IOWA GEOLOGICAL SURVEY W-0013

In Cooperation with U. S. Geological Survey

RECORD OF WELL

Location:

Town: New London (N E / S W): County Henry

SE-SW-NE sec. 26 T 71 N., R. 5 W. Newlondon Twp.

Well name and number City Well #2

Owner _____ Address _____

Tenant _____ Address _____

Contractor Thorpe Well Co Address Des Moines

Drillers _____

Drilling dates 1930.

Well data:

Elevations: Drilling curb _____ feet; Land surface 765 feet

Determined by _____

Topographic position _____

Total depth: Reported 2785 feet, Measured _____ feet

Drilling method _____

Hole and casing data 10" casing from 0-252'; 8" casing from 250-1700

6" casing from 2320-2570'

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

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

Sources of water: Principal Cambrian; Others _____

Production data: Date 1930 -

Static depth to water 185- Measuring point

Pumping level 191 at 250-300 g.p.m.

Specific capacity g.p.m. per ft. drawdown; Temperature 71 °F.

Pump data: Type pump Turbine Column Dia. Length 200'

Cylinder or bowls: Dia. Length Suction pipe 20'

Power Electric Airline

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

Use of water

WATER ANALYSES (in parts per million)

Date samples	Feb. 28, 1945			
Sampled by	W.E. Hale			
Total solids	1240			
Insoluble matter	10.0			
Alkalinity (Meo)	240.0			
Alkalinity (Phn)	0.0			
pH	9.3			
$Fe_2O_3 + Mn_2O_3 + Al_2O_3$	2.5			
Alkali as sodium	294.3			
Calcium	91.8			
Magnesium	38.1			
Iron (unfiltered)	0.7			
Manganese	0.00			
Nitrate	0.89			
Fluoride	7.8			
Chloride	143.0			
Sulfate	581.0			
Bicarbonate	292.8			
Hardness (ppm)	387			
Hardness (gpg)	22.6			

Remarks

Laboratory data: Sample storage location

Sample range 157-2735 No. spls. 188 No. dupls. & cond. 5 1 7

Spls. prepared by Washed range by

Driller's log and cond.

Insoluble residues: Prepared by Studied by Strip log

Microscopic study Kew strip log Kew

Gen. log Correl. by Kew

New London--Henry County

Owner: City of New London, Well No.2
Location: SE ¼ NE¼ SW¼ Sec. 26, T.71 N., R.5W., New London Twp.
Curb elevation: 765 feet
Total depth: 2785 feet
Contractor: Thorpe Well Co., Des Moines
Date drilled: 1929 to 1930
Size of hole and casing: 10-inch casing from 0 to 252 feet
8- inch casing from 250 to 1700 feet
6- inch casing from 2300 to 2500 feet

Maple Mill shale caved badly and much green shale cave from the St. Peter is found in the cuttings of the Prairie du Chien. Beds in the Galesville and Eau Claire members of the Dresbach formation between 2300 and 2500 feet caved and had to be cased out.

Water Data: Upon completion of drilling, the well was tested for 24 hours and produced 250 to 300 g.p.m. with 6 feet of drawdown from a static level of 185 feet below curb to a pumping level of 191 feet below curb. The static level in December, 1942 was reported to be 196 feet below curb. Temperature of the water is 71° F.

Generalized Log

Samples studied by: E. M. Rowser Log by: S. E. Harris Jr.

IOWA GEOLOGICAL SURVEY
Iowa City, Iowa
Generalized Well Log
Based on Examination of Drill Cuttings

Name of Well New London #2 Survey No. W. 0013

Location $SE\frac{1}{4}$ $SW\frac{1}{4}$ $NE\frac{1}{4}$, sec. 26, T. 71 N., R. 5 W. County

Total depth 2785 ft. Drilled by Thorpe Well Co. Date 1929

Curb elevation 765 ft. Static level -- ft.; Drawdown ft. at gal. per min.

Casing and hole size record

Description of Formation	Thickness	Depth in feet From	To
1. No samples (presumably drift)	150	0	150
Mississippian system Iowa series Osage group Keokuk formation			
2. Limestone 55-80%, white to buff, medium- to coarse-grained, crystalline, crinoids. Chert 25 to 40%, white, dense. Quartz 5-10%, crystalline, clear	32	150	182
Burlington formation			
3. No samples	28	182	210
4. Chert 70-75%, white, dead, slightly quartzose. Limestone 25-30%, buff, fine-grained, crystalline	20	210	230
5. Limestone 60-70%, white to gray, fine-grained, crystalline, hard. Sand 20-25%, medium-grained, curvilinear to subround. Chert 10-15%, white, dense	5	230	235
6. Dolomite 50-60%, light gray, and yellowish buff, fine-grained, crystalline. Chert 25-35%, white, dense. Quartz 10-15%, clear, crystalline. Glauconite 1-2%	13	235	248
7. Limestone 90%, gray to cream, very fine-grained, crystalline, soft. Chert 10%, white to opal, dense. Quartz crystals less than 5%	12	248	260

