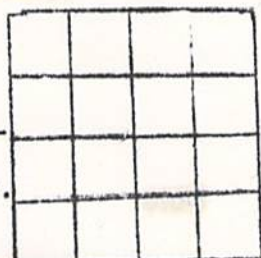


W14136

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey
RECORD OF WELL

Location:

Town: TRAER (NE) (SW) County TAMA (E)
SW SW NE sec. 10 T. 85 N., R. 19 (W) Twp.



Well name and number

Owner TRAER CITY WELL (1963) Address TRAER, IOWA

Tenant _____ Address _____

Contractor THORPE WELL CO. Address DES MOINES, IOWADrillers ED AXER AND OTHERSDrilling dates JAN - 1963 - NOV. 16, 1963

Well data:

Altitudes: Drilling curb _____ feet; Land surface _____ feet 908'

Determined by _____

Topographic position _____

Total depth: Reported 1813' feet; Measured _____ feetDrilling method CABLE TOOLSHole and casing data 254' OF 20" CSG.18" OD LINER 660' 9" TO 925' 10"1277' OF 12" CASING 0-1277'OPEN HOLE 1277' - 1813'

Original depth to water, _____ ft. below _____ Date _____

Source of data _____

Sources of water: Principal PRAIRIE CH. CREEK - JORDAN

Others ST. LAWRENCE

PRODUCTION DATA

Date NOV. 12th To 16, 1963

Static water level 145' 10"

Pumping water level 148' 6" 205' 6"

Yield (g.p.m.) 400 500

Measuring point Well was developed by shooting, air lift to remove sand and by considerable pumping and surging (see pump test record)

Duration of pumping 4 days

Specific capacity 8.23 per ft. drawdown at 400 g.p.m.

W14136

LABORATORY DATA TL4-998-999-1000-TL5-1

Well No. 92171M Sample range 0-1813 No. of samples 363

No. of dupls. and cond. 363 Good 600 Washed range

Samples prepared by Rebes Date 2-4-63

Logged by NORTHUP Date 1963

Correlations by Date

NEW well
Ground EL 925'
Platform 932'

W-14136
WELL NO. 3

TRAER MUNICIPAL UTILITIES

TRAER, IOWA

old well
NEW well sits ~12-15'
higher
~~sample interval at this platform~~

Sample depth From Platform
Former well

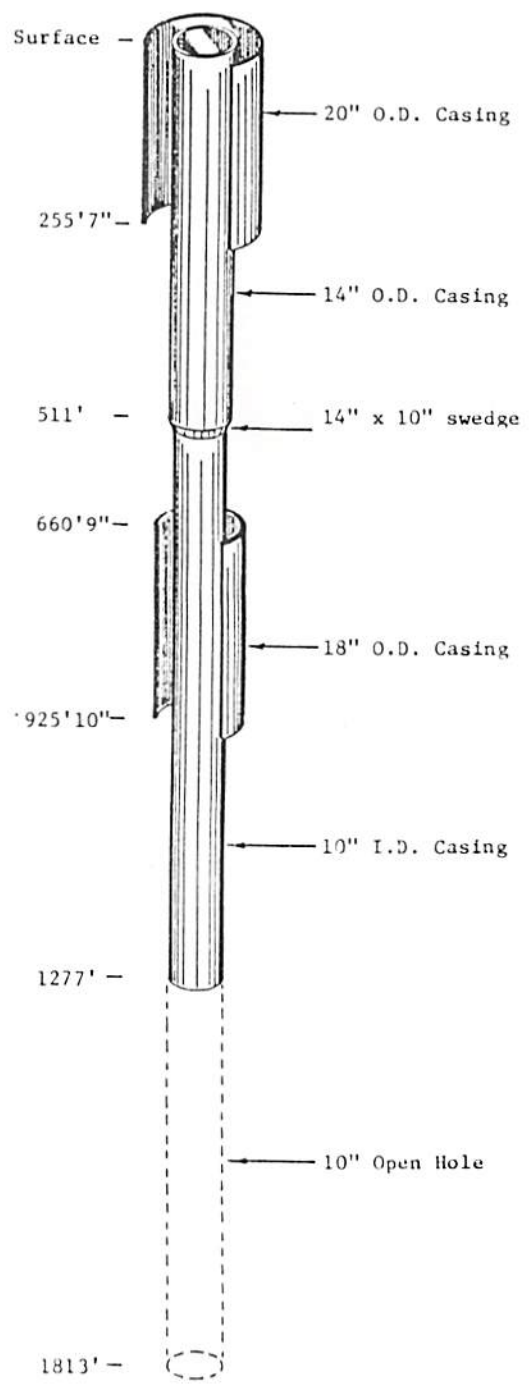
1-63

Samples stored at
TL4, 999, 1000, and
TL5-1

GEOLOGICAL LOG

CONSTRUCTION DETAIL

Fill and Topsoil	3'
Clay, Sand, Gravel	
	231'
Limestone	
	330'
Limestone and Chert	
	375'
Dolomite	
	670'
Streaks of Shale, Limestone, Dolomite	
	960'
Limestone	
	1195'
Shale w/Limestone Streaks	1203'
Limestone, Sandstone, Shale	1247'
Dolomite	
	1681'
Sandstone	
	1766'
Dolomite	
	1813'



THORPE WELL COMPANY
2540 SIXTH AVENUE
DES MOINES, IOWA

Drilled for TRAER MUNICIPAL UTILITIES
Well located _____ miles N.E.S.W and, _____ miles N.E.S.W from
in the _____ 1/4 _____ 1/4 _____ section _____ township _____ range _____
drilling started JANUARY 1963 completed _____
well no. 3 kind of well drilled depth 1813 feet
finish 10" G.P.M. _____ state head 143 feet
water was first encountered at 292' in limestone
remarks casing grouted from surface to 1277'

RECORD OF PERMANENT PIPE

SIZE PIPE	AMOUNT OF PIPE	DEPTH TO BOTTOM OF PIPE	DEPTH TO TOP OF PIPE	MAKE OF PIPE
20"OD	255'7"	254'1"	+1'6"	78.60
18"OD	261'1"	925'10"	660'9"	70.59
14"OD	511'62"	510'12"	+1'6"	54.57
10"ID	767'15"	1277	511.2'	40.48

14" and 10" connected by sw nipple 1.08 long

Driller Ed Ager
Driller Dick Nichols
Driller Doug Brouekool
Driller Morris Slavei

