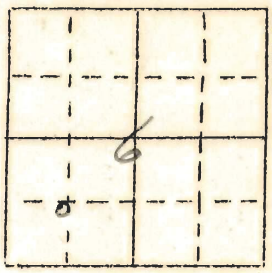
W-1525

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

RECORD OF WELL



Location:

Town: Earlham (N E / S W); County Madison

SE¼ SW¼ SW¼ sec. 6 T. 77 N., R. 28 ~~E.~~ W. Madison Twp.

Well name and number Earlham Town Well #2

Owner _____ Address _____

Tenant _____ Address _____

Contractor Thorpe Well Co. Address Des Moines

Drillers _____

Drilling dates completed Dec. 8, 1910

Well data:

Elevations: Drilling curb 1105 feet; Land surface _____ feet

Sept. 20. 1946 - 1106. Aneroid - (Bell. C.R.I. & P. R.R. Sta.

Determined by _____

Topographic position _____

Total depth: Reported 603 feet, Measured _____ feet

Drilling method cable tool

Hole and casing data 12½ to 6-inch hole.
(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.)
451'4" of 8" pipe set at 449' (15 sacks cement back of 8" liner.
52'7" of 6" pipe from 432'5" to 485' (5 sacks of cement back of 6" liner)

Original depth to water 300 ft. ~~above~~ below curb Date _____

Original elevation of water level 805 ft.; Source of data _____

Sources of water: Principal _____; Others _____

Production data: Date _____

Static depth to water 300 Measuring point _____

Pumping level 480 at 40 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 da

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				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location _____

Sample range 0 - 535 No. spls. 96 No. dupls. & cond. 64 v. poor

Spls. prepared by Hawkins Washed range _____ by _____

Driller's log and cond. Yes

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

Microscopic study Allison strip log Allison

Gen. log _____ Correl. by _____

W-1525

R-1-B

THORPE BROTHERS WELL COMPANY

2340 Sixth Avenue

DES MOINES, IOWA

W-1525

Drilled for Town of Earlham *at* Earlham, Iowa

Drilling started _____ *19* ____ *Completed* Dec. 8th 1940 *19* ____

Well No. 2 *Kind of Well* _____ *Depth* 603' *Size hole started* 12½ *in.*

Finish 6" *G. P. M.* 40 *Static head* 300' *Drawdown* 180'

Water was first encountered at _____ *in* _____ *Approximate Amount* _____

Remarks 5 sacks cement back of 6" liner

15 " " " of 8" liner

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
8"	451'4"	449'	Surface			
6"	52'7"	485'	432'5"			

Driller _____ *From Surface to* _____ *feet*

Driller _____ *From* _____ *feet to* _____ *feet*

Driller _____ *From* _____ *feet to* _____ *feet*

AMOUNT IN FEET	KIND OF SOIL OR FORMATION	TOTAL DEPTH FEET
5	Black top soil	5
55	Yellow clay	60
65	Blue shale	125
33	Lime & shale	158
7	Red shale	165
75	Shale & lime rock	240
13	Shale	253
2	Lime rock	255
30	Black shale	285
10	Shaley lime	295
105	Shale	400
5	Red shale	405
20	Brown shale	425
15	Red shale	440
3	Sandy blue shale	443
8	Limerock	451
34	Sandy shale	485
59	Sandstone	544
6	Shale	550
53	Sandy lime	603

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey Number W-1525

Town Earlham County Madison T. 77 N., R. 28 W.

Name Town Well #2 Location SE ¼ SW ¼ SW ¼, Sec. 6

Contractor Thorpe Well Co. Driller _____ Use City Supply

Construction drilled Drilling Dates completed Dec. 8, 1940 Drilling Depth _____

Topog. _____ Curb Elev. 1106.1 Ref. _____ Total Depth 603'

Final Static Level 300' above / below curb Pumping Level _____ Draw down 180' gpm 40 Time pumped _____ Date _____

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

Producing Horizons _____

Water levels and pumping tests on various horizons during drilling:

Depth Range	Stat. Level	Pump Level	Draw down	g.p.m.	Temp.	Producing horizons	Producing formations	Formations cased out

Additional information 9/20/46 High Lift Pump - Set at 505' - Temp. 60.5°F. - G.P.M. 45 timed into 3 gal. pail - (Reported from Geo. Shaw, Supt.) - Pump pumps 55 min. before Sucking Air. - School uses 225,000 gal., Feed Co. + P.O. uses 65,000 gal., Each Meter house (Approx. 250) uses 4,000 gal. each 3 months.

Laboratory Data

Sample range 0'-535' Number samples 96 Number Duplicates 64 Cond. Very poor

Log (Yes) No, Cond. poor Boxed Hawkins Range 0'-535' Date 4/1/42

Remarks gaps: 150'-155', 475'-517' No cut for 6 UF because material in duplicate samples was too small in amount.

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

WALTER L. BIERRING, M. D.
COMMISSIONER

State of Iowa
Department of Health
Des Moines

DIVISION OF
PUBLIC HEALTH ENGINEERING
AND INDUSTRIAL HYGIENE

September 26, 1940

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

Dear Dr. Hershey:

The Town of Earlham is going to drill a new well in the immediate future. The present well has evidently caved in with the result that sufficient water is not available to supply the pump at all times.

Our records show that the present well is over 500 feet in depth and was drilled by Thorpe Brothers approximately 24 years ago.

The Thorpe Brothers Well Company is going to drill the new well. It is contemplated to drill the hole in the vicinity of the present well and to approximately the same depth.

The Mayor of Earlham is J. H. Junkin and the Clerk is E. L. Scar.

If you plan to make a visit to this community prior to drilling, it had better be within the next week.

