Iowa Department of Natural Resources Geological Survey Bureau
109 Trowbridge Hall, Iowa City, IA 52242-1319 PH (319) 335-1575

WELL RECORD

49751 Permit No. _____

Site identification

Property Owner Thunder Ridge Estates Well Number _____

Address _____

Tenant _____

Well Depth 1100 ft Date completed 3 / 5 / 99

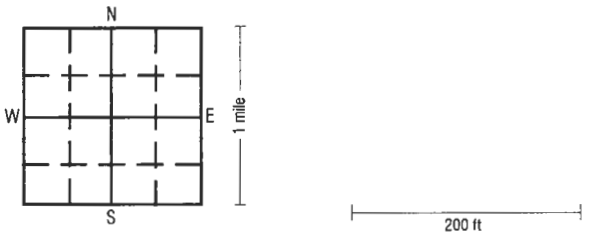
Location

County Dubuque

_____ mi. N/S and _____ mi. E/W of intersection of _____ and _____

_____ 1/4 of the _____ 1/4 of the SW 1/4 of Sec 2 TWP 88 RNG 1 (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'	10'	Brown		Clay
10'	125'		soft	Limerock
125'	310'			Shale
310'	340'	Brown		Shale
340'	360'	Dk Brown		Shale
360'	480'			Limerock
480'	540'			Started Making Water
540'	605'			Limerock
605'	615'	Blue		Rock
615'	635'			Limerock
635'	645'			Shale
645'	693'			Limerock
693'	695'			Shale
695'	735'			Sandstone
735'	760'			Limerock
760'	765'			Sandstone
765'	785'			Limerock

use additional sheets as needed (cont.)

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

Well use

☐ Domestic ☐ Municipal ☐ Commercial
☐ Livestock ☐ Public supply ☐ Monitoring
☐ Test well ☐ Irrigation ☐ Other _____ (explain)

Drill method

☒ rotary ☐ auger ☐ cable other _____

Hole size

14 3/4 inch	from 0 ft	to 29 ft	7 7/8 inch	from 785 ft	to 1100 ft
13 inch	from 29 ft	to 785 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)
8"	steel	+2'	785'	787'

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)
Neat Cement	0'	785'	435 sacks
Holeplug			14 sacks

Well screen? (yes / no)

Diameter	Slot size	Depth Top	Depth Bottom	Length	Material
	0.___				
	0.___				

Bottom capped (yes / no) with _____

Seals / Packers (yes / no) kind _____ depth _____ ft

Gravel packed (yes / no) from _____ ft to _____ ft

type _____ amount _____

Well developed? (yes / no)

Explain Air Lift. 400 GPM at 1100'

(pumped, airlifted, bailed) for _____ hrs at _____ GPM.

Pump installed? (yes / no) Date ____ / ____ / ____

Installer's name _____

Type of pump _____ Depth to intake _____ ft

Pump diameter _____ Rated capacity _____ GPM

Water information

Aquifer: ☐ sand / gravel ☒ limestone ☐ sandstone

Main water-supply zone from _____ ft to _____ ft ☐ seepage well

Static water level 425 ft (below / above) GL; ☐ tape ☐ airline ☐ E-line ☐ estimate

Pumping water level 600 ft below GL; ☐ tape ☐ airline ☐ E-line ☐ estimate

At yield of _____ GPM; ☐ orifice ☐ volumetric ☐ estimate

Measurements taken at _____ : _____ (AM / PM) Date ____ / ____ / ____

Water quality test? (yes / no) Date tested ____ / ____ / ____

Tested by _____

Contractor Shawver Well Company, Inc.

Address Fredericksburg, IA 50630

Driller Jim Bunting Certification no. 40121

white copy – **Iowa DNR, Geological Survey Bureau** blue copy – **Well Contractor** pink copy – **Customer** yellow copy – **County Health Officer**

297971-DQ

Natural Resources Geological Survey Bureau
...dge Hall, Iowa City, IA 52242-1319 PH (319) 335-1575

WELL RECORD PAGE 2

Permit No. 49751

Site identification

Property Owner Thunder Ridge Well Number _____

Address _____

Tenant _____

Well Depth 1100 ft Date completed 3/5/99

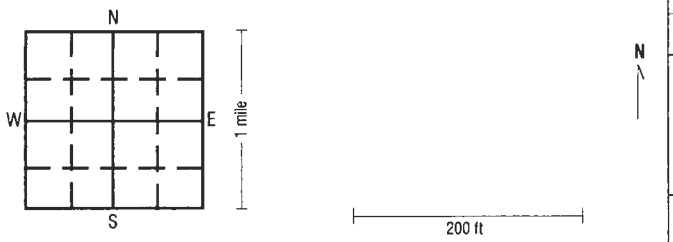
Location

County Dubuque

_____ mi. N/S and _____ mi. E/W of intersection of _____ and _____

_____ 1/4 of the _____ 1/4 of the SW 1/4 of Sec 2 TWP 88 RNG 1 (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
785'	795'			Limerock
795'	800'			Sandstone
800'	830'			Limerock, Streaks
				of Sandstone
830'	885'			Limerock
885'				Made Water
885'	930'			Limerock
930'	942'			Limerock
942'				Made Water
942'	1035'			Limerock
1035'	1100'			Sandstone, Streaks
				of rock

use additional sheets as needed

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

Well use

☐ Domestic ☐ Municipal ☐ Commercial
☐ Livestock ☐ Public supply ☐ Monitoring
☐ Test well ☐ Irrigation ☐ Other _____ (explain)

Drill method

☐ rotary ☐ auger ☐ cable other _____

Hole size

_____ inch from 0 ft to _____ ft
_____ inch from _____ ft to _____ ft

hole size continued

_____ 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)

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)

Well screen? (yes / no)

Diameter	Slot size	Depth Top	Depth Bottom	Length	Material
	0.___				
	0.___				

Bottom capped (yes / no) with _____
Seals / Packers (yes / no) kind _____ depth _____ ft
Gravel packed (yes / no) from _____ ft to _____ ft
type _____ amount _____

Well developed? (yes / no)

Explain _____

(pumped, airlifted, bailed) for _____ hrs at _____ GPM.

Pump installed? (yes / no)

Date ____ / ____ / ____

Installer's name _____

Type of pump _____ Depth to intake _____ ft

Pump diameter _____ Rated capacity _____ GPM

Water information

Aquifer: ☐ sand / gravel ☐ limestone ☐ sandstone

Main water-supply zone from _____ ft to _____ ft ☐ seepage well

Static water level _____ ft (below / above) GL; ☐ tape ☐ airline ☐ E-line ☐ estimate

Pumping water level _____ ft below GL; ☐ tape ☐ airline ☐ E-line ☐ estimate

At yield of _____ GPM; ☐ orifice ☐ volumetric ☐ estimate

Measurements taken at _____ : _____ (AM / PM) Date ____ / ____ / ____

Water quality test? (yes / no)

Date tested ____ / ____ / ____

Tested by _____

Contractor _____

Address _____

Driller _____ Certification no. _____

white copy – **Iowa DNR, Geological Survey Bureau** blue copy – **Well Contractor** pink copy – **Customer** yellow copy – **County Health Officer**

297971-DQ