Iowa Department of Natural Resources

WELL RECORD FORM 077631

Geological and Water Survey

PWTS No. *or* PWS No. 7170040 | PWTS Permit No. 2013-0563W | GEOSAM Well No. *(DNR use only)*

Site Identification

Property owner City of Sheldon | Other ID Well #15

Address 416 9th Street | City Sheldon

Tenant City of Sheldon

Well depth 605 ft | Date completed 6 / 13 / 2014

Location

County O'Brien

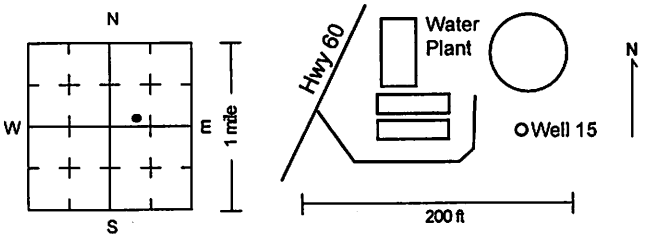
GPS coordinates (NAD83 datum)

43.1938290 Latitude | -95.8493110 Longitude

☑ Decimal Degrees ☐ Degrees, Decimal Minutes ☐ Degrees, Minutes, Seconds

SE 1/4 of the SW 1/4 of the NE 1/4 of Sec 30 TWP 97 RNG 42 E W

Show exact location of well in section grid with a dot (•). Sketch map of well location on property.



Formation Log

From	To	Color	Hardness	Formation description
0	7	Tan		Clay
7	16	Gray		Sand & gravel
16	28	Brown		Clay
28	66	Gray		Clay
66	79	Gray/Br		Clay
79	95	Brown	Hard	Clay
95	115	Brown		Clay w/sand layers
115	155	Brown		Clay w/sand
155	220	Gray	Hard	Sticky clay
220	260	Gray		Shale
260	271	Gray		Fine sandstone
271	289	Gray		Shale
289	302	Gray		Sandstone
302	320	Gray		Shale
320	350	Gray		Shale w/sandstone traces
350	425	Gray		Sandstone w/shale seams
425	440	Gray		Fine clean sandstone

(use additional sheets as needed)

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

Well Use

☐ Domestic ☑ Public supply ☐ Livestock

☐ Heat pump ☐ Commercial ☐ Irrigation

# of borehole(s) ____ ☐ Monitoring ☐ Other ____

Drill Method

☐ Rotary ☐ Auger ☐ Cable ☐ Other Reverse

Hole size

24 inch from 0 ft to 605 ft

____ inch from ____ ft to ____ ft

____ inch from ____ ft to ____ ft

hole size continued

____ inch from ____ ft to ____ ft

____ inch from ____ ft to ____ ft

Casing or Loop Pipe

Record all depth measurements from ground level (GL). Use + for above GL measurements.

Size (in)	Material	Depth Top	Depth Bottom	Perforated	Slotted	Screen
14	0.375" wall steel	9	430	☐	☐	☐ slot size
12	304SS screen	430	530	☐	☑	☑ slot size 0.025
12	304SS casing	530	540	☐	☐	☐ slot size
12	304 SS screen	540	605	☐	☑	☑ slot size 0.025
				☐	☐	☐ slot size

Casing Grout

Placement method ____

Type	Depth top	Depth bottom
Neat cement grout	9	400
☑ Gravel packed variety Northern Gravel	405	605
☑ Seals/packers Bentonite Chip Seal	400	405

Pump Installation

Date 6 / 13 / 2014

Type of pump Submersible | Depth to intake 347 ft

Pump diameter 8 in | Rated capacity 625 GPM

Water Information

Date 6 / 13 / 2014

Use + for above GL measurements.

Static Water Level	Pumping Water Level	Yield	Duration
224 ft	327 ft	1270 GPM	24.00 hrs

Water level measurement: ☐ Sonic ☐ Tape ☐ Airline ☑ E-line ☐ Estimate

Water yield measurement: ☑ Orifice ☐ Volumetric ☐ Estimate

Main water-supply zone from 430 ft to 605 ft below GL

Well Development

☑ Physical explain: Double disk surge block, surge pumping, bailing

☐ Chemical explain: ____

Contractor

Company Layne Christensen Company

Address 3150 SE Gateway Drive, Suite B, Grimes, IA 50111

Driller Mark Leslie | Certification no. 3684

Revision Date: 10/2011

Send form to Iowa Department of Natural Resources – Geological and Water Survey
109 Trowbridge Hall, Iowa City, IA 52242-1319 PH 319-335-1575 FAX 319-335-2754

Make photocopies for:
well contractor, customer, and county health department

Iowa Department of Natural Resources

WELL RECORD FORM - PAGE 2

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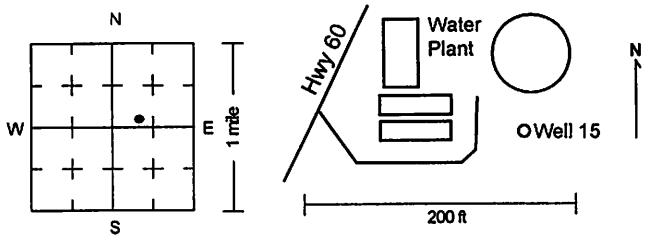

Formation Log

From	To	Color	Hardness	Formation description
440	470	Gray		Fine-medium clean sandstone
470	500	Gray		Fine sandstone w/shale stringers
500	530	Gray		Fine clean sandstone
530	561	Gray		Fine-medium sandstone
561	572	Gray		Fine-med sandstone w/shale
572	607	Gray		Fine-medium sandstone
				(use additional sheets as needed)

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

Well Use

☐ Domestic ☑ Public supply ☐ Livestock

☐ Heat pump ☐ Commercial ☐ Irrigation

# of borehole(s) ___ ☐ Monitoring ☐ Other ___

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

Casing or Loop Pipe

Record all depth measurements from ground level (GL). Use + for above GL measurements.

Size (in)	Material	Depth Top	Depth Bottom	Perforated	Slotted	Screen
				☐	☐	☐ slot size ___
				☐	☐	☐ slot size ___
				☐	☐	☐ slot size ___
				☐	☐	☐ slot size ___
				☐	☐	☐ slot size ___

Casing Grout

Placement method ___

Type	Depth top	Depth bottom
☐ Gravel packed variety ___		
☐ Seals/packers		

Pump Installation

Date ___/___/___

Type of pump ___ Depth to intake ___ ft

Pump diameter ___ in Rated capacity ___ GPM

Water Information

Date ___/___/___

Use + for above GL measurements.

Static Water Level	Pumping Water Level	Yield	Duration
___ ft	___ ft	___ GPM	___ hrs

Water level measurement: ☐ Sonic ☐ Tape ☐ Airline ☐ E-line ☐ Estimate

Water yield measurement: ☐ Orifice ☐ Volumetric ☐ Estimate

Main water-supply zone from ___ ft to ___ ft below GL

Well Development

☐ Physical explain: ___

☐ Chemical explain: ___

Contractor

Company ___

Address ___

Driller ___ Certification no. ___

Revision Date: 10/2011

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Well #15 As-Built Detail
City of Sheldon, Iowa
July 7, 2014