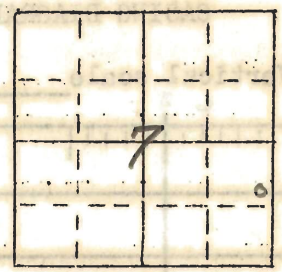
IOWA GEOLOGICAL SURVEY W-2310

In Cooperation with U. S. Geological Survey

RECORD OF WELL



Location:

Town: Ireton (N E / S W): County Sioux E.

SE¼NE¼SE¼ sec. 7 T 94 N., R. 46 W. Reading Twp.

Well name and number Ireton Town Well (1946)

Owner Town of Ireton Address

Tenant Address

Contractor Howard Rasmussen Address

Drillers R. P. Ivey

Drilling dates Finished February, 1946

Well data:

Elevations: Drilling curb feet; Land surface 1435 feet

Determined by Aneroid by W. E. Hale

Topographic position Hilltop

Total depth: Reported 543 feet, Measured feet

Drilling method Cable tool

Hole and casing data 267'8" of 8-inch black pipe from +1' to 266'8".
242'4" of 6-inch pipe from 260'8" to 503'. Lead seal between 6 & 8 inch pipe 12-inches long and set on coupling on 6-inch pipe. There is about 1½ feet of 6-inch pipe above the 6-inch coupling

Original depth to water 263.47 ft. ~~above~~ below Top of 8" pipe Date

Original elevation of water level ft.; Source of data

Sources of water: Principal Cretaceous ; Others

Production data: Date Feb. 1946

Static depth to water 263.47' Measuring point Top of 8-inch pipe 1.0' above Land Surface
Pumping level 290'— at 80 g.p.m.

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

Pump data: Type pump ____ Column Dia. ____ Length ____
Cylinder or bowls: Dia. ____ Length ____ Suction pipe ____

Power ____ Airline ____

Estimated rate of production: ____ g.p.m. for ____ hrs. a day
Use of water ____

WATER ANALYSES (in parts per million)

Date samples				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
Fe_2O_3+ Mn_2O_3 +Al_2O_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 0-543 No. spls. 109 No. dupls. & cond. 107 P-G
Spls. prepared by EJP+PJH Washed range 180-543 by EJP+PJH
Driller's log and cond. ____
Insoluble residues: Prepared by ____ Studied by ____ Strip log ____
Microscopic study 0-543 Ed. strip log May 1946 Ed.
Gen. log ____ Correl. by E. Schultz

THORPE WELL COMPANY

2340 SIXTH AVENUE
DES MOINES, IOWA

From General Data Folder

R-1-B

Drilled for City Water Works *at* Ireton, Iowa

Well is located ____ *miles N-E-S-W and* ____ *miles N-E-S-W from* ____

in the ____ ¼ ____ ¼ *Section* 7 *Township* 94N *Range* 46W

Drilling started 10-31 *19* 66 *Completed* 3-8 *19* 67

Well No. 2 *Kind of Well* Gravel Pack *Depth* 570 *Size hole started* 5 5/8 *in*

Finish 10 *G. P. M.* 178 *Static Head* 252 *Pumping level from surface* 308'

Water was first encountered at ____ *in* ____ *Approx. Amt.* ____ *Temp.* ____

Remarks ____

(GIVE DETAILS OF PERFORATED PIPE AND SEALS)

RECORD OF PERMANENT PIPE					TEMPORARY PIPE	
SIZE PIPE	AMOUNT OF PIPE	DEPTH TO BOTTOM OF PIPE	DEPTH TO TOP OF PIPE	MAKE OF PIPE	SIZE PIPE	AMOUNT
10"	400	400	0			
6"	150	530'	380'	19# Welded		
4"ID	40' S/SScreen	570	530	S/S .035 Slot Attached to 6" Pipe		
	Gravel packed with No.1 Northern Gravel					

Driller Bob Wall *From Surface to* ____ *feet*

Driller Gene Skellenger *From* ____ *feet to* ____ *feet*

Driller Max Smith *From* ____ *feet to* ____ *feet*

AMOUNT IN FEET	KIND OF SOIL OR FORMATION (BE SPECIFIC)	TOTAL DEPTH FEET
1	Top Soil	1
44	Brown Clay	45
71	Gray Clay	116
3	Med Sand & Gravel	119
31	Gray Clay	150
15	Fine to Med. Sand	165
5	Gray Clay	170
35	Very Fine Sand with Clay	205
38	Gray Clay	243
100	Shale & Sandstone	343
37	Sandstone with some Shale	380
25	Sandstone	405
35	Sandstone	440
30	Sandstone with some Lime streaks	570

WATER WELL HISTORY. IRETON, IOWA.

