

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

2407

RECORD OF WELL

Location:

Town:

Maynard

(N E)
(S W)

County

Fayette

NE-SE-SE

sec. 15

T

92

N.

R.

9

W.

Harlan

Twp.

Well name and number

Maynard City Well No. 5

Owner

Address

Tenant

Address

Contractor

Layne - Western

Address

Drillers

Drilling dates

Summer '46

Well data:

Elevations: Drilling curb

feet;

Land surface

1093'

feet

Altimeter Survey from Maynard CRI+P Depot to
City Well No. 5.

Determined by

D.A. Morris

Topographic position

Total depth: Reported

126'

feet, Measured

feet

Drilling method

Cable tool

Hole and casing data

23 feet of 12-inch pipe cemented in 16-inch hole
from 0 to 23 feet.

Original depth to water

16

ft. below

Land Surface

Date

Original elevation of water level

ft.;

Source of data

Sources of water: Principal

; Others

Production data:

Date _____

Static depth to water 16'

Measuring point _____

Pumping level 28'

at _____

g.p.m. _____

Est. by R.W. Brooks
of Hayne Western

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 day

Use of water _____

WATER ANALYSES (in parts per million)

Date samples	_____	_____	_____	_____
Sampled by	_____	_____	_____	_____
Total solids	_____	_____	_____	_____
Insoluble matter	_____	_____	_____	_____
Alkalinity (Meo)	_____	_____	_____	_____
Alkalinity (Phn)	_____	_____	_____	_____
pH	_____	_____	_____	_____
Fe ₂ O ₃ + Mn ₂ O ₃ + Al ₂ O 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 5-125 No. spls. 26 No. dupls. & cond. 20 GoodSpls. prepared by AS & JHB Washed range 15-125 by JHB

Driller's log and cond. _____

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

Microscopic study 5-125 strip log Sept 28, 1946Gen. log _____ Correl. by Sm. Parker

WATER LEVEL DATA

Measuring point _____

Date	Depth to water	Altitude	Remarks

REMARKS

April 4, 1947 - Production is enough to fill a 40,000
gallon tank daily. Usually pump about 10 hrs.
Water is chlorinated.

LAYNE-WESTERN COMPANY

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BRANCHES - REPRESENTATIVES
THROUGHOUT THE COUNTRY

AMES, IOWA

7 October 1946

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

Dear Dr. Hershey:

We are in receipt of your letter of October 4th with further reference to the MAYNARD town well.

In construction of this well, a 16" hole was drilled from ground level to a depth of 23', then 12" casing was set and cemented from ground level to this depth and a 12" ~~well~~ ^{hole} drilled to a total depth of 126'.

We did not conduct a pumping test on the well. A short bailer test, however, indicated that the well might produce 75 GPM with a pumping level of 28'. As you know, this is very much of an estimate.

Yours very truly,

LAYNE-WESTERN COMPANY


R. W. BROOKS

Recorded - WEH.

RWB:EJS

C W

June 21, 1946

Town Clerk
Maynard,
Iowa

Dear Sir:

Mr. R. B. McAllister of the Department of Health requested by phone on June 19 that we send you a forecast of the geology and ground-water conditions at Maynard. It is our understanding that the town would like to develop a supply of 75 g.p.m., and there seem to be possibilities of producing that amount from several different horizons.

The present town well which was drilled to a depth of 80 feet produces from limestone and dolomite of Devonian age, apparently was pumped at a rate of 75 g.p.m. or better when it was drilled.

At Arlington, a well drilled for the town in dolomite to a depth of 215 feet originally pumped 94 g.p.m. with a drawdown of about 150 feet. This well has been acidized and now produces 74 g.p.m. with a drawdown of 65 feet from a static level of 44 feet. At Maynard the same horizon would be found at a depth of approximately 152 feet.

Several wells have been drilled to a depth equivalent to the horizon found from 270 to 330 feet at Maynard. About 125 feet of shale overlies this dolomite and would have to be cased. As the only production records we have on this horizon indicate that it produces from 10 to 15 g.p.m., it would probably not be adequate to fill your need.

Another shale zone 50 feet thick overlies the next producing horizon which will be found above a depth of 705 feet. The Galena limestones and dolomites extend from a depth of 437 to 707 feet. Our records show that at one time Maynard obtained its water supply from a well 702 feet deep. This well was abandoned when the present well was drilled, but we do not know why it was abandoned.

The St. Peter sandstone is the producing horizon at the Fayette County Home in West Union, and an adequate supply could be obtained from this formation at Maynard. The mineralogical quality of the water probably would not be as good as that from higher horizons.

At Oelwein several wells have been drilled about 500 feet below the St. Peter sandstone. These wells produce over 200 g.p.m., but since an adequate supply can be found in higher formations, there would be no need for Maynard to drill this deep.

Town Clerk, Maynard, Iowa

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June 21, 1946

A generalized section of the rocks to be expected at Maynard is included at the end of this report.

It would seem that the best and most economical source of water supply at Maynard would be from the Devonian and Silurian limestone above 152 feet in depth. The hardness of the water in this horizon is about 20 grains per U. S. gallon and seems to be generally of good mineralogical quality.

We would appreciate learning your plans, and when a well is drilled the Geological Survey would like to obtain samples of the well cuttings. If we can be of further assistance to you please let us know.

Very truly yours,

H. G. Hershey

HGH:ES:BN

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STATE OF IOWA
IOWA GEOLOGICAL SURVEY
GEOLOGY ANNEX
IOWA CITY

GENERALIZED SECTION OF GEOLOGIC SECTION AT MAYNARD, IOWA
BASED ON STARTING ELEVATION OF 1102 FEET

<u>Formation and Description</u>	<u>Thickness</u>	<u>From</u>	<u>To</u>	
1. Pleistocene (sand and gravel)	15	0	15	5
2. Devonian system (limestone and dolomite)	76	14	90	70
3. Silurian system (limestone and chert)	62	90	152	
4. Maquoketa formation (shale)	118	152	270	
(limestone and chert)	63	270	333	
(shale)	38	333	371	
(limestone, some shale)	66	371	437	
5. Galena-Plattsville formations (limestone, some dolomite)	270	437	707	
(limestone and shale)	50	707	757	
6. St. Peter (sandstone)	48	757	805	