Very truly yours,

E. J. Marzec

E. J. Marzec,
Assistant Engineer.

EJM/MM

WALTER L. BIERRING, M. D.
COMMISSIONER

State of Iowa
Department of Health
Des Moines

DIVISION OF
PUBLIC HEALTH ENGINEERING
AND INDUSTRIAL HYGIENE

September 26, 1940.

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

Dear Dr. Hershey:

We are advised through Mr. Tom Thorpe that the Town of Earlham is contemplating a new deep well to be put down in the vicinity of the existing well.

The proposed location is not ideal from a sanitary standpoint and the water in the existing well, although relatively soft, has 4 parts per million of iron and 1157 parts of sulphate. It is also unsatisfactory from a bacteriological standpoint but this may be due to construction defects.

It occurred to us that it might be possible to develop a supply of better quality at some other location. We are suggesting this possibility to the town officials and are further suggesting that they communicate with you for advice on this possibility. Apparently the town is not financially able to spend a lot of money but it is possible that a shallow supply located on a site satisfactory from a sanitary standpoint might produce a water of better mineral quality at less cost.

I don't know whether the town officials will communicate with you as they appeared to be anxious to get started with the new deep well. However, I am sure they would appreciate your advice on this matter if you can arrange to visit with them.

Very truly yours,

A. H. Wieters, Director
Division of Public Health Engineering.

PJH:AM

Madison

September 30, 1940

Mr. A. H. Wieters, Director
Division of Public Health Engineering
State Department of Health
Des Moines, Iowa

Dear Mr. Wieters:

Your letter of September 26 was forwarded to me in southwestern Iowa. On September 29 while enroute to Iowa City I stopped at Earlham and called on the mayor. He informed me that the contract for a new well had been signed on September 23 and that drilling was to start within one week of the signing of the contract. He said that rather than go to any trouble regarding the water situation the town would repair the old well and let it go at that.

The town plans to place the new well only a few feet from the old one. I pointed out the advantages of separating the two wells but my suggestions did not seem to appeal to the mayor. I feel that it would be greatly to the advantage of the town to keep the two wells separated, particularly since the water from the old well shows contamination, but apparently the final well site has been definitely decided.

We do not have any information at hand to indicate the possibility of developing a more suitable water for the town supply. It would be necessary therefore to make a study of the geology and ground water conditions in the vicinity of town and this investigation would probably have to be supplemented by at least one test hole. I should be very glad to do the necessary work for a report on this project, but frankly the situation makes it appear unjustifiable at present. If you have additional information regarding the project or if you feel that a geological investigation should be made, please let me hear from you.

Very truly yours,

H. G. Hershey

HGH:N

Wm. G. Moore Corporation, Rochester, N. Y. Binder and holes in leaves Patented. FORM 416905

Sept. 20. MADISON Co.

Earlham City Well #2. - drilled 1940 by Thorpe
Pump house floor level with top of rail at RR. sta.
Rept. 609' George Shaw, supt.
Setting 505' - pump. 15 h.p. motor - high lift type
Temp. 60.5°F
G.P.M. 45 (Timed into 3 gal. Pail)
Time 55 min pumping before pumping air
School uses Approx. 225,000 gal. each 3 months
Ford + P.O. 60-70,000 - Ford. 35,000
Each house 4,000
Meters Approx. 250

Old well is about 555' deep and is 15' to the east of the new well.

J. B. Cooper + W. E. Hale

location in Town: 300' S. R.R. Tracks. E. side of Main Street.
A Mi. S. along Main St. from Hwy 232
SE¼ SW¼ SW¼ Sec. 6. T. 77N. R. 28W.

Eh. Earlham City Well 1106.1'

THORPE BROTHERS WELL COMPANY

2340 Sixth Avenue
DES MOINES, IOWA

B-1-8

W-1525

Drilled for Town of Earlham at Earlham, Iowa

Drilling started ____ 19 ____ Completed Dec. 6th 1941 19 ____

Well No. 2 Kind of Well Drilled Depth 603 Size hole started 12½ in.

Finish 6" G. P. M. 40 Static head 300 Drawdown 180'

Water was first encountered at 485 in Sandrock Approximate Amount ____

Remarks Cement grout to 156' from top

RECORD OF PERMANENT PIPE

SIZE PIPE	AMOUNT OF PIPE	DEPTH TO BOTTOM OF PIPE	DEPTH TO TOP OF PIPE	MAKE OF PIPE	TEMPORARY PIPE SIZE	TEMPORARY PIPE AMOUNT
8"	451'4"	449'	Surface			
6"	52'7"	485'	432'5"			

Driller ____ From Surface to ____ feet

Driller ____ From ____ feet to ____ feet

Driller ____ From ____ feet to ____ feet

AMOUNT IN FEET	KIND OF SOIL OR FORMATION	TOTAL DEPTH FEET
5	Black top soil	5
55	Yellow clay	60
65	Blue shale	125
33	Lime & Shale	158
7	Red shale	

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
8"	451'4"	1149'	Surface			
6"	52'7"	485'	432'5"			

W-1525

Driller _____ From Surface to _____ feet

Driller _____ From _____ feet to _____ feet

Driller _____ From _____ feet to _____ feet

AMOUNT IN FEET	KIND OF SOIL OR FORMATION	TOTAL DEPTH FEET
5	Black top soil	5
55	Yellow clay	60
65	Blue shale	125
33	Lime & Shale	158
7	Red shale	165
75	Shale & limerock	240
13	Shale	253
2	Limerock	255
30	Black shale	285
10	Shaley lime	295
105	Shale	400
5	Red shale	405
20	Brown shale	425
15	Red shale	440
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