APPENDIX C

Well Construction and Development Logs
**Well Number**: UMW-117

**Well Installation Record**

- **Project Name**: AmerenIP Champaign
- **Client Company**: AmerenIP
- **Site Name**: 308 N. 5th, Champaign IL
- **Borehole Number**: 8-840
- **Project No.**: 62403053
- **Cost Code**: 024.501

**Well Diameter**: 2 inches

**Well Type**
- ✔ Monitoring Well
- □ Piezometer
- □ Recovery Well
- □ Other

**Permit**
- Number
- Date

**Well Construction Details**

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC Stainless Steel Teflon Other</td>
<td>Bottom</td>
<td>Top</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slt Size: 0.010 in.]</td>
<td>X</td>
<td>10</td>
<td>15 5</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>5</td>
<td>0.33 0.33</td>
</tr>
</tbody>
</table>

**Annular Fill Materials**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimix FilterSil WG1</td>
<td>10 lb.</td>
<td>Yes</td>
<td>15 6</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Pure Gold Medium Chips</td>
<td>2</td>
<td>No</td>
<td>15 2</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>1</td>
<td>Yes</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>Sand</td>
<td>1</td>
<td>No</td>
<td>0.5</td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>10</td>
<td>Yes</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Well Cover**

- ✔️ Vault
- ✔️ Stick-up
- ✔️ Steel
- ✔️ Aluminum

**Lock**
- ✔️ Yes
- ✔️ No

**Measuring Point**
- ✔️ Top of Riser
- ✔️ Top of Cover

**Well Collision Protectors Installed?**
- ✔️ Yes
- ✔️ No

**Comments**

well placed in backyard of W. Claiborne's rental house at 5th and Hill.

- **Recorded by**: L. Hoosier
- **Signature**: Leslie Hoosier
- **Date**: 4-15-08
- **Reviewer**: Date
**WELL INSTALLATION RECORD**

**Well Number:** UMW-118  
**Serial No.:** WIR-  
**Borehole Number (if different):** 6-800

**Project Name:** AmerenIP Champaign  
**Client Company:** AmerenIP  
**Project No.:** 62403053  
**Cost Code:** 024501

**Site Name:**  
**Site Address:** 208 N 5th, Champaign IL

**Well Diameter:** 2 inches  
**Conductor Casing:** None  
**(To seal off upper water-bearing zones)**

| Diameter | inches:  
|----------|----------
| Material:  
| Length | feet:  
| Depth to Bottom of Casing | feet:  
| Seal Material:  

**Well Type:**  
- Monitoring Well  
- Piezometer  
- Recovery Well  
- Other: 

**Permit:**  
- Number:  
- Date: 

**Well Construction Details**

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td>X</td>
<td>Same as bottom of screen.</td>
<td></td>
</tr>
<tr>
<td>Screen (Slot Size: 0.010 in.)</td>
<td>X</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>5</td>
<td>Same as top of screen.</td>
</tr>
</tbody>
</table>

**Annular Fill Materials**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimin FilterSil WG1</td>
<td>50 lb</td>
<td>Yes</td>
<td>Bottom: 4 Top: 2.5</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Pure Gold Medium Chips</td>
<td>42</td>
<td>No</td>
<td>Bottom: 4 Top: 2.5</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Cement/Bentonite Mix</td>
<td></td>
<td></td>
<td>Bottom: 4 Top: 2.5</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>Concrete</td>
<td>7</td>
<td>Yes</td>
<td>Bottom: 4 Top: 2.5</td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>2.5</td>
<td>No</td>
<td>Bottom: 4 Top: 2.5</td>
</tr>
</tbody>
</table>

**Well Cover**

<table>
<thead>
<tr>
<th>Finish</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Stick-up</td>
<td>Steel</td>
</tr>
<tr>
<td>☑ Flush</td>
<td>Aluminum</td>
</tr>
<tr>
<td>☑ Vault</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lock</th>
<th>Measuring Point</th>
<th>Well Collision Protectors Installed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Yes</td>
<td>Top of Riser</td>
<td>☑ Yes Quantity</td>
</tr>
<tr>
<td>☑ No</td>
<td>Top of Cover</td>
<td>☑ No Quantity</td>
</tr>
</tbody>
</table>

**Comments:** Well placed in yard at 408 N. 5th

---

**Recorded by:** (print name) L. Hoosier  
**Signature:** Leslie Hoosier  
**Date:** 4-14-08  
**Reviewer:**  
**Date:** 
## WELL INSTALLATION RECORD

**Well Number:** UMW-119  
**Serial No.** WIR-  
**Project Name:** AmerenIP  
**Client Company:** AmerenIP  
**Borehole Number (if different):** B-849  
**Project No.:** 124-02053  
**Cost Code:** 024.501  
**Site Name:**  
**Site Address:** 308 N 5th, Champaign, IL  
**Well Diameter:** 2 inches  
**Conductor Casing:**  
- **Diameter:** _______ inches  
- **Material:**  
- **Length:** _______ feet  
- **Depth to Bottom of Casing:** _______ feet  

### Permit  
- **Number:**  
- **Date:**  

### Well Construction Details  

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC Stainless Teflon Other</td>
<td>Bottom Top Bottom Top</td>
<td>Same as bottom of screen</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td>10</td>
<td>15 5</td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td>5</td>
<td>Same as top of screen</td>
</tr>
<tr>
<td>Screen [Slot Size: _______ in.]</td>
<td>X</td>
<td>10</td>
<td>15 5</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

