APPENDIX A

TEST TRENCH EXCAVATION LOGS AND FIELD NOTES
### TEST PIT EXCAVATION LOG

<table>
<thead>
<tr>
<th>Test Pit I.D.:</th>
<th>TT-1</th>
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<tbody>
<tr>
<td>Project No:</td>
<td>0250-012-001</td>
</tr>
<tr>
<td>Project:</td>
<td>Olean Redevelopment Site</td>
</tr>
<tr>
<td>Logged By:</td>
<td>BMG</td>
</tr>
<tr>
<td>Client:</td>
<td>Olean Gateway, LLC</td>
</tr>
<tr>
<td>Checked By:</td>
<td>BCH</td>
</tr>
<tr>
<td>Site Location:</td>
<td>1400 Buffalo Street, Olean, NY</td>
</tr>
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</table>

#### SUBSURFACE PROFILE

<table>
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<tr>
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<tbody>
<tr>
<td>0.0</td>
<td>Ground Surface</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Fill</td>
<td></td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel and trace non-plastic fines</td>
<td></td>
<td>0.8</td>
<td></td>
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</tr>
<tr>
<td>-4.0</td>
<td>Fill</td>
<td></td>
<td>0.6</td>
<td></td>
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<tr>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few bricks, and trace non-plastic fines, dense in place, perched water coming from SE bricks</td>
<td></td>
<td>0.9</td>
<td></td>
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<tr>
<td>-8.0</td>
<td>Lean Clay</td>
<td></td>
<td>4.0</td>
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<td></td>
<td>Brown, moist, medium plasticity fines with trace gravel, medium stiff</td>
<td></td>
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<tr>
<td>-10.0</td>
<td>Well Graded Sand with Silt and Gravel</td>
<td></td>
<td>0.7</td>
<td></td>
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<tr>
<td></td>
<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place</td>
<td></td>
<td>2.1</td>
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<tr>
<td>-16.0</td>
<td>End of Test Pit</td>
<td></td>
<td>0.4</td>
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<table>
<thead>
<tr>
<th>Excavated By:</th>
<th>Todd Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator Type:</td>
<td>John Deere 690ELC</td>
</tr>
<tr>
<td>Excavation Date(s):</td>
<td>8-14-12</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
</tr>
</tbody>
</table>

Length: 10’, Depth to Water: Perched at 8’, Visual Impacts: None, Olfactory Observations: None
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-2  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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<td>0.0</td>
<td>Ground Surface</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Fill</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Black, moist, fine to coarse sand with few fine to coarse gravel and little brick, moderate odor (2-12'), dense in place</td>
<td></td>
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<tr>
<td>-12.0</td>
<td>-12.0</td>
<td><strong>Well Graded Sand with Silt and Gravel</strong></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, moderate odor</td>
<td></td>
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<tr>
<td>-16.0</td>
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<td><strong>End of Test Pit</strong></td>
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</table>

**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-13-12  
**Depth:** 16’  
**Olfactory Observations:** Moderate odor 2-16’

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TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

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**Sheet:** 1 of 1
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-3  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### Subsurface Profile

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<td>0.0</td>
<td><strong>Fill</strong> Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place</td>
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<tr>
<td>-4.0</td>
<td>-4.0</td>
<td><strong>Silty Sand with Gravel</strong> Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few, low plastic fines, dense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-8.0</td>
<td>-8.0</td>
<td><strong>Well Graded Sand with Silt and Gravel</strong> Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>-16.0</td>
<td>16.0</td>
<td><strong>End of Test Pit</strong></td>
<td></td>
<td></td>
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<tr>
<td>20.0</td>
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</table>

**Excavated By:** Todd Company  
**Excavation Date(s):** 8-14-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** None  

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Buffalo, NY 14218  
(716) 856-0635
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-4  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY  

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## SUBSURFACE PROFILE

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<td>Fill</td>
<td>BMG</td>
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<tr>
<td>-2.0</td>
<td>2.0</td>
<td>Well Graded Sand with Silt and Gravel</td>
<td>BCH</td>
<td>10.6</td>
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<td>End of Test Pit</td>
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</table>

**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-14-12  
**Length:** 10'  
**Width:** 3'  
**Depth:** 12'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** None  