AMOUNT IN FEET KIND OF SOIL OR FORMATION TOTAL DEPTH IN FEET

3'	fill and topsoil	3'
18'	brown clay	21'
49'	gray clay - some sand and gravel	70'
90'	gray clay	160'
5'	clay sand and gravel	165'
35'	gray clay	200'
31'	sand - clay streaks	231'
17'	limestone - broken and weathered	248'
6'	limestone	254'
16'	limestone - broken and weathered	270'
60'	brown limestone lost fluid	330'
	static level 56'	
45'	limestone and chert	375'
30'	brown and gray dolomite	405'
20'	brown dolomite broken static 41'	425'
35'	gray dolomite	460'

Overturn
54.57 ft

Codon Jan 1963

20'	gray and brown dolomite
40'	dolomite-gray shale streaks-some chert
15'	dolomite broken cuttings washed
135'	gray and brown dolomite static
15'	gray shale - limestone streaks
25'	green shale
15'	green shale - dolomite streaks
20'	gray shale - dolomite streaks
64'	gray shale
21'	brown dolomite
20'	brown dolomite - shale streaks
26'	brown dolomite
38'	brown dolomite - shale streaks
46'	
65'	gray limestone
44'	gray and brown limestone
01'	limestone - shale streaks
65'	limestone
13'	green shale - limestone streaks
20'	limestone - sandstone streaks
15'	sandstone
04'	green shale
168'	dolomite static 145'
32'	dolomite - sandy
06'	sandstone - soft
87'	dolomite - sandy streaks static 146'
91'	dolomite
54'	sandstone - soft
29'	sandstone - hard
11'	sandstone - soft
10'	sandstone - broken
05'	sandstone - soft
08'	sandstone - hard - broken
18'	sandstone - soft
47'	dolomite - hard static 145'6"

480'	Wapishicinan
520'	Devonian
555'	
670'	Sturion
685'	
710'	Maquoketa
723'	
745'	
809'	
830'	
850'	
876'	
914'	Platville
960'	
1085'	
1129'	
1130'	
1195'	
1208'	
1228'	St. Peter
1243'	Sandstone
1247'	
1415'	
1447'	
1453'	
1540'	
1631'	
1685'	
1714'	Jordan
1725'	
1735'	
1740'	
1748'	
1766'	
1813'	

Finish 10" G.P.M. Static Head 143'

Water was first encountered at 292' Limestone

Remarks Casing grouted from surface to 1277'

(GIVE DETAILS OF PERFORATED PIPE AND SEALING)

RECORD OF PERMANENT PIPE

SIZE OF PIPE	AMOUNT OF PIPE	DEPTH TO BOTTOM OF PIPE	DEPTH TO TOP OF PIPE	NAME OF PIPE
20" OD	255' 7"	254' 7"	+1' 6"	78.60
18" OD	261' 1"	925' 10"	660' 9"	70.59
14" OD	511.62'	510.12"	+1' 6"	54.57
10" ID	767.15'	1277'	511.2"	40.48
14" and 10" connected by sub nipple 1.08' long				

Driller EA Ager From Surface to feet

Driller Dick Nichols From feet to feet

Driller Harry Brueker From feet to feet

Driller Morris Slavel From feet to feet

AMOUNT IN FEET	KIND OF SOIL OR FORMATION (BE SPECIFIC)	TOTAL DEPTH FEET
3'	Fill and topsoil	3
18'	Brown clay	21
49'	Gray clay-some sand and gravel	50
90'	Gray clay	160
5'	Clay, sand and gravel	165
35'	Gray clay	200
31'	Sand-clay streaks	231
17'	Limestone-broken and weathered	248
6'	Limestone	254
16'	Limestone-broken and weathered	270
60'	Brown Limestone lost fluid	330
45'	Static Level - 56'	
30'	Limestone and chert	375
20'	Brown and gray dolomite	405
20'	Brown dolomite-broken static 41'	425
35'	Gray dolomite	460
20'	Gray and brown dolomite	480
40'	Dolomite-gray shale streaks-some chert	520
15'	Dolomite-broken-cuttings washed	535
135'	Gray and brown dolomite static	670
15'	Gray shale-limestone streaks	685
25'	Green shale	710
15'	Green shale-dolomite streaks	723
20'	Gray shale-dolomite streaks	743
64'	Gray shale	809
21'	Brown dolomite	830
20'	Brown dolomite-shale streaks	850
26'	Brown dolomite	876
38'	Brown dolomite-shale streaks	914
46'		960

St. Peter

10'
15'
168'
32'
5'
37'
54'
19'
11'
10'
5'
3'
8'
17'

Limestone-sandstone streaks
Sandstone
Green shale
Dolomite static 145'
Dolomite-sandy
Sandstone-soft
Dolomite-sandy streaks static 146'
Dolomite
Sandstone-soft
Sandstone-hard
Sandstone-soft
Sandstone-broken
Sandstone-soft
Sandstone-hard-broken
Sandstone-soft
Dolomite-hard static 145'6"

1223'
1243'
1247'
1415'
1447'
1453'
1540'
1631'
1635'
1714'
1725'
1735'
1740'
1748'
1766'
1813'

1277 bottom of casing

Jordan

79'
47'



Dolomite-hard static 145'6"

