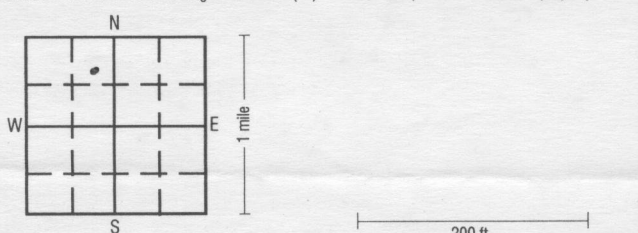


Site identification Emmetsburg
 Property Owner Municipal Utilities Well Number 8
 Address 2021 Main St., Emmetsburg, Iowa, 50536
 Tenant _____
 Well Depth 255 ft Date completed 12/02/05

Location County Palo Alto
 _____ mi. ^N and _____ mi. ^E of intersection of _____ and _____
 _____ 1/4 of the NE 1/4 of the NW 1/4 of Sec 25 TWP 96N RNG 33W ^E (W)
 Show exact location of well in section grid with a dot (●). Sketch map of well location on property.

 upland hillside valley Elevation (if known) _____

Formation log

From	To	Color	Hardness	Formation description
0'	2'			Topsoil
2'	40'			Medium-Coarse Sand+Gravel
40'	80'			Gray Clay
80'	96'			Yellow Clay
96'	110'			Medium-Coarse Sand+Gravel
110'	125'			Coarse Pea Gravel
125'	145'			Clay
145'	224'			Fine Sandstone
224'	226'			Shale
226'	250'			Sandstone
250'	256'			Sandstone w/shale Strangers

use additional sheets as needed

Remarks (including depth of lost drilling fluids, materials, or tools)

Well use

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

(explain)

Drill method rotary auger cable other _____
Hole size
30 inch from 0 ft to 157 ft hole size continued _____ inch from _____ ft to _____ ft
21 inch from 157 ft to 256 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)
24" O.D.	A53, 126 lb/ft.	+1'	157'	158'
12" I.D.	A53, 50 lb/ft.	+5.5'	179'	185'

Perforated or slotted casing? (yes no
 Perforated / slotted from _____ ft to _____ ft
 Perforated / slotted from _____ ft to _____ ft

Casing grouted? yes no Placement method _____

Type	Depth Top	Depth bottom	Amount (vol/wt)
Bentonite	0'	5'	
Cement	5'	145'	

Well screen? yes no

Diameter	Slot size	Depth Top	Depth Bottom	Length	Material
12"	0.050	179'	255'	76'	#304 Stainless Steel
	0.____				

Bottom capped yes no with Stainless Steel Plate
 Seals / Packers (yes / no) kind _____ depth _____ ft
 Gravel packed yes no from _____ ft to _____ ft
 type #2 Gravel Pack amount 10 tons
#3 Gravel Pack amount 2 tons

Well developed? yes no
 Explain Airlifted, pumped
 pumped, airlifted, bailed for 24 hrs at 600 GPM.

Pump installed? yes no Date 6 / 19 / 06
 Installer's name Tony Thein
 Type of pump Submersible Depth to intake 96 ft
 Pump diameter 7" Rated capacity 350 GPM

Water information Aquifer: sand / gravel limestone sandstone
 Main water-supply zone from 180 ft to 255 ft seepage well
 Static water level 21.5 ft (below / above) GL; tape airline E-line estimate
 Pumping water level 48.5 ft below GL; tape airline E-line estimate
 At yield of 600 GPM; orifice volumetric estimate
 Measurements taken at 9:55 (AM) (PM) Date 12/09/05

Water quality test? yes no Date tested ____ / ____ / ____
 Tested by Iowa Hyg. Lab

Contractor Cahoy Well and Pump Service
 Address 411 E. Main St., Fredericksburg, Iowa 50630
 Driller Mark Evans Certification no. 2392