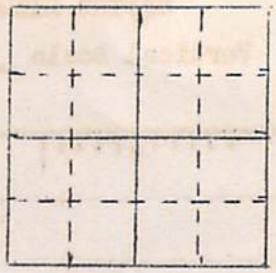
IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-1378

RECORD OF WELL



Location:

Town: Gilman (N E) (S W); County Marshall

NW SESE SE sec. 26 T. 82 N., R. 17 ~~E.~~ W. _____ Twp.

Well name and number Gilman City well

Owner Gilman Address _____

Tenant _____ Address _____

Contractor Hoeg & Ames Address _____

Drillers H. Rhodes

Drilling dates 1940

Well data:

Elevations: Drilling curb 1026 alt feet; Land surface _____ feet

Determined by SEVJ March 14, 1945

Topographic position upland

Total depth: Reported 345' feet; Measured _____ feet

Drilling method cable tool

Hole and casing data 222' of 10" standard pipe 0-222'
(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.)

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

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

Sources of water: Principal Hampton-English R ; Others _____

Production data: Date _____

Static depth to water _____; Measuring point _____

Pumping level _____ at 110 g.p.m.

_____ _____

_____ _____

_____ _____

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

Pump data: Type pump Fairbanks-Morse: 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 _____

WATER ANALYSES (in parts per million)

Date sampled				
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				
Sulphate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location WB2

Sample range 0-345 No. spls. 69 No. dupls & cond. _____

Spls. prepared by Heyden Washed range 200-345 by Opfel

Driller's log and cond. _____

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

Microscopic study 0-345 strip log ✓ notes

Gen. log _____ Correl. by SEH

WATER LEVEL DATA

Measuring point _____

Date	Depth to water	Altitude	Remarks

REMARKS

Well used only during canning season for canning factory. City usually uses springs north of town.

Marshall

April 3, 1952

Mr. H. V. Pedersen
Marshalltown Water Works
Marshalltown, Iowa

Dear Mr. Pedersen:

There is attached hereto a tabulation of measurements of water level in an observation well during the pumping test on the new gravel-packed well for the Town of Gilman, March 31, 1952.

An analysis of these data indicates that water levels during pumping are affected markedly by the limited nature of the water-bearing gravel - several hydrologic boundaries or partial boundaries occur within a radius of 300 feet of the well. Although the permeability seems to be approximately 1,000 gallons per day per square foot, the drawdown will be many times that observed where a similar aquifer is more extensive.

The pumping test indicated that the capacity was in excess of 35 to 50 gallons a minute for 8 hours during the initial pumping period. Inasmuch as the non-pumping water level probably declines seasonally and as at least part of the effect of daily periods of pumping may be cumulative, it seems advisable to observe carefully the water level after the well is put into regular operation.

We thank you for the opportunity to observe this test, and if we may be of assistance at any time, please do not hesitate to contact us.

Very truly yours,

H. G. Hershey

Enclosure

HGH:RMJ:emh

cc: Layne-Western Company
Ames, Iowa

Marshall

March 27, 1952

Mr. H. V. Pedersen
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

Thank you for your letter of March 26 regarding the pumping test at Gilman.

We shall plan to have representatives at the test as this should provide very interesting information. The few data obtained during the testing early in March suggest very strongly that the aquifer is rather sharply limited on at least two sides and that the drawdown will be several times that obtained where these boundary conditions are lacking.

Very truly yours,

H. G. Hershey

HGH:RMJ:emh

MAR 27 1952

H. V. PEDERSEN
SUPT. AND MGR.

MARSHALLTOWN WATER WORKS

MUNICIPAL BUILDING
MARSHALLTOWN, IOWA

March 26, 1952

Mr. R. M. Jeffords
Iowa Geological Survey
Geology Annex
Iowa City, Iowa

Dear Mr. Jeffords:

The Layne-Western Co. is planning definitely to test pump the new gravel packed well at Gilman next Monday, March 31st.

Thought maybe you would like to visit the site sometime during the day in order to observe results. The new well will be 57 feet deep and looks as if it might produce a good 35 G.P.M.

Very truly yours,

H V Pedersen.

H. V. Pedersen

HVP:c

Marshall

March 25, 1952

Mr. H. V. Pedersen, Superintendent
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

Enclosed are reports on the mineral analyses of water from the 57-foot Gilman town well and the O. C. Strangland well, Gilman, as shown by samples collected by Dr. R. M. Jeffords on February 22, 1952.

If you have any questions concerning these reports, please do not hesitate to let me hear from you.

Very truly yours,

H. G. Hershey

Enclosures

HGH:emh

Marshall

January 30, 1952

Mr. H. V. Pedersen
Superintendent and Manager
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

Since our letter of January 22, we have made additional studies of the water-supply conditions in the vicinity of the Gilman well field. Although a considerable amount of information is available now, we are not able to interpret all the data adequately, and so cannot estimate reliably the water-supply possibilities.

The samples of the test drilling contain some coarse sand and pebbles together with silt and clay as indicated on the logs sent to you recently. Because of the methods and techniques used in this test drilling and because certain other detailed information is lacking, we have considerable difficulty in determining the exact nature of the several different layers that were encountered. The driller, of course, was in a much better position to interpret these records as the testing was carried on.