Well # 1 which was located at 6th. & Main (swswne 7 - 94 - 46) was drilled to a depth of 174 feet ~~by~~ in 1912. The contractor was Mr. Henry Herrin of Lemars. In 1938 his son Mr. Louis Herrin of Hawarden reworked the well which included the installation of a 3 inch galvanized screen inside the corroded 18 foot by 6 inch screen. The well was abandoned in 1941.

Water mains and tower were placed in service during 1918 - 1919.

Well # 2 which was located approximately 20 feet north of well # 1 was con - structed by the Peck Foundry of Lemars in the fall of 1935 and abandoned in 1949. The following data was abstracted from the filesof the Iowa Geological Survey.

I. G. S. well no. W - 0345. Elevation - curb 1430 feet above S. L.

Final depth 538 feet. Static water level (depth to water

Pumping level ? @ below curb). 265 feet.

70 G. P. M.

Casing record: 256 feet of 8" from 0' - 256'; 256' of 6" from 254'- 510'

and 29' 5" pipe perforated from 509'- 538'

Top of Dakota sandstone - 510'.

Well # 3 in located in the extreme southeast corner of the town (senese 7 -94 -46). The Rasmussin Well and Pump Co. of Sioux City compled the construction of this well in Feb. 1946. The following information is from the files of the Survey.

I. G. S. well no. W- 2310. Elevation - curb 1435 feet above S. L.

Final depth 543 feet.

Static water level 263.5 feet. Pumping level 290 feet @ 80 G. P. M.

Casing record: 267'-8" from 1' to 266'-8";

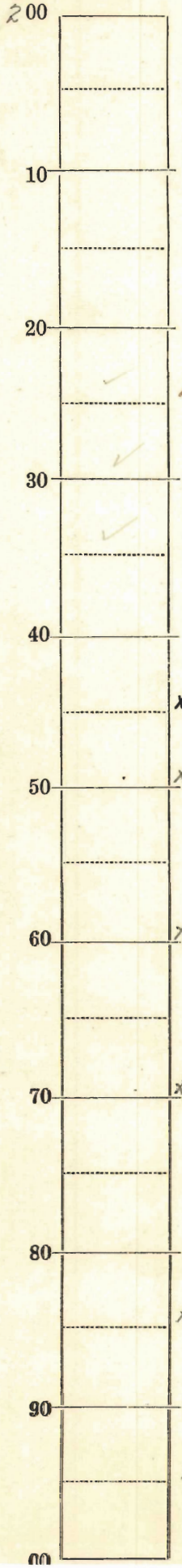
242'-4" of 6" from 260'-8" to 503' with 6" X 8" lead seal.

Top of Dakota sand - 495'.

P. J. Juffer. City Clerk

Sheet No. 1 Name of Well. IRETON Survey No. W-2310

Location SIOUX Date Drilled Analyst E. Schultz



Till bff ox calc. sdy (20) v.few pbls

Till lt gr-bff calc. sdy to slty (35)

Till bright bff few pbls 5mm± diam

Sh med/drk gr unct v.thinly lamin non-calc. (some cave)

Sh med gr mostly dull /// calc.

Sh med-drk gr sltly unct //// calc

Sh med-drk gr sltly unct /// calc (some Pleist. cave)

Sh med. gr (little yellow sh inter 10%) highly calc. ////

Sh med gr dull highly calc. ////

a.a. LS 3-5% amber yel Inoceramus fibr. soft calc. transl

Sh med-drk gr unct to dull //// highly calc. sltly sdy little hema?

a.a. LS yel transl fibr. brd xln; little gyp.

