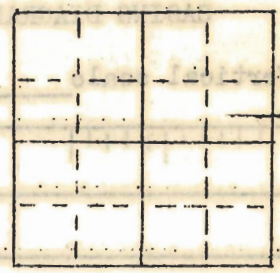
IOWA GEOLOGICAL SURVEY W-1461

In Cooperation with U. S. Geological Survey

RECORD OF WELL



Location:

Town: GRANville (N E / S W): County Sioux

NE-SW sec. 1 T 91 N., R. 43 W. East Orange Twp.

Well name and number GRANville City Well

Owner _____ Address _____

Tenant _____ Address _____

Contractor H. Rasmussen Address _____

Drillers _____

Drilling dates 1934-35

Well data:

Elevations: Drilling curb 1451 feet; Land surface _____ feet

C.NW RR. elev. 1447

Determined by N.A. Miner

Topographic position upland plain

Total depth: Reported 416 feet, Measured _____ feet

Drilling method _____

Hole and casing data _____

Original depth to water 250 ft. ~~above~~ below curb Date _____

Original elevation of water level 1201 ft.; Source of data _____

Sources of water: Principal Pleist ; Others _____

Production data: Date

Static depth to water 250 Measuring point

Pumping level at 50 g.p.m.

Specific capacity g.p.m. per ft. drawdown; Temperature 62 °F.

Pump data: Type pump Centrif. Column Dia. Length

Cylinder or bowls: Dia. Length Suction pipe

Power Electric 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	July 1, 1944			
Sampled by	N. A. Mirac			
Total solids	2496			
Insoluble matter	10.0			
Alkalinity (Meo)	329.0			
Alkalinity (Phn)	0.0			
pH	7.2			
$Fe_2O_3 + Mn_2O_3 + Al_2O_3$	3.0			
Alkali as sodium	188.2			
Calcium	344.5			
Magnesium	125.6			
Iron (unfiltered)	0.2			
Manganese	0.45			
Nitrate	4.9			
Fluoride	0.8			
Chloride	25.5			
Sulfate	1344.0			
Bicarbonate	400.2			
Hardness (ppm)	1378			
Hardness (gpg)	80.6			

Remarks

Laboratory data: Sample storage location

Sample range 28-407 No. spls. 19 No. dupls. & cond. 19 poor

Spls. prepared by Hawkins Washed range by

Driller's log and cond.

Insoluble residues: Prepared by Studied by Strip log

Microscopic study strip log May 9, 1952

Gen. log Correl. by Northup

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey Number W-1461

Town Granville County Sioux T.___ N., R.___ E. W.

Name Granville City Well Location ___ ¼ ___ ¼, Sec. ___

Contractor H Rasmussen Driller ___ Use ___

Construction ___ Drilling Dates 1934-35 Drilling Depth ___

Topog. ___ Curb Elev. 1461 Ref. ___ Total Depth 416'

Final Static Level ___ above / below curb Pumping Level ___ Draw down ___ gpm ___ Time pumped ___ Date ___

Depth to bot. pump ___ ft. with ___ ft. suction pipe. Calc. drawdown ___ 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

This is a drift (sand) well

Laboratory Data

Sample range 28'-407' Number samples 19 Number Duplicates 19 Cond. Poor

Log Yes (No), Cond. ___ Boxed Mrs Parker Range 28'-407' Date Oct 8, 1941

Remarks Samples very poorly marked. Eleven samples non marked one sample, Iron-stained, bucketed from the well in Feb 1940

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

MASTER CARD – A 9-26-69

STATE	COUNTY	LATITUDE DEG.	LATITUDE MIN.	LATITUDE SEC.	N. or S.	LONGITUDE DEG.	LONGITUDE MIN.	LONGITUDE SEC.	SEQ. NO.
1 2	3 4	5 6	7 8	9 10	11	12 13 14	15 16	17 18	19
19	84	42	59	10	N	095	52	30	1

WELL SCHEDULE

US GEOLOGICAL SURVEY

IOWA DISTRICT WRD

WELL NO. 094-43W-01CA CO. SIOUX

OWNER GRANVILLE CITY WELL (1934) ADDRESS GRANVILLE, IOWA

DRILLER H. RASMUSSEN DATE DRLD. 1934-1935

MAP 1:63,360 COUNTY HWY.

