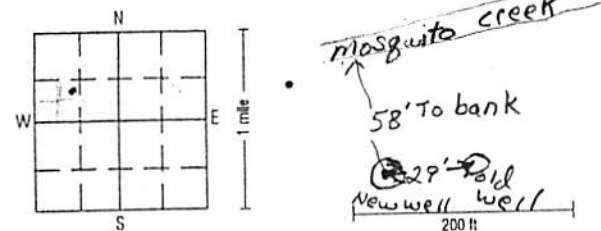


Site identification Property Owner <u>City of Earling Ia.</u> Other ID _____ Address <u>106 Main Street</u> Tenant <u>Earling, Iowa 51530</u> Well Depth <u>50</u> ft Date completed <u>4/11/13</u>		Drill method ☒ rotary ☐ auger ☐ cable other _____ Hole size <u>14</u> inch from <u>0</u> ft to <u>46</u> ft hole size continued _____ inch from _____ ft to _____ ft _____ inch from _____ ft to _____ ft _____ inch from _____ ft to _____ ft	
Location County <u>Shelby</u> <u>0</u> mi. N and <u>1/4</u> mi. W of intersection of <u> Hwy 191</u> and <u> m 16</u> <u>NW 1/4 of the SW 1/4 of the NW 1/4 of Sec. 5 TWP 80N RANG 39 E</u> <u>westphalia Twp</u>		Casing Drive shoe (yes/no) _____ Pitless adapter (yes/no) ☒ Size (ID/OD) Type / Wt Depth top Depth bottom Amount (length) <u>Steel 8" Sch 40 +5' = 32" 8' merc</u> <u>Pvc 8" Sch 80 -32" 36'-5" 33'-9"</u>	
GPS Coordinates (NAD83 datum only) decimal degrees: <u>41.7733</u> N. Latitude <u>-95.4165666</u> W. Longitude.		Perforated or slotted casing? (yes/no) ☒ Perforated / slotted from _____ ft to _____ ft Perforated / slotted from _____ ft to _____ ft	
Show exact location of well in section grid with a dot (•). Sketch map of well location on property. 		Casing grouted? (yes/no) _____ Placement method <u>Tremie</u> Type Depth top Depth bottom Amount (vol/wt) <u>Bentonite 0 33'-8" 1785 lbs</u>	
☐ upland ☐ hillside ☒ valley ☐ level surface Elevation (if known) <u>1316 GPS</u>		Well screen? (yes/no) _____ Diameter Slot size Depth top Depth bottom Length Material <u>8 0.80 36'-5" 44'-8" 8'-3" Stainless Steel</u> <u>0. _____ 44'-8" 8'-3" U.P.P. Johnson</u>	
Formation log From To Color Hardness Formation description <u>0 10 Black med Topsoil</u> <u>10 16 Brown med clay</u> <u>16 24 gray Brown med clay mix</u> <u>24 34 Browns med Soft clay</u> <u>34 38 Brown Hard Sand</u> <u>38 40 gray Brown Hard Sand mix</u> <u>40 42 gray Hard Sand</u> <u>42 44'-6" Brown Hard Sand courser</u> <u>44'-6" 46'-6" gray med clay</u>		Bottom capped (yes/no) ☒ with <u>1/2" Stainless Steel Plate</u> Seals / Packers (yes/no) ☒ kind _____ depth _____ ft Gravel packed (yes/no) ☒ from <u>33'-8"</u> ft to <u>46</u> ft type <u>1/4 + 3/8 Platt River gravel</u> amount <u>850 lbs</u>	
Remarks (including depth of lost drilling fluids, materials, or tools) <u>all measurements taken for samples from original ground level</u>		Well developed? (yes/no) ☒ Explain <u>Bailer developed + Surge block</u> (pumped) airlifted (bailed) for <u>6</u> hrs at <u>43</u> GPM	
Well use ☐ Domestic ☐ Heat pump ☐ Commercial ☐ Monitoring ☐ Other _____ ☐ Livestock ☐ Public supply ☐ Irrigation ☒ Municipal		Pump installed? (yes/no) ☒ Date <u>4/11/13</u> Installer's name <u>Jacobs Well Drilling Inc.</u> Type of pump <u>186507-6 Goulds</u> Depth to intake <u>42</u> ft Pump diameter <u>3.5</u> Rated capacity <u>18</u> GPM	
Water information Aquifer: ☒ sand / gravel ☐ limestone ☐ sandstone Main water-supply zone from <u>34</u> ft to <u>44'-6"</u> ft ☐ seepage well Static water level <u>9.25</u> ft (below/above) GL; ☐ tape ☐ airline ☒ E-line ☐ estimate Pumping water level <u>36'-5</u> ft below GL; ☐ tape ☐ airline ☒ E-line ☐ estimate At yield of <u>40</u> GPM; ☐ orifice ☒ volumetric ☐ estimate for <u>7</u> hours Measurements taken at <u>17:00</u> (AM/PM) Date <u>4/5/13</u>		Water quality test? (yes/no) _____ Date tested _____/_____/_____ Tested by _____	
Contractor <u>Jacobs Well Drilling Inc.</u> Address <u>1904 Garfield Ave. P.O. Box 182 Earling Ia</u> Driller <u>David Jacobs</u> Certification no. <u>3204</u>			

