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

WELL RECORD #44027

Permit No. _____

Site identification

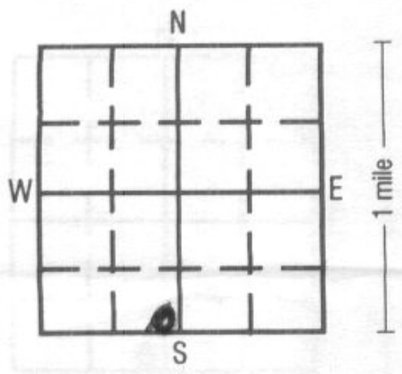
Property Owner Top of Iowa Welcome Center Well Number 1
Address 4705 Wheelerwood Rd
Tenant P.O. Box 57 Northwood IA
Well Depth 254 ft Date completed 8 / 18 / 97

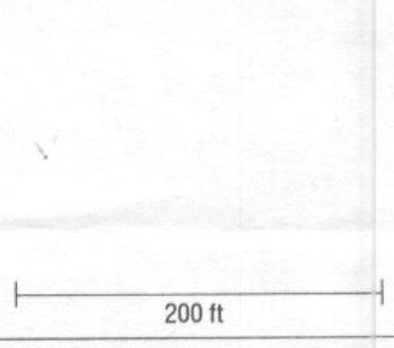
Location

County Worth

____ mi. N S and 1/8 mi. E W of intersection of 105 and I-35
SE 1/4 of the SE 1/4 of the SW 1/4 of Sec 29 TWP 100 N RNG 21 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
6	10	Brn	soft	Fill material clay
10	15	Blue	soft	Clay
15	17	Brn	soft	Coarse sand gravel
17	62	Blue	soft	clay
62	70	Blue	soft	Clay sand mix
70	80	Blue	soft	Clay
80	85	Brn	soft	Coarse sand
85	100	Blue	Soft	silt clay mix
100	125	Blue	Soft	Clay
125	135	Brn	soft	limestone
135	155	green	med	limestone shale mix
155	160	Brn	med	limestone
160	190	Brn	med	limestone creases
190	200	grn	soft	shale rock mix
200	205	tan	med	limestone
205	210	tan	med	limestone
210	215	tan	med	limestone
215	220	tan	soft	limestone

use additional sheets as needed

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

lost Circulation at 156 ~~75~~

Well use

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

Drill method

☒ rotary ☐ auger ☐ cable other _____

Hole size

12¼ inch from 0 ft to 158 ft
7⅞ inch from 158 ft to 254 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)
8"		+2'	158'	160'

Perforated or slotted casing? (yes / no)

Perforated / slotted from _____ ft to _____ ft
Perforated / slotted from _____ ft to _____ ft

Casing grouted? (yes / no) Placement method tremie

Type	Depth Top	Depth bottom	Amount (vol/wt)
Cement	0	158	15.4 cuyds

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 drilled with air comp pumping formation constantly
(pumped, airlifted, bailed) for 30 hrs at 400 GPM.

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

Installer's name L+M Pump Service
Type of pump Submersible Depth to intake 110 ft
Pump diameter _____ Rated capacity _____ GPM

Water information

Aquifer: ☐ sand / gravel ☒ limestone ☐ sandstone
Main water-supply zone from 190 ft to 254 ft ☐ seepage well
Static water level 65 ft (below / above) GL; ☐ tape ☒ airline ☐ E-line ☐ estimate
Pumping water level 110 ft below GL; ☐ tape ☒ airline ☐ E-line ☐ estimate
At yield of 400 GPM; ☒ orifice ☐ volumetric ☐ estimate
Measurements taken at 9 :00 (AM / PM) Date 8 / 18 / 97

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

Tested by _____

Contractor Koomer Well Drilling Inc
Address Rt 1 Box 2 Fairmont MN. 56031
Driller Timothy D. Kollerud Certification no. 40060