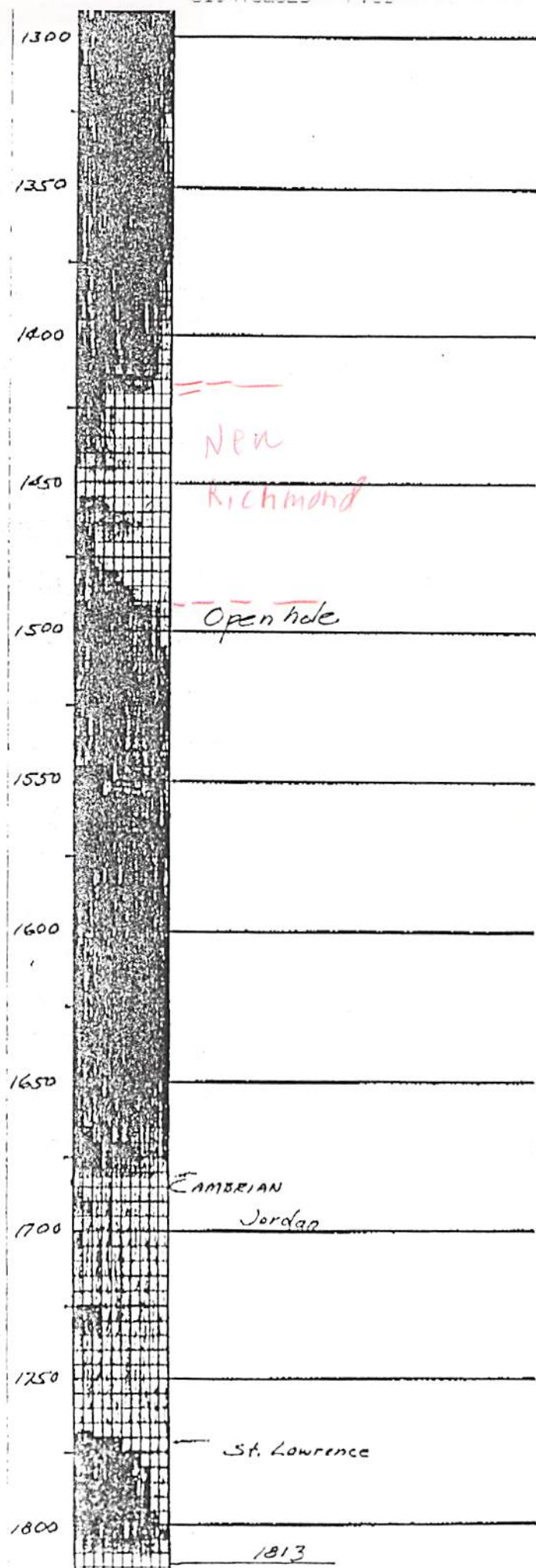
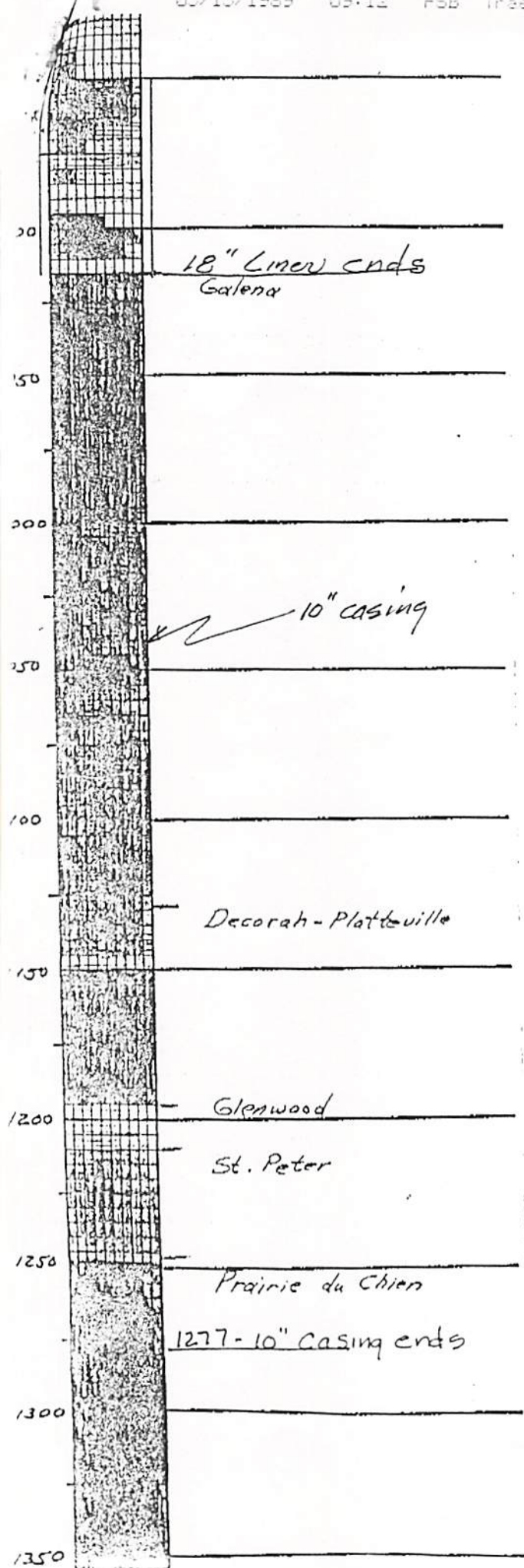
1223
1243
1247
1415
1447
1453
1540
1631
1635
1714
1725
1735
1740
1748
1766
1813

