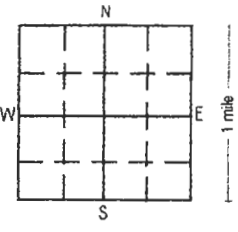


Site identification
 Property Owner Regional Water Other ID Well #19
 Address 108 Highway 59, Avoca, Iowa 51521
 Tenant N/A
 Well Depth 33 ft Date completed 6 / 27 / 07

Location County Shelby
 _____ mi. ^N and _____ mi. ^E of intersection of _____ and _____
 _____ mi. ^S and _____ mi. ^W of intersection of _____ and _____
 _____ 1/4 of the _____ 1/4 of the _____ 1/4 of Sec. _____ TWP. _____ R. _____ E. _____ W. _____
 GPS Coordinates (NAD83 datum only) decimal degrees:
41° 30.369 N. Latitude 95° 20.389 W. Longitude.
 Show exact location of well in section grid with a dot (•). Sketch map of well location on property.



upland hillside valley level surface Elevation (if known) 1150

Formation log

From	To	Color	Hardness	Formation description
0	4			Top soil
4	9'6"	Brown		Clay
9'6"	15'			Medium to coarse sand
15	20			Med/coarse sand + gravel
20	27			Coarse sand + gravel with small cobbles
27	33	Gray		Fine, medium, + coarse sand + gravel
33	33'6"	Gray		Clay

use additional sheets as needed

Remarks (including depth of lost drilling fluids, materials, or tools)
Drilled reverse-circulation rotary

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	

Drill method rotary auger cable other _____
Hole size
32 inch from 0 ft to 33 ft hole size continued _____ inch from _____ ft to _____ ft
 _____ inch from _____ ft to _____ ft _____ inch from _____ ft to _____ ft

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

Casing Drive shoe (yes / no) Pitless adapter (yes / no)

Size (ID/OD)	Type / WT	Depth top	Depth bottom	Amount (length)
<u>8" I.O.</u>		<u>+2</u>	<u>27</u>	<u>29</u>
<u>16"-8" Reducer</u>		<u>27</u>	<u>28</u>	

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 _____

Type	Depth top	Depth bottom	Amount (vol/wt)
<u>Cement grout</u>		<u>18'</u>	
<u>Bentonite Seal</u>	<u>18'</u>	<u>20'</u>	<u>750 lbs.</u>

Well screen? (yes/no) yes

Diameter	Slot size	Depth top	Depth bottom	Length	Material
<u>16"</u>	<u>0.100</u>	<u>28</u>	<u>33</u>	<u>5'</u>	<u>Stainless steel</u>

Bottom capped (yes/no) yes with Stainless Steel Plate
 Seals / Packers (yes/no) no kind _____ depth _____ ft
 Gravel packed (yes/no) yes from 33 ft to 20 ft
 type Red Flint #90 amount 8,000 lbs.

Well developed? (yes/no) yes
 Explain Air-lifted for 1 hour; test-pumped for 48 hrs.
 (pumped) air-lifted, bailed) for 48 hrs at 117 GPM

Pump installed? (yes/no) yes Date 8 / 15 / 07
 installer's name Cahoy Pump Service
 Type of pump Submersible Depth to intake 29 ft
 Pump diameter 4" Rated capacity 92 GPM

Water information Aquifer: sand / gravel limestone sandstone
 Main water-supply zone from 28 ft to 33 ft seepage well
 Static water level 12 ft (below / above) GL: tape airline E-line estimate
 Pumping water level 19 ft below GL: tape airline E-line estimate
 At yield of 117 GPM: orifice volumetric estimate for 48 hours
 Measurements taken at 11:00 (AM/PM) Date 6 / 30 / 07

Water quality test? (yes/no) yes Date tasted _____ / _____ / _____
 Tested by _____

Contractor Cahoy Pump Service
 Address 411 E. Main St., Fredericksburg, Iowa 50630
 Driller Mark Classen Certification no. 1899