On the basis of the reported yield at two of the holes and the other information, it seems probable but not assured that a small supply of water occurs here. The nature of the most satisfactory installation to develop such a supply at the Gilman area, however, cannot be determined reliably by the Geological Survey without more precise information on the thickness, extent, and permeability of any possible water-bearing beds such as is obtained in carefully planned pumping tests and information on the exact character of each layer of material encountered in test drilling.

I regret that we cannot be of more direct assistance in the problem but I shall be pleased to cooperate with you and the drilling contractor insofar as practicable in any further attempts to obtain a satisfactory water supply for Gilman.

Very truly yours,

H. G. Hershey

HGH:RMJ:emh

Marshall

January 22, 1952

Mr. H. V. Pedersen
Superintendent and Manager
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

The samples on test holes 1 through 7 at Gilman were recieved yesterday, and copies of our geologic logs are enclosed.

We have not yet completed our review of local conditions at Gilman, and the interpretation of the test drilling is still somewhat uncertain. However, I am to be in Des Moines Monday evening, January 28, and if convenient with you, Dr. Jeffords and I can stop in Marshalltown that morning to discuss the situation and to consider a date for the conference with the town officials.

The seriousness of the local problem at Gilman is recognized, and we are desirous of assisting in the solution in any practicable way. In view of the limited information and uncertain nature of some of the data now available on the geologic and hydrologic conditions, however, it may not be possible for us to recommend any definite solution.

Very truly yours,

H. G. Hershey

Enclosures

HGH:RMJ:emh

H. V. PEDERSEN
SUPT. AND MGR.

MARSHALLTOWN WATER WORKS

MUNICIPAL BUILDING
MARSHALLTOWN, IOWA

January 21, 1952

Dr. G. H. Hershey
Iowa Geological Survey
Geology Annex
Iowa City, Iowa

Dear Mr. Hershey:

This letter refers to the Gilman situation.

I have been assured that the test hole samples have been shipped and that they should be in Iowa City by now. I hope this is correct for I was so informed once before.

Just as soon as your laboratory has had time to check the samples, I wish to arrange a conference at Gilman with Mr. Jefford, the town council, the Layne-Western Co. and myself in attendance. The town of Gilman is suffering from a shortage of water and the council has become quite concerned, but due to the fact that I am in doubt as to the area tested, I hesitate to venture a definite recommendation.

Will you please let me know as soon as possible whether Mr. Jefford could be ready to attend such a conference so I can make the arrangements? The situation is acute and the problem is not simple. An adequate supply of water could, of course, be developed if the cost was not an issue, but since the finances of small towns are limited, the problem is to get the most for the money available and sometimes it it necessary to make carefully thought out decisions.

I will appreciate hearing from you relative to the date of a conference at Gilman.

Very truly yours,

H V Pedersen

H. V. Pedersen

HVP:c

H. V. PEDERSEN
SUPT. AND MGR.

MARSHALLTOWN WATER WORKS

MUNICIPAL BUILDING
MARSHALLTOWN, IOWA

December 20, 1951

Dr. G. H. Hershey
Iowa Geological Survey
Geology Annex
Iowa City, Iowa

Dear Mr. Hershey:

In this letter I am asking a favor.

We have been helping the town of Gilman, Iowa develop a better water supply and for a time it looked as if we were going to be lucky. Then, due to circumstances which are difficult to explain in detail in a letter, a well which the Layne-Western Co. made proved a failure.

Such experiences usually end in controversy and so, to help come to a conclusion, I am asking you if you would please let Mr. Jeffords pay us a visit. I ask for Mr. Jeffords especially because it was he that made a survey of Marshall County and is familiar with the Gilman situation. I would like to meet Mr. Jeffords here in Marshalltown on the earliest date he could make it, so I can go over the data and explained what happened. Then I would like to take him to Gilman where we would go over the ground together with members of the council and the well drillers.

If Mr. Jeffords could not arrange to pay us a visit between Christmas and New Years, would you please let him come up here as soon after Jan. 1st as possible? I hope you can do this for us and that Mr. Jeffords is willing.

Wishing you a Merry Christmas and a Happy New Year, I am

Sincerely yours,

HVPedersen

H. V. Pedersen

HVP:c

H. V. PEDERSEN
SUPT. AND MGR.

MARSHALLTOWN WATER WORKS

MUNICIPAL BUILDING
MARSHALLTOWN, IOWA

December 20, 1951

Dr. Russell M. Jeffords
Iowa Geological Survey
Geology Annex
Iowa City, Iowa

Dear Mr. Jeffords:

I have just asked your boss, Dr. Hershey, if he would let you pay me a visit here in Marshalltown, at your earliest convenience. We have run into some difficulties at Gilman and I would like to go over all the data with you and explain what happened. It's too long a story to try to cover in one letter.

I asked the Layne-Western man last evening if they had ever sent the samples of the several test holes into Iowa City. They did not know, but would check to see and have them shipped immediately. If you should be able to check these samples before you visit us, it might help solve our problem.

I hope you will be willing to make a trip up here if Dr. Hershey will O.K. such a trip. I feel you know more about this area than any other geologist and that you would be able to analyze the situation and render an opinion.