Description of Formation	Thickness	Depth in feet From	To
Kinderhook group Hampton formation North Hill member			
8. Limestone 85%, dark gray, fine-grained, crystalline, shaly. Chert 10%, gray to black, dense. Quartz 5%, clear, crystalline	5	260	265
Prospect Hill siltstone			
9. Siltstone 80%, dark gray, dolomitic, soft. Sand 20%, medium-grained, curvilinear to subround. Marcasite less than 5%	20	265	285
McCraney limestone			
10. Limestone, light and dark gray, medium-grained, crystalline, hard, very silty	10	285	295
English River formation			
11. Siltstone, dark gray, slightly calcareous, hard, slightly sandy, polished. Marcasite trace	10	295	305
Maple Mill formation			
12. Shale, bluish gray, noncalcareous, soft	30	305	335
13. No samples (Well #1 shows light gray shale)	125	335	460
14. Shale, gray, slightly calcareous, soft	10	460	470
15. No samples (probably shale)	130	470	600
Devonian system Upper Devonian series Lime Creek or Sheffield formation			
16. Limestone 50%, dark gray, earthy, soft, very argillaceous. Shale 50%. Pyrite 1%	15	600	615
Cedar Valley formation			
17. Limestone, dark brown to buff, fine-grained, crystalline, hard, silty, fossiliferous. Calcite rhombs less than 5%, pyrite 1%	25	615	640
18. No samples (probably limestone similar to that from 615 to 640 feet)	25	640	665
19. Limestone, gray, argillaceous, soft, very fossiliferous, bryozoa, brachiopods. Pyrite 1%	40	665	705

	Description of Formation	Thickness	Depth in feet From	To
	Middle Devonian series Wapsipinicon formation			
20.	No samples (limestone, possibly partly Cedar Valley).	25	705	730
21.	Limestone 70%, buff to grey, very fine-grained, crystalline. Gypsum 30%. Quartz, clear, crystals less than 5%	30	730	760
22.	Gypsum and anhydrite 70%, Limestone 30%, as from 730 to 760 feet. Pyrite 1%	10	760	770
23.	Limestone 70%, gray to buff, fine-grained, crystalline, hard. Gypsum 25%. Quartz 1%, crystalline 5%. Shale, gray. Pyrite 1%	5	770	775
24.	No samples	35	775	810
	Ordovician system Cincinnatian series Richmond group Maquoketa formation			
25.	Shale. 50-70%, bluish gray, very calcareous, soft, Limestone 30%, dark gray, fine-grained, crystalline. Sand 1-30% from 820 to 835 feet, medium-grained, subround to round, frosted	25	810	835
26.	Sandstone 70%, light gray, medium-grained, curvilinear to subround, recrystallization. Limestone 30% as from 810 to 835 feet	10	835	845
27.	No samples. Limestone reported from 843 to 850 feet	20	845	865
	Mohawkian series Trenton group Galena formation (at 860 ' ?) Dubuque-Stewartville members			
28.	Dolomite, buff, hard, coarse medium-grained, crystalline	25	865	890
29.	No sample, similar to dolomite from 865 to 885 feet	10	890	900
30.	Dolomite, brown to buff, medium-grained, crystalline, hard	50	900	950
	Prosser member			
31.	Dolomite, dark buff to brown, medium-grained, crystalline, hard. Chert less than 5%, white, dense	25	950	975
32.	Dolomite, light buff to gray, fine-grained, crystalline, soft. Quartz less than 5%, crystalline, clear, small	85	975	1060

