W-36000

AgriProcessors Well Report

August 1999

This report is a history of the work done on AgriProcessor's well, Postville, IA. Peerless Service contacted us as a result of a call they got from Agri regarding no water. In the process of pulling the pump, the pump became detached and fell to the bottom of the well. Peerless did not have the capability of "fishing" the pump, so we were called in.

We first televised the well and found that the pump was covered with debris and scaled that had fallen on top of the pump as a result of the pump falling to the bottom. We leased a 36L cable rig from Roy Hessman to do the job. We elected to use this rig as it was bigger than our 60L and had better lifting capability. In addition, Agri decided to have us drill the well deeper to obtain more water.

The pump was retrieved after about 2 days of fishing. We then strung 10" tools, first using a "torpedo" bit to obtain plumbness and straightness. We started drilling @ 1118' and after about 15' of drilling, switched to a "Mother Hubbard" bit. The 10" hole was then drilled to a depth of 1255', at which point we believe we were into the ~~Mt. Simon~~ Wonewoc approximately 14'. The formation from 1118' to 1255' was interspersed with shale streaks, some of which was quite sticky and sloughed from time to time. In addition, we encountered some steel in the well and had trouble with the steel from time to time.

When we reached 1255', we installed an 8" liner. The liner extended from 1003' to 1255'. The top of the 8" liner has a 9 5/8" entering shoe.

An open 8" hole was then drilled through the underlying sandstone from a depth of 1255' to a depth of 1349'. At 1345', we were into some lime and felt that for the most part, we were through the ~~Mt. Simon~~ Wonewoc formation.

Upon completion of the drilling we installed tremie line and airlifted the well. The well was airlifted for a period of time in order to develop any sand out of the well. The well was then test pumped at a rate of 400 gallons per minute. The static water level prior to test pumping was 449'. The well drew down to a depth of 563' after pumping for a period of 21 hours. The well did not pump hardly any sand during the test pumping phase.

W36000

TEST PUMPING REPORT

JOB NAME: Agri-Processors - Postville
TESTED BY: Sass & Gruber
DEPTH: 1,347'
LENGTH OF AIRLINE: 578'
PUMP USED: Driver: 100 H.P.
Column & Shaft: 6" & 5"
Bowls: SS 8 H
Manufacturer: Simmons

DATE: September 8 – 9, 1999
DIAMETER: 12" x 10" x 8"
NON-PUMPING LEVEL: 449'
ORIFICE SIZE: 6" Meter

TIME	GPM	AIR GAUGE READING (FEET)	PUMPING LEVEL	DRAWDOWN	CHARACTER OF WATER
9/8/99					**START TEST**
1:45 P.M.					
1:46	430	54'			
1:47	420	46'			Minor amount of sand
1:48	420	44'			
1:50	415	40'			Air in water
1:55	410	36'			
2:00	405	33'			Sand amount .2 ml/30 min
2:05	405	30'			<1 PPM
2:10	405	29'			
2:15	405	28'			
2:20	405	26'			
2:30	400	25'			
2:45	400	24'			
3:00	400	23'			Sand amount .25 ml/1 hr 15 min
3:15	400	22'			
3:30	400	22'			
4:00	400	21'			
4:30	400	20			
5:00	400	19			
5:30	400	18			
6:00	400	18			
6:30	400	18			
7:00	400	18			
7:30	400	17'	561'		
8:00	400	17			
8:30	400	16	562'		
9:00	400	16'			
9:30	400	16'			
10:00	400	16'			
10:30	400	15'	563'	114'	3.5 GPM/ft OD
11:00	400	15'			
11:30	400	15'			
9/9/99					
12:00 A.M.	400	15'			
12:30	400	15'			
1:00	400	15'			

CONTINUED

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Agri-Processors Test Pumping Report
September 8 – 9, 1999

1:30	400	15'			
2:00	400	15'	563'	114'	
					Increase pump pressure to 40 PSI
2:05	350	25'			
2:10	350	26'			
2:15	350	26'			
2:30	350	27'			
3:00	350	28'	550'		
3:00 A.M.					**Reduce Pressure**
3:30	400	16'			
4:00	400	17'			
4:30	400	18'			
5:00	400	18'	560'		
5:30	400	18'	560'		
6:00	400	17'	561'		
6:30	400	16'	562'		
7:00	400	16'			
7:30	400	16'			
8:00	400	16'			
8:30	400	16'			
9:00	400	15'			
9:30	400	15'			
10:00	400	15'	563'	114'	3.5 GPM/ft OD
					STOP TEST
RECOVERY					
1 min		70'			
2 min		81'			
3 min		88'			
4 min		91'			
5 min		93'			
10 min		98'			
15 min		104'			
30 min		107'			
1 hour		109'	469'		

Hygienic Laboratory

The University of Iowa

Date of report: 09-28-1999

BOB MCKAY
GEOLOGICAL SURVEY BUREAU-DNR
109 TROWBRIDGE HALL

IOWA CITY IA 52242-1319

Sample Number	**9960918**
Date Received	09-08-1999
Project	
Date Collected	09-02-1999 10:00
Collection Site	agriprocessors (#w 36000)
Collection Town	Postville
Description	water
Reference	
Collector	SHAWVER WELL, KEITH
Phone	
Purchase Order	

Results of Analyses

Manual Flouride by ISE (SDWA)