Earling Ia. #10 well

75871

8'x6' Bury Merrill Pitless unit
3" Discharge - stainless steel insides

Original Ground Level

8" PVC Sch 80 female adapter

Bentonite grout

8" Crestline PVC Sch 80 250 PSI PR water at 73 F
PVC 1120 NSF PW-G Astm D1785 PPFA
0113183B6X 0027

8" PVC Sch 80 coupling

44'-6"

20'

14" Bore hole

11'-Top of 1/4" Platt river sand

8" PVC Sch 80 female adapter

6'-Top of 3/8" Platt river gravel

8'x.080x8' opening U.O.P. Johnson Stainless Steel screen
44-1/4" rods inside screen

10'-6"
Sand
Formation

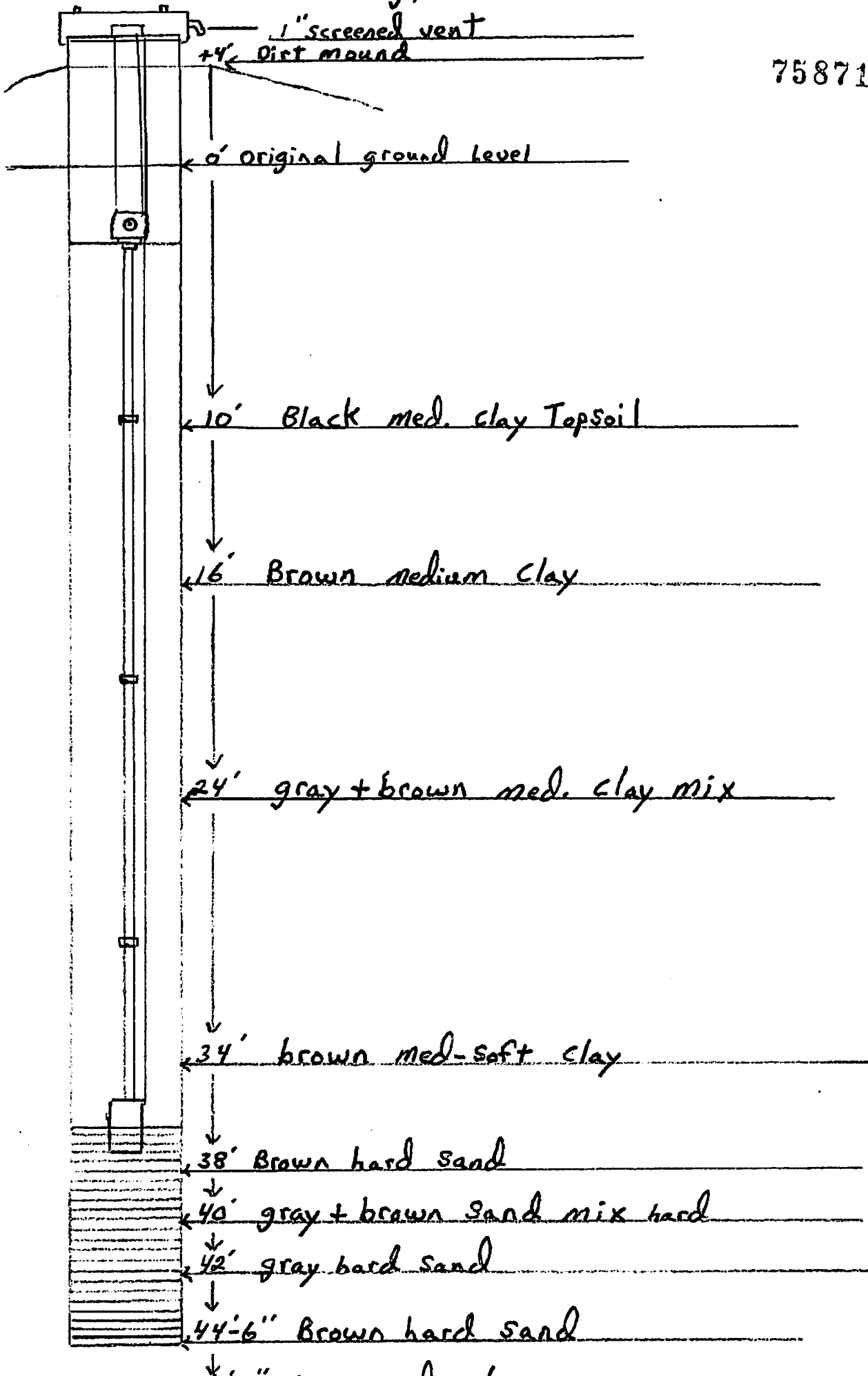
8'-3"