SOURCE OF DATA FILE

DESCRIPTION M. P. LSD FEET (ABOVE) (BELOW) LSD 1451 FT.

CONTINUED FROM ABOVE	ACCURACY	LOCAL WELL NUMBER T.	R.	E/W	SEC.	QUARTERS	LOCAL USE W-NUMBER	OPTIONAL	OWNER OR NAME	OWNERSHIP	WATER USE	WELL USE	WELL DATA	FREQ. W/L	FIELD CHAR.	HYD. LAB.	QW-DATA	QW-FREQ.	PUMPAGE	APERTURE	LOG DATA	CARD DESIG.
	20	21 22 23	24 25	26	27 28	29 30 31 32 33 34	35 36 37 38 39	40 41 42 43 44 45 46 47 48 49 50 51	52 53 54 55 56 57 58 59 60 61 62 63 64 65 66	67	68	69	70	71	72	73	74	75	76	77	78 79	80
		309	43	W	01	CA	01461	//34CITY	GRANVILLE IOWA	M	P	W	2	Ø			C	I			G	A

WELL-DESCRIPTION CARD – B

DUPLICATE CARD A CC 1-19	DEPTH OF WELL	ACCURACY	DEPTH CASED OR FIRST PERF.	DIAM. INCHES	WELL FINISH	METH. DRILLED	YEAR DRILLED	PUMP SETTING	METH. LIFT	DEEP/SHALLOW	POWER	ALTITUDE OF LSD (FEET)	ACCURACY	WATER LEVEL (FEET)	ACCURACY	DATE MONTH	DATE YEAR	YIELD OF WELL (GPM)	METH. DET.	DRAW-DOWN (FEET)	ACCURACY	PUMPING PERIOD (HOURS)	QUALITY OF WATER IRON	SULF.	CHLOR.	HARD	S.P. COND.	TEMP.	DATE SAMPLED	CARD DESIG.
	20 21 22 23	24	25 26 27 28	29 30	31	32	33 34 35	36 37 38	39	40	41	42 43 44 45 46	47	48 49 50 51	52	53 54	55	56 57 58 59 60	61	62 63 64	65	66 67 68	69	70	71	72	73	74 75 76	77 78 79	80
		4163					934		CD	S		14517		2502	D	34		50					2929					527	744	B

HYDROGEOLOGIC CARD – C

DUPLICATE CARD A CC 1-19	PHYS-IOG-RAPHY PROV.	SEC.	DRAINAGE BASIN	SUBBASIN	TOPO SETTING	MAJOR AQUIFER SYSTEM	SERIES USGS	SERIES IGS	UNIT	LITH-OLOGY	ORIG.	THICK-NESS	LENGTH WELL OPEN TO	DEPTH TO TOP OF	MINOR AQUIFER SYSTEM	SERIES USGS	SERIES IGS	UNIT	LITH-OLOGY	ORIG.	THICK-NESS	LENGTH WELL OPEN TO	DEPTH TO TOP OF	DEPTH TO CONSOLI-DATED ROCK	SOURCE	DEPTH TO BASEMENT	SOURCE	SURF. MAT. LITH-OLOGY	SURF. MAT. INFIL.	COEF. TRAN. SIG. FIG.	COEF. TRAN. XIO	COEF. STOR. SIG. FIG.	COEF. STOR. XIO –	GEOL. CARDS CARD DESIG.
	20 21	22	23 24 25	26	27	28	29	30	31	32 33	34	35 36 37	38 39 40	41 42 43	44	45	46	47	48 49	50	51 52 53	54 55 56	57 58 59	60 61 62 63	64	65 66 67 68	69	70 71	72	73 74	75	76 77	78	79	80
	12	E	36	B	F	Q	G	G	N		S	O																						C

CASING AND SCREEN (SIZE, TYPE, INTERVALS):

No Data.