Sh med gr unct highly calc. no struc.

Sh med gr dull highly calc flky ls tr a.a tr. coal (v.few pieces)

Sh med-drk gr unct lamin //// v.calc. flky

Sh med gr lamin brd /// calc.

Sh gr-brn unct irreg //// highly calc. LS a.a 5%±

Sh med gr thinly lamin //// v. calc. LS 15%

a.a. LS 10%

Sheet No. 2 Name of Well ..... Survey No. W-2310

Location ..... Date Drilled ..... Analyst F. Schultz

300

Sh med gr unct lamin //// v. calc

10 Sh med gr dull //// highly calc. irreg Ls. 5%

Sh med-drk gr unct //// highly calc. Ls 1-2%

20 X Sh med gr unct-dull "

XX Sh med gr dull //// v. calc

30 X Sh med gr dull /// calc Ls yel. calcitic (xln subtrans)

aa ∈ (30% same) unct non-calc "

40 X Sh med gr irreg dull non-calc to v. sltly calc.

X aa // sdy to slty

50 X Sh med gr. dull sub-lamin noncalc; 20% irreg calc; Calcite aa

Liq?

/ Sh med gr dull v. sltly calc. irreg Ls 5% ± crm v.f. xln

60 Ss Wht v. little ycl. f & v.f. a-C pit to pd. Sh 10% drk gr lamin

Sh drk gr brd lamin noncalc

70 XXX Sh med-drk gr soft irreg (v. sltly calc. in part) Limonite

/ Sh med gr soft noncalc. slty. same lamin (30%) Sls. 20%

35-65

80 Ss & Sls gr-wht v.f. a. mica argill. interbed with drk gr lamin sh.

X Sh med gr dull Limon. little Ls?

90 XXX Sh med gr, slty. - interbed Ss v.f. a. Limon 5%

X Lignite little (10-20) gr sh.

Sh bro-gr soft non calc. (Lignite ~10% cave?)

00

Sheet No. 3 Name of Well ..... Survey No. W-2310

Location ..... Date Drilled ..... Analyst ~~...~~ Schultz

400

Sh lt tan-gr soft irreg, slty (Liq 5% cave)

10

Sh brn-gr dull soft irreg /// v. sdy - v.f.

"

2.2 ///

20

Sh lt brn-gr dull soft irreg /// sdy - v.f.

Sh lt gr dull irreg

30 X L

Sh lt gr dull v. sdy //// Liq 1-2%

X

Ss 60% med C. pit wht Sh 40% lt gr dull siderite brn hrd 2% ±

40

Ss wht few yel grains, pit, pol med 2-C. some f. dirty

2.2 v. dirty med & f. to slt

50

Ss 70% 2.2 (argil) Sh 30% lt gr dull

med 35% f. 20 v.f. 15 slt 5%

L

Ss 75% 2.2 clean Sh 25% lt gr

60 L

Sh lt gr dull Ss 20% f. 2 siderite 5%

Sh 60% lt gr dull sdy Ss 40% wht f. 2 Coal 5% blk

70 /

Sh lt gr dull v. sdy ////

Sh lt gr v. sdy //// Ss 30% wht free med & f.

80

Sh lt gr v. slty unct (sd cave)

Sh lt gr unct platy

90

80% " Ss free 20% ±

Sh lt gr sdy //

00 X

Ss gr-wht med-f. 40-60% v. dirty sh. blk 5%

Sheet No. 4 Name of Well ..... Survey No. W-2310

Location ..... Date Drilled ..... Analyst Schultz

500

ss wht & pink 2-C pit med 85% f 10% v.f. 5%

10

" med 90% f & v.f 10%

" med 90% f 5% v.f. 5%

20

"

"

30

less fine

40

crse 5% med 90% f 5%

PYRITE sd embedded

50

60

70

80

90

00

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Water Quality
(ppm)

Local Well No. 094-46W-07DAD
Aquifer Code(s) KIDZ
Owner's Name IRETON TOWN WELL #3 (1946)
W Number 2310

Card Q

State: IOWA (19) County: SIOUX (84) Town: IRETON, IOWA

Well No. Latitude 42 58 20 N (5–11) Longitude 096 18 46 (12–18) Seq. No. 1 (19) Date M D Y 09 12 66 (20–25)

Sampling Depth 543 (26–29) Type 1 (30) Kx10⁶ 1600 (31–35) pH 7.2 (36–38) Temp. °F 58 (39–41)

SiO_2 30. (42–44) Ca 176. (45–49) Mg 73. (50–53) Na 76. (54–58) K 12. (59–61)

Source No.