### Annular Fill Materials  

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td></td>
<td>50lb.</td>
<td>Yes No</td>
<td>Bottom Top</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>8</td>
<td></td>
<td>15 4</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>2</td>
<td></td>
<td>4 2.5</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>Sand</td>
<td></td>
<td></td>
<td>2.5 2.0</td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Well Cover  

<table>
<thead>
<tr>
<th>Material</th>
<th>Lock</th>
<th>Measuring Point</th>
<th>Well Collision Protectors Installed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish</td>
<td>Stick-up</td>
<td>Yes</td>
<td>Top of Riser</td>
</tr>
<tr>
<td></td>
<td>Flush</td>
<td>Yes</td>
<td>Top of Cover</td>
</tr>
<tr>
<td></td>
<td>Vault</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### Comments  

---

**Recorded by (print name):** L. Hoosier  
**Signature:** L. Hoosier  
**Date:** 5-7-08  
**Reviewer:** Date:  

---

Form A0003  
Rev. 106/94  
S:\Shared\MGP\FIELD FORMS\WELLINST.DOC  
2/26/08
Well Number: UMW-120  WELL INSTALLATION RECORD

Project Name: AmerenIP Champaign  Borehole Number (if different): B-805

Client Company: AmerenIP  Project No.: 62403053

Serial No.: WIR-  Cost Code: 024501

Site Name:  Site Address: 308 N. 5th, Champaign IL

Well Diameter: 2 inches  Conductor Casing:

Well Type:

- Monitoring Well
- Piezometer
- Recovery Well
- Other

Permit:

Number:  Date:

Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td>PVC, Stainless Steel, Teflon, Other</td>
<td>Bottom:</td>
<td>Top:</td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td>Same as bottom of screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>10</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>5</td>
<td>Same as top of screen:</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Trenched</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimin FilterSil WG1</td>
<td>50/10</td>
<td>Yes</td>
<td>Bottom: 15, Top: 4</td>
</tr>
<tr>
<td>Sand Pack</td>
<td></td>
<td>8</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>1</td>
<td>Yes</td>
<td>Bottom: 4, Top: 2.5</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>Sand</td>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td></td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Well Cover

<table>
<thead>
<tr>
<th>Finish</th>
<th>Material</th>
<th>Lock</th>
<th>Measuring Point</th>
<th>Well Collision Protectors Installed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>Top of Riser</td>
<td>Yes Quantity ________________________</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Top of Cover</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Stick-up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aluminum</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: Well in backyard of house at 6th & Washington. Drilled to 16 ft, sand from 16' to 15' (1.5 bags); Screen from 15 to 5.

Recorded by: (print name) L. Hoosier

Signature: L. Hoosier  Date: 4-9-08  Reviewer:  Date: 

Form A0003  Rev. 10/6/94

S:\Shared\MG\FIELD FORMS\WELLINST.DOC  2/26/08
WELL INSTALLATION RECORD

Well Number: UMW-121
Project Name: Amexx IP Champaign
Client Company: Amexx IP
Site Name: 308 N. 5th, Champaign 11

Well Diameter: 2 inches
Well Type:
- Monitoring Well
- Piezometer
- Recovery Well
- Other

Conductor Casing:
- None

Permit:
- Number
- Date

Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td></td>
<td>Bottom: 10</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
<td>Top: 15</td>
</tr>
<tr>
<td></td>
<td>Teflon</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td>Same as bottom of screen</td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen (Slot Size: 0.010 in.)</td>
<td>X</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimin FilterSil WG1</td>
<td>50/15</td>
<td>Yes</td>
<td>Bottom: 15</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Pure Gold Medium Chips</td>
<td>8</td>
<td>No</td>
<td>Bottom: 15</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Cement/Bentonite Mix</td>
<td>4</td>
<td>No</td>
<td>Bottom: 4</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>Sand</td>
<td>2</td>
<td>No</td>
<td>Bottom: 2</td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>10</td>
<td>No</td>
<td>Bottom: 2</td>
</tr>
</tbody>
</table>

Well Cover

- Finish: Stick-up
- Material: Steel
- Lock: Yes
- Lock Number: 2532

Measuring Point

- Top of Riser
- Top of Cover

Well Collisions

Protectors Installed?
- Yes
- Quantity
- No

Comments:
- Graded sand pack 10 min.

Recorded by (print name): L. Hoozie
Signature: Leela Hoozie
Date: 4-11-08
Reviewer: Date: 2/26/08
Well Number: UMN-30

Well Installation Record

Borehole Number: B-851

Project Name: Amuren
Client Company: Amuren
Site Name:
Site Address: 308 N 5th, Champaign, IL

Well Diameter: 2 inches

Well Type:
- Monitoring Well
- Piezometer
- Recovery Well
- Other

Conductor Casing:
(To seal off upper water-bearing zones)
Diameter: ________ inches
Material: __________________

Length: ________ feet
Depth to Bottom of Casing: ________ feet
Seal Material: __________________

Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC Stainless Teflon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: .010 in.]</td>
<td></td>
<td>10.0'</td>
<td>45.0' 235.0'</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td></td>
<td>35.0'</td>
<td></td>
</tr>
</tbody>
</table>

Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>N/A</td>
<td></td>
<td>Yes</td>
<td>Bottom 45.0' Top 235.0'</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>4 X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>2 X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>5 X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td></td>
<td>10'</td>
<td></td>
</tr>
</tbody>
</table>

Well Cover

<table>
<thead>
<tr>
<th>Finish</th>
<th>Material</th>
<th>Lock</th>
<th>Measuring Point</th>
<th>Well Collision Protectors Installed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stick-up</td>
<td>Steel</td>
<td>Yes</td>
<td>Top of Riser</td>
<td>Yes Quantity ________________________</td>
</tr>
<tr>
<td>Flush</td>
<td>Aluminum</td>
<td>No</td>
<td>Top of Cover</td>
<td>No</td>
</tr>
</tbody>
</table>

Measuring Point:
Top of Riser: 45.0'
Top of Cover: 104'

Well set @ 45.0' - no casing. 104' screen.

