

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

W-1904

RECORD OF WELL

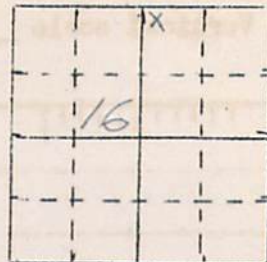
Location:

(N E)

Town: Mariou (S W); County Linn

300±E & 300±S of E's of pavement & E.W rd. just N of home E.

NW 1/4 NW 1/4 NE 1/4 sec. 16 T. 84 N., R. 6 W., Mariou Twp.



Well name and number Linn County Home #3

Owner _____ Address _____

Tenant _____ Address _____

Engineer Howard R. Green, Cedar Rapids
Contractor C. D. Nolan Address _____

Drillers Lee Summy

Drilling dates June 13, 1944 - August, 1944

Well data:

Elevations: Drilling curb 875.7 feet; Land surface 875.252 feet

top of casing at 875.7, 75' above land surface

Determined by Elevation of B.M. 325(57) Iowa Geodetic Survey p. 55

Topographic position Upland

Total depth: Reported 488 feet; Measured 488 feet

Drilling method _____

Hole and casing data 14" diameter to bedrock

(Give amount, size, kind, and depth of all casing; type and

192'2" of 14" casing from t.s. to 192'8"

position of seals and packers; cementing; how finished--perforated pipe, screen,

215' of 8" casing from t.s. to 214'6"

gravel pack, open hole, etc.)

open 8" hole from 215'-488'

Original depth to water 41.37 ft. ^{above} below _____ Date Sept 1, 1944

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

Sources of water: Principal Silurian; Others _____

Production data:

Date Sept 1 1944

Static depth to water 41.37'; Measuring point _____

Pumping level 53± at 90 g.p.m.

Specific capacity 7.5± g.p.m. per ft. drawdown; Temperature 53 °F.

Pump data: Type pump lift; Column: Dia. 6 1/4" Length 102' 10"

Cylinder or bowls: Dia. 6" Length _____; Suction pipe _____

Power rip-stroke; Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a day

Use of water Public supply

WATER ANALYSES (in parts per million)

Date sampled	<u>Sept 1, 1944</u>	_____	_____
Sampled by	<u>W.E.H.</u>	_____	_____
Total solids	<u>376</u>	_____	_____
Insoluble matter	<u>31.5</u>	_____	_____
Alkalinity (Meo)	<u>250.0</u>	_____	_____
Alkalinity (Phn)	<u>10.0</u>	_____	_____
pH	<u>7.9</u>	_____	_____
Fe ₂ O ₃ +Mn ₂ O ₃ +Al ₂ O ₃	<u>8.5</u>	_____	_____
Alkali as sodium	<u>11.0</u>	_____	_____
Calcium	<u>59.2</u>	_____	_____
Magnesium	<u>30.6</u>	_____	_____
Iron (unfiltered)	<u>2.5</u>	_____	_____
Manganese	<u>0.0</u>	_____	_____
Nitrate	<u>5.3</u>	_____	_____
Fluoride	<u>0.4</u>	_____	_____
Chloride	<u>8.0</u>	_____	_____
Sulphate	<u>7.4</u>	_____	_____
Bicarbonate	<u>280.6</u>	_____	_____
Hardness (ppm)	<u>273</u>	_____	_____
Hardness (gpg)	<u>15.9</u>	_____	_____

Remarks _____

Laboratory data:

Sample storage location _____

Sample range 0-448 No. spls. 90 No. dupls & cond. 98 Fair

Spls. prepared by E. Schults Washed range _____ by Schults

Driller's log and cond. _____

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

Microscopic study 0-448 strip log yes

Gen. log _____ Correl. by E. Schults

STATE OF IOWA
 IOWA GEOLOGICAL SURVEY
 GEOLOGY ANNEX
 IOWA CITY

Results of Pumping Test at

Linn County Home Well

September 1, 1944

Name: Linn County Home Well

Location: NW cor NE $\frac{1}{4}$ sec. 16, T. 84 N., R. 6 W.

Elevation: Land surface, 875.2 feet above sea level.

Top of 14-inch casing, 0.5 foot above land surface, elevation 875.7 feet above sea level.

Top of 8-inch casing, 0.5 foot above land surface, elevation 875.7 feet above sea level.

Owner: Linn County.

Contractor: C. D. Nolan, Cedar Rapids, Iowa

Engineer: Howard R. Green

Driller: Lee Sunny

Date started: June 13, 1944

Date finished: August 31, 1944

Depth: 488 feet

Casings: 193'2" of 14-inch casing from +0.5' to 192'8"

215' of 8-inch casing from +0.5' to 214'6"

Open 8-inch hole from 215-488 feet

5 sacks of cement placed outside of 8-inch casing.

Test pump: Lift pump composed of 102'10" of 6 $\frac{1}{2}$ " pump column with a 6-inch cylinder, set 101'7" below top of 8-inch casing. Powered with rig.

Discharge measurements: Discharge line composed of 93' of 5 $\frac{3}{16}$ pipe. Discharge rate obtained by checking time to fill 35 gallon barrel.

Water level measurements: Except where noted measurements were obtained from air line and gage. Air line 101.3 feet in length below top of 8-inch casing.

Chief aquifer: Aquifers in rocks of Silurian age.

cc to Mr. Howard R. Greene, Cedar Rapids, Iowa, September 26, 1944.
 Mr. Chas. D. Nolan, Cedar Rapids, Iowa, September 26, 1944.

<u>Time</u>	<u>Depth to water in feet</u>	<u>Discharge Gallons a minute</u>	<u>Remarks</u>
Sept. 1, 1944			
12:06 p.m.	41.37 tape		Depth to water 32.62 feet between 8" and 14" casing.
2:00			Pump started to test set-up.
2:03			Pump stopped.
2:10	42.15 tape		
2:15			Pumping started.
2:20	51.3		Gage 50±, water dirty (milky color) Water temp. 53°F. Air temp 79½°F.
2:30	53±		
2:45	55.3±		Water temp. 53°F.
3:08	54±	87	Measurement by 35 gal. barrel ; 24.4 sec. Water cloudy, some cuttings Depth to water 32.68 feet between 8" and 14" casing.
3:30		92	Water cloudy.
3:53	53±		
4:07	53±	92	Water cloudy, Water temp. 53°F.
4:30	53±	92	Water clearing slightly. Water temp. 53°F.
5:03	53±	87	Water cloudy. Water temp. 53°F.
5:30			Depth to water 32.78 feet between 8" and 14" casing.
5:43	53±	87	Water sample. Water temp. 53°F.
5:58			Shut down.
5:59	48		
6:00	48		
6:01	47		
6:02	47		
6:04	47.32 tape		
6:20	45.5		
6:27	45.0		
6:33	44.5		
6:40	44.0		
6:45	44.0		
6:50	43.75		
6:55	43.75		
7:00	43.75		