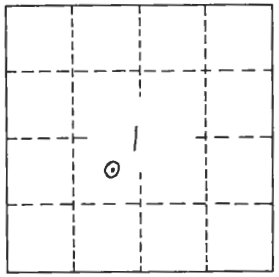
Geologist Log is very Poor, few Samples.

CODED BY D. AARONSON DATE 17 MARCH 1970

PUNCHED BY T DATE

VERIFIED BY DATE

SKETCH ON REVERSE: YES NO ✓



WELL NO. 094-43W-01CA

Granville City Well Sioux County

Nineteen samples were received from Granville on July 1, 1940. One of these samples is an iron stained sand bucketed from the well in February, 1940. The others are drilling samples. Many of the containers had lost their labels when the samples were received, and the position in the sequence of some of them is not known.

A brief description of the samples and depths or estimated positions is given:

Marked Samples

Clay and sand	28
Yellow clay and gravel	55
" " " "	84
" " "	130
" "	150
" " "	175
Gray clay	228 - 275
Gray clay	407

Unmarked Samples

No.		Estimated Position
U-1	Sand and fine gravel	Between 28' and 55'
-2	" " " "	" " "
-3	Gravel	
-4	Gray clay and gravel	175' and 228'
-5	" " " sand	" " "
-6		
-7	Gray micaceous silt and sand	?
-8	" " " " "	?
-9	Medium to coarse clean sand	Between 407 and 416
-10	" " " " "	" " " "
-11	Iron stained sand bucketed from well in Feb., 1940	

Davis
10-6-41

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Water Quality
(ppm)

Local Well No. 094-43W-01CA
Aquifer Code(s) QGGN
Owner's Name GRANVILLE CITY (1934)
W Number 1461

Card Q

State: IOWA [19] (1–2) County: SIOUX [84] (3–4) Town: GRANVILLE, IOWA

Well No. Latitude [42 59 10 N] (5–11) Longitude [095 52 30] (12–18) Seq. No. [1] (19) Date M D Y [09 13 34] (20–25)

Sampling Depth [416] (26–29) Type [1] (30) Kx10^6 (31–35) pH [7.5] (36–38) Temp. °F (39–41)

SiO_2 (42–44) Ca [279] (45–49) Mg [136] (50–53) Na +K [236] (54–58) K [.C] (59–61)

HCO_3 [437] (62–65) CO_3 (66–67) SO_4 [1330] (68–72) Cl [25] (73–78) Source No. [3] (79) [Q] (80)

Card R

Duplicate Columns 1-25 from Card Q

F [1.0] (26–28) NO_3 [0.] (29–32) PO_4 (33–35) B (36–38) Al (39–41) Fe [.50] (42–45)

Mn [.3] (46–49) Cu (50–52) Pb (53–54) Zn (55–57)

Solids Determined [2500] (58–63) Calc. (64–69) Hardness Ca,Mg [1260] (70–73) Non-Carb. [902] (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 $CaCO_3$ [358] (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. AARONSON

Punched by: T Date:

Published:

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

Water Quality
(ppm)

Local Well No. 094-43W-01CA
Aquifer Code(s) QGGN
Owner's Name GRANVILLE, IOWA
W Number 1461

Card Q

State: IOWA (19) (1–2) County: SIOUX (84) (3–4) Town: GRANVILLE, IOWA

Well No. Latitude 42 59 10 N (5–11) Longitude 095 52 30 (12–18) Seq. No. 1 (19) Date M 07 D 01 Y 44 (20–25)

Sampling Depth 416 (26–29) Type 1 (30) Kx10⁶ (31–35) pH 7.2 (36–38) Temp. °F 52 (39–41)

SiO_2 (42–44) Ca 344 (45–49) Mg 126 (50–53) Na +K 189 (54–58) K .C (59–61)

