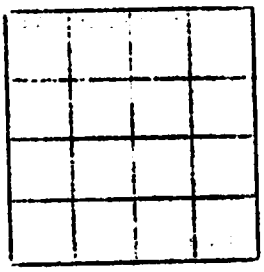
IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey
RECORD OF WELL

W12701

Location:

Town: IOWA CITY (NE) (SW) County JOHNSON

SE SW NW NW sec. ~~22~~ 23 T. 80 N., R. 6 (E) (W) Twp.



Well name and number KEN KALLAUS

Owner CORAL MARINA Address

Tenant Address

Contractor FARMERS' WELL SERVICE Address KALONA, IOWA

Drillers WILLIS E. MILLER

Drilling dates FEB 17-22, 1961

Well data:

Altitudes: Drilling curb feet; Land surface ~~735~~ 725 (Topo) feet

Topo

Determined by

Topographic position SIDE HILL

Total depth: Reported 165' feet; Measured feet

Drilling method CABLE TOOLS

Hole and casing data 60' OF 5" CASING

Original depth to water 100' ft. above below Date

Source of data

Sources of water: Principal 122 /

Others

PRODUCTION DATA

Date

Static water level 100

Pumping water level 110

Yield (g.p.m.) 20 gal/minute

Measuring point

Duration of pumping

Specific capacity

LABORATORY DATA TL4-45

Well No. W12701 Sample range 0-165 No. of samples 34

No. of dupls. and cond. 0 Washed range 5-165

Samples prepared by Campbell Date 3/10/61

Logged by Nortvup Date 4/4/61

Correlations by Date 4/4/61

DM Johnson 1

February 23, 1961

Mr. Ken Kallaus
Box 415
Iowa City, Iowa

Dear Mr. Kallaus:

We are pleased to send you the following figures from the analysis which was run today at the Iowa Water Laboratory of the Coral Marina well, and thus verify our phone call this afternoon:

Fe - .20 parts per million
Ph - 7.2
SO_4 - 50 to 150
NO_3 - 0
Total Alkalinity - 330 parts per million
Total Hardness - 340 parts per million

The above sample came from a depth of 165 feet in Devonian dolomite and limestone.

If you have any further questions please feel free to call on us. I hope we may be of further service.

Very truly yours,

H. G. Hershey

RCN/jsm

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Very truly yours,

H. C. Horsley

RCN/jam

GROUND-WATER CONDITIONS AT THE CORAL MARINA CAMP GROUNDS NEAR CORALVILLE DAM

The following statements represent an interpretation of the available geologic and hydrologic data in the files of the Iowa and Federal Geological Survey investigations.

The Coral Marina boat dock and camp grounds are located on Turkey Creek inlet, just upstream from the dam and on the east side of Lake Coralville in the SW¼ NW¼ NW¼ sec. 23, T. 80 N., R. 6 W., Johnson County. A generalized log of the strata anticipated to underlie this site down to the top of the Maquoketa shale is outlined in tabular form as follows (all depth figures are referred to an assumed starting surface elevation of 735 feet above sea level):

NE NE 22

Formation	Thickness (ft.)	Depth Range (ft.)
Quaternary system		
Pleistocene series (glacial drift clay)	10-50	0-35±
Devonian system		
Cedar Valley formation (limestone)	95	35±-130
Wapsipinicon formation (smooth limestone in upper 1/3; dolomite in lower 2/3's; basal 10-15 feet commonly silty or shaly)	55	130-185
Silurian system		
Gower-Hopkinton dolomite	165	185-350
Kankakee-Edgewood cherty dolomite	65	350-415
Ordovician system		
Maquoketa shale		415-

Some adjustments may be necessary on all these depths owing to local variations in the structure and thickness of the formations. However, well records from the surrounding vicinity indicate these depth estimates will be reasonably accurate.

Plenty of water for cabin and boating facilities might be encountered in the Cedar Valley and Wapsipinicon formations above 185 feet. However, excessive iron seems to be present in the water from these upper formations so that

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Formation	Thickness (ft.)	Depth Range (ft.)
Quaternary system		
Pleistocene series (glacial drift clay)	10-40	0-35±
Devonian system		
Cedar Valley formation (limestone)	45	35±-130
Wapsipinicon formation (smooth limestone in upper 1/3; dolomite in lower 2/3; basal 10-15 feet commonly silty or shaly)	55	130-185
Silurian system		
Gower-Hopkinton dolomite	165	185-350
Bainbridge-Edgewood shaly dolomite	65	350-415
Ordovician system		
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Some adjustments may be necessary as all these depths owing to local variations in the structure and thickness of the formations. However, well records from the surrounding vicinity indicate these depth estimates will be reasonably accurate.

Plenty of water for cabin and bathing facilities might be encountered in the Cedar Valley and Wapsipinicon formations above 185 feet. However, excessive iron seems to be present in the water from these upper formations so that

additional drilling into the underlying dolomite of Silurian age, between 185 and 415 feet would seem advisable. The iron in the Devonian formations causes "red water" troubles, staining laundry, plumbing fixtures, and clogging pipes. In this situation it will be desirable to case the well from the surface for about 10-20 feet or so below the top of the Silurian dolomite. Normally, a well penetrating the Silurian rocks will produce all the water needed for a project such as the Coral Marina camp. For example, the Riverview Housing development about 1-1/2 miles to the southwest has a community well completed in the Silurian dolomite that produces more than 200 gallons of water a minute at moderate drawdown during pumping. Favorable results have been obtained at other wells completed in the Silurian rocks in this general area. Several University-owned wells in Iowa City produce up to 300 to 400 g.p.m. from this source. The best results generally occur at wells penetrating the full thickness of the Silurian rocks down to the top of the Maquoketa shale. However, it probably will not be necessary to drill this far to obtain adequate water for the boat camp. Mineral analysis indicates the water from the Silurian rocks to be of good chemical quality and acceptable for drinking.

To sum up, sufficient water for the new boat camp probably can be obtained by drilling into the lower Devonian or Silurian rocks between about 150 and 250 feet. Excess iron in the lower Devonian (Wapsipinicon) formation is known to be a cause of "red water" troubles. By deepening the well into the Silurian rocks down to about 250 feet and extending the casing from the surface into the upper part of the Silurian dolomite, this condition may be avoided.

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To sum up, sufficient water for the new boat camp probably can be obtained by drilling into the lower Devonian or Silurian rocks between about 150 and 250 feet. Water from the lower Devonian (Cedar Valley) formation is known to be a source of "red water" trouble. By extending the well into the Silurian rocks down to about 200 feet and extending the casing from the surface into the upper part of the Silurian dolomite, this condition may be avoided.

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