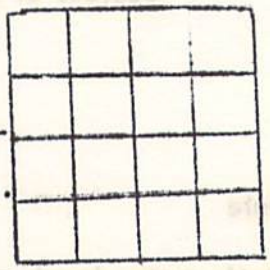
W13909

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

Location:

Town: ALBURNETT (NE) (SW) County LINN (E)

NWNE sec. 26 T. 85 N., R. 7 (W) Twp.



Well name and number

Owner ALBURNETT TOWN WELL Address ALBURNETT, IOWA

(1960)

Tenant Address

Contractor MILAN FREESE Address ROBINS, IOWA

Drillers

Drilling dates 1961

Well data:

Altitudes: Drilling curb feet; Land surface feet 890'+

Determined by

Topographic position

Total depth: Reported 400' feet; Measured feet

Drilling method ROTARY?

Hole and casing data 235' OF 10" CSG.

Original depth to water ft. below (above) Date

Source of data

Sources of water: Principal _____

Others _____

PRODUCTION DATA

Date _____

Static water level 50'

Pumping water level 171'

Yield (g.p.m.) 250

Measuring point _____

Duration of pumping _____

Specific capacity _____

LABORATORY DATA TL4-587

Well No. W13909 Sample range 0-400 No. of samples 80

No. of dupls. and cond. 80 Good Washed range 25-400

Samples prepared by Kabes Date 10-11-62

Logged by Northup Date 10/29/62

" "

Correlations by _____ Date 10/29/62

IOWA GEOLOGICAL SURVEY
TABULATION OF WATER ANALYSIS
(Dissolved constituents in parts per million)

Town - Well No Owner	Date of coll.	Depth (ft.)	Geol. source	°F	Diss. solids	Fe	Mn	Ca	Mg	K	Na	CO_3	HCO_3	SO_4	Cl	F	NO_3	Hardness cal. as $CaCO_3$ tot.	carb	non carb	pH	Cond
Marion city supply public spring	10/34	spring	Wapsi		287	0.0	Tr.	70	14	1.7		-	254	24	4.0	Tr.	27	232	208	24	7.5	
Coggon Town Well No. 1	6/58	285	Silurian		319	.02	<.05	75	25	1.0	8.5	0	307	43	5.	.15	2.2	290	252	38	7.6	560
Marion City No. 3 (1957)	7/57	355	"		629	1.5	.20	128	34	3.5	21	0	292	183	54	0.3	<.44	459	239	160	7.4	880
Center Point Town No. 1	3/49	450	"		351	<0.1	0	78	20	13		-	278	48	8.0	0.3	5.7	277	228	45	7.4	480

NOTES: < =less than
Tr.= Trace

GROUND-WATER CONDITIONS AT ALBURNETT, IOWA

These statements are based on available information in the files of the cooperative investigations of the Iowa and U. S. Geological Surveys.

The town of Alburnett is located on the gently rolling Iowan till plain about 10 miles north of Cedar Rapids in sections 25 and 26, T. 85 N., R 7 W., Linn County. The population is estimated at between 250 and 275. A generalized log of the formations anticipated to underlie this vicinity down to the top of the Maquoketa shale is outlined as follows (all depth figures are based on an assumed starting elevation of 900 feet above sea level):

Formation	Thickness (ft)	Depth Range (ft)
Quaternary system		
Pleistocene series (glacial till)	65	0-65±
Devonian system		
Wapsipinicon formation (dolomite, sandy in basal part, minor chert)	40	65±-105
Silurian ~~Ordovician~~ system		
Niagaran series (dolomite, cherty in upper half)	220	105-325
Alexandrian series (cherty dolomite, chert commonly tripolitic)	75	325-400
Ordovician system		
Maquoketa formation (shale in upper half; dolomite, cherty, and shale in lower half)		450-

A higher or lower starting elevation will modify all these depths accordingly. Also some adjustments may be necessary owing to local variations in the structure and thickness of the beds.

Most of the wells in this vicinity derive their water supply from either the Devonian or Silurian formations at depths of 100 to 300 feet. Only small quantities of water are expected from the overlying glacial deposits at Alburnett. In some places sufficient water was found in the Cedar Valley or Wapsipinicon formations; in other places wells have been extended into the Silurian rocks. A well penetrating the Wapsipinicon formation at the United Brethren Parsonage in Alburnett reportedly produced

24 gallons a minute with no appreciable drawdown during pumping. The original static water level was given as 30 feet below the surface. The Alburnett Consolidated School well, 215 feet deep and penetrating 125 feet into the Silurian cherty dolomite reportedly produced 20 gallons a minute. This well is located in a small valley in the SE corner NE¼ NE¼ sec. 26. The elevation of the well curb is 886 feet. The final water head was reported to be 30 feet below the surface. No data were obtained on the amount of drawdown during pumping. Much larger yields generally are obtainable by drilling to the top of the Maquoketa shale. For example, industrial wells at Cedar Rapids yield as much as several hundred gallons a minute from the Silurian dolomites. The high yields indicate favorable aquifer conditions and proper well construction. However, the yield from limestone and dolomite strata depends on the presence of large crevices or a system of joints which will permit the water to move readily to the pumped well. In the absence of such openings the yields to wells will be rather low. Acidizing the water beds to enlarge the well intake area may appreciably increase the yield if necessary.

Mineral analyses indicate that both the Devonian and Silurian rocks yield water of acceptable quality for municipal use at Alburnett. The new well should be adequately cased and cement grouted for a considerable distance into the bedrock to minimize the possibility of contamination from surface drainage. A few pertinent mineral analyses of the water from wells in the surrounding area are appended to this report.

PJH 10/58