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(716) 856-0635  

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**TT-40250-012-001**

**Olean Redevelopment Site**

**Olean Gateway, LLC**

**1400 Buffalo Street, Olean, NY**
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-5  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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<td>Fill</td>
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<td>0.4</td>
<td></td>
<td>0.3</td>
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<tr>
<td></td>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel and trace non-plastic fines, various size pipes</td>
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<tr>
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<td>Well Graded Sand with Silt and Gravel</td>
<td></td>
<td>1.2</td>
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</tr>
<tr>
<td></td>
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<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place</td>
<td></td>
<td>24.8</td>
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<td>-16.0</td>
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<td>End of Test Pit</td>
<td></td>
<td>23.6</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-14-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** None  

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**TurnKey Environmental Restoration, LLC**  
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Buffalo, NY 14218  
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**Sheet: 1 of 1**
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-6  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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<td>2.7</td>
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<tr>
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<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place, few pipes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0.0</td>
<td>8.0</td>
<td>Well Graded Sand with Silt and Gravel</td>
<td></td>
<td>8.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, 6 inch pipe at 10'</td>
<td></td>
<td></td>
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<td>-8.0</td>
<td>8.8</td>
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<td>24.8</td>
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<td>24.2</td>
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</tr>
<tr>
<td>-20.0</td>
<td></td>
<td>End of Test Pit</td>
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**Excavated By:** Todd Company  
**Length:** 40'  
**Excavator Type:** John Deere 690ELC  
**Width:** 3'  
**Excavation Date(s):** 8-14-12  
**Depth to Water:** None  
**Visual Impacts:** None  
**Depth:** 12'  
**Olfactory Observations:** None  
**Comments:** Stopped at 12' due to limited access from pipe and concrete

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*TurnKey Environmental Restoration, LLC*  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

---

*Sheet: 1 of 1*
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-7

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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<td>Ground Surface</td>
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<tr>
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<td><strong>Fill</strong></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place, slight odor 4-6'</td>
<td></td>
<td>3.8</td>
<td></td>
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<tr>
<td>-0.0</td>
<td>-0.0</td>
<td><strong>Silty Sand with Gravel</strong></td>
<td></td>
<td>67.0</td>
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<td></td>
<td></td>
<td>Brown, moist, fine to coarse sand with few fine rounded gravel, few low plastic fines, dense, slight odor</td>
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<td>128.0</td>
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<tr>
<td>-1.0</td>
<td>-1.0</td>
<td><strong>Well Graded Sand with Silt and Gravel</strong></td>
<td></td>
<td>155.0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
<td></td>
<td>104.0</td>
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<td>-1.0</td>
<td>-1.0</td>
<td><strong>End of Test Pit</strong></td>
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<td>100.0</td>
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<td>16.0</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None

**Excavation Date(s):** 8-15-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 4-16’

---

*TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635*
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-8  
**Logged By:** BMG  
**Checked By:** BCH  
**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-15-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 8-16’

### SUBSURFACE PROFILE

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<td>Ground Surface</td>
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<td>1.2</td>
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<td></td>
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<tr>
<td>-3.0</td>
<td>3.0</td>
<td>Fill Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place</td>
<td></td>
<td>0.9</td>
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<td></td>
</tr>
<tr>
<td>-8.0</td>
<td>8.0</td>
<td>Silty Sand with Gravel Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
<td></td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-16.0</td>
<td>16.0</td>
<td>Well Graded Sand with Silt and Gravel Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
<td></td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Site Location:** 1400 Buffalo Street, Olean, NY  

**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

**Sample Remarks:**

- **PID:** 1000 ppm
- **VOCs:** 0
- **Lab Sample:** 2000 ppm
- **Remarks:**
  - 1.2
  - 0.9
  - 0.5
  - 1.2
  - 1.4
  - 21.1

**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 8-16’

**TurnKey Environmental Restoration, LLC**

2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

**Sheet:** 1 of 1
# TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-9  
**Logged By:** BMG  
**Checked By:** BCH

**Project No:** 0250-012-001  
**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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<td>-4.0</td>
<td>Silty Sand with Gravel</td>
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<tr>
<td></td>
<td>5.0</td>
<td>Well Graded Sand with Silt and Gravel</td>
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<td>1.3</td>
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</table>