HCO_3 407 (62–65) CO_3 0 (66–67) SO_4 550. (68–72) Cl 5. (73–78) 3 (79) Q (80)

Card R

Duplicate Columns 1-25 from Card Q

F .5 (26–28) NO_3 .1 (29–32) PO_4 . (33–35) B . (36–38) Al . (39–41) Fe .19 (42–45)

Mn .19 (46–49) Cu . (50–52) Pb . (53–54) Zn . (55–57)

Solids Hardness

Determined 1190 (58–63) Calc. (64–69) Ca,Mg 740 (70–73) Non-Carb. 406 (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 $CaCO_3$ 334 (32–35) 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)

No. S (80)

Recorded by: D. AARONSON

Punched by: T Date:

Published:

094-46W-07DAD
KDD

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Ireton town (1946)
W-2310

Water Quality
(ppm)

Card Q

State: Iowa | 16 (1–2) | County: Sioux | 84 (3–4) | Town: Ireton

Well No.: Latitude 425820N (5–11) | Longitude 0961846 (12–18) | Seq. No. 1 (19) | Date M D Y 051359 (20–25)

Field	Columns	Value
Sampling Depth	26–29	535
Type	30	1
Kx10^6	31–35	1290
pH	36–38	7.3
Temp. °F	39–41	
SiO_2	42–44	26.
Ca	45–49	186.
Mg	50–53	62.
Na	54–58	66.
K	59–61	14.
HCO_3	62–65	407
CO_3	66–67	0
SO_4	68–72	534.
Cl	73–78	3.5
Source	79	3
No.	80	Q

Card R

Duplicate Columns 1-25 from Card Q

Field	Columns	Value
F	26–28	~~0~~.6
NO_3	29–32	~~0~~.4
PO_4	33–35	
B	36–38	
Al	39–41	
Fe	42–45	1.92
Mn	46–49	~~0~~.21
Cu	50–52	
Pb	53–54	
Zn	55–57	
Solids Determined	58–63	1170
Solids Calc.	64–69	
Hardness Ca,Mg	70–73	744
Hardness Non-Carb.	74–77	410
Color	78–79	
No.	80	R

Card S

Duplicate Columns 1-25 from Card Q

Field	Columns	Value
Br	26–28	
I	29–31	
Alk. as $CaCO_3$	32–35	334
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.	80	S

Recorded by: P.J. Horick

Verified PMJ
Punched FCH

Punched by: ______ Date: ______

Published:

094-46W-07DAD
KDD

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Ireton town (1946)
W-2310

Water Quality
(ppm)

Card Q

State: Iowa | 1 6 (1–2) | County: Sioux | 8 4 (3–4) | Town: Ireton

Well No. Latitude 4 2 5 8 2 0 N (5–11) Longitude 0 9 6 1 8 4 6 (12–18) Seq. No. 1 (19) Date M D Y 0 3 0 3 5 4 (20–25)

Field	Columns	Value
Sampling Depth	26–29	543
Type	30	1
$Kx10^6$	31–35	1120
pH	36–38	7.6
Temp. °F	39–41	
SiO_2	42–44	
Ca	45–49	175
Mg	50–53	67
Na	54–58	62
K	59–61	13
HCO_3	62–65	390
CO_3	66–67	0
SO_4	68–72	526
Cl	73–78	6.0
Source	79	3
No.	80	Q

Card R

Duplicate Columns 1-25 from Card Q

Field	Columns	Value
F	26–28	~~0~~ .6
NO_3	29–32	~~0~~ .0
PO_4	33–35	
B	36–38	
Al	39–41	
Fe	42–45	2.3
Mn	46–49	~~0~~ .20
Cu	50–52	
Pb	53–54	
Zn	55–57	
Solids Determined	58–63	1130
Solids Calc.	64–69	
Hardness Ca,Mg	70–73	
Hardness Non-Carb.	74–77	
Color	78–79	
No.	80	R