Comments

Recorded by (print name): L. Hoosier
Signature: L. Hoosier
Date: 5-8-08
Reviewer: Date:
### WELL INSTALLATION RECORD

**Well Number:** IMW-301  
**Serial No:** WIR-  

**Project Name:** University of Illinois  
**Client Company:** American Champaign  
**Site Name:**  
**Site Address:** 208 N. 6th St, Champaign, IL  

**Borehole Number (if different):**  
**Project No.:**  102403553  
**Cost Code:** 024501  

**Well Diameter:** 2 inches

**Well Type:**  
- [x] Monitoring Well  
- [ ] Piezometer  
- [ ] Recovery Well  
- [ ] Other

**Permit:**  
**Number:**  
**Date:**

**Conductor Casing:**  
- (To seal off upper water-bearing zones)  
- [ ] None

**Diameter:** 6 inches  
**Material:** PVC  
**Length:** 29.5 feet  
**Depth to Bottom of Casing:** 29.5 feet  
**Seal Material:** Cement/Bentonite plug

### Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td>Stainless Steel</td>
<td>Teflon</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Use minus sign if top of riser is above ground.**

### Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>NA</td>
<td>31/2 X</td>
<td>Yes</td>
<td>45.0' 23.0'</td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td></td>
<td></td>
<td>45.0' 23.0'</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>1</td>
<td></td>
<td>33.0' 28.0'</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>4 1/2 cy</td>
<td></td>
<td>28.0' 1.0'</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>6</td>
<td></td>
<td>1.0' 0.0'</td>
</tr>
</tbody>
</table>

### Well Cover

- [ ] Stick-up  
- [ ] Steel  
- [ ] Aluminum  

**Material:** Concrete  
**Lock:** Yes  
**Lock Number:** 2532  
**Measuring Point:**  
- [ ] Top of Riser  
- [ ] Top of Cover

### Well Collision Protectors Installed?

- [ ] Yes  
- [ ] Quantity

### Comments

- [ ]

**Recorded by (print name):** L. Housier  
**Signature:** Leslie Heace  
**Date:** 5-6-08  
**Reviewer:**  
**Date:**

---

Form A0003  Rev. 10-5-94  
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WELL INSTALLATION RECORD

Well Number: Unw-302

Project Name: Ameren IP
Client Company: Ameren

Site Name:
Site Address:

Well Diameter ______ inches

Well Type
- Monitoring Well
- Piezometer
- Recovery Well
- Other

Conductor Casing
(To seal off upper water-bearing zones)

□ None

Diameter ______ inches
Material: PVC
Length ______ feet
Depth to Bottom of Casing ______ feet
Seal Material: Grout w/bentonite plug

Permit
Number:
Date:

Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td>Bottom</td>
<td>Top</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>X</td>
<td>10.0'</td>
<td>45.0'</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td></td>
<td>35.0'</td>
</tr>
</tbody>
</table>

Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Trenched</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Plug beneath sand pack</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>3/4 X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>4/12 X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Well Cover

Finish
- Stick-up
- Flush
- Vault
Material
- Steel
- Aluminum
- Other
Lock
- Yes
- No
Lock Number: 2532

Measuring Point
- Top of Riser
- Top of Cover

Well Collision Protectors Installed?
- Yes
- No

Comments
Grout completed 1/16/08. well will complete seal on 4/16/08
Sea completed 4/16/08

Recorded by (print name)

Signature: [Signature]
Date: 4/15/08
Reviewer: [Reviewer]
Date: 

Form A003 Rev. 10/6/94
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**WELL INSTALLATION RECORD**

Well Number: MW-303

Serial No. W/B-__________

Borehole Number (if different)__________

Project Name: AmerenIP

Project No.: 62403053

Client Company: AmerenIP

Cost Code: 024501

Site Name: _______________

Site Address: 328 N. 5th St., Champaign, IL

Well Diameter: 2 inches

Conductor Casing

(To seal off upper water-bearing zones)

- Diameter: 6 inches
- Material: PVC
- Length: __________ feet
- Depth to Bottom of Casing: 29.5 feet
- Seal Material: __________

Permit

- Number: __________
- Date: __________

Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td>Same as bottom of screen</td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>X</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

Annular Fill Materials

- Use minus sign if top of riser is above ground.