**Excavated By:** Todd Company  
**Length:** 10'  
**Depth to Water:** None

**Excavator Type:** John Deere 160 G  
**Width:** 3'  
**Visual Impacts:** Product in sample bags 12-16'

**Excavation Date(s):** 9-14-12  
**Depth:** 16'  
**Olfactory Observations:** Slight odor 14-16'

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

---

**TT-90250-012-001**

**Olean Redevelopment Site**  
**Olean Gateway, LLC**  
1400 Buffalo Street, Olean, NY

---

**Length:** 10'  
**Width:** 3'  
**Visual Impacts:** Product in sample bags 12-16'

**Depth:** 16'  
**Olfactory Observations:** Slight odor 14-16’
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-10  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Excavation Date(s):** 8-14-12  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 10-14’
TEST PIT EXCAVATION LOG

Project No: 0250-012-001  Test Pit I.D.: TT-11
Project: Olean Redevelopment Site  Logged By: BMG
Client: Olean Gateway, LLC  Checked By: BCH
Site Location: 1400 Buffalo Street, Olean, NY

SUBSURFACE PROFILE

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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, slight odor</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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Excavated By: Todd Company  Length: 10’  Depth to Water: None
Excavator Type: John Deere 690ELC  Width: 3’  Visual Impacts: None
Excavation Date(s): 8-15-12  Depth: 16’  Olfactory Observations: Slight odor 3-16’
Comments:
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-12  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY  
**Logged By:** BMG  

### SUBSURFACE PROFILE

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<td>Brown, moist, medium plasticity fines with trace fine to coarse rounded gravel, medium stiff</td>
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</table>

**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-15-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 0-16’  

Sheet: 1 of 1
### Test Pit Excavation Log

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-13  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

#### Subsurface Profile

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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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<tr>
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<td>Well Graded Sand with Silt and Gravel</td>
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<td>269.0</td>
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<tr>
<td></td>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
<td></td>
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<td>End of Test Pit</td>
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<td>522.5</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-6-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** Product in sample bag 10-16’  
**Olfactory Observations:** Slight odor 10-16’
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-14  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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<td>Fill</td>
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<td>8.8</td>
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<tr>
<td></td>
<td></td>
<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place</td>
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<td>Brown, moist to wet 10', fine to coarse sand with some fine to coarse fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
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<td>End of Test Pit</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-6-12  
**Comments:**

- **Length:** 10'  
- **Width:** 3'  
- **Depth to Water:** 15'  
- **Visual Impacts:** Product in sample bag 10-16'  
- **Olfactory Observations:** Slight odor 8-16'
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-15  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## Subsurface Profile

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<tr>
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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, trace bricks, and trace non-plastic fines, dense in place</td>
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<tr>
<td>1.0</td>
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<td>Lean Clay</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1.0</td>
<td>Brown and black, moist, medium plasticity fines with trace gravel, medium stiff</td>
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<tr>
<td>5.0</td>
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<td>Well Graded Sand with Silt and Gravel</td>
<td></td>
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<tr>
<td></td>
<td>5.0</td>
<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, pipe at 7', slight odor</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-22-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 6-16’
**TEST PIT EXCAVATION LOG**

Project No: 0250-012-001  
Test Pit I.D.: TT-16  
Project: Olean Redevelopment Site  
Logged By: BMG  
Client: Olean Gateway, LLC  
Checked By: BCH  
Site Location: 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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</table>
| -2.0         | -2.0         | **Fill**  
Brown, moist, fine to coarse sand with some fine to coarse gravel, few bricks, and trace non-plastic fines, dense in place | | 0.8      |            |         |
| 2.0          | 2.0          | **Silty Sand with Gravel**                       |                   | 0.6      |            |         |
| -5.0         | -5.0         | **Well Graded Sand with Silt and Gravel**        |                   | 10.2     |            |         |
|              |              | Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense in place | | 37.7     |            |         |
| -10.0        | -10.0        | **Well Drained Sand with Silt and Gravel**       |                   | 46.2     |            |         |
|              |              | Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor | | 109.0    |            |         |
| -16.0        | -16.0        | **End of Test Pit**                             |                   | 89.4     |            |         |
| -20.0        |              |                                                 |                   |          |            |         |

---

**Excavated By:** Todd Company  
**Length:** 10'  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3'  
**Visual Impacts:** None  
**Excavation Date(s):** 8-14-12  
**Depth:** 16'  
**Olfactory Observations:** Slight odor 5-16'  