If you could come up between Christmas and New Years, let me know the day before and I will be ready. If you wish to wait until after Jan. 1st, that will be O.K. Just so you could come as soon after the first as possible.

Wishing you a Merry Christmas and Happy New Year, I am,

Sincerely yours,

H. V. Pedersen

H. V. Pedersen

HVP:c

Marshall

November 8, 1951

H. V. Pedersen, Supt. & Mgr.
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

Thank you very much for your letter of November 7, 1951, informing us of the progress made on the well being drilled for the Town of Gilman. Because of Dr. Hershey's absence from the office until November 12, 1951, I am replying for him.

We are anxious to obtain data on this well and plan to have a representative of the Survey visit the well site on Friday, November 9, 1951.

Very truly yours,

William E. Hale

WEH:ges

H. V. PEDERSEN
SUPT. AND MGR.

MARSHALLTOWN WATER WORKS

MUNICIPAL BUILDING
MARSHALLTOWN, IOWA

November 7, 1951

Prof. H. G. Hersey
Iowa State Geological Survey
Geology Annex
Iowa City, Iowa

Dear Mr. Hersey:

The Layne-Western Co. has been drilling a well for the town of Gilman, Marshall County, Iowa, and should be ready to test pump it by the time you receive this letter. The driller is supposed to call you when ready, but I thought it best to notify you by letter. I know you will want to obtain the dope on this well as Gilman has been in a bad way for water for several years.

I hope you will have someone available to visit this well site in order to obtain first hand information you would like for your records. The well is approximately 40 feet deep, 16 feet of 10 inch screen inside a 30 inch hole which will be gravel packed. We all hope this well will produce a good 50 G.P.M.

Very truly yours,

H V Pedersen

H. V. Pedersen

HVP:c

Monsalle

January 21, 1952

Mr. Frank H. Flores
Layne-Western Company
Box 662
Ames, Iowa

Dear Mr. Flores:

In response to your letter of January 19, we are sending under separate cover a supply of sample sacks and log books.

We shall process and study the samples of drilling at Gilman as soon as possible. Mr. Pedersen has contacted us on the problem at Gilman, but only preliminary study was possible before examining the samples. When these data are on hand, we shall be able to discuss the situation more adequately with you and the town.

The detailed information on the several wells and test holes is greatly appreciated; your cooperation in this phase of activity adds materially to the knowledge of water-supply and geologic conditions in the State. Whenever we may be of assistance, please do not hesitate to call on us.

Very truly yours,

H. G. Hershey

HGH:RMJ:emh

JAN 21 1952

AFFILIATED WITH
LAYNE & BOWLER, INC.

Layne-Western Company

WATER WELL DRILLING
EXPLORATION BORINGS AND TEST SURVEYS
LAYNE TURBINE PUMPS

TELEPHONE 3470

OFFICES
KANSAS CITY, MISSOURI
WICHITA, KANSAS
OMAHA, NEBRASKA
AMES, IOWA
AURORA, ILLINOIS
ST. LOUIS, MISSOURI

SOUTH DUFF STREET
P. O. BOX 662
AMES, IOWA

January 19, 1952

Iowa Geological Survey
Geology Annex Bldg.
Iowa City, Iowa

Attention: Dr. H. G. Hershey

Gentlemen:

We have forwarded via railway express samples of drill cuttings from the following wells:

Iowa Southern Utilities Company, Eddyville, Iowa, Town of Gilman, Iowa, Dr. H. G. Buck Farm, 2¼ miles south of Kelley, Iowa, Ft. Dodge, Des Moines, Southern Railway Co., Fraser, Iowa, Town of Carlisle, Iowa, Dr. Salsbury's Laboratories, Charles City, Iowa, Fairmont Foods Company, Webster City, Iowa and the City of Ames.

We are enclosing herewith logs of these various holes together with additional information that is available at this time. There are some of the samples forwarded to you for which we have not as yet prepared the logs and when this information is available we will forward it to you.

Undoubtedly you have been contacted by the Town of Gilman, Iowa, and these samples were included with the recent shipment to you. You will find enclosed a rough sketch of the location of these test holes together with a log of each hole. The Town of Gilman is anxious to select a location for a well and we would appreciate your cooperation in examining the cuttings from this test drilling at an early date so as not to delay progress of the work.

logs, etc, removed for files

Layne-Western Company

We seem to be entirely out of sample sacks and would appreciate your sending a supply of these sacks to us as quickly as possible.

Very truly yours,

LAYNE WESTERN COMPANY

Frank H. Flores

FHF:be

Marshall

January 4, 1952

Mr. H. V. Pedersen, Supt.
Marshalltown Water Works
Municipal Building
Marshalltown, Iowa

Dear Mr. Pedersen:

Dr. Jeffords has informed me that we have not yet received the drill cuttings from Gilman. As you know, the cuttings may be helpful to us in continuing work with the existing problem there. Just as soon as we receive them we will make an examination and get in touch with you.

I am writing this with the thought that you may wish to know the present status of this situation.

Very truly yours,

H. G. Hershey

HGH:ges

DEALERS IN
PUMPS AND
AIR-MOTOR
WINDMILLS

HOEG & AMES

WELL CONTRACTORS

LINCOLN, IOWA

PUMP
AND
WINDMILL
REPAIRING

May 12, 1941

well drilled - see water sample data sheet #1

Dr. H. G. Hershey,

Iowa City, Iowa.