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimin FilterSil WG1</td>
<td>4</td>
<td>Yes</td>
<td>45</td>
</tr>
<tr>
<td>Sand Pack</td>
<td></td>
<td></td>
<td>No</td>
<td>33</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>4</td>
<td></td>
<td>28.1</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>4/1 23.3</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Well Cover

- Finish: Stick-up
- Material: Steel
- Lock: Yes
- Measuring Point: Top of Riser
- Lock Number: 2532
- Well Collision Protectors Installed? Yes
- Quantity: __________
- No
- Date: 4-17-08
- Reviewer: __________
- Date: __________

Comments

Recorded by (print name): L. Hoosier

Signature: Leslie Hoosier

Form A0083 Rev. 10/6/94
**WELL INSTALLATION RECORD**

**Well Number:** UMW-304  
**Serial No.:**  
**Borehole Number (if different):**  

**Project Name:** AmerenIP Champaign  
**Client Company:** AmerenIP  
**Project No.:** 02403053  
**Cost Code:** 024501  

**Site Name:**  
**Site Address:** 308 N 5th, Champaign, IL  

**Well Diameter:** 2 inches  
**Conductor Casing**  
*(To seal off upper water-bearing zones)*  
- **Diameter:** 10 inches  
- **Material:** PVC  
- **Length:** 29.5 feet  
- **Depth to Bottom of Casing:** 29.5 feet  

**Permit**  
- **Number:**  
- **Date:**  

### Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teflon</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>X</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

**Annular Fill Materials**  
*Use minus sign if top of riser is above ground.*  

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>Unimin FilterSil WG1</td>
<td>4</td>
<td>Yes</td>
<td>45</td>
</tr>
<tr>
<td>Sand Pack</td>
<td></td>
<td></td>
<td></td>
<td>33</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>1</td>
<td></td>
<td>28.8</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>4 1/2 gal.</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Well Cover**  
- **Finish:** Stick-up  
- **Material:** Steel  
- **Lock:** Yes  
  - **Lock Number:** 2532  
- **Measuring Point:** Top of Riser  
- **Well Collision Protectors Installed?**  
  - **Yes:**  
  - **Quantity:**  
  - **No:**  

**Comments**  

---

**Recorded by (print name):** L. Hoosier

**Signature:**  
**Date:** 4-16-08  
**Reviewer:**  
**Date:**  

---

Form A5003  
Rev. 10/6/94  
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## WELL INSTALLATION RECORD

**Serial No.**: WIR-  
**Project No.**: 60243053  
**Cost Code**: 024501  

**Project Name**: Amaren JP  
**Client Company**: Amaren  
**Site Name**: Champaign  

### Well Diameter
- **2.0** inches

### Well Type
- [X] Monitoring Well  
- [ ] Piezometer  
- [ ] Recovery Well  
- [ ] Other

### Permit
- **Number**: NA  
- **Date**: NA

### Conductor Casing
- **Type**: None
- **Diameter**: inches  
- **Material**: 
- **Length**: feet  
- **Depth to Bottom of Casing**: feet

### Well Construction Details

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td></td>
<td>Bottom</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td>-</td>
<td>0.0</td>
<td>Same as bottom of screen</td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in. ]</td>
<td>X</td>
<td>10.0'</td>
<td>45.0'</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>35.0'</td>
<td>Same as top of screen</td>
</tr>
</tbody>
</table>

### Annular Fill Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>NA</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>6</td>
<td>X</td>
<td>45.0' 33.0'</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>0.5</td>
<td>X</td>
<td>31.0' 0.5'</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix25%</td>
<td>7.5</td>
<td>X</td>
<td>31.0' 0.5'</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>45</td>
<td>x</td>
<td>0.5' 0.0'</td>
</tr>
</tbody>
</table>

### Well Cover
- **Finish**:  
- **Material**:  
  - [ ] Stick-up  
  - [ ] Steel  
  - [ ] Aluminum  
- **Lock**:  
  - [ ] Yes  
  - [ ] No  
- **Lock Number**: 2532

**Measuring Point**
- [ ] Top of Riser  
- [ ] Top of Cover

**Well Collision Protectors Installed?**
- [ ] Yes  
- [ ] No

### Comments
- Well cover completed on 6/25/08  
- Well installed on 6/24/08

**Recorded by**: Rachael Tuson  
**Signature**: Rachael Tuson

**Date**: 6/24/08  
**Reviewer**:  
**Date**:  

---

Form A0003  
Rev. 1/6/94  
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6/20/08
**WELL INSTALLATION RECORD**

**Project Name:** Ameren EP Champaign  
**Client Company:** Ameren  
**Site Name:** Champaign  
**Serial No.:** WIR-  
**Borehole Number (if different):** B-854  
**Project No.:** 6024.3053  
**Cost Code:** 024501

**Well Diameter:** 2.0 inches

**Well Type:**  
- [ ] Monitoring Well  
- [ ] Piezometer  
- [ ] Recovery Well  
- [ ] Other:

**Conductor Casing:**  
- [ ] None  
- Diameter:  
  - [ ] inches  
- Material:  
- Length:  
  - [ ] feet  
- Depth to Bottom of Casing:  
  - [ ] feet  
- Seal Material: 

**Permit:**  
- Number: NA  
- Date: NA

**Well Construction Details**

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVC</td>
<td>Stainless Steel</td>
<td>Teflon</td>
</tr>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Annular Fill Materials**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>6</td>
<td>X</td>
<td>47.0' 35.0'</td>
</tr>
<tr>
<td>Bentonite Seal</td>
<td>Pure Gold Medium Chips</td>
<td>0.5</td>
<td>X</td>
<td>35.0' 33.0'</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>6</td>
<td>X</td>
<td>33.0' 0.5'</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td>4.5</td>
<td>X</td>
<td>0.5' 0.0'</td>
</tr>
</tbody>
</table>

**Well Cover**

- **Finish:**  
  - [ ] Stick-up  
  - [ ] Flush  
  - [ ] Vault  
- **Material:**  
  - [ ] Steel  
  - [ ] Aluminum  
- **Lock:**  
  - [ ] Yes  
  - Lock Number: 2532  
- [ ] No

