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

6 1693 **WELL RECORD** (PAGE 1 OF 2)

PWTS Well No. _____

PWTS Permit No. _____

County Permit No. _____

## Site identification

Property Owner City of Storm Lake Other ID Well #16

Address 620 Erie Street, Storm Lake, IA 50588

Tenant City of Storm Lake

Well Depth 475 ft Date completed 03 / 18 / 04

## Location

County Buena Vista

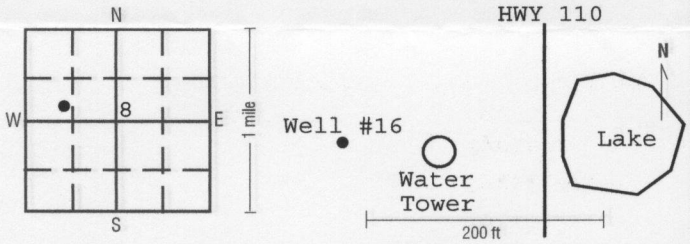
1/8 mi. (N) S and 1/4 mi. (E) W of intersection of W. Marina and HWY 110

SE 1/4 of the SW 1/4 of the NW 1/4 of Sec 8 TWP 90 RNG 37 (E) W

GPS Coordinates (NAD83 datum only) decimal degrees:

_____. _____ N. Latitude _____. _____ W. Longitude.

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




☒ upland ☐ hillside ☐ valley ☐ level surface Elevation (if known) _____

## Formation log

| From | To | Color | Hardness | Formation description |
|---|---|---|---|---|
| 0 | 20 | Tan | | Clay |
| 20 | 38 | Gray | | Clay w/rocks |
| 38 | 40 | Gray | | Sand lense |
| 40 | 110 | Gray | | Clay w/rock & sand |
| 110 | 220 | Gray | | Silty sandy clay |
| 220 | 235 | Gray | | Clay w/boulders |
| 235 | 240 | Gray | | Coarse sand |
| 240 | 243 | Gray | | Clay layer |
| 243 | 254 | Gray | | Coarse sand |
| 254 | 285 | Gray | | Clay |
| 285 | 290 | Tan | Hard | Siltstone ledge |
| 290 | 300 | Gray | Hard | Shale |
| 300 | 341 | Tan | | Sandstone w/shale |
| 341 | 365 | Gray | | Shale w/sandstone |

CONTINUED ON NEXT PAGE use additional sheets as needed

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

## Well use

☐ Domestic ☐ Heat pump ☐ Commercial
☐ Livestock ☒ Municipal ☐ Monitoring
☐ Test well ☐ Public supply ☐ Other Rural Water System
☐ Irrigation

## Drill method

☐ rotary ☐ auger ☐ cable other Reverse Rotary

### Hole size

30 inch from 0 ft to 370 ft

23 inch from 370 ft to 492 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) |
|---|---|---|---|---|
| 24" | 0.375" | 0' | 370' | 370' |
| 16" | 0.500" | +4' | 395' | 399' |
| | | | | |
| | | | | |

### 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) |
|---|---|---|---|
| Neat Cement | 0' | 370' | 960 sacks |
| Neat Cement | 0' | 295' | 440 sacks |

### Well screen? (yes / no)

| Diameter | Slot size | Depth top | Depth bottom | Length | Material |
|---|---|---|---|---|---|
| 16" | 0.035 | 395' | 475' | 80' | SST |
| | 0.___ | | | | |

Bottom capped (yes / no) with SST Plate Attached

Seals / Packers (yes / no) kind Bentonite depth 295-300 ft

Gravel packed (yes / no) from 300 ft to 475 ft

type Northern Coarse "0" amount 20 Tons

### Well developed? (yes / no)

Explain Surge block, bailer, rawhiding

(pumped), airlifted, (bailed) for 8 hrs at 1000 GPM

### Pump installed? (yes / no) Date 06 / 15 / 04

Installer's name Joe Dooling

Type of pump Vertical turbine Depth to intake 407 ft

Pump diameter 13" Rated capacity 1,100 GPM

### Water information

Aquifer: ☐ sand / gravel ☐ limestone ☒ sandstone

Main water-supply zone from 395 ft to 475 ft ☐ seepage well

Static water level 280 ft (below / above) GL; ☐ tape ☐ airline ☒ E-line ☐ estimate

Pumping water level 376 ft below GL; ☐ tape ☐ airline ☒ E-line ☐ estimate

At yield of 1,100 GPM; ☒ orifice ☐ volumetric ☐ estimate for 24 hours

Measurements taken at 9 : 09 (AM) PM Date 03 / 18 / 04

### Water quality test? (yes / no) Date tested 03 / 18 / 04

Tested by Layne-Western

Contractor Layne-Western

Address 5600 Gateway Drive, Ste B, Grimes, IA 50111

Driller Ben Baily Certification no. 1310

Send original form to: **Iowa Department of Natural Resources – Geological Survey**

Make photocopies for: **Well Contractor, Customer, and County Health Department**

# WELL RECORD (PAGE 2 OF 2)

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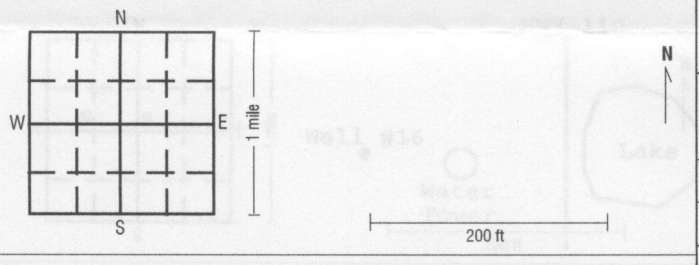
_____mi. N/S and _____mi. E/W of intersection of _____ and _____

_____1/4 of the_____1/4 of the_____1/4 of Sec_____TWP_____RNG_____ E/W

GPS Coordinates (NAD83 datum only) decimal degrees:

_____._____N. Latitude _____._____W. Longitude.

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




☐ upland ☐ hillside ☐ valley ☐ level surface Elevation (if known) _____

## Formation log

| From | To | Color | Hardness | Formation description |
|---|---|---|---|---|
| 365 | 378 | Gray | | Fine sandstone |
| 378 | 395 | Gray | | Shale |
| 395 | 398 | Gray | | Sandstone |
| 398 | 404 | Gray | Hard | Shale |
| 404 | 414 | Gray | | Shale w/sandstone |
| 414 | 475 | Gray | | Sandstone - clean |
| 475 | 483 | Gray | | Shale/clay |
| 483 | 484 | Red | | Clay |
| 484 | 492 | Gray | | Clay w/gravel & sand |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

use additional sheets as needed

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

## Well use

☐ Domestic ☐ Heat pump ☐ Commercial
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Test well ☐ Public supply ☐ Other _____
☐ Irrigation

## 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 cappe

Seals / Packe ft

Gravel packe ft

WELL PERMITTED THROUGH McCLURE ENGINEERING.

## Well dev

Explain

( pumped, a

## Pump ins

Installer's na

Type of pum ft

Pump diame GPM

## Water in

Main water-

Static water te

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

At yield of _____GPM; ☐orifice ☐volumetric ☐estimate for _____hours

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

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

Tested by _____

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