Dear Sir:

We are drilling a well for the town of Gilman, Iowa, and we are saving samples this time from the top of the ground down.

If you can, I wish you would give me all the information you have about what formations we will have and at what depth, and also about where we might get some water and what quality of water. The people in town are afraid the water won't be fit to use after we do get it.

The Melbourne water is not too good and that is west of us. I believe the Grinnell water is not so good either. You know more about those wells than we do, so I wish you would give us the information you can.

I told the town Council about the only thing we could do if we should get bad water would be to case it out and go on down until we would get better water. What do you think of this idea?

I would also like to have some information on the formations at LeClaire, Iowa. They are planning to drill a well and I would like to bid on it. According to the specifications they are going down to St Peters sandstone which is supposed to be between 640' and 670'. What I am mostly interested in is how far it is to the first layer of rock.

The following is more information on the well at New Providence, Taken from a record that Whitey gave me:

DEALERS IN
PUMPS AND
AIR-MOTOR
WINDMILLS

HOEG & AMES

WELL CONTRACTORS

LINCOLN, IOWA

PUMP
AND
WINDMILL
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Glacial Drift 0--196

Black Shale 196--315

Limestone 315--365

Shale & bands of limestone 365--650

Good Rock 650--832

There is 240 ft. of 8" pipe, that is as far as he could get that, then when he got to 315 ft. he thought the rock would be good so we put in 6" pipe, 89 ft. of this. We drilled on down to 805 ft. before we got any water, so we decided to pull the 89 ft. of 6" out and case it way up, but could not pull it, so we ran 5" pipe from 805 up above the 6" pipe and ran 6" from there up to the top. The pipe at 805 ft. is perforated, a coupling above the perforations and a canvas packer around that. Then we drilled into the rock to 832 ft., the total depth of the well. The well is cased from the surface of the ground to 805 ft., and the only water getting into this well is from 805' to 832'.

If you can't make this all out, I will explain it to you the next time I see you.

If you get anywhere around Gilman, we would like to have you stop. We are working in the town park.

I will appreciate the information and thanks very much.

I hope I can return the favor sometime.

Yours very truly,

Sylvan R. Ames

DATA FOR FORECAST OF SUBSURFACE GEOLOGY AND WATER CONDITIONS AT GILMAN, MARSHALL CO.

Gilman has a population of 428 (1930). Elevation 1037' M. & St. L.

GEOLOGY:

Gilman is on Kansan drift, just south of an Iowan lobe. Vol. 21 mentions that bored wells near Gilman are common to depths of 100'; also a Charles Coulbrom farm well in the N½ sec. 32 (3 mi. W. of Gilman) is reported as having had 207' of drift above bed rock.

The bed rock should be Hampton: dolomitic limestones, oolitic at the top, with cherty dolomite at the base. At an elevation of +673' (=depth of 364' from a standing elevation of 1037') should be the bottom of the Hampton and below it the green Maple Mill shale, which may have 5 to 20' of siltstone at the very top (English River).

At an el. of +506' (depth of 531') should be the top of the Devonian limestone, the uppermost 140' of which is the Lime Creek formation. The Lime Creek consists of limestone and dolomite in the upper half and dolomitic shales, with thin dolomite beds, in the lower half. At +365' (depth of 672') begins the Cedar Valley, limestone and dolomite with a small amount of gypsum, and below that the Wapsipinicon dolomite with a great deal of gypsum.

The Wapsipinicon base may be marked by a thin layer of sandstone and red and green shale. Below the Wapsipinicon should be 125 to 150' of Silurian dolomite with much chert.

At -120' el. (depth of 1157') is the top of the Maquoketa shale, green above, becoming dark brown at the base, and with possible thin dolomite beds near the middle.

At -360' el. (depth of 1397') should be the top of the Galena dolomite. At -680' el. (depth of 1667') should be the St. Peter.

WATER CONDITIONS:

DRIFT: The folder contains a water analysis of a Gilman public supply 27' sand point producing from Pleistocene sand and gravel.

Vol. XXI reports Gilman as having a small waterworks system supplied by springs. The volume reports also that bored wells producing from the drift are common in the vicinity. Drift water at Marshalltown is said to be high in iron.

MISS.- The Charles Coal from farm well mentioned in vol. XXI (3 mi. W. of Gilman) produced a "strong flow" of water from an oolitic limestone (Hampton). The well was 308' deep, hit bed rock at 207'.

Vol. XXI reports that a large number of rock wells in Marshalltown produce from the Hampton limestone and have water of "ideal purity" but very hard.

The Marshall County Farm well is 328' deep producing Miss.

water ~~for~~ of which an analysis has been made. The water is quite hard.

The Melbourne School well is 405' deep, producing from Miss. ls. and possibly Penn., at 7 g.p.m. A water analysis has been made. The water is very hard.

The Melbourne City well had water from the Miss.; a driller's report on a pumping test when the well was at a depth of 507' (at the top of the Maple Mill) gives the following information: SWL 138', pumping level 200, DD 83', production 11 g.p.m.