**Measuring Point**

- [ ] Top of Riser  
- [ ] Top of Cover

**Well Collision Protectors Installed?**  
- [ ] Yes  
- [ ] No  
- Quantity:

**Comments:**  
- Well cover completed on 6/25/08
- Well installed on 6/25/08

**Recorded by:** Rachael Hudson  
**Date:** 6/25/08

**Form A000 Rev. 10/06/94**
**Well Installation Record**

**Well Number:** UMW-307  
**Serial No.:** WIR—  
**Project Name:** Amereen Champaign  
**Client Company:** Amereen  
**Site Name:** Champaign  
**Site Address:**  

**Well Diameter:** 2.0 inches  
**Well Type:**  
- [ ] Monitoring Well  
- [ ] Piezometer  
- [ ] Recovery Well  
- [ ] Other  

**Conductor Casing**  
(To seal off upper water-bearing zones)  
- [ ] None  
- [ ] Diameter: ______ inches  
- [ ] Material:  
- [ ] Length: ______ feet  
- [ ] Depth to Bottom of Casing: ______ feet  
- [ ] Seal Material:  

**Well Construction Details**

<table>
<thead>
<tr>
<th>Well Component</th>
<th>Material (specify type)</th>
<th>Length (feet)</th>
<th>Depth Below Grade (feet) Bottom</th>
<th>Depth Below Grade (feet) Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Cap/Plug</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sump (Tailpipe below screen)</td>
<td></td>
<td>47.0'</td>
<td>Some as bottom of screen</td>
<td></td>
</tr>
<tr>
<td>Screen [Slot Size: 0.010 in.]</td>
<td>X</td>
<td>10.0</td>
<td>47.0'</td>
<td>37.0'</td>
</tr>
<tr>
<td>Riser (Blank Casing above Screen)</td>
<td>X</td>
<td>365</td>
<td>Some as top of screen</td>
<td>0.5'</td>
</tr>
</tbody>
</table>

**Annular Fill Materials**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Name/Description</th>
<th>Quantity (No. of Bags/Volume per Bag)</th>
<th>Tremied</th>
<th>Depth Below Grade (feet) Bottom</th>
<th>Depth Below Grade (feet) Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug beneath sand pack</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand Pack</td>
<td>Unimin FilterSil WG1</td>
<td>4.0</td>
<td>X</td>
<td>47.0'</td>
<td>35.0'</td>
</tr>
<tr>
<td>Bentonite Seal &lt; 0.5</td>
<td>Pure Gold Medium Chips</td>
<td>0.5</td>
<td>X</td>
<td>35.0'</td>
<td>33.0'</td>
</tr>
<tr>
<td>Grout Seal</td>
<td>Cement/Bentonite Mix</td>
<td>0.5 gal</td>
<td>X</td>
<td>33.0'</td>
<td>0.5'</td>
</tr>
<tr>
<td>Backfill (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Seal</td>
<td>Concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Well Cover**

- [ ] Stick-up  
- [ ] Flush  
- [ ] Vault  
- [ ] Material:  
- [ ] Steel  
- [ ] Aluminum  
- [ ] Lock:  
- [ ] Yes  
- [ ] Lock Number: 2532  
- [ ] No  

**Measuring Point**

- [ ] Top of Riser  
- [ ] Top of Cover  

**Well Collision Protectors Installed?**  
- [ ] Yes  
- [ ] Quantity:  
- [ ] No  

**Comments**

- Well installed on 6/24/08  
- Well cover installed on 6/24/08  

**Recorded by (print name): Rachael Husan**

**Signature:** Rachael Husan  
**Date:** 6/24/08  
**Reviewer:**  
**Date:**
# WELL CONSTRUCTION LOG

**Drilling Company:** PSC

**Driller:** J. Bevill

**Logger:** R. Han

## WELL CONSTRUCTION SUMMARY

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Casing Depth (ft)</th>
<th>Annulus Depth (ft)</th>
<th>Surface Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Description

Modifier and Main Soil; color; impact; consistency/density; odor; moisture; USCS

(Relate to Ameren Standard Descriptions)

- Time Started: 1000
- 18 - 15' - Yellowish brown to gray, silty clay, clayey silt cuttings @ auger depth of ~12.5'
- Up wet
- @ depth (~29.5') @ 130 (w/cleanup)

---

**Notes:**

---
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drilling to depth + setting casing 4 1/2&quot; Dull</td>
</tr>
</tbody>
</table>
Depth (ft) | Casing | Depth (ft) | Annulus
--- | --- | --- | ---
| | | | |

**Description**

Modifier and Main Soil: color; impact; consistency/density; odor; moisture; USCS
(Refer to Ameren Standard Descriptions)

- Silty clay with gravel; (TILL) gray; no odor; damp (CL)
- Sand @ 34.0'-Med. to coarse grained-wet (SP)
- Silt clay with trace gravel and f.g. sand; (TILL) lt. brownish gray; no odor; moist (CL)
- Silty clay with trace gravel; (TILL) gray; no odor; damp (CL)

TOR @ 45.0'

- See Well Installation Record - UMW - 303

Leslie Hoosier

**Notes:** mud rotary 29.5' to 45.0'
Description

Modifier and Main Soil; color; impact; consistency/density; odor; moisture; USCS
(Refer to Ameren Standard Descriptions)

Logged Auger cuttings: (12" ID)

