m. sd. 15%

Location Date Drilled Analyst Davis

100	Gul. 15% Gnules 60% Crse sd. 25%
10	Gul. 20% Gnules 40% Crse sd. 40%
	Gnules 25% crse sd 60%, m. sd 15%
20	sh. pale gry, w. slight violet tinge, sl. waxy.
	sh. pale gry w. sl. violet tinge, trace of red, sl. waxy
30	sh. v. drk gry - blk 10% sh. wh - pale gry
	sh. v. pale gry v. sdy (30%) v.f.
40	" " " " - v. pale drk v. silty
	" " " " " w. strks red & brn
50	" " " " " v. sdy (30%) v.f.
	" " " " " w. strks pale brn
	" " " " " v. sdy v.f.
60	sh., pale pinkish bt. w. red lumps, silty
	sh. lt. gry - bt - pale red. sl. waxy
70	sh. wh - bt - red - pale brn, v. sdy, v.f.
	ss. Granules 25% crse. 40% m. 25% F 10%
	25% siderite conc. gry, yellsh & redsh in part.
80	ss. Granules 15% crse 10% m. 35% f. 40%
	15% siderite conc. gry, yell, brn & red.
	25% sh, pale gry
	ss. Gnules 2% 1/4-1/8 25% 1/8-1/16 75%
	40% sid. conc gray-brn-red 10% clay
90	ss. gnules & crse 5% 1/4-1/8 45% 1/8-1/16 50%
	50% sid. conc. 10% clay
	ss 2-1 10% 1-1/2 25% 1/2-1/4 45%, 1/4-1/8 15, 1/8-1/16 5%
	crse grains C sl. polished m & f.
	ss 2-1 5%, 1-1/2 40%, 1/2-1/4 40% 1/4-1/8 10 1/8-1/16 5%

Location Date Drilled..... Analyst Davis June 25-42

200

ss 2-1 5% 1-1/2 30%, 1/2-1/4 40%, 1/4-1/8 15% 1/8-1/16 10%

crse C & st polished m-f & 10% clay

ss 2-1 2%, 1-1/2 3% 1/2-1/4 10%, 1/4-1/8 75%, 1/8-1/16 10%

crse C & polished m-f &

ss 2-1 5%, 1-1/2 5%, 1/2-1/4 10%, 1/4-1/8 60 1/8-1/16 20%

ss 2-1 1% 1-1/2 5% 1/2-1/4 40% 1/4-1/8 45% 1/8-1/16 10%

10

ss 2-1 2% 1-1/2 15% 1/2-1/4 40% 1/4-1/8 40% 1/8-1/16 3%

10% siderite cement

ss 2-1 3% 1-1/2 5, 1/2-1/4 40%, 1/4-1/8 50%, 1/8-1/16 5%

5% siderite cement

ss 2-1 2%, 1-1/2 10%, 1/2-1/4 45%, 1/4-1/8 40% 1/8-1/16 3%

sh. m. gry, silty.

40

ss, 1/2-1/4 45% 1/4-1/8 50%, 1/8-1/16 5%

sh, m gry, 5% red, 15% siderite, hard massive,

lt. grnsh gry.

250

sh. H bt, v. sdy - m.

ss, 1-1/2 10% 1/2-1/4 30% 1/4-1/8 40%, 1/8-1/16 20%

argil. many black particles, mica c.

60

sh, v. pale gry, pinkish & pale brnsh in part, sdy, silty

ss, 1-1/2 2% 1/2-1/4 35% 1/4-1/8 35% 1/8-1/16 28%

argil.

70

sh. red, mottled w. v. pale gry

sh, red, mottled w. v. pale gry.

80

T.D

90

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

Name of Well Sioux City Air Base No. 1 Survey No. W- 1973
 Location NW 1/4 SW 1/4 NW 1/4 sec. 30, T. 88 N., R. 47 W., Woodbury County
 Drilled by Howard Rasmussen, Sioux City, Iowa
 Total Depth 280 ft. Curb Elevation 1093.2 ft. Static Level 28 ft.
 Pumping Test Hours Min; Gal. per min. 500 Drawdown 172 ft. in min.
 Casing Data 177' of 16" casing driven to refusal. 106' of 12" casing from
168' to 274', perforated 5/8" holes at 4" centers from 200-266'