12.77 bottom
of casing

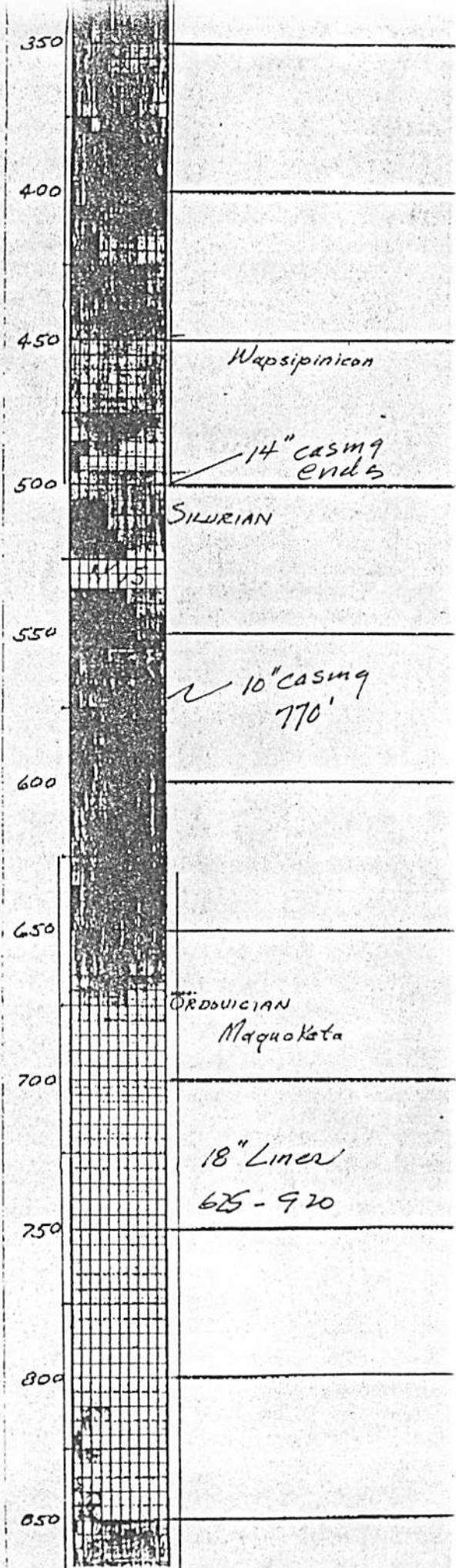
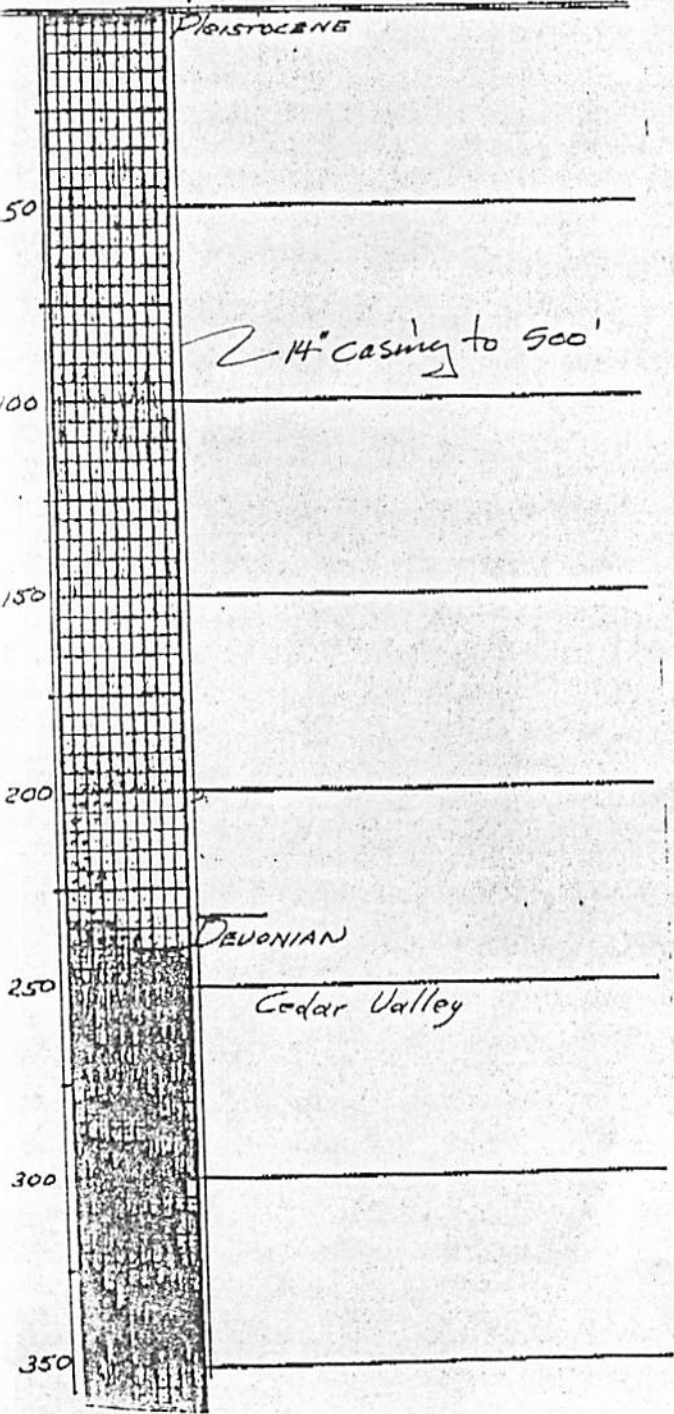
79'

-47'





STATE IOWA		TRAER (TAMA)	
SW SW NE		TRAER TOWN WELL (1963)	
SEC. 10			
TWP. 35N	ROE. 19W	COMMENCED JAN. 1963	COMPLETED NOV. 16, 1963
		THORPE WELL CO.	
		CASING RECORD	
		254' OF 20" CSB.	
		18" OD LINER 660' 5" TO 925' 10"	
		1277' OF 12" CSB. 0-1277'	
		LOGGED 1963	BY NORTHROP
EL. 908'		REMARKS	
T.D. 1813'		SWL = 145' 10"	
		PL = 198' 6" @ 400 GPM	
		SP. CAPACITY = 8 1/8'	
		PER FOOT OF DRAWDOWN	



CAB

FEB - 7 1963

February 6, 1963

Thorpe Well Company
P. O. Box 1376
Des Moines, Iowa

Re: New Deep Well

Gentlemen:

This letter confirms the verbal authorization given your Mr. Atcheson on Sunday, February 3.

In view of the favorable report received from the Iowa Geological Survey, you are hereby authorized to set the 20" casing at a depth of 257'.

Yours very truly,

FULTON & CRAMER
Consulting Engineers

George A. Work

GAW:gr

cc: Board of Trustees
Traer, Iowa

Mr. H. G. Hershey, Dir. & St. Geologist
Iowa Geological Survey
Iowa City, Iowa

G-W Traer new deep well
folder
Tama Co.

February 4, 1963

Fulton & Cramer
922 Terminal Building
Lincoln 8, Nebraska

Gentlemen:

We would like to advise that Mr. Aker has brought us the samples on the well at Traer to a depth of 254 feet. After checking the cuttings, we feel that drilling has definitely penetrated bedrock and to a sufficient depth to warrant setting the string of 20 inch casing. Top of the bedrock is apparently somewhere between 230 and 235 feet, and the first five feet or so appear to be soft and rather weathered. Below 240 feet the rock is much harder and is very fresh appearing at 250 feet. There is much contamination from the glacial sand and gravel immediately overlying the bedrock, but this should clear up as soon as the well casing has been set and cemented.

We hope that drilling will proceed satisfactorily from here on down and we will follow progress on the well with much interest. Please let us know if we can be of further service.

Very truly yours,

H. G. Hershey

HGH/RCN
bjm

February 4, 1963

Board of Trustees
Traer Municipal Utilities
Traer, Iowa

Dear Gentlemen:

We would like to advise that Mr. Aker has brought us the samples on the well at Traer to a depth of 254 feet. After checking the cuttings, we feel that drilling has definitely penetrated bedrock and to a sufficient depth to warrant setting the string of 20 inch casing. Top of the bedrock is apparently somewhere between 230 and 235 feet, and the first five feet or so appear to be soft and rather weathered. Below 240 feet the rock is much harder and is very fresh appearing at 250 feet. There is much contamination from the glacial sand and gravel immediately overlying the bedrock, but this should clear up as soon as the well casing has been set and cemented.