Analyte	Concentration mg/L	Quantitation Limit
Fluoride	0.35	0.1

Date Analyzed: 09-09-1999
Method: SM 4500-F C

Analyst: JF
Verified: RS

Inorganic Chemistry

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
Nitrate Nitrogen as N	<0.1 mg/L	EPA 300.0	LDA/DC	09-08-1999
Comments	*Samples exceeded EPA recommended holding time when received at the laboratory.*			

Inorganic Chemistry

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
Phenolphthalein Alkalinity	None	SM 2320B	ML/DC	09-09-1999
Silica as SiO2	8.0 mg/L	SM 4500-SI D	DC/SGB	09-16-1999
Laboratory pH	7.6 pH Units	EPA 150.1	ML/DC	09-09-1999
Specific Conductance	550 umhos/cm	SM 2510B	ML/DC	09-09-1999
Total Alkalinity	250 mg/L as CaCO3	SM 2320B	ML/DC	09-09-1999
Total Hardness	320 mg/L as CaCO3	SM18 2340 B	DC/SGB	09-15-1999
Total Dissolved Solids	350 mg/L	EPA 160.1	BR/BW	09-10-1999
Comments	*Dried at 180 degrees C.*			

Inorganic Chemistry

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
Total Suspended Solids	7 mg/L	USGS I-3765-85	BR/BW	09-10-1999
Comments	*Dried at 103 degrees C*			

Mary J. R. Gilchrist, Ph.D.
Director

102 Oakdale Campus, #101 OH
Iowa City, Iowa 52242-5002
319/335-4500 Fax: 319/335-4555

http://www.uhl.uiowa.edu

H.A. Wallace Building
East Grand, Des Moines, Iowa 50319-0034
515/281-5371 Fax: 515/243-1349

Inorganic Chemistry

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
Total Calcium	80 mg/L	EPA 200.7	DC/SGB	09-15-1999
Total Magnesium	29 mg/L	EPA 200.7	DC/SGB	09-15-1999
Total Potassium	4.1 mg/L	EPA 200.7	DC/SGB	09-15-1999
Total Sodium	4.5 mg/L	EPA 200.7	DC/SGB	09-15-1999
Bicarbonate	310 mg/L	SM 403	ML/DC	09-09-1999
Carbonate	None	SM 403	ML/DC	09-09-1999
Chloride	3.0 mg/L	EPA 300.0	LDA/DC	09-08-1999
Sulfate	59 mg/L	EPA 300.0	LDA/SGB	09-09-1999
Langlier Index	0.45 lang	SM 203	DC/SGB	09-24-1999
Stability Index	6.7 Units	SM 203	DC/SGB	09-24-1999
Aquapoise pH	7.15 Units	SM 203	DC/SGB	09-24-1999
Total Chromium	<0.01 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Selenium	<0.01 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Manganese	0.11 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Cadmium	<0.001 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Copper	<0.01 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Arsenic	<0.01 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Nickel	<0.05 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Barium	0.08 mg/L	EPA 200.8	SB/DC	09-13-1999
Total Iron	1.3 mg/L	EPA 200.7	DC/SGB	09-15-1999
Total Mercury	<0.001 mg/L	EPA 245.1	LDA/SGB	09-24-1999
Total Zinc	<0.02 mg/L	EPA 200.7	DC/SGB	09-15-1999

Description of units used within this report

mg/L - Milligrams per Liter
umhos/cm - Micromhos per Centimeter
mg/L as CaCO3 - Milligrams per Liter as Calcium Carbonate
Quant Limit - Lowest concentration reliably measured
pH Units - pH Units
Units - Units
lang - Langlier Index

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.

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H.A. Wallace Building
East Grand, Des Moines, Iowa 50319-0034
515/281-5371 Fax: 515/243-1349

Hygienic Laboratory

DNR
OCT 12 1999
GEOL. SURVEY

The University of Iowa

Date of report: 10-11-1999

BOB MCKAY
GEOLOGICAL SURVEY BUREAU-DNR
109 TROWBRIDGE HALL

IOWA CITY IA 52242-1319

Sample Number	**9907485**
Date Received	09-03-1999
Project	
Date Collected	09-02-1999 10:00
Collection Site	agriprocessors (w#36000)
Collection Town	Postville
Description	water
Reference	SHAWVER WELL CO
Collector	KEITH
Phone	
Purchase Order	

Results of Analyses

Radiochemistry

Analyte	Concentration pCi/L	Uncertainty +/-	Method	Analyst/ Verifier	Date Analyzed
Gross Alpha	4.1	1.1	EPA 900.0	MM/MM	09-16-1999

Comments: *The United States Environmental Protection Agency has designated a maximum contaminant level of 15 pCi/L for Gross Alpha (excluding uranium) in public drinking water supplies. Effective since July 9, 1976.*

Radiochemistry

Analyte	Concentration pCi/L	Uncertainty +/-	Method	Analyst/ Verifier	Date Analyzed
Radium-226	1.4	0.8	EPA 903.0	MT/MM	10-07-1999

Comments: *The United States Environmental Protection Agency has designated a maximum contaminant level of 5 pCi/L for combined Radium 226 and Radium 228 in public drinking water supplies. Effective since July 9, 1976. For any Radium 226 and or 228 result less than our detection limit a value of zero is to be assumed for the purposes of combining the results.*

Description of units used within this report

pCi/L - PicoCuries per Liter

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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