No.	Rock Unit	Description of Formations	Thick.	From (feet)	To
PLEISTOCENE SYSTEM					
Alluvium					
1.	No sample interval		5	0	5
2.	Clay, light drab, calcareous, silty		10	5	15
3.	Clay, light gray, calcareous, silty		30	15	45
4.	Silt, light gray, calcareous, argillaceous		5	45	50
5.	Clay, light gray, calcareous, silty		10	50	60
6.	Silt, light drab, slightly calcareous, slightly argillaceous, micaceous		10	60	70
7.	Sand, fine-grained, with flakes of mica and many dark colored igneous mineral grains (1/2-1/4 mm. 10%, 1/4-1/8 mm. 50%, 1/8-1/16 40%)		10	70	80
8.	Sand and fine gravel (20% fine gravel, 1-1/2 mm. 15%, 1/2-1/4 mm. 30%, 1/4-1/8 25%, 1/8-1/16 mm. 10%)		5	80	85
9.	Gravel, coarse grained		5	85	90
10.	No sample interval		3	90	93

Notes: cc to Mr. L. A. Peter, Buell and Winter Eng. Company, Sioux City, July 8, 1942
 Mr. Howard Rasmussen, Sioux City, Iowa, July 8, 1942.

Survey No. W-1573

<u>Description</u>	<u>Thick.</u>	<u>From</u>	<u>To</u>
11. Gravel and coarse sand (above 4 mm. 60%, 4-2 mm. 25%, 2-1/2 mm. 15%)	7	93	100
12. Gravel and coarse sand (above 4 mm. 15%, 4-2 mm. 50%, 2 - 1/2 mm. 35%)	10	100	110
13. Sand, coarse-grained (4-2 mm. 25%, 2-1/2 mm. 60%, 1/2-1/4 mm. 15%)	5	110	115
CRETACEOUS SYSTEM			
Dakota formation			
14. Shale, pale gray with slight violet tinge, waxy, trace of red shale	10	115	125
15. Shale, very dark gray to black. Shale 10%, white to very pale gray	5	125	130
16. Shale, very pale gray, very sandy (30%, very fine-grained)	10	130	140
17. Shale, very pale gray to very pale drab, very silty	5	140	145
18. Shale, very pale gray to very pale drab with streaks of red and brown, very sandy (30%, very fine-grained)	10	145	155
19. Shale, pale pinkish buff with red lumps, silty	5	155	160
20. Shale, white to pale gray to buff, to red to pale brown, very sandy in lower 5 feet	10	160	170
21. Sandstone, chiefly coarse-grained, (4-2 mm. 25%, 2-1/2 mm. 40%, 1/2-1/4 mm. 25%, 1/4-1/8 mm. 10%). Siderite concretions 25%, gray, yellowish, and reddish in part. Clay 10%	5	170	175
22. Sandstone, chiefly fine-grained (4-2 mm. 15%, 2-1/2 mm. 10%, 1/2-1/4 mm. 35%, 1/4-1/8 mm. 40%). Siderite concretions 15%, gray, yellow, brown, and red. Clay 25%, pale gray	5	175	180
23. Sandstone, chiefly very fine grained (4-2 mm. 2%-5%, 1/4-1/8 mm. 23%-45%, 1/8-1/16 mm. 50%-75%). Siderite concretions 40%-50%, gray, red, and brown. Clay 10%	10	180	190
24. Sandstone, coarse- to medium-grained, coarse grains curvilinear and polished, fine grains angular (2-1 mm. 2%-10%, 1-1/2 mm. 25%-40%, 1/2-1/4 mm. 40%-45%, 1/4-1/8 mm. 10%-15%, 1/8-1/16 mm. 5%-10%)	15	190	205