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Very truly yours,

H. G. Hershey

HGH/RCN
bjm

February 4, 1963

**Mr. Wesley Thorpe
Thorpe Well Company
Box 1376
Des Moines 5, Iowa**

Dear Mr. Thorpe:

We would like to advise that Mr. Aker has brought us the samples on the well at Traer to a depth of 254 feet. After checking the cuttings, we feel that drilling has definitely penetrated bedrock and to a sufficient depth to warrant setting the string of 20 inch casing. Top of the bedrock is apparently somewhere between 230 and 235 feet, and the first five feet or so appear to be soft and rather weathered. Below 240 feet the rock is much harder and is very fresh appearing at 250 feet. There is much contamination from the glacial sand and gravel immediately overlying the bedrock, but this should clear up as soon as the well casing has been set and cemented.

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Very truly yours,

H. G. Hershey

**HGH/RCN
bjm**

THREE GENERATIONS OF UNINTERRUPTED SERVICE

THORPE WELL COMPANY

FEB 12 1963



We dig for our business

WELLS

WATER TREATMENT EQUIPMENT

PUMPS

CHerry 3-6107

Des Moines 13, Iowa
P. O. Box 1376

February 11, 1963

Mr. Dick Northup
% Iowa Geological Survey
Iowa City, Iowa

Dear Dick:

I certainly want to thank you for the trouble you have gone to, to run our Traer samples on Saturday and Sunday, as well as the Fairbank samples on Sunday. We certainly appreciate this and I sincerely hope this didn't inconvenience you too much.

Thanking you again for all past favors, I remain

Sincerely yours,

THORPE WELL COMPANY

Orian Atcheson
Cable Tool Supt.

OA/map

G-W files
Tama Co.
Gen Data

February 28, 1962

Mr. Sylvan Ames
Hoag & Ames, Inc.
Lincoln, Iowa

Dear Mr. Ames:

In reply to your letter of February 20 we have summarized the pertinent hydrologic data for a well producing from the Jordan aquifer at Traer, Iowa.

We trust this is the information you wished. If you have any questions on this report or if we can provide additional information concerning ground-water at Traer, please let us know.

We will assemble the forecast for a Jordan well at the Wilson & Company, Inc. plant at Cedar Rapids shortly.

Very truly yours,

H. G. Hershey

HGH/PJH
bjm
Enclosure

Ground-Water Conditions in the

Jordan Reservoir at Traer, Iowa

The following statements represent an interpretation of the available hydrologic data in the files of the investigations of the Iowa and Federal Geological Surveys.

The town of Traer is located on rolling Iowan drift surface at the edge of Wolf Creek valley mostly in the N $\frac{1}{2}$ sec. 10, T. 85N., R. 14W., Tama County. Based on a starting surface elevation of 915 feet above sea level near the center of the town, a generalized log of the formations expected to underlie this locality down through the St. Lawrence Dolomite is outlined in tabular form as follows:

<u>Formation</u>	<u>Thickness (ft.)</u>	<u>Depth Range (ft.)</u>
Quaternary System		
Pleistocene Series (glacial drift clay, may include some sands and gravels)	205	0-205
Devonian System		
Cedar Valley Formation (limestone and dolomite, chert zone in middle)	245	205-450
Wapsipinicon Formation (limestone and dolomite very cherty, thin shales)	150	450-600
Silurian System		
Niagara Series (dolomite, some chert)	25	600-625
Ordovician System		
Maquoketa Formation (mostly shale, 2 or 3 dolomite beds in lower part)	235	625-910
Galena Formation (limestone and dolomite, 10-20% chert in lower half)	205	910-1115
Decorah-Platteville Formations (mostly limestone, some thin shale)	85	1115-1200
St. Peter Sandstone	40	1200-1240
Prairie du Chien Formation (dolomite, minor chert; thick sandstone at middle)	440	1240-1680
Cambrian System		
Jordan Sandstone	100	1680-1780
St. Lawrence Dolomite, silty lower part contains glauconite	100+	1780-1880

All these depth figures may have to be adjusted somewhat owing to local variations in the structure and thickness of the beds. A higher or lower starting elevation will also modify these depths slightly.

Although moderate quantities of water might be found in the interval from the Cedar Valley Formations down through the St. Peter Sandstone, most data indicate the water will be rather highly mineralized and very hard making it objectionable for domestic use.

A number of wells in the surrounding area penetrate the Jordan Sandstone and produce large supplies of water of better quality than obtained from the upper bedrock aquifers. Dysart, Garrison, Van Morn, Toledo, Tama, and Wellsburg have successful wells completed in the Jordan and St. Lawrence Formations. In recent years practically all wells penetrating the Jordan aquifer are cased and grouted with neat cement from the surface into the upper part of the Prairie du Chien Dolomite to shut out the more highly mineralized water in the upper zones. Usually the production amounts to 500 g.p.m. or more. In fact, acidizing and developing the well may result in a production of as much as 2,000 g.p.m. in some places. The Dysart well which was completed in the St. Lawrence Formation at 1,980 feet in June 1961 reportedly produced 600 g.p.m. with 125 feet of drawdown. The original static water level was 221 feet below ground surface and the pumping level 346 feet.

Several water analyses representative of the existing supply wells at Traer and of wells producing from the Jordan Sandstone aquifer are summarized on a separate sheet appended to this report.

To summarize briefly, available information indicates that a well drilled through the Jordan-St. Lawrence strata at Traer probably will obtain several hundred gallons a minute of potable water. The well should be cased, and the casing cemented in place, from the surface into the upper part of the Prairie du Chien Dolomite for best results.

IOWA GEOLOGICAL SURVEY
TABULATION OF WATER ANALYSIS
(Dissolved constituents in parts per million)

[illegible]

NOTES:

< = Less than

GW Traer Gen Data
Tama Co.
IOWA GEOLOGICAL SURVEY

MAR 8 1963

March 7, 1963

Thorpe Well Company
Lock Box 1376
Des Moines 5, Iowa

Re: Town of Traer, Iowa
New Deep Well

Att: Mr. Orian Atcheson

Gentlemen:

This letter confirms the verbal authorization given your company on March 7.

You are hereby authorized to cement the well as required to safeguard the construction from the caving limestone presently encountered.