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

---

Sheet: 1 of 1
**TEST PIT EXCAVATION LOG**

**Test Pit I.D.: TT-17**

**Test Pit I.D.: TT-17**

**Logged By: BMG**

**Logged By: BMG**

**Checked By: BCH**

**Checked By: BCH**

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**SUBSURFACE PROFILE**

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**Excavated By: Todd Company**

**Excavated By: Todd Company**

**Length: 10’**

**Length: 10’**

**Depth to Water: None**

**Depth to Water: None**

**Excavator Type: John Deere 690ELC**

**Excavator Type: John Deere 690ELC**

**Width: 3’**

**Width: 3’**

**Visual Impacts: None**

**Visual Impacts: None**

**Excavation Date(s): 8-15-12**

**Excavation Date(s): 8-15-12**

**Depth: 16’**

**Depth: 16’**

**Olfactory Observations: None**

**Olfactory Observations: None**

**Comments: Product and water found during backfill on S sidewall (4-6’)**

**Comments: Product and water found during backfill on S sidewall (4-6’)**

---

**TurnKey Environmental Restoration, LLC**

2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

---

Sheet: 1 of 1
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-18  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## SUBSURFACE PROFILE

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<td>coarse gravel, trace bricks, and trace non-plastic</td>
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<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>fines, dense in place, slight odor, one inch thick</td>
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<td>black tar like layer (solid almost brittle) at 3'</td>
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<tr>
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<td>coarse rounded gravel, few low plastic fines, dense,</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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<tr>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-15-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 1-16’

Sheet: 1 of 1
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-19  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-21-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 12-16’  
**Comments:** Moved location 40’ east of proposed location due to H2S exposure

---

Sheet: 1 of 1
## Test Pit Excavation Log

### Project Information
- **Project No:** 0250-012-001  
- **Test Pit I.D.:** TT-20  
- **Logged By:** BMG  
- **Client:** Olean Gateway, LLC  
- **Site Location:** 1400 Buffalo Street, Olean, NY

### Subsurface Profile

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<td>l. Brown and black, moist, fine to coarse sand with some fine to coarse gravel, trace bricks, and trace non-plastic fines, dense in place</td>
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### Excavation Details
- **Excavated By:** Todd Company  
- **Length:** 10’  
- **Depth to Water:** None  
- **Excavator Type:** John Deere 690ELC  
- **Width:** 3’  
- **Visual Impacts:** None  
- **Excavation Date(s):** 8-20-12  
- **Depth:** 16’  
- **Olfactory Observations:** None  
- **Comments:**

---

**Sheet: 1 of 1**
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-21  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-22-12  
**Depth:** 15’  
**Olfactory Observations:** Slight to moderate odor (8-15')

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

---

Sheet: 1 of 1
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-6-12  
**Comments:**

- **Length:** 10’
- **Width:** 3’
- **Depth:** 16’
- **Depth to Water:** None
- **Visual Impacts:** Product in sample bag 8-14’
- **Olfactory Observations:** Slight odor 6-16’

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
TT-24 NOT DONE
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-25  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-21-12  
**Length:** 10'  
**Width:** 3'  
**Depth:** 16'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 12-16'  

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635  

---

Sheet: 1 of 1
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-26

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor 8-16'</td>
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**Excavated By:** Todd Company  
**Length:** 10'  
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC  
**Width:** 3'  
**Visual Impacts:** None

**Excavation Date(s):** 8-21-12  
**Depth:** 16'  
**Olfactory Observations:** Slight odor 8-16'

Sheet: 1 of 1
# TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-27  
**Logged By:** BMG  
**Checked By:** BCH

**Project No:** 0250-012-001  
**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-21-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Depth:** 10’  
**Olfactory Observations:** None  
**Comments:** Refusal on large rock
**Test Pit Excavation Log**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-28  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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### Subsurface Profile

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 9-10-12  
**Depth:** 12’  
**Olfactory Observations:** Slight odor 4-12’  
**Comments:** Stopped at 12’ due to cave in

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-29  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## SUBSURFACE PROFILE

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<tr>
<td>0.0</td>
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<td><strong>Fill</strong> Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place, slight odor</td>
<td></td>
<td>4.6</td>
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<tr>
<td>5.0</td>
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<td><strong>Well Graded Sand with Silt and Gravel</strong> Gray, wet, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, moderate odor</td>
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<td>54.2</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-12-12  
**Comments:** Located 115’ west of GPS location

**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** Product in sample bag 10-16”,  
**Olfactory Observations:** Slight 8-10’, moderate 10-16’