HCO_3 400 (62–65) CO_3 (66–67) SO_4 1340 (68–72) Cl 26 (73–78) Source No. 3 Q (79–80)

Card R

Duplicate Columns 1-25 from Card Q

F .8 (26–28) NO_3 10 (29–32) PO_4 (33–35) B (36–38) Al (39–41) Fe .2 (42–45)

Mn .45 (46–49) Cu (50–52) Pb (53–54) Zn (55–57)

Solids Determined 2500 (58–63) Calc. (64–69) Hardness Ca,Mg 1380 (70–73) Non-Carb. 1050 (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 $CaCO_3$ 329 (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. AARONSON

Punched by: T Date:

Published:

September 10, 1941

Mr. E. J. Marzec
Public Health Engineer
Health District No. 3
Le Mars, Iowa

Dear Mr. Marzec:

In response to your letter of August 30 we are preparing to send the unused portions of the samples of well cuttings from the Granville well to Mr. A. Muehl, Town Clerk of Granville. Thank you very much for reminding me that the samples were to be returned. I am sorry that there has been this delay in carrying out our original agreement.

Very truly yours,

H. G. Hershey
N

HGH:N

Samples in Dup. Room.
HGH.

Iowa
State Department of Health
DISTRICT HEALTH SERVICE NO. 3
HEADQUARTERS
Le Mars, Iowa

WALTER L. BIERRING, M. D.
COMMISSIONER
DES MOINES, IOWA

IN REPLYING
ADDRESS
E. J. Marzec
Public Health Engineer

August 30th, 1941

Dr. H. G. Hershey
Assistant State Geologist
Iowa Geological Survey
Iowa City, Iowa

Dear Dr. Hershey:

Mr. A. Muehl, town clerk, Granville, would like to obtain the unused portions of the sample well cuttings which were sent to the Geological Survey last year. These samples were sent with the understanding that they were to be returned.

Very truly yours,

E. J. Marzec

E. J. Marzec
Public Health Engineer
Health District No. 3

ejm/ns

NW
To be done

July 16, 1940 Charles Carter

Mr. E. J. Marzec
Public Health Engineer
Health District No. 1
LeMars, Iowa

Dear Mr. Marzec:

With reference to water possibilities at Granville I have gone through our records and find that by deeper drilling it may be possible to obtain a more satisfactory well.

Information at hand shows that the present well is 416 feet deep and produces from the basal Nebraskan sand which, of course, is of glacial origin. Static level is reported as 250 feet and the elevation 1451 feet.

The glacial sand should be immediately underlain by Cretaceous shales which are in turn underlain by sandstone. The sandstone should be firm enough to stand without screening but it will probably be advisable to use perforated pipe through it. The exact depth to the top of the sandstone is not known but I believe that it will be encountered by drilling to a depth of approximately 500 feet.

Water from the sandstone will have a head of about 275 feet and about the same mineralogical character as the water now being used. The supply, however, should be larger than that obtained from the present well.

If the town decides to develop the sandstone, please let me know and if possible I will do the necessary field work to make a more detailed report. I trust that they will save samples of any drilling that is done.

Very truly yours,

H. G. Hershey

HGH:N

June 15, 1940 Charles Carter

Mr. E. J. Marzec
Public Health Engineer
Health District No. 1
LeMars, Iowa

Dear Mr. Marzec:

I have had your letter of June 8 regarding water possibilities at Granville, Iowa for some time and I am very sorry I have not had an opportunity to prepare a report on Granville. I am now leaving the office and will be away for two weeks, but will prepare the Granville report and send it to you immediately upon my return.

In regard to the samples which were saved from the old well I think it might be a good idea if they were sent in to us even though the labels are missing from a number of the containers. It is entirely possible that we will be able to utilize these samples to some advantage.

