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

W12698

Location:

Town: OTHO (NE) (SW) County WEBSTER

SE NW sec. 19 T. 88 N., R. 28 (E) (W) Twp.

Well name and number

Owner OTHO TOWN WELL (1961) Address

Tenant Address

Contractor LAYNE-WESTERN CO. Address AMES, IOWA

Drillers

Drilling dates JAN. 14, 1961 - MARCH ?, 1961

Well data:
Altitudes: Drilling curb feet; Land surface feet

Determined by

Topographic position

Total depth: Reported 1045' feet; Measured feet 1131 +

Drilling method CABLE TOOLS

Hole and casing data 187' OF 12 3/4" CASING 0-187'
177' OF 10 3/4" LINER 173'-350'
107 OF 8" Liner 583-690

Original depth to water ft. above/below Date

Source of data

Sources of water: Principal _____

Others _____

PRODUCTION DATA

Date _____

Static water level 90'

Pumping water level 105'

Yield (g.p.m.) 200'

Measuring point _____

Duration of pumping _____

Specific capacity _____

LABORATORY DATA

TL 4-82, 83, 84

Well No. W12698 Sample range 0-1045' No. of samples 245

No. of dupls. and cond. _____ Washed range _____

Samples prepared by _____ Date _____

Logged by NORTHUP Date JUNE 1961

Correlations by " Date "

June 21, 1961

Mr. Frank H. Flores
Layne-Western Company
South Duff Avenue
Ames, Iowa

Dear Mr. Flores:

Thank you very much for your letter of June 20 informing me of casing corrections needed in our record of the Otho, Iowa well No. 2. I appreciate your thought in getting the correction to us. It will be helpful.

Sincerely yours,

H. G. Hershey

HGH:t

IOWA GEOLOGICAL SURVEY
JUN 21 1961



AFFILIATED WITH
LAYNE & BOWLER, INC.
MEMPHIS, TENNESSEE

Layne-Western Company

WATER WELL DRILLING
EXPLORATION BORINGS AND TEST SURVEYS
LAYNE TURBINE PUMPS

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

SOUTH DUFF AVENUE
AMES, IOWA

TELEPHONE CEDAR 2-3563

June 20, 1961

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

Dear Sir:

This is to acknowledge receipt of and to thank you for the geologic log of the Otho, Iowa well No. 2.

You should correct your casing record to indicate that there was 177' of 10 3/4" liner between the depths of 173' and 350'. There is also 107' of 8" liner between the depths of 583' and 690'.

Very truly yours,

LAYNE WESTERN COMPANY

Frank H. Flores

FHF/st

March 15, 1961

TO: H. G. Hershey
FROM:" C. N. Brown
SUBJECT:

Layne-Western have pulled their crews from ~~Ortho~~ Otho for 1 week.

CNB

August 18, 1960

Mr. Frank H. Flores
Layne-Western Company
South Duff Avenue
Ames, Iowa

Dear Mr. Flores:

This is in reply to your letter of August 12 concerning the casing problem and Devonian aquifer possibilities at the Otho, Iowa municipal water well which your company drilled in 1955.

The interval comprising the Maple Mill and Sheffield shales is expected to be between 40 and 65 feet thick. Commonly a thin cherty dolomite representing the Aplington formation separates the two shale units. We anticipate the base of the Sheffield, i.e., top of the underlying Lime Creek formation, at a depth of approximately 655 feet. However, it may be 10-20 feet above or below this. To avoid any possibility of sandy or muddy water entering the well it would also be advisable to case out the Prospect Hill silty dolomite overlying the Maple Mill shale. A liner extending from about 595 to 660-670 feet should effectively shut off this silty and shaly zone.

Available data indicate reasonably good chances for developing a supply of as much as 200 g.p.m. from a well penetrating the Devonian strata in this area. Lehigh city well No. 2, 1005 feet deep, reportedly had an original natural flow of 100 g.p.m. from these rocks. Dayton produced 230 g.p.m. with 52 feet of drawdown to a pumping water level of 139 feet. This well was acidized at the water-yielding zones to increase the initial production. We do not have the pumping test data on Harcourt other than the initial static water level which was reported to be $17\frac{1}{2}$ feet below the surface. At the time of latest water sampling in January, 1960 the well was being pumped at 50 g.p.m. Probably considerably larger supplies can be obtained at this well. We would appreciate receiving a summary of the Harcourt pumping test to complete our files.

Mineral analyses indicate the water from the Devonian rocks to be acceptable for drinking and other domestic uses.

We hope this fully answers your questions. If we can provide you further information in any way, please feel free to write us.

Very truly yours,

HGH

H. G. Hershey

PJH:jj

IOWA GEOLOGICAL SURVEY
AUG 15 1960



AFFILIATED WITH
LAYNE & BOWLER, INC.
MEMPHIS, TENNESSEE

Layne-Western Company

WATER WELL DRILLING
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AMES, IOWA

TELEPHONE CEDAR 2-3563

August 12, 1960

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

Dear Sir:

The town of Otho is considering drilling a new well. From the well we drilled for those people in 1955 we are reasonably certain that we will hit the Maple Mill shale at the approximate depth of 610' below ground level.

In checking logs of wells at Fort Dodge, Lehigh, and Harcourt it appears that we may also hit the Sheffield shale formation at this location. From your records could you tell us approximately where we should encounter the bottom of the Sheffield formation? We would like to plan to case both formations with one liner.

We anticipate drilling the well through the Cedar Valley limestone to the approximate depth of 1,050'. Our records seem to indicate that there is a reasonable possibility of getting a supply of approximately 200 GPM at this depth. Do you agree?

Any information you can give us on this would be greatly appreciated.

Very truly yours,

LAYNE WESTERN COMPANY

Frank H. Flores

Frank H. Flores

FHF/sb