1/2" Plate bottom

Jacobs Well Drilling Inc.
1904 Garfield Ave. P.O. Box 182
Harlan, Iowa 51537

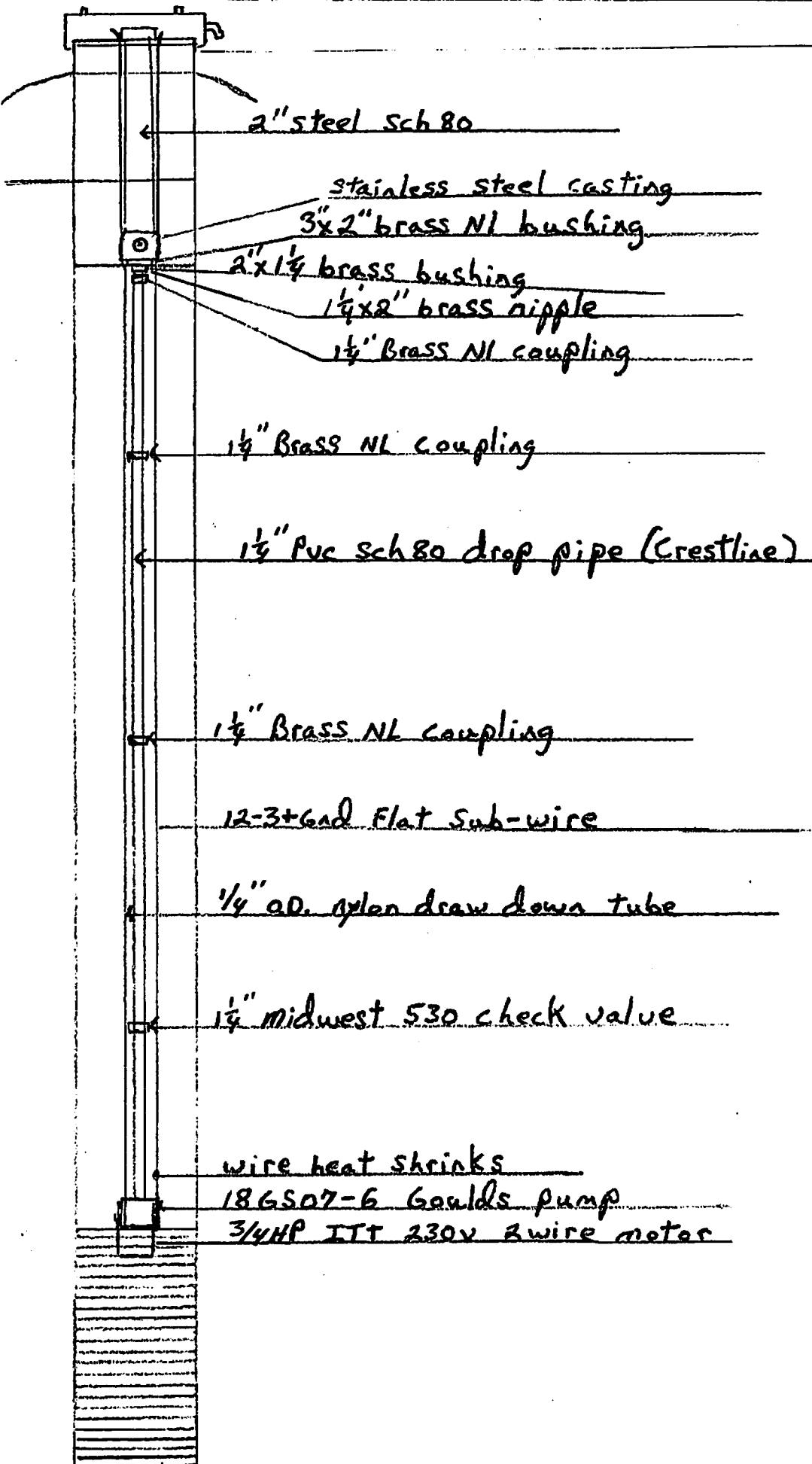
Earling, Iowa #10 well

75871



Earling, Iowa #10 well

75871



Town of Earling Well #10

75871

4/2/13

Static water level was 13.45 at 12:40 p.m.

Turned pump on, pumping 43 gpm

Water level	Minutes
31.75	10
33.75	15
35.35	20
36.75	30
38.75	45
40.25	60
41.75	75
42.45	85 (taking on air, 40 gpm)
42.45	90
42.45	120 (40 gpm)

Pump turned off at 2:40 p.m.

	1 minute off
32.75	
29.35	2
27.75	3
26.55	4
25.75	5
23.75	10
22.45	15
21.55	20
20.15	30
18.80	45
17.87	60
16.75	85
15.85	120
15.65	130

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4/4/13

All measurements taken at top of the pitless unit

Static water level 13.05

Pulled pump out, surged screen for two hours

Took one foot of sand out of bottom of screen twice

Put pump back in, pumping 43 gpm at 2:00 p.m.

Pump Water Level	Minutes
23.55	1
26.75	2
28.35	3
29.55	4
30.35	5
33.15	10
35.55	15
36.85	20

