

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

W-3479

RECORD OF WELL

Location:

Town: Fayette (NE)
(SW): County Fayette
SE/4 NW NW sec. 28 T 93 N., R. 8 W. Twp.

Well name and number Fayette town well (1948)

Owner Town of Fayette Address _____

Tenant _____ Address _____

Contractor Hoeg & Ames Address _____

Drillers _____

Drilling dates Dec., 1948 - Dec. 15, 1948

Well data:

Elevations: Drilling curb _____ feet; Land surface _____ feet

Determined by _____

Topographic position Flat

Total depth: Reported _____ feet, Measured 80 feet

Drilling method Cable tool

Hole and casing data 34' of 16" from 0-34' (driven 1 1/2 ft.

into Ry.

Original depth to water 19 ft. ^{above} ls _{below} Date Dec 15, 1948

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

Sources of water: Principal Base Waper - 55-60' - U. sil.; Others _____

Production data:

Date Dec. 16, 1948

Static depth to water 20.60 Measuring point Top 16" casing
Pumping level 265 ± 0.5 at 300 ± 30 g.p.m.
29.9 ± 0.2 500 ± 50

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 _____

WATER ANALYSES (in parts per million)

Date samples	_____	_____	_____	_____
Sampled by	_____	_____	_____	_____
Total solids	_____	_____	_____	_____
Insoluble matter	_____	_____	_____	_____
Alkalinity (Meo)	_____	_____	_____	_____
Alkalinity (Phn)	_____	_____	_____	_____
pH	_____	_____	_____	_____
Fe ₂ O ₃ + Mn ₂ O ₃ + Al ₂ O ₃	_____	_____	_____	_____
Alkali as sodium	_____	_____	_____	_____
Calcium	_____	_____	_____	_____
Magnesium	_____	_____	_____	_____
Iron (unfiltered)	_____	_____	_____	_____
Manganese	_____	_____	_____	_____
Nitrate	_____	_____	_____	_____
Fluoride	_____	_____	_____	_____
Chloride	_____	_____	_____	_____
Sulfate	_____	_____	_____	_____
Bicarbonate	_____	_____	_____	_____
Hardness (ppm)	_____	_____	_____	_____
Hardness (gpg)	_____	_____	_____	_____

Remarks _____

Laboratory data:

Sample storage location CEB-4

Sample range 35-80 No. spls. 17 No. dupls. & cond. 17- Good

Spls. prepared by JCC Washed range. 35'-80' by EMR

Driller's log and cond. None

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

Microscopic study R.M.J. 22/12/48 strip log _____

Gen. log _____ Correl. by _____

Pumping test on Fayette town well

December 16, 1948

Location: SE/c NW NW 28-93N. 8W., beneath water tank on north edge of town.

Contractor - Hoeg & Ames

Driller - Edward Martin

Drilling dates - Dec. 13-16, 1948

Depth - 80' (Top Maquoketa about 69 ft.)

Casing record - 34 ft. of 16" from 0-34 ft. (1.5' into rock)

Test pump - Fairbanks Morris belt driven turbine powered by gasoline engine. Pump set at 65 ft.

Measuring point - top of 16" casing, about 1 ft. above land surface.

Discharge measurement - drum of known capacity

Well was pumped 4 hours at 300 ± 30 gpm followed by 1h. 10 m. pumping at about 500 ± 50 gpm. Water level seemed to approximately stabilize but were materially affected by small changes in pumping rate. The specific capacity, under these conditions, was about 50-55 gpm/ft.

Because of the method of operation of the test and irregularities in pumping rate, data on the hydraulic constants of the aquifer were not reliable.

When the pump is installed (on hand now), one of the old wells will be filled in; the operator may, if the town officials agree, keep the other as an observation well

A water sample should be collected after the well is put into operation.

RMJ

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington
District

Test Fayette Town well

time	W.L. (D/00)	OF	GPM							
										Dec. 16, 1948
8:54	20.60									
8:55										
9:00	26.83									
9:03	28.52									
9:06	28.67									
9:08	28.46									
9:10	28.48									
9:12	—	49°	320±							
9:25	27.93									
9:28	28.01									
9:35	27.83									
9:41	26.15									
9:46	26.19									
9:50	30	50°	275±							
9:52	26.16									
10:02	26.22									
10:12	26.20									
10:19	26.18									
10:21	—	50°	290							
10:40	26.46									
10:50	26.51									
11:12	26.38									
11:20	26.58	50°	± clear							
11:26	26.49									
11:40	26.44									
11:42	—	50°	290							
12:09	26.40									
12:36	26.39									
12:55	26.55									
12:57										
12:58	29.58									
59	—		500±							

UNITED STATES
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Time	WL	OF	GPM																	
1:00	29.94																			
1:02	29.90																			
1:04	29.84																			
1:10	29.88																			
1:15	29.93																			
1:24	29.82																			
1:25	—	50°	500±																	
1:29																				
1:35	29.74	50°																		
1:40	—		480±																	
1:45	29.73																			
1:55	29.83																			
2:05	29.85			Sample - cloudy																
2:06	—			pump off.																
2:07	21.62																			
2:08	21.53																			
2:09	21.46																			
2:10	21.35																			
2:12	21.31																			
2:14	21.30																			
2:16	21.24																			
2:19	21.16																			
2:21	21.12																			
2:25	21.14																			
3:16	20.87																			

Recovery

Pump removed

Dec. 16, 1948

Re; Fayette Public Supply well

Well encountered water in a soft zone at about 55-60 feet, passed through dolomite and then into Maquoketa shale about 70 feet below the surface.

Static water level was about 19 feet below the surface after 30 minutes recovery from drilling and bailing. Tentative bailer test indicated yield in excess of 70 gallons a minute over short periods at least, and the well is to be tested by a turbine pump on Dec. 17. Mr. Ames requested that a Survey representative be present.

The two present town wells (pumped together) have a combined yield of 10 to 18 gpm. and the town is short on water. Several wells in town are reported to be used as septic tanks; presumably the source of such pollution as has been reported.

According to the mayor, about 100 to 150 gpm are desired from the new well.

RMJ