This work is to be accomplished at no increase in the contract prices.

Yours very truly,

FULTON & CRAMER
Consulting Engineers



George A. Work

GAW:gr

cc: Board of Trustees
Traer, Iowa

Iowa Geological Survey
Iowa City, Iowa

IOWA GEOLOGICAL SURVEY

APR 8 - 1963

Traer, Ia.

Apr. 4, 1963

Dear Dick,

Shipped to-day, via. ppt. Ry. Express, samples of drill cuttings from the Traer well from the 375' level to 700'.

Would appreciate a report from you when you have finished examining them - at your convenience, of course - no rush this time. Kindly send one copy to Fulton & Cramer, 922 Terminal Bldg., Lincoln 8, Nebraska, one to Thorpe Well Co., Box 1376 Des Moines 5, Iowa & one to Ed. L. Ager, Hotel Traer, Traer, Iowa.

Will no doubt bring the rest of the samples to your office when it appears we are through the Maquoketa shale. Job specifications require an 18" liner through this formation.

Regards & Thanks,

Ed. L. Ager

G-W Traer city well 1963
Tama Co.

M E M O

April 15, 1963

To: Dr. H. G. Hershey
From: Richard C. Northup
Re: Traer town well

The well at Traer has reached a depth of 905 feet. Ed Aker phoned this morning to get our estimated top for the Galena, as they will set and cement an 18" liner at that point. We have received samples to 700' and our log has been completed to this depth. After checking the log with those of the Toledo and Dysart wells, I would expect the Galena to come in at 935 feet or possibly a little higher. I had already written Mr. Aker ~~A LETTER~~ to this ~~effect~~ ^{EFFECT}, but apparently he hasn't received it yet. He will bring in the samples to date as soon as they reach the Galena either tomorrow or Wednesday probably, for us to verify.

RCN/m

SAMPLES TO 916' WERE BROUGHT IN TODAY.
TOP OF THE GALENA WAS AT 914', AND THEY WILL
DRILL ANOTHER 10 FEET, AND THEN SET THEIR
18" LINER THROUGH THE MAQUOKETA.

THERE IS NO DOUBT IN MY MIND THAT
THEY ARE IN THE GALENA. THE 914'-916' SHOWS
A TAN OR LIGHT BROWN FINE GRAINED DOLOMITE, AND
CREAM, FOSSILIFEROUS LIMESTONE, WITH CHARACTERISTIC
"CINNAMON SPECKS" AND DOLORHOMBS.

R.C.N. APRIL 16, 1963

GW Traer city well 1963
Tama Co.

April 15, 1963

Mr. Ed L. Ager
Hotel Traer
Traer,
Iowa

Dear Mr. Ager:

This will acknowledge receipt of the latest samples from the Traer well to depth of 700 feet. Examination of the cuttings shows the top of the Maquoketa Shale at between 670 and 675 feet. Comparing the section with the well at Dysart a few miles east and checking our Maquoketa Isopach map, we would expect the top of the Galena to be at about 935 or 940 feet.

Please let us know if we can be of further service.

Very truly yours,

H. G. Hershey

HGH/rem

m

cc: Thorpe Well Co.
Box 1376
Des Moines 5, Iowa

Fulton and Cramer
922 Terminal Bldg.
Lincoln 8, Nebraska

G-W Traer well folder
Tama Co.

June 13, 1963

Mr. Orian Atchison
Thorpe Well Company
P. O. Box 1376
Des Moines 13, Iowa

Dear Mr. Atchison:

This will verify your phone call to Mr. Northup this morning regarding the St. Peter-~~Prairie~~ du Chien contact in the Traer well. We have picked the top of the Prairie du Chien at 1247 feet, and think that your present depth of 1277 feet will be a satisfactory casing point.

Very truly yours,

H. G. Hershey

HGH/rem
m

CVB

M E M O

June 20, 1963

To: Dr. H. G. Hershey
From: Richard C. Northup
Re: Traer city well

Mr. George Work, of Fulton & Craemer, consulting engineers of Lincoln, Nebraska phoned Tuesday concerning the cementing of the casing at the Traer well. 12" casing was set at 1277' and so far 3000 sacks of cement have been used. As of the time of his call, the cement failed to circulate above 400' and is apparently going into crevices in the lower part of the Cedar Valley or Wapsipinicon Formations. I gave him the lithologic record for this part of the section, and Mr. Work is now planning to have them complete the cementing from the surface down, and they do not anticipate any further trouble. When completed their 12" string will be cemented from the surface to 1277' or 30' into the Prairie du Chien and then they will drill ahead to the Jordan.

RCN/m

GW Traer well folder
Tama Co.

MEMORANDUM

August 28, 1963

TO: Dr. H. G. Hershey

FROM: Richard C. Northup

Re: Traer City Well

Since talking with you on Saturday about the Traer Well, Wes Thorpe met with the Traer City Council and Mr. Work, representative of Fulton and Cramer Engineering Company of Lincoln, Nebraska.

This was on Monday and it was decided to acidize the well after all, even though it has pumped sand profusely. They didn't call us on Monday to ask our opinion as Wes thought they might, and I am just as glad they didn't as I can hardly see acidizing under the circumstances. It wouldn't surprise me if they pumped sand for many weeks now, and some measures will have to be taken to attempt to clear it up.

MEMORANDUM

AUG. 28, 1963

TO DR. H. G. HENSHAW

FROM RICHARD C. NORTON

RE TARN CITY WELL

SINCE TALKING WITH YOU ON SATURDAY ABOUT THE TARN WELL,
WES THORPE MET WITH THE TARN CITY COUNCIL AND MR. WORK,
REPRESENTATIVE OF FULTON AND CHAMBER ENGINEERING CO. OF LINCOLN, NEBRASKA
THIS WAS ON MONDAY AND IT WAS DECIDED TO ACIDIZE THE WELL AFTER ALL,
EVEN THOUGH IT HAD PUMPED SAND PROBABLY. THEY DIDN'T COME US ON
MONDAY TO ASK OUR OPINION AS WES THOUGHT THEY MIGHT, AND I AM
JUST AS GLAD THEY DIDN'T, AS I CAN HARDLY SEE ACIDIZING UNDER
THE CIRCUMSTANCES. IT WOULDN'T SURPRISE ME IF THEY PUMPED SAND
FOR MANY WEEKS NOW, AND SOME MEASURES WILL HAVE TO BE TAKEN
TO ATTEMPT TO CLEAN IT UP