PRE-MISS.-

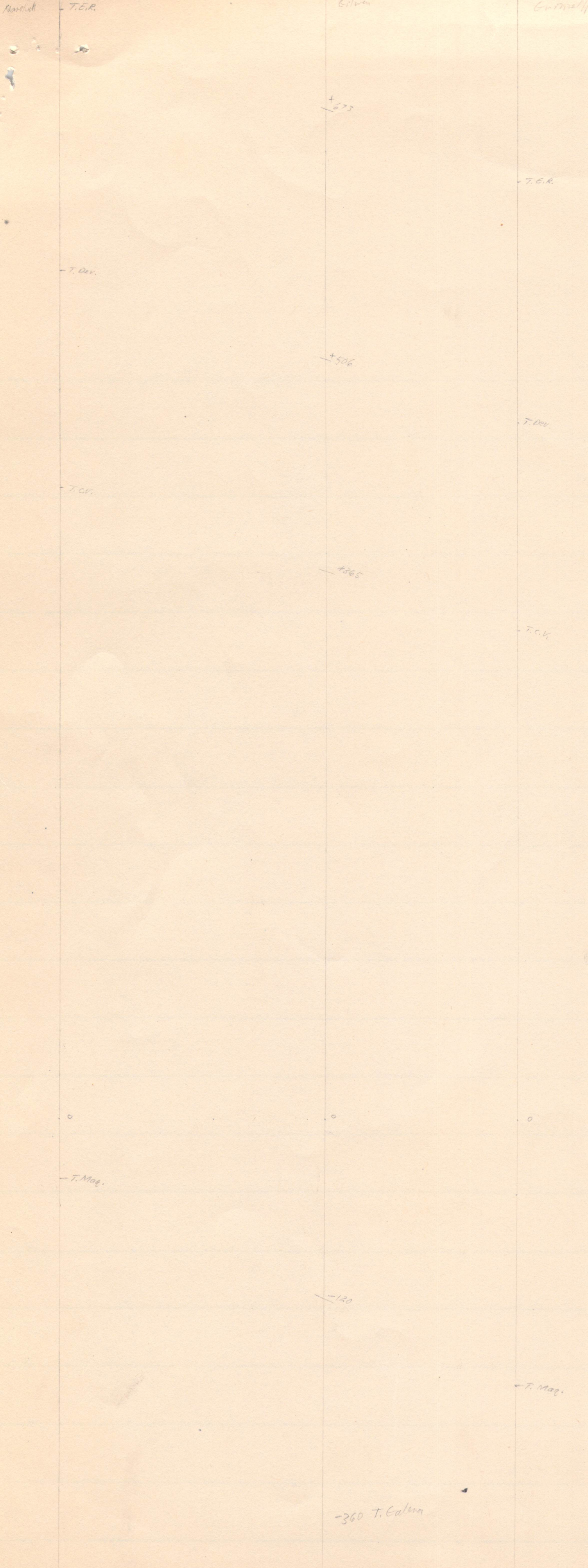
At a depth of 1110' in the Melbourne well, near the base of the Wapsipinicon, the drillen reported: SWL 147', pumping level 277', DD 130', production 12 g.p.m.

A pumping test taken by W.C. Schuldt of the Iowa Survey when the well was 1340' deep (into the top of the Maquoketa) gives: SWL 202', pumping level 208', DD 6', production 54 g.p.m. A water analysis was made - it is very hard and high in iron.

A well at Gilman would undoubtedly have gypsum in the Devonian which would probably make for bad water.

The Grinnell City wells had very bad Pleistocene water, some water in the Galena, and the main supplies from the St. Peter, Willow River, and Jordan. A minor amount of water occurred in the New Richmond. The static water level in the #6 well was 258' below curb,

continuous pumping lowers the water 35', and the capacity is 500 g.p.m. or more. Water analyses have been made.



925
885
40'

Marshalltown
885
T. English R. 740'
T. Dev. 565',
T. Maq. -40'
T. C.V (?) +420

885
320
565

Grinnell
el. 1013
T. English R. 623'
T. Dev. ls. 463
T. Maq. -177
T. C.V. +325

1013
390
623

1013
550
463

1190
1013
-177

1430
1190
240

1013
688
+325

885
465?
+420

Gilman el. - 1037' M.&St.L.

1037
365
672

1037
630
1667

1037
506
531

120
510
630

1700'
1190
510

630

1037
673
364

1037
360
1397

1037
120
1157

June 5, 1941

Dr. Hershey:

The sample from 320' is "in the process of being analyzed"--R. R. Koontz.

The sample from 345' is in the two-quart container in the hallway. Mr. Koontz said to"hold" it until next week.

KN

June 17

Mr. Ames called. Mr. Koontz reports that pH + Alkalinity are the only results so far.

H.

June 5, 1941

Mr. S. R. Ames
Lincoln, Iowa

Dear Sir:

Your letter of June 4 and the water sample from a depth of 345' in the Gilman well have been received.

Dr. Hershey is away on vacation at the present time, but will return the first of next week.

The analyst at the Water Laboratory will complete the analysis on the 320' sample just as soon as possible and a copy of the report will be sent to you.

Very truly yours,

Secretary

KN

DEALERS IN
PUMPS AND
AIR-MOTOR
WINDMILLS

HOEG & AMES

WELL CONTRACTORS

LINCOLN, IOWA

PUMP
AND
WINDMILL
REPAIRING

June 4, 1941

Dr. H. G. Hershey
Iowa City, Iowa

Dear Friend Doc.