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001
**Test Pit I.D.:** TT-30

**Project:** Olean Redevelopment Site
**Logged By:** BMG

**Client:** Olean Gateway, LLC
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, trace bricks, and trace non-plastic fines, dense in place</td>
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<td>Brown, moist, medium plasticity fines with trace fine to coarse rounded gravel, medium stiff</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place</td>
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**Excavated By:** Todd Company
**Excavator Type:** John Deere 690ELC
**Excavation Date(s):** 8-22-12
**Length:** 10’
**Width:** 3’
**Depth:** 16’
**Depth to Water:** None
**Visual Impacts:** None
**Olfactory Observations:** None

---

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Sheet: 1 of 1
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-31  
**Logged By:** BMG  
**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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#### SUBSURFACE PROFILE

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<td>Brown and black, moist, fine to coarse sand with some fine to coarse gravel, trace bricks, and trace non-plastic fines, dense in place</td>
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<td>Black and gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-21-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 6-16’  
**Comments:**
## TEST PIT EXCAVATION LOG

### Project Information
- **Project No:** 0250-012-001
- **Test Pit I.D.:** TT-32
- **Project:** Olean Redevelopment Site
- **Logged By:** BMG
- **Client:** Olean Gateway, LLC
- **Checked By:** BCH
- **Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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<td>Black and gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor 10-16'</td>
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### Excavation Information
- **Excavated By:** Todd Company
- **Excavator Type:** John Deere 690ELC
- **Excavation Date(s):** 8-21-12
- **Length:** 10’
- **Width:** 3’
- **Depth:** 16’
- **Depth to Water:** None
- **Visual Impacts:** None
- **Olfactory Observations:** Slight odor 10-16’

*TurnKey Environmental Restoration, LLC*
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

*Sheet: 1 of 1*
## Test Pit Excavation Log

**Project No:** 0250-012-001

**Test Pit I.D.:** TT-33

**Project:** Olean Redevelopment Site

**Logged By:** BMG

**Client:** Olean Gateway, LLC

**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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### Subsurface Profile

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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place</td>
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<td><strong>Well Graded Sand with Silt and Gravel</strong></td>
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<td>Gray, wet, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
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</table>

**Excavated By:** Todd Company

**Length:** 10’

**Excavator Type:** John Deere 160 G

**Width:** 3’

**Excavation Date(s):** 9-12-12

**Comments:**

**Depth to Water:** None

**Visual Impacts:** None

**Olfactory Observations:** Slight odor 10-16’
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-34  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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<td>Brown, moist, fine to coarse sand with some fine to</td>
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<td>coarse gravel, few brick, dense in place, slight odor</td>
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<td>Gray, moist, fine to coarse sand with some fine to</td>
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<td>coarse rounded gravel, few low plastic fines, dense,</td>
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<td>coarse rounded gravel, little non-plastic fines,</td>
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<td>dense in place, moderate odor</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-10-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 14’  
**Depth to Water:** None  
**Visual Impacts:** Product in sample bag 10-14’  
**Olfactory Observations:** Slight odor 2-6’, moderate odor 6-14’
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-36  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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<td><strong>Fill</strong> Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place, slight odor</td>
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<td>254.8</td>
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<td><strong>Silty Sand with Gravel</strong> Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, slight odor</td>
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<td>131.7</td>
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<tr>
<td>-4.0</td>
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<td><strong>Well Graded Sand with Silt and Gravel</strong> Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-6-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 0-16’  

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

---

*Sheet: 1 of 1*
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001

**Project:** Olean Redevelopment Site

**Test Pit I.D.:** TT-37

**Logged By:** BMG

**Client:** Olean Gateway, LLC

**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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**SUBSURFACE PROFILE**

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<td><strong>Fill</strong> Brown and black, moist, fine to coarse sand with some fine to coarse gravel, trace bricks, and trace non-plastic fines, dense in place, moderate odor</td>
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<td><strong>Lean Clay</strong> Yellowish brown, moist, medium plasticity fines with trace fine to coarse rounded gravel, medium stiff, moderate odor</td>
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<td>5.0</td>
<td><strong>Well Graded Sand with Silt and Gravel</strong> Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, moderate odor</td>
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**Excavated By:** Todd Company