Very truly yours,

H. G. Hershey

HGH:N

Iowa
State Department of Health
DISTRICT HEALTH SERVICE NO. 1
HEADQUARTERS
Le Mars, Iowa

WALTER L. BIERRING, M. D.
COMMISSIONER
DES MOINES, IOWA

IN REPLYING
ADDRESS

E. J. Marzec

Public Health Engineer

June 8, 1940

H. G. Hershey
Assistant State Geologist
Iowa Geological Survey
Iowa City, Iowa

Dear Dr. Hershey:

The town of Granville ran out of water last winter, and upon pulling the pump and having a well driller check the well, it was found that the concrete plug in the screen had raised shutting off the greater portion of the screen.

At the present time the water cannot enter the well at the pumpage rate. This well is finished in a rather fine sand with the result there will always be some trouble in obtaining water.

Could you check into your records and see if there is another water producing strata, which would be more desirable than the present strata consisting of sand.

Samples of cuttings were saved when this well was drilled, but nearly all the labels have fallen off of the containers.

Very truly yours,

E. J. Marzec

E. J. Marzec
Public Health Engineer
Health District No. I

ejm/ns
cc-A. H. Wieters

July 12, 1940

Charles Carter

Mr. E. J. Marzec
Public Health Engineer
District Health Service No. 1
LeMars, Iowa

Dear Mr. Marzec:

We have received the samples from the old Granville town well and I wish to thank you for your assistance in having them furnished to us.

In compliance with your request we will return the samples to Mr. A. P. Muehl, Clerk, Granville, Iowa when we have completed our study.

Very truly yours,

H. G. Hershey

HGH:N

GRANVILLE, Sioux County.

Secs. 1 & 12 T94N, R43W East Orange Twp

RR elev = 1447 C.NW base of rail: Biloxi.

Present well reported:

Drilled, 416 T.D. Curb elev. 1451 Producer Neb. drift upland. SWL.= 25.

1429
1251
1178

Iowa
State Department of Health
DISTRICT HEALTH SERVICE NO. 1
HEADQUARTERS
Le Mars, Iowa

WALTER L. BIERRING, M. D.
COMMISSIONER
DES MOINES, IOWA

IN REPLYING
ADDRESS
E. J. Marzec
Public Health Engineer

June 18, 1940

H. G. Hershey
Assistant State Geologist
Iowa Geological Survey
Iowa City, Iowa

Dear Dr. Hershey:

Under separate cover I am sending by railway express, collect, the containers with sample of strata obtained from the well at Granville. Some of the samples are unmarked as to depth.

A sample of sand, stained with iron, that was taken out of the well in February of this year was also enclosed.

The town officials want these samples back when you are through with them. Return them collect to A. P. Muehl, Town Clerk, Granville, Iowa.

Very truly yours,

E. J. Marzec

E. J. Marzec
Public Health Engineer
Health District No. 1

ejm/ns

V35a

~~Contents: Merchandise (4th Class Mail)~~
~~Postmaster: This parcel may be opened for postal Inspection if necessary~~
~~State Dept. of Health, Des Moines, Iowa~~
Health District No. 1
Le Mars, Iowa

FROM
Iowa ~~State Department~~ of Health
DES MOINES, IOWA
Walter L. Bierring, M.D., Commissioner

H. G. Hershey
Assistant State Geologist
Iowa Geological Survey-Geology Annex
Iowa City, Iowa

These 19 samples were unpacked July 1/40 and the only mark of identification was the address label.

2 jars were broken transit and were replaced A.G.V.

One of the tags in the bottle were loose but below bottle in signal box.

C.J.M.

Jol

MOORE'S MODERN METHODS

Granville - City well Sioux Co
location - NE¼ SW¼ Sec. 1, T94N, R43W

drilled - Rasmussen 1930 or 31

Mr. Luten Manager July 1 1944

Water sample Q-101 ✓ 2:15 P.M.
Water temp 52°
Air " 89°

Sample obtained 1' from pump after passing through 1' of 3" pipe pump was going when seven hours prior to sampling.

Some sand coming in well

Town hopes to put in new well to obtain in the near future

W.A. Wiser