A couple of weeks ago I sent you a sample of water from the well we drilled at the town of Gilman to be analyzed, but to date have not heard from you.

The sample was taken when we were at a depth of 320'. The static level was 100' with a drawdown of 70' pumping at the rate of 90' gal. per min. so we figured if we drilled deeper we might get more water. We drilled to a depth of 345' and went thru the rock, so we tested again and this time we pumped 110 g.p.m. with a drawdown of 70'. The 110 g.p.m. was all we could pump with the test pump we were using.

I am sure this well will produce 150 g. p. m. and I think that is pretty good for that territory.

I sent you another sample yesterday, that was taken at a depth of 345'. We thought there may be a difference in the water.

The fellows at Gilman are quite anxious to hear about these analysis, so would appreciate hearing from you as soon as possible.

If there is any further information you would like on this well, please let me hear from you, and thanks for everything you have done for us.

Yours very truly,

S. R. Ames

S. R. Ames

JUN 5 1941

March 14, 1945

Gilman, Marshall Co.
Gilman town well in Park
Loc NW SE SE SE 26-82-17
Elev use 1026

	time	Reading			
sta	12:20	1273	-242	1031	
well	12:23	1269	-243	1026	Note below
sta	12:25	1275	-244	1031	
sta	12:25	1275	-244	1031	
well	12:27	1264	-243	1021	X
sta	12:29	1273	-242	1031	

Town Clerk Etna Spencer (postmistress) water superintendent the blacksmith

Well is located SW of RR. tracks in the park across from the station.

The town water supply comes mainly from springs north of town. However, there is a canning which the town supplies with water. During the season the well is used for the canning Co.

Note

No thermometer but temps about 60° hence no change

1379

Name Gilman city well

Loc NE SE SE 26-82-17W Marshall Co.

T.D. 345'

Drilled Hoeg & Ames 1940

Log W-1378 Harris

Casing 222' of 10" std. pipe, 0-222'

Prod. data

SWL 101'

PWL "Very little d.d."

Yield 110 gpm April 4, 1959 capable of pumping 200 gpm.

1026
100
926

Water analyses: No. 1760(1096) 4/29/59, No. 1868 7/21/49

Need: PWL

15HP-TUR-Pump
(Rust) STANDBY only 8/3/62

Main source = 6 SAND POINTS 2½ Mi. N. OF TOWN - T.D 30-35'
PUT IN BY WHITNEY

Elev. 1026'

Formation	Depth	Top	Base	Thick
Burl.	200	826	801	25
Gl. City	225	801	790	11
Hampton	236	790	756	34
Maynes Crk.	270	756	722	34
No. Hill	304	722	717	5
Bros. Hill	309	717	696	21
McCraney	330	696	686	10
Maple Hill	340	686		

340
200
140

W-1681

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey Number W-1378

Town Gilman County Marshall T. 82 N., R. 17 W.

Name gilman city well Location NW SE SE ¼ SE ¼, Sec. 26

Contractor Hoeg & Ames, Driller H. Rhodes Use City supply

Construction Drilled Drilling Dates _____ Drilling Depth _____

Topog. upland Curb Elev. 1026 Ref. alt SE Mon. Total Depth 345'

Final Static Level _____ above / below curb Pumping Level _____ Draw down _____ gpm 110 Time pumped _____ Date _____

Depth to bot. pump _____ ft. with _____ ft. suction pipe. Calc. g/ft. drawdown _____ 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

110 gpm Fairbanks-Morse pump.

Casing: 222' of 10" standard pipe from 0-222'

Laboratory Data

Sample range 30-345

Number samples 69 Number Duplicates — Cond. —

Log Yes / No, Cond. _____ Boxed Hoyt Range 4-27-43 Date _____

Remarks gap 335-40

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

IOWA GEOLOGICAL SURVEY
Iowa City, Iowa

DRILLING RECORD

Folder

Contractor: Hoeg and Ames, Lincoln
Driller: Homer Rhodes

Gilman Town Well

222' 10" Std. pipe
345' deep
110 g.p.m., Fairbanks Morse Pump

IOWA GEOLOGICAL SURVEY
Well or Water Sample Data Bottle No. _____

TOWN Gilman COUNTY Marshall

LOCATION _____ Sec. ____ T. 82 N. R. 17 W. Green Castle Twp.

OWNER OF WELL Town of Gilman Well No. _____

USE OF WATER: City Supply ( ); Private-Domestic ( ): Public Drinking ( ); Livestock ( ); Industrial ( ); School Supply ( ); Air Conditioning ( ); Cooling ( ); Testing at present (×).

CONSTRUCTION OF WELL: Drilled (×); Gravel-Pack type ( ); Driven ( ); Dug ( ); Bored ( ); Jetted ( ) _____ ( ).

CONTRACTOR Hoag & Ames, Lincoln DATE STARTED
DATE FINISHED May 17, 1941

CASING OR CURBING DATA: (Show by diagram on opposite side of sheet the kind, length and depth of top and bottom of each size of pipe, the amount of overlaps, position of seals or packers, pipe perforation and screens, etc.)

