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

WELL RECORD 62044

Permit No. 2006-289W

Site identification

Property Owner City of Marquette Well Number 3

Address 88 North Street

Tenant City Water Department

Well Depth 929 ft Date Completed 6 / 14 / 06

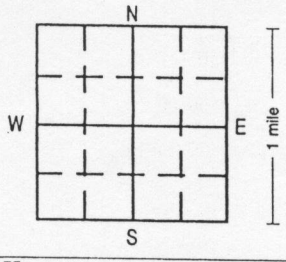
Location

County Clayton

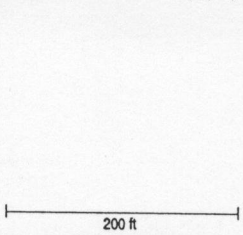
____mi. N/S and ____mi. E/W of intersection of _____ and _____

____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) 1104

Formation log

From	To	Color	Hardness	Formation description
0	11	Br.		Clay
11	32	Br.		Rock
32	34	Br.	Hard	Clay
34	67	Br.		Limerock
67	75	Blue		Shale
75	145	Blue	to Br.	Lime rock w/ shale
145	153	Blue		Shale
153	195	Wh.		St Peter Sandstone
195	215	Yellow		Lime Rock
215	275	Br.		Lime Rock w/ Sandstone
275	355	Br.		Limerock
355	375	Br.		Lime Rock (Broken)
375	404	Br.		Lime Rock
404	405	Gr.		Shale
405	475	Br.		Lime Rock
475	495	Gr.		Shale
495	535	Br.		Sandstone
535	585	Wh.		Sandstone
585	615	Gr.		Lime Rock
		use additional sheets as needed		

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

Lost circulation at 41 feet

Well use

☐ Domestic ☒ Municipal ☐ Industrial
☐ Livestock ☐ Public Supply ☐ Monitoring
☐ Test Well ☐ Irrigation ☐ Other _____ (explain)

Drill method

☒ rotary ☐ auger ☐ cable other _____

Hole size

19 inch from 0 ft to 42 ft
13 7/8 inch from 42 ft to 615 ft

hole size continued
7 7/8 inch from 615 ft to 929 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 adaptor (yes / no)

Size (ID/OD)	Type / Wt	Depth top	Depth bottom	Amount (length)
14	Std. 375	+0	42	42'
8	Std. 322	+2	615	617'

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
14" Cement	0	42	60 Sacks
8" Cement	0	615	525 Sacks

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 Air Developed 4 hours

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 665 ft to 929 ft

Final water level (static water level) 449 ft (below / above) GL.

Pumping water level 485 ft below GL; ☐ tape ☒ airline ☐ E-line

At yield of 150 GPM; ☐ orifice ☐ volumetric ☐ estimate Date 6-21-06

Water quality test? (yes / no) Date tested 6 / 21 / 06

Tested by Hygenic Laboratory

Test results On File

Contractor Northway Well and Pump Company

Address 4895 8th Avenue - Marion, Iowa 52302

Driller Frank Caes Certification no. 1784

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

Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302
319-377-6339
1-800-747-6339

100 North 6th Street
Waukee, Iowa 50263
515-987-4575
1-800-747-4575

WELL TEST DATA REPORT

Customer Water Department City Marquette, Iowa
Location Pleasant Ridge Subdivison Well No. 3-06
Size Casing 8" to 615' Total Depth 929 Construction Steel
Make Pump Crown Model No. No. of Stages
Diameter 7" Total Setting 609' Air Line Length 609'
Meter Used 4" Propeller Static Level 449'

DATE	TIME	GPM	P.L.	D.D.	S.C.	P.S.I.	TEMP DISCHARGE DESCRIPTION
6-21-06	10:40	0				0	Temp 55
	10:41	270	459	10	27	165	Dirty
	10:42	250	471	22	11.3	165	Dirty
	10:43	235	489	40	5.87	165	Dirty
	10:44	235	491	42	5.59	165	Clearing
	10:45	230	493	44	5.22	165	Clearing
	10:50	230	493	44	5.22	165	Clear
	11:00	230	493	44	5.22	165	Clear
	11.15	230	494	45	5.11	165	Clear
	11:30	230	494	45	5.11	165	Clear
	12:30	230	494	45	5.11	165	Clear
	1:00	230	497	48	4.79	165	Clear
	2:00	230	497	48	4.79	165	Clear
	3:00	230	497	48	4.79	165	Clear
	4:00	230	498	49	4.69	165	Clear
	4:30	230	498	49	4.69	165	Clear
	4:35	455	534	85	5.3	45	Clear
	4:40	445	539	90	4.9	20	Clear
	4:45	450	543	94	4.78	20	Clear
	4:50	450	544	95	4.73	20	Clear
	4:55	450	544	95	4.73	20	Clear
	5:00	450	545	96	4.68	20	Clear
	5:05	450	545	96	4.68	20	Clear
	5:10	450	546	97	4.63	20	Clear
	5:15	450	546	97	4.63	20	Clear
	5:20	450	546	97	4.63	20	Clear
	5:25	450	546	97	4.63	20	Clear

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Address

Tenant Page 2

Well Depth ft Date Completed / /

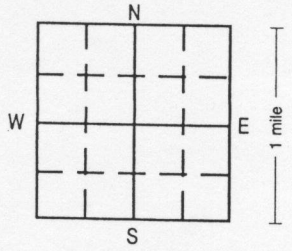
Location

County

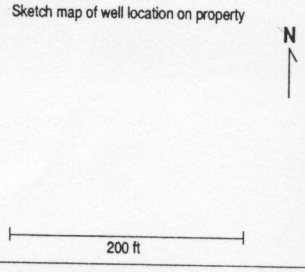
mi. N/S and mi. E/W of intersection of and

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
615	635	Gr. to Br.		Lime Rock
635	665	Gr.		Lime Rock
665	676	Gr.		Siltstone
676	695	Gr.		Siltstone & Sandstone
695	717	Gr.	Soft	Siltstone
717	735	Gr. & Tan	Soft	Siltstone
735	803	Gr.		Siltstone
803	820	Br.		Sandstone
820	825	Gr.		Sandstone
825	929	Wh.		Sandstone

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.

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WELL TEST DATA REPORT

PAGE -2-

Customer Water Department City Marquette, Iowa
Location Pleasant Ridge Subdivison Well No. 3-06

DATE	TIME	GPM	P.L.	D.D.	S.C.	P.S.I.	TEMP DISCHARGE DESCRIPTION
6-21-06	5:30	450	546	97	4.63	20	Clear
	5:35	180	493	44	4.09	180	Clear
	5:40	150	487	38	3.94	180	Clear
	5:45	150	484	35	4.28	180	Clear
	5:50	150	484	35	4.28	180	Clear
	6:00	150	485	36	4.16	180	Clear
	6:05	150	485	36	4.16	180	Clear
	6:10	150	485	36	4.16	180	Clear
	6:15	150	485	36	4.16	180	Clear
	6:20	150	485	36	4.16	180	Clear
	6:25	150	485	36	4.16	180	Clear
	6:30	150	485	36	4.16	180	Clear
Recovery		Static	Level	In	Feet		
	6:35	460					
	6:36	457					
	6:38	455					
	6:39	454					
	6:45	452					
	7:00	451					
Recovered	7:15	449					