M E M O

September 10, 1963

To: Dr. H. G. Hershey
From: : Richard C. Northup
Re: Traer city well

Mr. Alleman, Traer Municipal Utilities Board phoned on Tuesday morning to report that the Traer city well is still pumping considerable sand. You may remember that on the original pumping test, about three weeks ago, that the well was pumping sand profusely in addition to having a very poor yield and specific capacity for a Jordan well. Static water level was 145 feet, with pumping level at 205 feet at 250 gpm. After considerable discussion it was decided to acidize the well. This was done, with 3500 gallons of acid being used. This improved the yield, which came up to 560 gpm, with pumping level of 190 feet, and while the amount of sand being pumped has diminished considerably, there is still about an inch of sand per hour being pumped out, and accumulating the discharge pipe. The city officials are to meet with engineers from Fulton and Craemer of Lincoln, Nebr. Tuesday afternoon, Sept. 10, to try to decide how to stop, or at least diminish much further, the amount of sand being pumped from the well. Another acid job may be in order, though I would hesitate to definitely recommend it in this case as more cemented sand in the Jordan would seemingly be broken down, and merely add to the problem, I would think. I feel that further pumping

Memo-----continued

September 10, 1963

might be the best solution in as much as the amount of sand has gone down considerably. As soon as this trouble has cleared up they should have a good well, what with the much improved volume of water and specific capacity. So far Thorpe has not called us again on the matter since he phoned me that time two weeks ago Saturday, which I reported to you at the time, and I am just as glad.

RCN/m

G-W Traer well folder

October 8, 1963

Mr. George A. Work
Fulton and Cramer Consulting Engineers
922 Trust Bldg.
Lincoln 8, Nebraska

Dear Mr. Work:

With reference to your letter of September 26 to Traer Municipal Utilities, we would appreciate at your convenience having a copy of the Schlumberger electric log which was recently run on the Traer city well.

Please let us know if we can be of service at any time.

Very truly yours,

H. G. Hershey

HGH/rcn

GEOLOGICAL SURVEY ROUTING SLIP

Staff

Disposition

_____ C. Brown

File

_____ J. Cagle

Prepare reply

_____ F. Dorheim

Comment

_____ R. Hanson

Your attention

_____ H. G. Hershey

See me

_____ P. Horick

Return

_____ D. Koch

Initial

_____ A. Lyon

_____ B. Murphy

Remarks

✓ _____ R. Northrup

_____ M. Parker

_____ P. Robinson

_____ L. Steele

_____ W. Steinilber

_____ O. Tweedy

_____ F. Twenter

_____ O. Van Eck

If we do not
already have it—
we should get
copy of the
Schlumberger log.
H

OCT 7 - 1963

September 26, 1963

Chairman and Board of Trustees
Traer Municipal Utilities
c/o Mr. John Wilson, Secretary
Traer, Iowa

Gentlemen:

We have reviewed the results of the logging of your well made by the Schlumberger Well Surveying Corporation on September 24, 1963.


On the basis of these tests we feel that developing this well by means of blasting and air lifting offers the most favorable method of sand freeing this well.

We recommend that you proceed to develop this well by means of blasting and air lifting.

We enclose herewith three copies of the unit prices for this work as submitted by the Thorpe Well Company. Please execute these and return one copy to this office and one to the Thorpe Well Company.

Yours very truly,

FULTON & CRAMER
Consulting Engineers


George A. Work

GAW:gr
Encl.

cc: Thorpe Well Company
Iowa Geological Survey

FOR FIGURING, CASING TALLY, ETC.

	SWL 145' 10"	
11-12-63	PL.	
5:00-7:00 AM.	155' 4" @ 150	cloudy
7:00-9:30 AM.	158' 10" @ 165	"
9:30-12:00 PM.	161' 5" @ 200	"
12:00-2:00	163' 10" @ 250	"
2:00-4:00	170' 8" @ 300	clearing
4:00-12:00 AM.	177' 4" @ 200	"
11-12-63 12:10-30 AM	176' 8" @ 300	"
3:00-8:00	184' 10" @ 350	clean-Tn. Sand
8:00-12:00 PM	190' 8" @ 400	cloudy-Tn. Sand
12:00-9:00 AM.	191' 6" @ 400	" " "
9:00-12:00 PM.	SUN @ 400 PM	
11/14/63 12:00-12:00 AM	" " "	
12:00 PM-7:00 PM.	" " "	
7:00-9:00 AM.	320 PM. - clean-Tn. Sand	
9:00-12:00 AM	SUN @ 400 PM.	
11/15/63 12:00-5:00 AM.	" @ 400 PM.	
5:00-7:15 AM.	" @ 320 PM.	
7:15-12:00 Noon	SUN @ 4:00 PM	
12:00-12:30 PM.	330 PM. cloudy Tn. Sand	
1:00 PM.	325 PM. " "	

FOR FIGURING, CASING TALLY, ETC.

		TRAM - Pumpjack lot
11-15-63		
1:30 PM	202'7"	@325 cloudy Tr. SD.
2:00	"	400 Clear Tr. SD
2:45	"	500 Cloudy Some SD
3:00 PM.	202'9"	" " " "
3:30 PM.	203'0"	" " " "
4:00 PM.	204'6"	" " " "
4:30 PM.	204'11"	Less cloudy - Some SD
5:00 PM.	205'3"	500 am " " "
5:30 PM.	205'5"	" " " "
6:00 PM.	205'11"	" " " "
7:00 PM.	196'8"	400 am cloudy Some SD
7:30 PM.	196'8"	" " Clear
8:00 PM.	196'5"	400 - Clear - Tr. SD
8:30 PM.	196'9"	" " " "
9:00 PM.	188'6"	300 " Tr. SD.
9:30 PM.	187'5"	300 " " "
10:00 PM.	187'5"	300 Clear No SD

11-16-63 SUNDAY @ 400 TO 500 GM.

From 12:00 AM. To 5:30 PM

FOR FIGURING, CASING TALLY, ETC.

11-16-63 PUMP 400 GPM. TRACED S.D.