WELL DATA

Curb Elevation _____ Ft. Present Depth _____ Ft. Final Depth 320 [*] Ft.

Ground Elevation _____ Ft. Topographic Position _____

Static Level (Depth to Water (Above) (Below) Curb) 101 [*] Ft. Pumping Level 160 [*] Ft.

Amount of Drawdown 59 [*] Ft. pumping at 100 [*] g.p.m. in ___ hours ___ minutes.

Calculated gals. per ft. drawdown ____ g.p.m.

Type of Pump _____. Power _____.

Depth of Bottom of Pump _____ ft. with ____ ft. of suction pipe.

TEMPERATURE: Air ____ °F.; Water ____ °F., measured after well had pumped _____ hrs. ____ mins. at _____ g.p.m.; _____ ft. from pump after waterhhad passed through the following pipe _____ Time _____ (A.M.) (P.M.)

SOURCE OF WATER: Recent (Type and Depth) _____

Glacial Formations (Type) _____ at ____ ft. to _____ ft.

Limestone or Dolomite (Age) _____ at ____ ft. to _____ ft.

Sandstone (Age) _____ at ____ ft. to _____ ft.

Principal Producing Formation _____

REMARKS Additional data to be furnished.

[*] Information from S.E. Ames

Sample taken for: Mineral Analysis (×); Sanitary Analysis ( ).

Data Collected by Sylvan E. Ames for H. G. Hershey; Date May 17, 1941

Report Analysis to H. G. Hershey, Iowa Geological Survey, Iowa City

(see also) W-1681

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey Number W-1378

Town Gilman County Marshall T.___ N., R.___ E. W.

Name (Town Well Location ___ ¼ ___ ¼, Sec. ___

Contractor Hoeg & Ames Driller Rhodes Use ___

Construction Drilled Drilling Dates 1941 Drilling Depth ___

Topog. ___ Curb Elev. ___ Ref. ___ Total Depth ___

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

Depth to bot. pump ___ ft. with ___ ft. suction pipe. Calc. g/ft. drawdown ___ 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 Note! Spls. from 315 - T.D. obtained later and filed as W-1681. There is only one well, however.

Laboratory Data

Sample range 0 - 315 Number samples 65 Number Duplicates 65 Cond. Fair

Log Yes / No, Cond. ___ Boxed Summerford Range 0-315 Date May 29 1941

Remarks ___

Microscopic Study Range ___ Strip Log ___ Gen. Log ___ Blue Print ___ Samples Washed ___

Insol. Res. Study Range ___ Strip Log ___ Gen. Log ___ Insol. Res. Prepared ___ Well Corel. ___

Sheet No. 1 Name of Well Gilman City Survey No. W-1328

Location Date Drilled Analyst S.E.M. Jr.

Depth	Description
00	soil brn silt & some sd noncalc tr ool
-2	loess, holey yel gr mot orange nonc, silt
	loess yel micac silt
10	silt (loess or till?) yel gr, most silt nonc
	clay medbrn nonc ~~might be sh~~
20	clay ditto yelish brn
	clay drb brn nonc some mic tr qtz grains
30	Till (Gumbotil) brn gr w. or mots, nonc, few qtz grains, dnse, fn
	Till gr brn, nonc, sdy qtz grains ~~pbls~~
40	Till lt drb brn, nonc or mots sdy qtz
	Till drb, v. sdy gumb or ox, & ~~un~~leached
50	Till ox & leached sdy & fn pbls
	Till ox yel some drb, sdy sltly calc
60	Till, dk yel, sdy ox unleach
	Till ditto tr sd & pbls
70	Till ditto but much more sdy & pbly
	Till yel drb, sdy & pbly
80	Till med gr un ox & unleach v. pbly abd't cal pbls
	Till partly ox ditto v. pbly
90	Till drb gr pbly
	Till yel ox but unleached pbly ig & calc
100	

Sheet No. 2 Name of Well Gilman City Survey No. W-1228

Location ..... Date Drilled ..... Analyst S.S.H.

100	Till, drb gr pbly Fresh
	Till ditto some yel ox
10	Till brn, med sd in silty clay
	Till dk gr brn sdy. pbly
20	ditto
	ditto
30	ditto
	ditto pbly
40	ditto cht - looks like Maynes Crk type
	ditto less pbly
50	Till brn mostly silt, ~~sme~~ sdy
	Till ditto
60	ditto
	ditto
70	ditto more pbly
	ditto pbly
80	ditto pbly
	ditto pbly
90	Till brn mostly clay & silt
	Till lt med brn sltly pbly
200	

Sheet No. 3 Name of Well Gilman City Survey No. W-1328

Location ..... Date Drilled ..... Analyst JEH

200

Ls, v. lt gr, fn, frag. ab'd't cht spics
cht, wh, conch 25 g lauc badly weath

Dolo lt tan, fn med, xtln g lauc
cht wh to lt brn, conch, op irreg 30 cht spics

10

Dolo lt tan, fn xtln
Ls, lt gr cht spics 10
cht ditto 15

Dolo, gr brn, fn med, v. g lauc
Dolo crm brn, fn g lauc silic spics 40
5-10% cht wh & lt gr, transl, cong