Pulled pump and surged well for another two hours

Took out another foot of sand from the bottom of screen

Bailed well and put pump back in

4/5/13

Static water level 13.35

Turned pump on 43 gpm at 8:20 a.m.

Pump Water Level	Minutes
25.75	1
31.25	10
32.95	15
36.05	30
38.05	45
39.65	60
41	75
42.05	90
42.45	97

Pumping a little air @ 40 gpm

42.45 120

11:25 a.m. turned pump back to 30 gpm

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Pump Water Level	Minutes
39.75	5
39.6	10
39.55	15
39.65	30

10:55 a.m. turned back to 20 gpm

32.65	5
31.95	10
31.65	15
30.85	30

11:30 a.m. turned back to 15gpm

28.85	5
27.5	10

Turned pump off

Water level	Minutes
25.35	1
23.75	2
22.95	3
22.45	4
22.15	5
20.45	10
19.45	25
19.05	30

12:10 p.m.

Turned pump on at 43 gpm

Water level	Minutes
37.25	5
39.15	10

12:30 p.m.

Turned back down to 30 gpm

Water Level	Minutes
37.85	1
37.55	15
37.55	30
37.75	45
38.55	60

75871

Page 4

1:30 p.m. turned pump off
Pulled pump out

4/6/13

Put 8" Merrill pitless unit on