300 GPM. NO SAND

SUN 620 @ 500 GPM

Time	Depth	Flow Rate	Notes
5:30 PM	199' 2"	400 GPM	Clearing Sand
6:00 PM	198' 10"	"	"
6:30 PM	198' 7"	"	Tr. Sand
7:00 PM	198' 5"	"	Clear Tr. Sand
7:30 PM	187' 10"	300 GPM	" Tr. Sand
8:00 PM		300 GPM	" "
8:30 PM	188' 0"	300 GPM	Clear
9:00	188'	300 GPM	"
9:30	178'	300 GPM	"

1780'

1813 = 79

G-W Traer well taken
Tama Co.

December 9, 1963

Board of Trustees
Traer Municipal Utilities
Traer, Iowa

Gentlemen:

We have completed the examination of well cuttings from the Traer city well (1963).

A copy of our geologic log is being sent to you under separate cover for your files.

Very truly yours,

H. G. Henshey

HGH/m

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

File No. { Washington _____
District _____

TRAER CITY WELL PUMPING TEST RECORD - COPIED AT WELL BY MONTH UP 11-27-63

DATE	TIME	SWL	PL	GPM	REMARKS						
11-12-63	5:00AM	145' 10"									
"	5:00-7:00AM		155' 4"	150	WATER CLOUDY						
"	7:00-9:30AM		158' 10"	165	"						
"	9:30-12:00PM		161' 5"	200	"						
"	12:00-2:00PM		163' 10"	250	"						
"	2:00-4:00 PM		170' 8"	300	WATER CLEARING						
"	4:00-12:00 PM		176' 8"	300	" "						
11-13-63	12:00-3:00AM		176' 8"	300	" "						
"	3:00-8:00AM		184' 10"	350	WATER CLEAR - TRACE SAND						
"	8:00-12:00PM		190' 8"	400	WATER CLOUDY - TRACE SAND						
"	12:00-9:00 PM		191' 6"	400	" " " "						
"	9:00-12:00 AM		SURGING	400							
11-14-63	12:00AM-12:00 PM		"	400							
"	12:00 PM-7:00PM		"	400							
"	7:00 PM-9:00PM		"	320	WATER CLEAR TRACE SAND						
"	9:00 PM-12:00 AM		"	400	" " " "						
11-15-63	12:00 AM-5:00AM		"	400	" " " "						
"	5:00AM-7:25AM		"	320	" " " "						
"	7:25AM-10:00AM		"	400	" " " "						
"	12:00-12:30 PM		"	350	WATER CLOUDY TRACE SAND						
"	12:30 PM-1:00PM		"	325	" " " "						
"	1:00 PM-1:30 PM	202' 7"		325	" " " "						
"	1:30 PM-2:00PM	202' 7"		400	WATER CLEAR TRACE SAND						
"	2:00 PM-2:45 PM	202' 7"		500	WATER CLOUDY - SOME SAND						
"	2:45 PM-3:00 PM	202' 9"		500	" " " "						
"	3:00-3:30 PM	203'		500	" " " "						
"	3:30-4:00 PM	204' 6"		500	" " " "						
"	4:00-4:30 PM	204' 11"		500	WATER LESS CLOUDY - SOME SAND						
"	4:30-5:00 PM	205' 3"		500	" " " "						
"	5:00-5:30 PM	205' 5"		500	" " " "						
"	5:30-6:00 PM	205' 11"		500	" " " "						
"	6:00-7:00 PM	196' 8"		400	WATER CLOUDY - SOME SAND						

TRADN City Wall - Pumping Station Road

[illegible]

are pumping on this date. The original yield was 250 gpm and with a specific capacity of 4 gpm/ft. drawdown. This ^{is} rather disappointing.

Also, they are pumping large quantities of sand. Dick said the Jordan appeared to be pretty ^{loose} ~~base~~ in the samples.

OVE/m

G.W. Three well
folder

,Memo to H. G. Hershey
From: Richard C. Northup
Re: Fairbank and Traer town wells

The well at Traer has only reached 340 feet, and is still in the Cedar Valley. Since setting their 20" casing at 254' they have been plagued with trouble with their drilling equipment. Anyhow the casing was set deep enough this time, and there is no trouble with sand and gravel caving in.

9-26-69
RP 11-22-70

STATE		COUNTY		LATITUDE							LONGITUDE							SEQ. NO.
				DEG.		MIN.		SEC.		N. or S.	DEG.		MIN.		SEC.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	9	8	6	4	2	1	1	2	6	N	0	9	2	2	7	3	8	1

IOWA DISTRICT WRD

WELL NO. 14136 CO. TAMA
OWNER TRAERTOWN WELL (1963) ADDRESS TRAER
DRILLER THORPE WELL CO. DATE DRLD 11-16-63
MAP _____
SOURCE OF DATA FILE
DESCRIPTION M. P. LSD FEET (ABOVE)
BELOW LSD _____

CONTINUED FROM ABOVE	ACCURACY	LOCAL WELL NUMBER								LOCAL USE						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																						
		T	R	E ⁺	SEC	QUARTERS				W-NUMBER				OPTIONAL																																														
		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
		2	0	8	5	1	4	W	1	O	A	D	B				1	4	1	3	6	/	1	6	3	T	O	W	N				3	T	R	A	E	R									M	P	W	/				C			G		A	

[illegible][illegible]

254' ØF 20" CASING
18" Ø.D. LINER 660' 9" TØ 925' 10"
1277 ØF 12" CSG. 0-1277'

CODED BY HEXUM DATE 6/28/72

PUNCHED BY HEXum DATE 6-29-72

VERIFIED BY _____ DATE _____

SKETCH ON REVERSE: YES_____ NO_____

A 4x4 grid with a dot in the top-right cell.

WELL NO. 17136

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

14156
085-14W 10 ADB
TRAER TOWN WELL #3

Water Quality
(ppm)

Card Q

State: IOWA 19 County: TAMA 86 Town: TRAER

Well No. 421126N 0922738 Seq. No. 1 Date 080866

Sampling Depth 1277 Type 1 Kx10⁶ pH 7.5 Temp. °F

SiO₂ 7.6 Ca 96 Mg 44 Na 61 K 14

HCO₃ 397 CO₃ 0 SO₄ 242 Cl 8 Source No. 3Q

Card R

Duplicate Columns 1-25 from Card Q

F 11 NO₃ 05 PO₄ B Al Fe 31

Mn 005 Cu Pb Zn

Determined 698 Solids Hardness 420 Non-Carb. 74

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO₃ 326 Free CO₂ SAR

RSC ABS

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

No. S
80

Recorded by: HEXUM

Punched by: MACGOWAN Date: 6-29-72
Published: