

**Site identification Emergency Permit**

Property Owner Cuttys of Okoboji Well Number #6  
 Address 1528 HWY 86 Spirit Lake, IA  
 Tenant Public Water Supply  
 Well Depth 93 ft Date completed 2/22/2012

**Drill method**  rotary  auger  cable  other

**Hole size**  
 12 1/4 inch from 0 ft to 24 ft  
 11 1/2 inch from 24 ft to 93 ft

**Location** County Dickinson  
 1/4 mi. N and 1/8 mi. W of intersection of HWY 9 and HWY 86  
 SW 1/4 of the NW 1/4 of the NE 1/4 of Sec 2 TWP 99 RANG 37

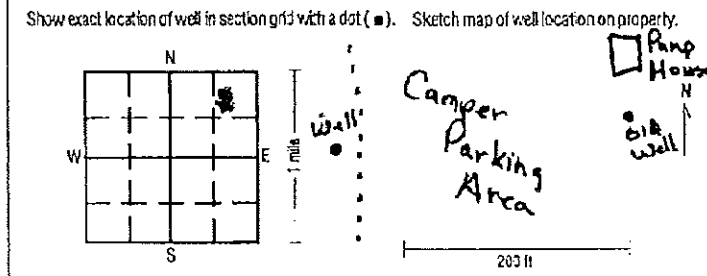
Record all depth measurements from ground level (GL). Use (+) for above GL measurements.

**Casing** Drive shoe (yes / no)  Press adapter (yes / no)   
 Size (ID/OD) 6" ID Type / Wt PVC/200# Depth top 18' Depth bottom 83' Amount (length) 84'-6"

GPS Coordinates (NAD83 datum, only) decimal degrees:  
43.42761 N. Latitude 95.18006 W. Longitude.

**Perforated or slotted casing?** (yes/no)  no

Perforated / slotted from \_\_\_\_\_ ft to \_\_\_\_\_ ft  
 Perforated / slotted from \_\_\_\_\_ ft to \_\_\_\_\_ ft



**Casing grouted?** (yes/no)  yes  
 Placement method Trimme

Type	Depth top	Depth bottom	Amount (vol/wt)
<u>Ben Seal-EZ</u>	<u>6'</u>	<u>60'</u>	<u>200 gallons</u>

upland  hillside  valley  level surface Elevation (if known) \_\_\_\_\_

**Well screen?** (yes/no)  no

Diameter	Slot size	Depth top	Depth bottom	Length	Material
<u>6" P.S.</u>	<u>0.030</u>	<u>83'</u>	<u>93'</u>	<u>10'-2"</u>	<u>Stainless Steel</u>

**Formation log**

From	To	Color	Hardness	Formation description
0	2	Black		Topsoil
2	18			Yellow Clay
18	35			Blue Clay
35	36			Gravelish
36	81			Blue Clay
81	93			Gravel
93	95			Blue Clay

Bottom capped (yes/no)  no with Plate Bottom - SS  
 Seals / Packers (yes/no)  no Kind Bentonite Chips depth 60' to 67' ft  
 Gravel packed (yes/no)  no from 67' ft to 93' ft  
 type #40 Red Flint amount 800#

**Well developed?** (yes/no)  no  
 Explain Jetted, Airlifted & Pumped  
 pumped  airlifted  bailed for 24 hrs at 100 GPM

**Pump installed?** (yes/no)  no Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Installer's name Milford Well Service  
 Type of pump Submersible-80GS Depth to intake 68 ft  
 Pump diameter 4" Rated capacity 100 GPM

**Water information** Aquifer:  sand/gravel  limestone  sandstone  
 Main water-supply zone from 81 ft to 93 ft  seepage well  
 Static water level 30'-3" ft (below/above) GL;  tape  airline  estimate  
 Pumping water level 38'-6" ft below GL;  tape  airline  estimate  
 At yield of 100 GPM;  orifice  volumetric  estimate for 24 hours  
 Measurements taken at 2:30 (AM/PM) Date 2/22/12

**Remarks** (including depth of lost drilling fluids, materials, or tools)  
Test Pump Start Time - 3:15 PM - 2-21-12  
Shut Down - 2:30 PM - 2-22-12

**Water quality test?** (yes/no)  no Date tested 2/22/12  
 Tested by Mangold Environmental - Storm Lake, IA

**Well use**

<input type="checkbox"/> Domestic	<input type="checkbox"/> Heat pump	<input type="checkbox"/> Commercial
<input type="checkbox"/> Livestock	<input type="checkbox"/> Municipal	<input type="checkbox"/> Monitoring
<input type="checkbox"/> Test well	<input checked="" type="checkbox"/> Public supply	<input type="checkbox"/> Other
	<input type="checkbox"/> Irrigation	

Contractor Middendorff Well Co., Inc.  
 Address Sioux Rapids, IA 50585  
 Driller Gary Wernimont Craig Certification no. 6669