- Auger depth 10.0', cuttings on surface are Silty clays, dark brown to black, stiff, moderate odor (mgt-like)
  18.0' drilling fluid added (pmt-end-88)
  18.0' (Auger depth) - color change to light brown, gray, wet

- 20.0' (Auger depth) same as above; moderate odor (mgt-like), wet

- 23.0' (Auger depth) color change to light gray, material stiff, no odor

- 25.0' (Auger depth) cuttings Silty clay with gravel (mgt); light gray; stiff, no odor, damp

- 30.0' (Auger depth) same as above, bottom of boring @ 400

- 1500' mixing concrete
- 1520' grouting - bottom of casing @ 29.5'
- 1632' finish grouting
### WELL CONSTRUCTION SUMMARY

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Casing</th>
<th>Depth (ft)</th>
<th>Annulus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Description**
  Modifier and Main Soil: color; impact; consistency/density; odor; moisture; USCS
  (Refer to Ameren Standard Descriptions)

#### Description

- **30.00 ft**
  - Silty clay with gravel: (T14); gray; no visible impact; stiff; no odor; damp (CL)

- **31.00 ft**
  - Sand @ 35' no visible impact; dense; no odor; wet (SP)

- **32.00 ft**
  - Sand; med. to coarse grained; no visible impact; dense; no odor; wet (SP)

- **33.00 ft**
  - Silty clay with gravel and sand: (T14); gray; no visible impact; very stiff; no odor; damp (CL)

- **45.00 ft**
  - TDR @ 45.0'
  - See well installation record - UMW-304

---

**Notes:**

- Mud rotary 29.5' to 45.0'
- 0 - 29.5' - Casing (bottom of casing @ 29.5')
WELL DEVELOPMENT AND PURGING DATA

Project Name: Champaign MGP
Client Company: AmerenIP
Site Address: 308 N 5th, Champaign

Development Criteria:
- 3 to 5 Casing Volumes of Water Removal
- □ Stabilization of Indicator Parameters
- □ Other 10 well volumes max.

Methods of Development:
- □ Pump
- □ Centrifugal
- □ Bottom Valve
- □ Submersible
- □ Double Check Valve
- □ Peristaltic
- □ Stainless-steel Kemmerer
- □ Other: Whale

Water Volume Calculation:
- Initial Depth of Well (feet): 15.0
- Initial Depth to Water (feet): 7.0
- Height of Water Column in Well (feet): 8.0
- Diameter (inches): Well 2" Gravel Pack

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td>0.214</td>
<td>1.31</td>
</tr>
<tr>
<td>Gravel Pack</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Drilling Fluids</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5.24</td>
</tr>
</tbody>
</table>

Instruments:
- □ pH Meter
- □ DO Monitor
- □ Conductivity Meter
- □ Temperature Meter
- □ Quanta
- Turbidity - La Motte
- Water Disposal - Poly Tank on site

Water Removal Data:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Pump</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mhos/cm)</th>
<th>Dissolved Oxygen (mg/L)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-29-08</td>
<td>1507</td>
<td>X</td>
<td></td>
<td>2</td>
<td>N/A</td>
<td>11.1</td>
<td>7.06</td>
<td>612</td>
<td>610.6</td>
<td>Very turbid, silty brown</td>
</tr>
<tr>
<td>4-30-08</td>
<td>1007</td>
<td>X</td>
<td></td>
<td>2.5</td>
<td>N/A</td>
<td>11.2</td>
<td>7.01</td>
<td>612</td>
<td>610.6</td>
<td>-</td>
</tr>
<tr>
<td>4-31-08</td>
<td>1009</td>
<td>X</td>
<td></td>
<td>3.0</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Water Volume = ft \times 0.1632 \text{gal/ft} = 1.31 \text{gal} \times 4 = 5.24 \text{gal}

Circle the date and time that the development criteria are met.

Comments: Returned 4/29 after well recharged, pumped 6 gal. Still turbid. At total of 10 well volumes were pumped out & still turbid. Closed well at 1041 on 4/30.

Developer's Signature(s): Leslie Hoagin

Date: 4-29-08
Reviewer: 4-30-08
**WELL DEVELOPMENT AND PURGING DATA**

- **Well Number:** UMW-1Z1
- **Project Name:** Champaign MGP
- **Project Manager:** Derek Ingram
- **Project No.:** 0240703
- **Cost Code:** 024001
- **Client Company:** AmerenIP
- **Site Address:** 308 N. 5th, Champaign II

### Development Criteria
- 3 to 5 Casing Volumes of Water Removal
- Stabilization of Indicator Parameters
- Other: 10 well volumes max.

### Methods of Development
- Pump: Centrifugal, Submersible, Peristaltic, Other: Unpro
- Boiler: Bottom Valve, Double Check Valve, Stainless-steel Kemmerer, Other: Unpro

### Water Volume Calculation

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel Pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling Fluids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6.6</td>
</tr>
</tbody>
</table>

**Initial Depth of Well (feet):** 15.0'  
**Initial Depth to Water (feet):** 6.8'  
**Height of Water Column in Well (feet):** 8.1'  
**Diameter (inches):** Well 2, Gravel Pack

**Water Volume Calculation:**  
\[
\text{Volume} = \text{Depth} \times \text{Cross Section Area}
\]

\[
15' \times 0.1632\text{gal/ft} = 2.448\text{ gal/ft}
\]

\[
6.0\text{ gal/ft} \times 8.1 = 48.6\text{ gal}
\]

