61479

Chatman & Associates incorporated

# WELL/BORING LOG

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**WELL/BORING NO:** CIRWA304 **Sampler:** AKF

**Driller:** Northway Well + Pump

Location: Waverly, IA

Start Date/Time: 6/28/04 1200 Completion Date/Time: —

Drill Equipment: Ingresoll Rand Cyclone Drills Sample Method: —

Ground Elevation: 945 ft Northing: N42.71400° Easting: W092.51389°

| Depth (bls) | Recovery (ft/ft) | Sample Depth | Sample ID and Method | Description of Material Drilled | Unified Classification | PID Monitoring: Reading (ppm) | PID Monitoring: Time | PID Monitoring: Location (background, headspace, well head, etc.) |
|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | |
| 20 | | | | | | | | |
| 30 | | | | | | | | |
| 40 | | | | | | | | |
| 50 | | | | 48 ft Silty LM yellow brown 2.5y 6/4 (2ft)-Loss in mud pit Brittle | | | 6/29/04 1230 | |
| 60 | | | | 60 ft LM Lt brownish gray 2.5y 6/2 | | | | |
| 70 | | | | | | | 6/29/04 1300 | |
| 80 | | | | 75 ft Interbedded Brown Silty LM, Gray LM + White 2.5y 7/1 Shale | | | 6/29/04 1330 | |
| 90 | | | | 85 ft Muggy LM 2.5y 6/3 Calcite crystals White 2.5y 8/1 trace chert interbedded siltstone w/yellow clay | | | 6/29/04 1420 | |
| 100 | | | | TD = 85 ft Refusal at 85 ft due to fracture w/ gravels | | | | |

110 - 125

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785 597 2310

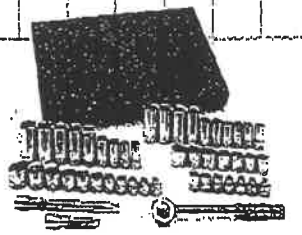
# CAMPBELL SUPPLY CO.

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| (800) 782-5134 | (800) 798-8665 | (800) 252-6120 | (800) 891-3044 |

| | | | |
|---|---|---|---|
| 80' TO 93' | ROCK | BROWN | |
| 93' TO 94' | CREVICES | | |
| 94' TO 99' | ROCK | BROWN | SOFT |
| 99' TO 102' | ROCK | | HARD |
| 102 - 110' | BROKEN ROCK AND SAND | | SOFT |
| 110 - 116' | CREVICES | ROCK BROWN | HARD |
| 116' - 125' | ROCK SAND | BROWN | SOFT |
| 125' - 155' | ROCK | BROWN | HARD |
| 155' - 160 | BROKEN ROCK | BROWN | |
| 160' - 175' | ROCK | BROWN | SOFT |
| 175' - 180' | CREVICES | | |
| 180' - 195' | ROCK | BROWN | HARD |
| 210 | Crevices | | |
| ~~215~~ 220 | | | Shale |

ATTN: Martha



chilled
didn't think
TV

More fractured than thought

screens 12x11

Didn't like screening - Sand

Screened gravels & Cedar Falls but because Limestone

125'

Case to bedrock @ 50

Case 24"

drill in down to 125'

Pump + try to develop

85 feet of 125 feet

Stopped to Complete

# Northway Well and Pump Co.

4895 8th Avenue • Marion, Iowa 52302 • Telephone 319-377-6339
100 North 6th Street • Waukee, Iowa 50263 • Telephone 515-987-4575


## VIDEO

WATERWELL LOG

CUSTOMER Central Iowa Rural Water
LOCATION West of Waverly
TYPE OF CASING Steel
CASING LENGTH +2 to 123'

WELL NO. 1
CITY Waverly, Iowa
SIZE 18"
YEAR INSTALLED 2004
DATE 1-28-05

| FOOTAGE | CLOSED CIRCUIT TELEVISION FINDINGS |
|---|---|
| 16 | Casing Joint |
| 50 | Static Water Level |
| 55 | Casing Joint |
| 99 | Casing Joint |
| 118 | Casing Joint |
| 122 | Float Shoe Port Hole |
| 118 to 123 | Float Shoe |
| 123 | Bottom of Casing |
| 123 | Formation Crevice Under Casing |
| 125 | Formation Crevice |
| 136 to 139 | Formation Crevice |
| 156 to 162 | Large Formation Crevice |
| 172 to 175 | Very Large Crevice |
| 209 | Large Amount of turbidity hanging up the camera could not see to go any further. |
| | |
| | Note: Loose material areas 129, 130, 137, 143, 146, 148 to 151 156 to 160, 162, 163, 167, 169 |
| | |

KNOWLEDGE • EQUIPMENT • RELIABILITY • EXPERIENCE

# Northway Well and Pump Co.

**4895 8th Avenue**
**Marion, Iowa 52302**


January 28, 2005

Central Iowa Rural Water Association
3801 SE Beltline Road
Newton, Iowa 50208

Attn: Mr. Dan McGinnis

Re: Private Well Monitoring Levels

Dear Mr. McGinnis,
The following are the wells we discussed to monitor the levels prior to the CIRWA production well test. On the day of the test none of the wells were operating at the time I took the last static water level measurement.

**Location 1** - Heritage Methodist Church - 1201 Heritage Trail

| | | |
|---|---|---|
| Date: 1-21-05 | Static Water Level | 69.63 feet |
| Pumping Level at 10gpm | 10 Minutes | 69.63 feet |
| | 20 Minutes | 69.63 feet |
| | 30 Minutes | 69.63 feet |
| Date: 1-27-05 | Static Water Level during 24 hour pump test | 71.45 feet |

**Location 2** - Central Iowa Rural Water Association supply well at building site

| | | |
|---|---|---|
| Date: 1-21-05 | Static Water Level | 87.81 feet |
| Pumping Level at 10gpm | 10 Minutes | 87.84 feet |
| | 20 Minutes | 87.84 feet |
| | 30 Minutes | 87.84 feet |
| Date: 1-27-05 | Static Water Level during 24 hour pump test | 88.45 feet |

**Location 3** - Dick Brooks - 1815 10th Avenue SW

| | | |
|---|---|---|
| Date: 1-21-05 | Static Water Level | 84.21 feet |
| Pumping Level at 10 gpm | 10 Minutes | 84.23 feet |
| | 20 Minutes | 84.23 feet |
| | 30 Minutes | 84.23 feet |
| Date: 1-27-05 | Static Water Level during 24 hour pump test | 84.89 feet |

**Location 4** - Waverly Municipal Well No. 8 - West of Cuna Mutual Insurance

| | | |
|---|---|---|
| Date: 1-21-05 | Static Water Level | 117.63 feet |
| Pumping Level at 1100 gpm | 10 Minutes | 118.65 feet |
| | 20 Minutes | 118.65 feet |
| | 30 Minutes | 118.65 feet |
| Date: 1-27-05 | Static Water Level during 24 hour pump test | 118.0 feet |

If you have any questions please give me a call 800-747-6339 at anytime.

Sincerely,

Tom Engelken

Tom Engelken, Sales Representative

NORTHWAY WELL AND PUMP CO.