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

297971-DQ

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

WELL RECORD

Permit No. _____

Site Identification

Property Owner Top of Iowa Welcome Center Well Number 1

Address _____

Tenant _____

Well Depth 254 ft Date completed 8/18/97

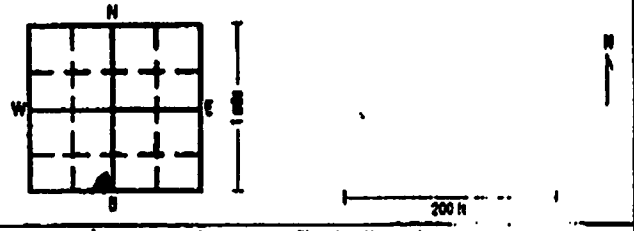
Location

County Worth

_____ mi. N/S and 4½ mi. E/W of intersection of 105 and I-35

SE 1/4 of the SE 1/4 of the SW 1/4 of Sec 29 TWP 100 N RNG 21 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
6	10	Brn	soft	Fill material clay
10	15	Blue	soft	Clay
15	17	Brn	soft	Coarse sand gravel
17	62	Blue	soft	Clay
62	70	Blue	soft	Clay sand mix
70	80	Blue	soft	Clay
80	85	Brn	soft	Coarse sand
85	100	Blue	soft	silt clay mix
100	125	Blue	soft	Clay
125	135	Brn	soft	limestone
135	155	grn	med	limestone shale mix
155	160	Brn	med	limestone
160	190	Brn	med	limestone crevices
190	200	grn	soft	shale rock mix
200	205	tan	med	limestone
205	210	tan	med	limestone
210	215	tan	med	limestone
215	220	tan	soft	limestone

(use additional sheets if needed)

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

lost Circulation at 156'-190'

Well use

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

Drill method

☒ rotary ☐ auger ☐ cable other _____

Hole size

12¼ inch from 0 ft to 158 ft

7⅞ inch from 158 ft to 254 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 (OD)	Type / Wt	Depth top	Depth bottom	Amount (length)
8"		+2'	158'	160'

Perforated or slotted casing? (yes) no)

Perforated / slotted from _____ ft to _____ ft

Perforated / slotted from _____ ft to _____ ft

Casing grouted? (yes) no) Placement method tremie

Type	Depth Top	Depth bottom	Amount (vol/wt)
Cement	0	158	15.4 cuyds

Well screen? (yes) no)

Diameter	Slot size	Depth Top	Depth Bottom	Length	Material
	D.				
	D.				

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 drilled with air comp pumping formation constantly

(pumped / airlifted, bailed) for 20 hrs at 400 GPM.

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

Installer's name L+M Pump Service

Type of pump Submersible Depth to intake 110 ft

Pump diameter _____ Rated capacity _____ GPM

Water information

Aquifer: ☐ sand / gravel ☒ limestone ☐ sandstone

Main water-supply zone from 190 ft to 254 ft ☐ seepage well

Static water level 6.5 ft (below) above) GL: ☐ tape ☒ airline ☐ E-line ☐ estimate

Pumping water level 110 ft below GL: ☐ tape ☒ airline ☐ E-line ☐ estimate

At yield of 400 GPM: ☒ orifice ☐ volumetric ☐ estimate

Measurements taken at 9:00 (AM) PM) Date 8/17/97

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

Tested by _____

Contractor

Contractor Greiner Well Drilling Inc

Address Rt 1 Box 2 Fairmont Mn. 56031

Driller Timothy D. Kellenberger Certification no. 40060

1-507-235-6779 Beemer

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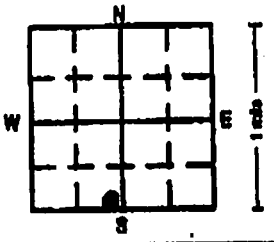
Iowa Department of Natural Resources Geological Survey Bureau
109 Trowbridge Hall Iowa City, Ia. 52242-1319 PH (319) 335-1575

WELL RECORD Permit No. _____

Site Identification
Property Owner Topaz Ln Welcome Ctr Well Number 1
Address _____
Tenant _____
Well Depth 254 ft Date Completed 8 / 18 / 97

Location County Worth
___ mi. N/S and 1/8 mi. E/W of Intersection of I-35 and I-35
SE 1/4 of the SE 1/4 of the SW 1/4 of Sec 29 TWP 100 N RNG 21 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
220	225	tan	soft	limestone sandstone
225	230	tan	soft	limestone
230	235	tan	soft	limestone
235	240	tan	soft	limestone
240	245	Brn	hard	limestone
245	250	Brn	hard	limestone
250	254	Brn	hard	limestone

use additional sheets as needed

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

Well use
☐ Domestic ☐ Municipal ☐ Industrial
☐ 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 adaptor (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)

Type	Depth Top	Depth Bottom	Amount

Well screen? (yes / no)

Diameter	Slot size	Depth Top	Depth Bottom	Length	Material

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 _____

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
Final water level (static water level) _____ ft (below / above) GL.
Pumping water level _____ ft below GL: ☐ tape ☐ airline ☐ E-line
At yield of ___ GPM; ☐ orifice ☐ volumetric ☐ estimate Date _____

Water quality test? (yes / no) Date tested ___ / ___ / ___
Tested by _____
Test results _____

Contractor _____
Address _____
Driller _____ Certification no. _____