### Water Removal Data

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Removal Rate (gal/min)</th>
<th>Removal Depth (feet)</th>
<th>Intake Depth (feet)</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>Conductivity (mhos/cm)</th>
<th>Dissolved Oxygen (mg/L)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/30/08</td>
<td>0955 X</td>
<td></td>
<td></td>
<td>15'</td>
<td></td>
<td>16 N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Circled the date and time that the development criteria are met.**

**Comments:** Pumped 16 gallons & still very turbid. Unable to get any readings. Closed well @ 1115.

**Developer's Signature(s):** Leslie Heaslee  
**Date:** 4-30-08  
**Reviewer:** ____  
**Date:** ____
### Development Criteria
- 3 to 5 Casing Volumes of Water Removal
- Stabilization of Indicator Parameters
- Other **10 casing volumes max.**

### Methods of Development
- Pump
- Bailier
- Centrifugal
- Bottom Valve
- Submersible
- Double Check Valve
- Peristaltic
- Stainless-steel Kemmerer
- Other **Whale**

### Water Volume Calculation

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td>0.14</td>
<td>1.29</td>
</tr>
<tr>
<td>Gravel Pack</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Drilling Fluids</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Initial Depth of Well (feet) **15.00**
Initial Depth to Water (feet) **7.09**
Height of Water Column in Well (feet) **7.91**
Diameter (inches): Well **2.5**
Gravel Pack

### Instruments
- **pH** Meter **Myron**
- **DO Monitor** **NA**
- **Conductivity Meter** **Myron**
- **Temperature Meter** **Myron**
- **Quanta** **NA**

### Water Disposal
- **Stored on site**

### Water Removal Data

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Pump</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mMhos/cm)</th>
<th>Dissolved Oxygen (mg/L)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/30/08</td>
<td>07:57</td>
<td>X</td>
<td>15'</td>
<td>2</td>
<td>0 NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Very turbid, grey</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty, Sandy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty, Sandy</td>
</tr>
</tbody>
</table>

Circle the date and time that the development criteria are met.

### Comments

Developer's Signature(s) **John R. Dolle**
Date 4/30/08
Reviewer
Date
**WELL DEVELOPMENT AND PURGING DATA**

**Well Number:** UWW-170

**Project Name:** Champaign MGP

**Client Company:** AmerenIP

**Project Manager:** Derek Higdon

**Project No.:** 62408053

**Cost Code:** 024801

**Site Address:** 808 N. 5th, Champaign

---

### Development Criteria

- [ ] 3 to 5 Casing Volumes of Water Removal
- [ ] Stabilization of Indicator Parameters
- [x] Other: 10 well volumes max.

### Methods of Development

- [ ] Pump
- [ ] Baller
- [ ] Centrifugal
- [ ] Bottom Valve
- [ ] Submersible
- [ ] Double Check Valve
- [ ] Peristaltic
- [ ] Stainless-steel Kemmerer
- [x] Other

### Water Volume Calculation

- **Initial Depth of Well (feet):** 15.0
- **Initial Depth to Water (feet):** 5.045
- **Height of Water Column in Well (feet):** 9.93
- **Diameter (inches):** Well: 2" Gravel Pack

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Gravel Pack</td>
<td>5.045</td>
<td></td>
</tr>
<tr>
<td>Drilling Fluids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Instruments

- [x] pH Meter
- [ ] DO Monitor
- [x] Conductivity Meter
- [ ] Temperature Meter
- [ ] Quanta

### Water Disposal

Poly Tank - on site

### Water Removal Data

\[ \text{ft} \times 0.1632 \text{gallon/ft} = 1.62 \text{ gallon} \times 5 = 8.11 \text{ gallon} \]

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Removal Rate (gal/min)</th>
<th>Intake Depth (feet)</th>
<th>Ending Water Depth (feet)</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mV/m)</th>
<th>Dissolved Oxygen (mg/l)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-30-08</td>
<td>15:40</td>
<td>Pump</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very turbid</td>
</tr>
<tr>
<td>4-30-08</td>
<td></td>
<td>Pump</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Circle the date and time that the development criteria are met.

**Comments:** Purged 10 well volumes - very turbid. Closed well @ 1613

---

**Developer's Signature(s):** Leslie Bosier

**Date:** 4-30-08

**Reviewer:**

**Date:**

---

Form A0101 Rev. 10/6/94

S:\Shared\MGP\FIELD FORMS\DEV-PURG.doc 2/25/08
**Well Development and Purging Data**

**Well Number**: UMW-302

**Project Name**: Ameren IPP Champaign

**Client Company**: Ameren IPP

**Site Address**: 308 N 5th, Champaign

**Development Criteria**
- [X] 3 to 5 Casing Volumes of Water Removal
- [ ] Stabilization of Indicator Parameters
- [ ] Other

**Methods of Development**
- Pump
- Baller
- Centrifugal
- Bottom Valve
- Submersible
- Double Check Valve
- Peristaltic
- Stainless-steel Kennmerer
- [X] Other

**Water Volume Calculation**

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel Pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling Fluids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Initial Depth of Well (feet)**: 45.0'

