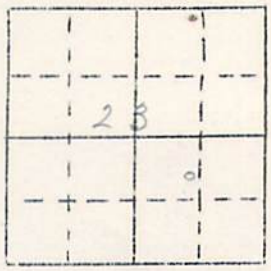
IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

K-0812

RECORD OF WELL



Location:

Town: Waterloo (N E / S W); County Blackhawk

NE-SE-NW-SE sec. 23 T. 89 N., R. 13 E. W. Waterloo Twp.

Well name and number City Well #2

Owner Waterloo Address

Tenant Address

Contractor W. H. Story Address Chicago, Ill.

Drillers

Drilling dates 1907

Well data:

Elevations: Drilling curb 850 feet; Land surface feet

Determined by

Topographic position

Total depth: Reported feet, Measured 1377½' feet

Drilling method

Hole and casing data 20" to 139'4", 16" to 201'2" 9" to 624

(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.)

Original depth to water ft. above/below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal ; Others

Production data: Date _____

Static depth to water _____ Measuring point _____

Pumping level _____ at _____ 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 day

Use of water Public Supply

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 0-1377½' No. spls. _____ No. dupls. & cond. _____

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. _____

Insoluble residues: Prepared by 60-1337 Studied by _____ Strip log _____

Microscopic study _____ strip log 12/12/61 Carrier

Gen. log _____ Correl. by _____

- Carrier

Well No. W-0312
December 18, 1941

City Well No. 2

Waterloo

Blackhawk County

Cedar Valley: 0 - 75 or 90

Limestone - light medium to medium brown-drab; mostly fine crystalline; carries a few crinoids and brachiopods.

Wapsipinicon: 75 or 90 to 135 or 150

Limestone, slightly sandy at the top; light medium to dark brown; sublithographic to little coarse.

Dolomite, light medium to medium yellow-tan, and drab brown, fine crystalline.

Chert, pale to light gray, watery to opaque with traces of crystalline quartz.

Sample from 170 to 185 looks like residual material with limestone, dolomite and chert and shale, red-brown. Limestone is red to yellow, dolomite red in part (hematitic). May be the same residual zone as that at the base of the Kenwood in the Vinton Produce well.

Silurian: 135 or 150 to 225

Dolomite, light drab-gray, little medium, fine crystalline, granular (slightly porous at the base); sandy at the top; strong chert at the middle petering out toward the base.

In the sample from 135 to 150 there is a small amount of calcite which is crystallized in scalenohedrons. This is also observed in other wells, close to the base of the Wapsipinicon. Chert very light.

Maquoketa: 225 to 510

Shale, light gray-green; silty; dolomitic; a heavy dolomite near the top and 95 to 65 feet above the base; a brown, silty, dolomitic shale just above the top of the Galena. The dolomite at the top is light gray, slightly green, fine crystalline granular; that at the base is light brown-drab to medium brown, medium crystalline, slightly saccharoidal to phenoclastic

Galena: 510 to 750?

Limestone, dolomitic, pale drab with a few dark mottlings, granular fine crystalline to slightly phenoclastic, with cinnamon specks grading downward into pale and light drab-brown fine to medium crystalline, phenoclastic and saccharoidal. Chert, pale gray granular to conchoidal, opaque, dull to semi-vitreous from 600 to 700. Many dolomite rhombs in the top.

Decorah-Platteville: 750-795
One sample 750-780 so the two cannot be distinguished. It consists of gray-drab, fine crystalline, soft granular dolomite with 10% green shale with the Bryozoan cf. Escharopora. The dolomite is slightly calcareous.

Glenwood: 795 - 813
Shale, slightly dolomitic, soft, rather waxy and fissile

St. Peter: 813 - 865?
Sand, white loose, a to C fine frosted with pittings and a few irregular grooves. Mostly medium, little fine and little coarse.

Willow River: 865 - 995?
Dolomite, sandy, pale to light to medium (little) drabish gray, fine to medium crystalline. Dolomite at the base is light to medium gray tinted rose-lavender medium crystalline, sub-saccharoidal, grading downward into flesh and light brown medium crystalline with a trace of porous dolomite

There is an excess of sand, mostly medium - little coarse well frosted in the Willow River.

Chert traces in the upper portion of the middle - cryptozoan.

New Richmond: 995 - 1060

Mostly sand and sandy dolomite. The dolomite is pale to light drab-brown, very fine to fine crystalline. The sand is coarse to medium, a to C; well frosted. Few traces of chert conch and oolitic in the base.

Oneota: 1060 - 1280
Dolomite, pale to light drab and brown; medium to coarse crystalline, dense to slightly saccharoidal. Little pink and flesh color in the lower portion. Chert, pale to light gray granular to semi-vitreous, in part banded and oolitic - (cryptozoan) in the middle of the formation.

Jordan: 1280 - 1315
Mostly sand - little sandy dolomite. Sand medium (little coarse); a; well frosted by solution (?) pitting.

Lodi: 1315 - 1360?
Sand, coarse; a to C; well frosted with some secondary crystal faces.

St. Lawrence: ? - 1360
Dolomite, sandy, slightly glauconitic; light drab gray to medium gray, fine to medium crystalline; saccharoidal, grading downward to fine crystalline, light gray.
Sand, a to C, strongly pitted and solution frosted; mostly coarse, little medium.

T.D.: 1377¼'