Card S

Duplicate Columns 1-25 from Card Q

Field	Columns	Value
Br	26–28	
I	29–31	
Alk. as $CaCO_3$	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.	80	S

Verified PMJ

Recorded by: P.J. Horick

Punched by: Punched FCH Date:

Published:

G-W

September 18, 1945

Mayor B. D. Holdorf
Ireton, Iowa

Dear Mayor Holdorf:

In response to your telephone call of September 12 a brief forecast has been prepared for a new town well at Ireton.

The formations to be encountered in drilling at Ireton are glacial drift, composed of yellow and blue or gray clay containing some sand and gravel; and bedrock made up of a clay-like shale and sandstone of the Dakota formation.

We have some information on two town wells which have been in use in Ireton in recent years. The earlier one obtained water from sand in the glacial drift at a depth of 168 feet. A copy of the report of the chemical analysis of the water is enclosed. The hardness of 82 grains per gallon is high and the water is so highly mineralized that it would probably be unsatisfactory for a town supply.

The more recent well drilled in 1935 is 538 feet deep and taps the Dakota sandstone. It is reported that the water stood at a depth of 265 feet below the surface of the ground when the well was drilled and that 50 gallons per minute were produced. We do not have a mineral analysis of the water from this well but it is believed that it is softer and less highly mineralized than water from the sand at a depth of 168 feet. Probably it has a mineral content similar to that of the Oak Grove State Park well, the analysis report of which is enclosed showing a hardness of 36 grains per gallon.

In the 538-foot well glacial material composed of yellow and blue or gray clay containing sand, gravel and boulders mixed with it was found from the surface to a depth of 215 feet. Two sand beds were encountered, one from 165 to 168 feet, the other from 172 to 200 feet in depth.

Bedrock was found at a depth of 215 feet. It is composed of a clay-like shale which continues to a depth of 515 feet. Several sandstone beds were found in this interval, but they were reported to contain shaly material. Unfortunately no samples of the formations encountered were saved. Sandstone was encountered between 515 and 538 feet in depth and it is from this unit that the water is obtained.

A new well should reach this same water-bearing sandstone at the same depth if started at the same elevation as the present well. If started on lower ground the sandstone should be reached at a depth shallower by the amount of the difference in starting elevation.

It is unlikely that a new well would encounter water of a different quality from that found in the wells which the town has already drilled unless it be drilled considerably deeper. Little is known about ground water conditions in the rocks below the Dakota formation. Wells at Orange City and Hull extended below the Dakota but apparently little water was obtained from the lower horizons.

In some towns in northwestern Iowa water is obtained from very shallow wells in stream valleys. The capacity of such wells generally depend upon the drainage area of the stream. It seems doubtful that Indian Creek, which passes through Ireton, has enough drainage area to yield an underground supply sufficient for the town. Water from this source would probably have to be chlorinated and would be affected by the amount of rainfall in the drainage area.

It appears that the best possibility for a new well is from the sandstone that you have been using.

I am making this report in writing because our staff is very small and we attempt to save as much traveling time as possible. If, after you have read the report, you have questions that cannot be answered by letter please let me know and we will arrange to have one of our staff call in person to discuss your situation.

I will appreciate it if you will request the driller to save a log and samples of the well cuttings for us. Under separate cover sample sacks and a log book are being sent to you. The samples and log will form a permanent part of our records and will be helpful in our work on the geology and water resources in the state, particularly in Sioux County.

Very truly yours,

hgh'm

H. G. Hershey

G-W

September 18, 1945

Mr. Howard Rasmussen
Rasmussen Well Co.
4225 Floyd Avenue
Sioux City, Iowa

Dear Mr. Rasmussen:

About a week ago Mr. B. D. Holdorf the Mayor of Ireton called me by telephone and asked for information on the geology and ground water possibilities at Ireton. At that time he told me that you were to drill a new well for the town and would start in about 10 days. He informed me that the supply in the present well was failing and that you had recommended that the new well be drilled before an attempt was made to repair the old well.