**Initial Depth to Water (feet)**: 28.36'

**Height of Water Column in Well (feet)**: 16.64

**Diameter (inches)**: Well 2"

**Gravel Pack**

**Water Disposal**

Poly tank on site

**Water Removal Data**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Removal Rate (gal/min)</th>
<th>Intake Depth (feet)</th>
<th>Ending Water Depth (feet)</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mV/m)</th>
<th>Dissolved Oxygen (mg/l)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/30/08</td>
<td>1138</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td>Turbidity - 200mm</td>
</tr>
<tr>
<td></td>
<td>1140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>14.4</td>
<td>7.07</td>
<td>11.87</td>
<td></td>
<td></td>
<td>Turbidity - 20</td>
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<tr>
<td></td>
<td>1149</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>14.5</td>
<td>7.12</td>
<td>11.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1153</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>14.5</td>
<td>7.13</td>
<td>11.23</td>
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<tr>
<td></td>
<td>1157</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>14.5</td>
<td>7.10</td>
<td>11.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1202</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>14.4</td>
<td>7.09</td>
<td>10.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>14.4</td>
<td>7.14</td>
<td>10.86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Circle the date and time that the development criteria are met.

**Comments**: Arrived at UMW-302 at 11:21. Odor observed - Sewer type odor

MGP like odor observed.

**Developer's Signature(s)**: [Signature]

**Date** 4-30-08

**Reviewer**

**Date**
**Well Development and Purging Data**

**Well Number**: UMW-303

**Project Name**: Champaign MGP

**Client Company**: AmerenIP

**Project Manager**: Derek Ingram

**Site Address**: 308 N. 5th, Champaign

**Development Criteria**
- X 3 to 5 Casing Volumes of Water Removal
- □ Stabilization of Indicator Parameters
- □ Other

**Methods of Development**
- □ Pump
- □ Baller
- □ Centrifugal
- □ Bottom Valve
- □ Submersible
- □ Double Check Valve
- □ Peristaltic
- □ Stainless-steel Kemmerer
- □ Other

**Water Volume Calculation**
- Initial Depth of Well (feet): 40.0
- Initial Depth to Water (feet): 24.5
- Height of Water Column in Well (feet): 18.44
- Diameter (inches): Well 2"; Gravel Pack

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Volume in Well (gallons)</th>
<th>Cubic Feet</th>
<th>Gallons to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Casing</td>
<td>0.395</td>
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<td>Gravel Pack</td>
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<tr>
<td>Drilling Fluids</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>12.40</td>
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**Water Removal Data**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Development Method</th>
<th>Removal Rate (gal/min)</th>
<th>Intake Depth (feet)</th>
<th>Ending Water Depth (feet)</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mmhos/cm)</th>
<th>Dissolved Oxygen (mg/l)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/29/08</td>
<td>14:08</td>
<td>X</td>
<td></td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>14.7</td>
<td>7.25</td>
<td>1114</td>
<td>-</td>
<td>Very turbid, No color</td>
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<td></td>
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<td>8</td>
<td>14.9</td>
<td>7.49</td>
<td>1028</td>
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<tr>
<td></td>
<td>14:26</td>
<td>X</td>
<td>26.45</td>
<td>6</td>
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<td></td>
<td>14:34</td>
<td>X</td>
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<td>1032</td>
<td></td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

Circle the date and time that the development criteria are met.

**Comments**: 

**Developer's Signature(s)**: John A.Delle

**Date**: 4/29/08

**Reviewer**: __________  **Date**: __________
**Well Development and Purging Data**

**Well Number:** UMW-364  
**Serial No.:** WDPD-  
**Project Name:** Champaign MGP  
**Client Company:** AmerenIP  
**Project Manager:** Derek Ingram  
**Project No.:** 62403053  
**Site Address:** 308 N. 5th St., Champaign IL  
**Cost Code:** 024501

### Development Criteria
- [ ] 3 to 5 Casing Volumes of Water Removal
- [ ] Stabilization of Indicator Parameters
- [ ] Other

### Methods of Development
- Pump
- Centrifugal
- Submersible
- Peristaltic
- Other: **Whale**

### Water Volume Calculation

<table>
<thead>
<tr>
<th>Item</th>
<th>Diameter (inches): Well</th>
<th>Gravel Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Depth of Well (feet)</td>
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<tr>
<td>Initial Depth to Water (feet)</td>
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<td>Height of Water Column in Well (feet)</td>
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<td>Water Volume in Well</td>
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<tr>
<td>Cubic Feet</td>
<td>Gallons</td>
<td>Removed</td>
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<td>Gravel Pack</td>
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<td>Drilling Fluids</td>
<td>5.0</td>
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<tr>
<td>Total</td>
<td>11.2</td>
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### Instruments
- pH Meter: **Myron**
- DO Monitor: **Myron**
- Conductivity Meter: **Myron**
- Temperature Meter: **Myron**
- Quanta Turbidity - QM330E

### Water Disposal

### Water Removal Data

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Removal Rate (gal/min)</th>
<th>Development Method</th>
<th>Intake Depth (feet)</th>
<th>Water Volume Removed (gallons)</th>
<th>Product Volume Removed (gallons)</th>
<th>Temperature (°C)</th>
<th>pH</th>
<th>Conductivity (mmhos/cm)</th>
<th>Dissolved Oxygen (mg/L)</th>
<th>Turbidity (NTU)</th>
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</thead>
<tbody>
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<td>X</td>
<td>Pump</td>
<td>2</td>
<td>15.1</td>
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<td>7.62</td>
<td>1120</td>
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<td>5.4</td>
</tr>
</tbody>
</table>

Circle the date and time that the development criteria are met.

**Comments:** Cool tar-like odor observed.

**Developer's Signature(s):**  

**Date:** 4-29-08  
**Reviewer:**  
**Date:**