Survey No. W-1573

<u>Description</u>	<u>Thick.</u>	<u>From</u> <u>(feet)</u>	<u>To</u>
25. Sandstone, chiefly fine-grained (2-1 mm. 2%-5%, 1-1/2 mm. 3%-5%, 1/2-1/4 mm. 10%, 1/4-1/8 mm. 60%-75%, 1/8-1/16 mm. 10%-20%)	10	205	215
26. Sandstone, medium- to fine-grained (2-1 mm. 1%-3%, 1-1/2 mm. 5%-15%, 1/2-1/4 mm. 40%-45%, 1/4-1/8 mm. 40%-50%, 1/8-1/16 mm. 3%-5%). Siderite cement 5%-10% from 220 to 230 feet	20	215	235
27. Shale, medium gray, silty	5	235	240
28. Sandstone, chiefly fine-grained (1/2-1/4 mm. 45%, 1/4-1/8 mm. 50%, 1/8-1/16 mm. 5%)	5	240	245
29. Shale, medium gray, 5% red. Siderite 15%, light greenish gray, hard, massive	5	245	250
30. Shale, light buff, very sandy (medium-grained sand)	5	250	255
31. Sandstone, chiefly fine-grained, argillaceous, micaceous, many black grains (1-1/2 mm. 10%, 1/2-1/4 mm. 30%, 1/4-1/8 mm. 40%, 1/8-1/16 mm. 20%)	5	255'	260
32. Shale, very pale gray, pinkish and pale brownish in part, sandy and silty	5	260	265
33. Sandstone, chiefly fine-grained, argillaceous (1-1/2 mm. 2%, 1/2-1/4 mm. 35%, 1/4-1/8 mm. 35%, 1/8-1/16 mm. 28%)	5	265	270
34. Shale, red mottled with very pale gray	10	270	280
Total depth			280

NOTES

The Cretaceous shale in this well appears to be typical, but it varies considerably in color from the shale in Air Base well No. 2.

The top of the chief sandstone member is distinctive due to the large number of siderite concretions in it. The sandstone is thicker than the corresponding members in the Sergeant Bluff city well and the Air Base well No. 2. In general, it is also finer grained than the sandstone in the other two wells.

In the interval 255-260 feet the sandstone is characterized by a large number of black mineral grains. This sandstone has a general appearance of Pennsylvanian sandstone, but the shales above it and below it have a definite Cretaceous aspect.

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources DivisionLocal Well No. 088-47W-308CBAquifer Code(s) KID1Owner's Name Air Base No. 1W Number 01573Water Quality
(ppm)

Card Q

State: Iowa 19 County: WOODBURY 97 Town: SERGEANT BLUFF, IA.

Well No. 422429N 0962205 Seq. No. 1 Date 111766

Sampling Depth 279 Type 1 Kx10⁶ 1200 pH 7.0 Temp. °F 54

SiO₂ 16 Ca 172 Mg 41 Na 58 K 11

HCO₃ 440 CO₃ 0 SO₄ 350 Cl 16 Source No. 3Q

Card R

Duplicate Columns 1-25 from Card Q

F 7 NO₃ 2 PO₄ 33 B 36 Al 39 Fe 20

Mn 23 Cu 50 Pb 53 Zn 55

Determined 909 Solids 64 Ca, Mg 600 Hardness Non-Carb. 239

Color 78 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 26 I 29 Alk. as CaCO₃ 361 Free CO₂ 36 SAR 39

RSC 42 ABS 45 48

Alpha (pc/l) 55 Beta (pc/l) 58 Ra (pc/l) 61 U (ug/l) 64

No. S
80Recorded by: D. ARONSONPunched by: T Date: 66

Published: _____

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

088-47W-30 BCB
JMS
KDD

W-1573

Water Quality
(ppm)

Card Q

State: IOWA 1 6 County: WOODBURY 9 7 Town: SIOUX CITY

Well No. Latitude 4 2 2 1 2 9 N Longitude 0 9 6 2 2 0 5 Seq. No. 1 Date 10 4 2

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

SiO₂ 4 2 5 Ca 5 6 X Mg 4 0 X Na 8 X K C

HCO₃ 4 2 5 CO₃ 3 5 2 X Cl 2 0 0 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 0 3 NO₃ 0 0 PO₄ 1 1 B 1 1 Al 1 1 Fe 0 4

Mn 0 0 Cu 1 1 Pb 1 1 Zn 1 1

Determined 1 0 7 5 Solids 1 1 1 1 1 1 1 1 1 1 Ca, Mg 5 5 7 Hardness Non-Carb. 2 0 9

Color 1 1 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 1 1 I 1 1 Alk. as CaCO₃ 3 4 8 Free CO₂ 1 1 SAR 1 1

RSC 1 1 1 ABS 1 1 1 1 1 1

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

Verified PMJ
Punched PMJ

No. 5
80

Recorded by: TWENTER

Punched by: _____ Date: _____

Published: _____

July 12, 1943

Mr. Howard Rasmussen
4225 Floyd Avenue
Sioux City, Iowa

Dear Mr. Rasmussen:

Recently it has been called to my attention that the Sioux City Air Base No. 1 well is pumping water which is not entirely clear.