20

Dolo, ditto g lauc
py 5%

Ls, crm brn, frag, some xtln cri 60

Ls ditto & oolitic some concent cri brach sd glac

Dolo 10% tan fn xtln chty

30

Ls, ditto frag & oolitic some concent, some not, cri, brach
Dolo tan, fn xtln 15%, altered from ls chty
cht tr wh, conch & watery banded (spherules?) transl much sd

Dolo tan, fn to fn med xtln, calcite emb remnants of cal ool emb
Ls oolites 5%

40

Dolo tan ditto cal emb
Dolo 20 + cal xtls (large) fn med, gr brn & dk gr.
ls crm frag & ool, cal rh 50

Dolo, tan brn fn & fn med w cal rh marc

Dolo dk brn gr, cal rh 20 Ls frag gr gr & brn ool 20

50

Ls crm gr brn frag 70
Dolo drb brn fn xtln, fos cri brach marc glac sd

Dolo tan + bff brn, fn xtln, fn xtln, calc
Ls 25 lt brnish gr, frag, ool ; Dolo 20 brn, fn xtln dnse

60

Ls, lt brn, fn xtln small oides, cal

Dolo brn fn dnse 10 cht tr wh, conch, op

Ls crm tan, fn med xtln & frag ab'd't brachs & cri

70

Ls, lt brn, v. arg cht drb, conch, op 5%

Ls, lt brn, wh dolo rh emb
cht, v. lt gr to v. lt drb mot wh, conch some slily trip

Dolo, tan, fn xtln sacch to dnse 15-20% much cal rh
cht ditto trip to fresh

80

Dolo, drb bff, gran fn med calcite
cht, lt gr to lt drb, conch, op to transl 5% still sd

Dolo ditto cal rh
cht ditto & irreg 25% one piece brn

90

Dolo bf t, sacch, fn med
cht lt gr to lt drb conch fresh 25%-30% partly trip

Dolo ditto

cht 40%

300

Sheet No. 4 Name of Well ..... Survey No. W-1328

Location Gilman ..... Date Drilled ..... Analyst S. Harris

3 00

Oolo ditto pyrc spks
Ls, cal matrix wh to crm ool & pseudoool rather large wh cal
Cht - 5%

Ool crm ab'dt clear cal py emb
Dolo tan, fnxtln 20
s/s, gr, blk spk (px) arg sl/y dolo 15%

10

Ool ditto pyrc spks
s/s ditto v. pyrc spked 70%

s/s to v. fn ss, spked marc
ls ool 15%

3 20

siltst. gr., arg, calc sd fn & med sd, tr
Cht, wh, rough tr
ls ool & pseud ool crm prob cave 15% py
siltstone ditto
ls ool ditto 15%

30

py

Oolomite, med brn, dnse, fn xtln
ls, crm with brn dolo rk some ools 15%
slt st (cave, 0%

40

Sh, H. grn, lam. v. sl/y dolo
brn spores

50

60

70

80

90

00

- Marshall

Notes on Gilman City Well W-1378

Gilman, Marshall Co.

Two different numbers were given to this well because the samples were received a long time apart. The whole set is now designated W-1378.

Pleistocene

Gilman is situated in the Kansan area between the two lobes of the Wisconsin. About 15' of Peorian loess overlies 15' of clay and silt which appears to be a lake deposit of some sort.

The rest of the drift to 200 feet is Kansan. All stages of weathering from gumbotil to fresh till are present. No gravels were observed.

S. E. Harris, Jr.
March 2, 1944

Survey No. W-1378

Mississippian

The Mississippian section is similar to that observed in the other wells of Marshall County.

Keokuk - Bedrock is cherty fragmental limestone carrying an abundance of siliceous chert spicules. The limestone, only 5 feet thick, lies on a very glauconitic dolomite similar to that of nearby wells called Keokuk.

Gilmore City - Fifteen feet of Gilmore City is represented by fragmental limestone with large calcareous oolites and pseudo-oolites. Some dolomite in these samples is very siliceous. When Laudon was here in January 1944 he expressed the opinion that Gilmore City could not be Burlington equivalent. His basis of judgment is paleontologic. From lithology alone it appears to Hershey, Anderson and me that the fragmental limestone occurring with the oolites looks like Burlington. (Of course, in some wells there is a fragmental limestone apparently in Keokuk that looks just like Burlington.) More wells southward from Gilman seem to be needed to solve the problem.

Hampton - The Hampton becomes thinner southward across Marshall County and is even thinner at Grinnell #6. All four members are present but thin compared to the type area. Laudon mentioned briefly that he now thought his Hampton is all wet but didn't say what he would do with it. Some people have expressed the view that Hampton or part of it is Chouteau and others that it is Burlington. No convincing evidence has been presented except that most people agree that Chapin belongs in Chouteau including Laudon.

At Gilman both Eagle City and Chapin oolites are present.

English River - Beneath the Chapin is 20 feet of sandy siltstone similar to that at Clemons (but thicker) and at Grinnell. It is almost exactly like that in southeast Iowa. In this well 5 feet of dense brown dolomite lies between the siltstone and Maple Mill shale. Just what this is I don't know unless it is Louisiana-McCraney. No such limestone is observed at Grinnell.

S. E. Harris, Jr.
March 2, 1944