In response to Mayor Holdorf's request we prepared a forecast and a copy of it is enclosed for your use. I have not indicated to Mayor Holdorf that you were receiving a copy. If you have any suggestions or note any corrections that should be made in my letter I will appreciate hearing from you very much.

I hope that you will find it possible to save us a good set of samples from any drilling that you do at Ireton. They will be very helpful to us.

Sincerely yours,

hgh'm

H. G. Hershey

Ireton, Sioux County:

The failure of your present Dakota well may be attributed to one of several causes: 1) the water supply of the sandstone may actually be depleted, 2) the openings between the sandgrains of the sandstone wall (or in the screen if present) may have become filled by iron or carbonate cement, 3) sand may have run into the well and partially filled it, 4) there may be a break in the casing allowing foreign material into the well. Of these possibilities the first seems very unlikely but any one or more of the other three are highly probable. There is a good chance that these last three conditions could be remedied and the well repaired. However, it would seem advisable to make sure of another source of water supply before attempting to recondition the present well.

WRD Exp. (GW)
Aug. 1964

Punched FCH
Verified PMJ

U. S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by P.J. Horick Source of data Files Date 6/1/65 Map H. & T.

State Iowa 16 County (or town) Sioux 84

Latitude: 42 58 20 N Longitude: 096 18 46 Sequential number: 1

Lat-long accuracy: 2 T. 94 N, R. 46 W Sec. 7, SE ¼, NE ¼, SE ¼ 5PM

Local well number: 094N46W07dad Other number: W-2310 B & M

Local use: 02310 CITY 3 Owner or name: TOWN OF IRETON

Owner or name: IRETON Address: Ireton, Iowa

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

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

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 Ø Field aquifer char.

Hyd. lab. data:

Qual. water data; type: COMPLETE — C

Freq. sampling: INTERMITTENT I Pumpage inventory: yes / no, period:

Aperture cards: yes

Log data: GEOLOGIST LOG — G

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 543 ft 543 Meas. rept accuracy 6

Depth cased: (first perf.) 503 ft 503 Casing type: STEEL ; Diam. 8 in 8

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, (W) other, (Z) other — X

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

Date Drilled: FEB. 1946 946 Pump intake setting: ft

Driller: Rasmussen Well Co. (name), Sioux City, 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

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

Descrip. MP LSD ft above below lsd, Alt. MP 1435

Alt. LSD: 1435 1435 Accuracy: (source) ALTIMETER 7

Water Level 263.5 ft above (below) MP; Ft above (below) lsd 264 Accuracy: DRILLER'S LOG 3

Date meas: FEB, 1946 246 Yield: 80 gpm 80 Method determined

Drawdown: 27.5 ft 28 Accuracy: 3 Pumping period hrs

QUALITY OF WATER DATA: Iron 1.92 ppm 5 Sulfate 534 ppm 8 Chloride 3.5 ppm 0 Hard. 744 ppm 8

Sp. Conduct 1290 K x 10^6 5 Temp. °F Date sampled 559

Taste, color, etc.

094-46W-07dad

9-185—July 1935
Revised

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

WELL SCHEDULE

Date ____, 19____ Field No. ____

Record by ____ Office No. ____

Source of data ____

1. *Location:* State Iowa County Sioux

   Map ____

   NE ¼ SE ¼ sec. 7 T 94 N/S R 46 E/W

2. *Owner:* Town of Ireton Address ____

   Tenant ____ Address ____

   Driller ____ Address ____

3. *Topography* Hilltop

4. *Elevation* ____ ft. above/below ____

5. *Type:* Dug, drilled, driven, bored, jetted ____19____

6. *Depth:* Rept. ____ ft. Meas. ____ ft.

7. *Casing:* Diam. ____ in., to ____ in., Type ____

   Depth ____ ft., Finish ____

8. *Chief Aquifer* ____ From ____ ft. to ____ ft.

   Others ____

9. *Water level* ____ ft. rept./meas. ____ 19____ above/below ____

   ____ which is ____ ft. above/below surface

10. *Pump:* Type ____ Capacity ____ G. M. ____

    Power: Kind ____ Horsepower ____

11. *Yield:* Flow ____ G. M., Pump ____ G. M., Meas., Rept. Est. ____

    Drawdown ____ ft. after ____ hours pumping ____ G. M.