In reexamining the samples from the No. 1 and other wells in that area I find that the cuttings show a considerable amount of shale interbedded with the sandstone in the part of the formation opposite the lower portion of the perforated pipe. It occurs to me that this may be causing part or all of the trouble and that by plugging the lower portion of the perforated pipe the difficulty may be at least partially overcome.

According to the samples the shale-sandstone zone occurs from 235 to 265 feet in depth in the Air Base No. 1 well.

Very truly yours,

H. G. Hershey

HGH:N

July 21, 1943

Mr. Howard Rasmussen
4225 Floyd Avenue
Sioux City, Iowa

Dear Mr. Rasmussen:

Thank you very much for your letter of July 14 concerning Well No. 1 at the Sioux City Air Base.

I did not study the cuttings from the well myself but took a log made from the studies of one of the other men in the office. Apparently the log which I have does not coincide exactly with the facts which you outline. I will check the samples myself just as soon as possible.

We have received samples of the cuttings from the new well being drilled by Layne-Western. It is my understanding that they will finish the new well in the Dakota sandstone rather than in the upper strata of sand and gravel.

I appreciate your frank statement in regard to the conditions in the No. 1 well. After I have studied the samples I will certainly call on you if I need additional information.

Very truly yours,

H. G. Hershey

HGH:N

Office 4225 Floyd Ave.
Phone 9412

Residence 4041 Monroe
Phone 9534

RASMUSSEN WELL COMPANY

SIoux CITY, IOWA
July 14, 1943

Mr. E. G. Hershey
Iowa City, Iowa

Re: Well # 1 at Sioux City
Air Base

Dear Sir:

If you will study the cuttings of this well you will find there is clean sandstone in the bottom of it and the rest is very dirty. After about one hour of pumping the water runs clear, but when they stop the pump the water runs back out of the column pipe and washes the shale loose. When they start the pump again they have to wash the shale out. You will find if you close the bottom strata off you will cut the capacity of the well and will also get the dirty water. That is the reason Well #2 was moved over in the Base, to find a better sandstone.

I hope you get samples of the well they are drilling now. I have not been down but understand they are going to stop in the upper strata of sand and gravel.

9-185-July 1935
Revised

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

WELL SCHEDULE

Date June 23, 1942 Field No. 1
Record by TWR AND WEH Office No. _____
Source of data Driller

1. Location: State Iowa County Woodbury
Map _____

NE SW 1/4 NW 1/4 sec. 30 T 88 NR 47

2. Owner: U.S. Army Air Base Address Sioux City
Tenant _____ Address _____

Driller: H. Rasmussen Address Leeds, Iowa

3. Typographic Flood plain Missouri River

4. Elevation 1096.26 ft. above sea level

5. Type: Dug, drilled, driven, bored, jetted June 9, 42

6. Depth: Rept. 279 ft. Meas. _____ ft.

7. Casing: Diam. _____ in. to _____ in., Type _____

Depth _____ ft., Finish _____

8. Chief Aquifer Dakota sandstone From _____ ft. to _____ ft.

Others _____

9. Water level _____ ft. Meas. _____ above _____ below _____

which is _____ ft. below surface

10. Pump: Type 5 stage 12" Fairbanks Morse 200 galling

Power: Kind Electric Horsepower 75

11. Yield: Flow _____ G.M., Pump 550 G.M., Meas., Rept. Est. _____

Drawdown 135 ft. after _____ hours pumping _____ G.M.

12. Use: Dom., Stock, PS, P.R., Ind., Irr., Obs.

Adequacy, permanence This well pumps fine silt and clay for 2 hour after starting.