	Description of Formation	Thickness	Depth in feet From	To
33.	Dolomite, dark buff, medium-grained, saccharoidal	20	1060	1080
	Black River group Platteville formation			
34.	Dolomite 90%, gray, medium-grained. Chert 10%, gray to buff, dense from 1080 to 1090 feet	20	1080	1100
35.	Limestone 90%, gray, fine-grained, crystalline, dolomite, shaly, hard. Shale 10%, gray	32	1100	1132
	Glenwood member			
36.	Sandstone, white, medium-grained, subangular to curvilinear, some secondary enlargement	18	1132	1150
37.	Dolomite 60%, light cream, very fine-grained, crystalline, sandy, silty, soft. Sand 40% as from 1132 to 1150	10	1150	1160
38.	Shale 95%, green, unctuous, very slightly dolomitic; shale 5%, brown. Pyrite less than 5%	12	1160	1172
	Chazyan series St. Peter formation			
39.	Sandstone, white, fine-grained, subangular to curvilinear, larger grains well frosted, some secondary enlargement	13	1172	1185
40.	No samples	25	1185	1210
	Beekmantownian series Prairie du Chien formation Willow River member			
41.	Dolomite, buff to dark gray, fine-grained, crystalline, sandy (from 1210 to 1260 feet). Chert 5%, white, dense. Pyrite less than 5%	70	1210	1280
42.	No samples (probably dolomite similar to that from 1260 to 1280)	20	1280	1300
43.	Dolomite, light gray, fine-grained, crystalline, soft, sandy. Sand 5-10%, medium-grained, curvilinear to subround. Chert 5-10%, white, dense. Much shale cave	40	1300	1340
44.	Dolomite 80%, light gray, very fine-grained, crystalline, soft. Sand 20% from 1340 to 1350 feet	20	1340	1360
45.	Dolomite 85%, as from 1340 to 1350 feet, fine- to fine medium-grained. Sand 1-10%, fine-grained, subangular to curvilinear, some secondarily enlarged. Chert 5-10%, white oolitic. Pyrite trace. Much shale cave	90	1360	1450

	Description of Formation	Thickness	Depth in feet From	To
46.	Dolomite 80-90%, buff, medium-grained, crystalline. Sand 10-20%, medium-grained, curvilinear to subangular, well frosted. Pyrite trace. Chert trace, white oolitic from 1465 to 1470 feet. Much shale cave	20	1450	1470
	Root Valley (New Richmond) member			
47.	Sandstone 70%, white to gray, medium-grained, curvilinear, secondarily enlarged. Dolomite 30%, similar to that from 1450 to 1470 feet	15	1470	1485
48.	No samples (probably similar to 1470 to 1485 feet)	15	1485	1500
49.	Dolomite 80%, buff to cream, medium-grained, hard, sandy. Sand 20%, medium-grained, subangular to curvilinear, much recrystallized	15	1500	1515
50.	Sandstone 60%, as from 1470 to 1485 feet. Dolomite 40%, as from 1470 to 1485 feet	5	1515	1520
	Oneota member			
51.	Dolomite 85%, white to cream, medium-grained, hard, sandy. Sand 15%, as from 1515 to 1520 feet. Chert 15%, white, opalescent, dense	40	1520	1560
52.	No sample (probably similar to that from 1580 to 1590 feet)	20	1560	1580
53.	Dolomite 90%, light gray to nearly white, coarse-grained, crystalline, hard. Chert 10% (45% from 1610 to 1615 feet), opalescent, dense. Shale cave	65	1580	1645
54.	Dolomite 80, dark gray, medium-grained, crystalline, hard. Chert 20%, white, opaque, dense	20	1645	1665
55.	Dolomite 60-70%, as from 1645 to 1665 feet. Chert 30 to 40%, white, opaque, dense, some oolitic	30	1665	1695
56.	No sample (probably similar to that from 1665 to 1695 feet)	5	1695	1700

Description of Formation	Thickness	Depth in feet From	To
57. Dolomite, brown to buff, medium-grained, crystalline, hard. Chert 20%, white, dense, some oolitic. Quartz crystals-5%	26	1700	1726
58. Dolomite, light buff, medium-grained, hard. Chert 10%, white, dense. Quartz less than 5%, clear, crystalline	40	1726	1776
Cambrian system St. Croixan series Trempealeau formation Jordan member			
59. Dolomite 60%, as from 1726 to 1776 feet, Sandstone 40%, fine-grained, subangular, secondarily enlarged	4	1776	1780
60. Sandstone, white, medium-grained, fine-grained below 1800 feet, subangular to angular, strongly recrystallized chert less than 5%, white, some oolitic	60	1780	1840
61. No samples (presumably sandstone as from 1800 to 1840)	40	1840	1880
62. Sandstone, cream, as from 1800 to 1840	20	1880	1900
St. Lawrence member			
63. Dolomite 50, buff to cream, very dense, crystalline, very slightly glauconitic. Sandstone, uniformly sorted, medium grained, curvilinear to subround, slightly frosted	10	1900	1910
64. Dolomite, buff to brown, medium-grained, very hard, dense. Quartz, aggregates of small crystals. Glauconite trace 1940 to 1950 feet	40	1910	1950
65. Dolomite as from 1910 to 1950 feet but sandy. Glauconite trace. Pyrite trace	10	1950	1960
66. Dolomite, gray, dense, crystalline, nonporous. Pyrite trace	40	1960	2000
67. Dolomite, buff, fine-grained, crystalline. Glauconite, Quartz crystals	90	2000	2090
Franconia formation			
68. Dolomite, gray, coarse-grained, crystalline. Glauconite less than 5%. Shale, gray, dolomitic 15% from 2100 to 2110 feet	35	2090	2125