12. *Use:* Dom., Stock, PS., RR., Ind., Irr., Obs. ____

    Adequacy, permanence ____

13. *Quality* ____ Temp ____ °F.

    Taste, odor, color ____ Sample Yes/No ____

    Unfit for ____

14. *Remarks:* (Log, Analyses, etc.) ____

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Well Number 42 58 20 S 096 18 46 1
(d m s d m s)

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: CENTRAL LOWLAND [1][2] (20–21) Section: DISSECTED TILL PLAIN [C] (22) Drainage Basin: BIG SIOUX [3][6][A] (23–25) Subbasin: [ ] (26)

Topo of well site: local depression, flat surface, (hilltop), hillside, terrace, valley flat, [L] (27)

MAJOR AQUIFER: Cretaceous (system), Lower (series) [K][1] (28–29) Dakota Sandstone (aquifer, formation, group) [D][2] (30–31)

Lithology: COARSE SANDSTONE [4][V] (32–33) Origin: MARINE [6] (34) Aquifer Thickness: [ ] ft (35–37)

Length of well open to: 40 ft [4][0] (38–40) Depth to top of: 495 ft [4][9][5] (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: 215 ft [2][1][5] (60–63) Source of data: WELL CUTTINGS [C] (64)

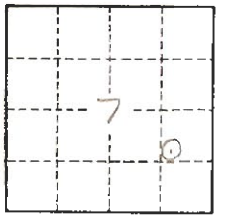
Depth to basement: [ ] ft (65–68) Source of data: [ ] (69)

Surficial material: SANDY TILL [S][T] (70–71) Infiltration characteristics: POOR [P] (72)

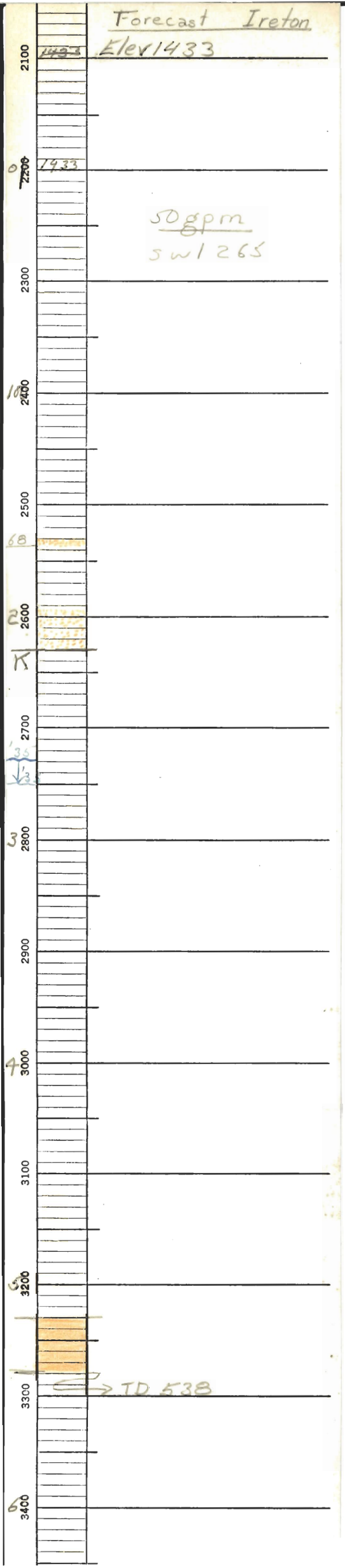
Coefficient Trans: [ ] gpd/ft (73–75) Coefficient Storage: [ ] (76–78)

Coefficient Perm: [ ] gpd/ft²; Spec cap: 2.9 gpm/ft; Number of geologic cards: [ ] (79)

Casing: 267'8" of 8" black pipe from +1' to 266'8"; 242'4" of 6" pipe from 260'8" to 503'; lead seal between 6-8" pipe.



GPO 844-225


Forecast Ireton
Elev 1433
1433
50 gpm
sw 265
TD 538