13. Quality _____ Temp _____ °F.

Taste, odor, color _____ Sample Yes _____ No _____

Unfit for _____

14. Remarks: (Log, Analyses, etc.) 199 feet of air line. This well was abandoned in July 1943 and the pump removed. Now reinstalled, August, 1943

WFO Exp. (24)
Aug. 1944

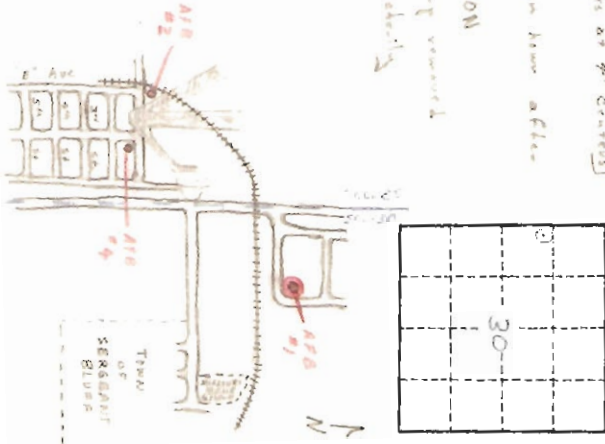
U. S. DEPARTMENT OF THE INTERIOR
Water Resources Division Well Schedule Form
MASTER CARD

Record by TWENTIES Source of data FILES Date 6/25/42 Map County WOODBURY 1:63,360
State IA County WOODBURY Longitude: 92° 22' 20" W Latitude: 42° 22' 20" N Section: 30 Township: 88 Range: 47 Other: W-1573
Local well number: 01573 Local user: U.S. AIR FORCE Other well number: W-1573
Owner or name: U.S. AIR FORCE Address: SILOUX CITY, IOWA
Ownership: (C) (P) (S) (T) (U) (V) (W) (X) (Y) (Z) (C) (P) (S) (T) (U) (V) (W) (X) (Y) (Z)
Use of well: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Use of (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Well: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
DATA AVAILABLE: Well data 1 Free. W/L meas.: INVENTARY Field aquifer char. _____
Byd. lab. date: _____
Qual. water data: Type: COMPLETE Pumpage inventory: yes _____ no _____
Freq. sampling: IRREGULAR Pumpage inventory: yes _____ no _____
Aperture cards: _____
Log data: SAMPLE LOG

WELL-DESCRIPTION CARD

NAME AS ON MASTER CARD _____ Depth well: 279 ft. Meas. _____
Depth casing: 200 ft. Meas. _____
Casing type: STEEL Diameter: 16 in. Accuracy _____
Finish: (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Method: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Drilled: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Date Drilled: MAY 1942 Pump intake setting: 205 ft. Meas. _____
Driller: RASMUSSEN WELL CO. Address: SILOUX CITY, IA
Type: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Notes: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Type: (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
Accuracy: 3 ft. below lead. Alt. MP _____
Alt. LSP: 1093 ft. Accuracy: 3 ft. below lead. Alt. MP _____
Water level: 28 ft. above MP. Ft. below MP: _____
Date Meas.: MAY 1943 Yield: 500 gpm. Accuracy: 500 gpm. Method determined _____
Production: 172 ft. Accuracy: 500 gpm. Period: 20 min. Accuracy: 500 gpm. Method determined _____
QUALITY OF WATER DATA: Iron 0.4 ppm. Sulfate 252 ppm. Chloride 20 ppm. Hard. 557 ppm. Date sampled OCT 1942
Sp. Conductivity: 54 ppm. Temp. 54 °F. Date sampled OCT 1942
Taste, color, etc. SOME H₂S 0.008

CASING:
 16" casing = 0-177'
 12" casing = 168-294'
 - pumps fine silt and clay fine about an hour after
 pump is started, then cements
 - water in alluvium is high in IRON
 - abandoned in July, 1943 and pump removed
 - This well NEVER produced satisfactorily



well no 1 WELL LOG

FARM NO. DATE AP 7/127 1942
OWNER Sioux City Air Base,
ADDRESS Sioux City Ia.
LOCAT'N OF WELL Sargent Bluff
STYLE 16" Cased. 280'

SIZE	DEPTH	STYLE OF PIPE
16"	177'4"	W.W.Pipe.
12"	106'1"	" " " "
		air line. 196' of $\frac{1}{2}$ " Pipe

CYLINDER
PUMP Turbine
SCREEN Drill Sand Stone
WATER LEVEL 29'
CAPACITY 600 gal Per min.
STYLE POWER

REMARKS 12" Pipe Set at 176'
Cap 7' up in 16" Pipe.
Lead 89 gal Set Top 12" Pipe
DRILLER (H. Rao)