	Description of Formation	Thickness	Depth in feet From	To
69.	Dolomite, brown to buff, medium-grained, crystalline, hard. Quartz, clear, crystalline. Chert less than 5%, hard, dense. Glauconite	35	2125	2160
70.	Dolomite 65%, similar to 2125 to 2160. Shale 25%, gray, very calcareous. Quartz 5-10%, clear, crystalline. Glauconite less than 5%	15	2160	2175
71.	Shale 95%, gray, very calcareous, soft. Sand 5%, medium-grained, curvilinear to subround	5	2175	2180
72.	Dolomite 95%, gray to buff, medium-grained, crystalline, hard, glauconitic. Quartz sand less than 5%	25	2180	2205
73.	Dolomite 70%, gray, fine-grained, glauconitic. Siltstone 30%	5	2205	2210
74.	Siltstone, slight gray with a large amount of dolomite incorporated	5	2210	2215
75.	Dolomite, buff, medium-grained, crystalline. Quartz, clear, crystalline, medium-grained texture	10	2215	2225
76.	Dolomite 50-75% as from 2215 to 2225 feet. Siltstone 25-40%, gray, dolomite interbedded. Glauconite 5-10% in masses	30	2225	2255
77.	Shale 90%, green, unctuous, slightly calcareous. Dolomite 10%, as from 2225 to 2255	10	2255	2265
78.	Shale 30 to 60%, as from 2255 to 2265 feet. Dolomite 40 to 60%, buff, medium-grained, crystalline. Glauconite to 10%	20	2265	2285
79.	Dolomite 80%, gray, medium-grained, shaly, soft. Shale 10%, gray. Glauconite 5-10%	15	2285	2300
80.	Dolomite 60-75% brownish gray. Shale 15%-30% blue, laminated. Glauconite 5-10%	20	2300	2320
81.	Dolomite 70% light yellowish buff. Shale 10-15%. Sand 5-10%, medium-grained, curvilinear to subround. Glauconite less than 10%	5	2320	2325
82.	Shale 80%, gray, fissile, calcareous. Dolomite 20% as from 2320 to 2325 feet. Glauconite 1%	15	2325	2340
	Ironton member			
83.	Sandstone 90-95%, brown (iron stained) fine to medium ground, sub angular, some secondary enlargement. Glauconite 5-10%	40	2340	2380

	Description of Formation	Thickness	Depth in feet From	To
	Dresbach formation Galesville member			
84.	Sandstone 90%, white to gray, secondarily enlarged, subangular. Silt 10%, gray, soft. Glauconite 1-5%	20	2380	2400
85.	Dolomite 50%, red, much iron in cuttings. 40% Sandstone, fine-grained. Glauconite 5-10%	25	2400	2425
86.	Shale 40%, dark gray, fissile. Dolomite 30-40%, buff, fine-grained, crystalline, shaly soft. Glauconite less than 5%	35	2425	2460
87.	Shale 50% as from 2425 to 2460 feet. Dolomite 50%, shaly, sandy. Glauconite trace	10	2460	2470
88.	No samples (probably similar to 2460 to 2470 feet)	20	2470	2490
89.	Shale 70%, chocolate brown, slightly calcareous, hard. Dolomite 30%, light gray, shaly, soft. Glauconite trace	10	2490	2500
90.	Shale, black to chocolate brown, slightly calcareous, trace micaceous, thinly laminated, hard	15	2500	2515
91.	No samples	25	2515	2540
92.	Shale 60%, black as from 2500 to 2515 feet. Dolomite 40%, fine-grained crystalline, very hard, glauconitic. Hematite.	10	2540	2550
93.	Sandstone, brown (iron stained), very fine to fine-grained, subangular, dolomitic cement	83	2550	2637
94.	Shale 50%, gray, slightly calcareous, soft. Sandstone 30%. Dolomite 20%	3	2637	2640
95.	Sandstone, brown, very fine-grained, small grades, subangular, larger curvilinear, some secondary enlargement	12	2640	2652
96.	Sandstone, light gray to brown, medium-to coarse-grained, curvilinear, micaceous, secondarily enlarged	43	2652	2695
97.	No sample	5	2695	2700
98.	Sandstone, light buff (iron stained) fine-to medium-grained, curvilinear to subangular, little recrystallization	30	2700	2730
99.	Sandstone, brown (iron stained) coarse-to-medium-grained, curvilinear	5	2730	2735
Total Depth 2785 feet	100. No sample (sandstone similar to that from 2730 to 2735 feet but whiter and finer)	50	2735	2785