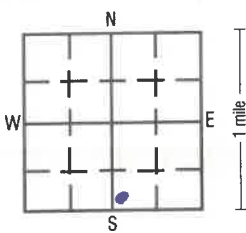


1

Site identification

Property Owner City of Bode Well Number 1
 Address Bode Iowa 50519
 Tenant _____
 Well Depth _____ ft Date completed 7/10/98

Location County Humboldt
Lot 8 - Blk 3 Sangestads
 _____ mi. N and _____ mi. E of intersection of _____ and _____
SW 1/4 of the SW 1/4 of the SW 1/4 of Sec 16 TWP 23 RNG 29 E
 Show exact location of well in section grid with a dot (•). Sketch map of well location on property.



3rd + College St.

upland hillside valley Elevation (if known) Not known

Formation log

From	To	Color	Hardness	Formation description
0	3	blk	S	topsoil
3	23	yel	S	Clay
23	41	blue	S	clay
41	43	colored	S	gravel + sand
43	65	btyl	MH	rock
65	78	Tan	MH	dolomite
78	85	btgray	H	dolomite
85	106	Tan	MH	limestone
106	108	btgray	H	dolomite
108	132	btgray	H	iron pyrite
132	136	red	S	limestone
136	142	Tan	MH	limestone
142	195	gray	MH	limestone
195	198	blue	S	shale
198	206	Tan	MH	limestone
206	230	blue	S	shale
230	260	Tan	MH	limestone

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
 1 5/4 inch from 0 ft to 92 ft
 7 7/8 inch from 145 ft to 444 ft
 9 7/8 inch from 92 ft to 145 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)
10"	steel	+1	92	93
8"	steel	82	144	62

Perforated or slotted casing? (yes/no)

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

Casing grouted? (yes/no) Placement method tramie

Type	Depth Top	Depth bottom	Amount (vol/wt)
neut cement	0	92	86 bags cement

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 6 1/2 hrs at 200 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 376 ft to 444 ft seepage well
 Static water level 38 ft (below / above) GL; tape airline E-line estimate
 Pumping water level 120 ft below GL; tape airline E-line estimate
 At yield of 150 GPM; orifice volumetric estimate
 Measurements taken at 5:20 (AM/PM) Date 7/10/98

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

Contractor Schumacher Well Drilling
 Address 2201 League Dr
 Driller Jim Schumacher certification no. CD 40097

WELL RECORD

Info on pg 1

Permit No. _____

Site identification

Property Owner City of Bode Well Number _____
 Address Bode Ia
 Tenant _____
 Well Depth _____ ft Date completed ____/____/____

Location County _____

_____ mi. ^N/_S and _____ mi. ^E/_W of intersection of _____ and _____
 _____ 1/4 of the _____ 1/4 of the _____ 1/4 of the _____ Sec _____ TWP _____ RNG _____ 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
260	263	dk Blue	S	Shale
263	269	Burn	H	limestone
269	281	Tan	MH	limestone
281	299	White	MH	dolomite
299	304	green	MH	limestone
304	316	tan	MH	limestone
316	318	blue	S	shale
318	334	white	MH	limestone
334	350	green gray	H	limestone
350	357	Burn	H	limestone
357	362	gray	MH	limestone/stripe shale
362	374	tan	MH	dolomite
374	376	gray	MH	limestone
376	444	tan	MH	limestone

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 _____ 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. _____

Pg 1

Drilled Deeper

WELL RECORD

45937

Permit No. _____

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

Site identification

Property Owner City Bode Well Number _____

Address _____

Tenant _____

Well Depth 940 ft Date completed ____/____/____

Location County Kossuth

____ mi. ^N and ____ mi. ^E of intersection of _____ and _____

____ 1/4 of the ____ 1/4 of the ____ 1/4 of Sec ____ TWP ____ R_{NG} ^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
415	436	TAN	MH	Sandstone
436	463	Brn	Harder	limestone
463	465	Tan	H	limestone
465	466	green	Softer	limestone
466	473	Tan	Softer	sandstone
473	474	green	S	Shale
474	481	white tan	MH	limestone
481	498	Brn	Harder	limestone
498	499	Brn	S	Shale
499	503	green	MH soft	limestone
503	505	white	MH	limestone
505	507	Brn	MH	limestone
507	527	gray	softer	limestone
527	528	green	MH	limestone
528	529	White	MH	limestone
529	540	Brn	MH	limestone
540	542	gray	MH	limestone

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

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. _____

Site identification

Property Owner Bode (City) Well Number _____

Address _____

Tenant _____

Well Depth _____ ft Date completed ____/____/____

Location County _____

_____ mi. ^N/_S and _____ mi. ^E/_W of intersection of _____ and _____

1/4 of the _____ 1/4 of the _____ 1/4 of _____ Sec _____ TWP _____ RNG _____ 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
542	548	White	mH	limestone
548	573	green	softer mH	limestone / shales
573	576	gray	MH	dolomite
576	592	brownish gray	MH	limestone
592	634	brn	harder	limestone
634	635	blue	mH soft	shale
635	657	white	MH	limestone
657	661	gray	MH	limestone
661	692	tan	MH	limestone
692	705	gray	MH	dolomite
705	726	white tan	softer	dolomite
726	771	grayish brown	MH	limestone
771	826	tan	MH	limestone
826	900	grayish tan	harder	limestone
900	926	gray	MH	limestone
926	933	greenish	softer	shale / limestone
933	940	grayish tan	MH	limestone

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 _____ ft to _____ ft

_____ 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)

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. _____