**Length:** 10’

**Depth to Water:** None

**Excavator Type:** John Deere 690ELC

**Width:** 3’

**Visual Impacts:** None

**Excavation Date(s):** 8-21-12

**Depth:** 16’

**Olfactory Observations:** Moderate odor

Comments: Located 30’ west and 60’ south of proposed location due to utilities
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-38  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-21-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 14-16’

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

Sheet: 1 of 1
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-39  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-10-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Moderate odor 4-16’  

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-40

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Visual Impacts:** Product in sample bag 10-16’

**Excavation Date(s):** 9-7-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 4-16’

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**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-41  
**Test Pit:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 9-6-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 8-16’  
**Comments:**

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-42  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-4-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 8-16’
**TEST PIT EXCAVATION LOG**

Project No: 0250-012-001
Test Pit I.D.: TT-43
Project: Olean Redevelopment Site
Logged By: BMG
Client: Olean Gateway, LLC
Checked By: BCH
Site Location: 1400 Buffalo Street, Olean, NY

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Excavated By: Todd Company
Excavator Type: John Deere 160 G
Excavation Date(s): 9-7-12
Comments:
Length: 10’
Width: 3’
Depth: 16’
Depth to Water: None
Visual Impacts: Product in sample bag 6-16’
Olfactory Observations: Slight odor 4-16’

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Sheet: 1 of 1
## TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-44  
**Logged By:** BMG

**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-4-12  
**Comments:**

**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** Product in sample bags 12-16’  
**Olfactory Observations:** Slight odor 4-16’
## TEST PIT EXCAVATION LOG

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<td>Brown and gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 9-4-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** None
## TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-46  
**Logged By:** BMG  
**Checked By:** BCH

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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place</td>
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<tr>
<td>-3.0</td>
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<td>Silty Sand with Gravel</td>
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<td></td>
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<td>Brown and gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, slight odor 6-8’</td>
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<td>Gray and black, moist to wet (10’), fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, moderate odor</td>
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### Excavation Details

- **Excavated By:** Todd Company
- **Excavator Type:** John Deere 160 G
- **Excavation Date(s):** 9-4-12
- **Length:** 10’
- **Width:** 3’
- **Depth:** 16’
- **Depth to Water:** None
- **Visual Impacts:** Product in sample bags 6-12’
- **Olfactory Observations:** Slight 6-10’, moderate 10-16’

### Site Information
- **Project No:** 0250-012-001  
- **Project:** Olean Redevelopment Site  
- **Client:** Olean Gateway, LLC  
- **Site Location:** 1400 Buffalo Street, Olean, NY

---

*TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635*
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-47  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## SUBSURFACE PROFILE

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### Excavated By:
Todd Company

### Excavator Type:
John Deere 690ELC

### Excavation Date(s):
8-23-12

### Comments:

**Length:** 10'  
**Width:** 3'  
**Depth to Water:** None  
**Visual Impacts:** Black staining  
**Olfactory Observations:** Slight odor 6-16'

_Sheet: 1 of 1_
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-48  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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### Excavated By: Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-23-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 8-16’
# TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-49  
**Logged By:** BMG  
**Checked By:** BCH  

**Project No:** 0250-012-001  
**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY  

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## SUBSURFACE PROFILE

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<th>VOCs</th>
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<td>BMG</td>
<td>VOCs</td>
<td>Sampled 12’14’</td>
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<td>PID</td>
<td>VOCs</td>
<td>Sampled 12’14’</td>
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</table>

**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-23-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 8-16’  
**Visual Impacts:** None  
**Depth to Water:** None  

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## Test Pit Excavation Log

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-50  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### Subsurface Profile

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<td>Silty Sand with Gravel</td>
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<tr>
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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, moderate odor 4-6'</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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<td>Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, moderate odor</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Excavator Type:** John Deere 690ELC  
**Width:** 3'  
**Excavation Date(s):** 8-24-12  
**Comments:**

**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Moderate odor 4-16'
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-51  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Length:** 10'  
**Excavator Type:** John Deere 690ELC  
**Width:** 3'  
**Excavation Date(s):** 8-24-12  
**Depth:** 16'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 5-16'

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
### Test Pit Excavation Log

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-52  
**Logged By:** BMG  
**Checked By:** BCH

**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

---

**Subsurface Profile**

|--------------|---------------|-----------------------------------------------|-------------------|----------|------------|---------|
| 0.0          | 0.0           | **Silty Sand with Gravel**  
Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense | | | | |
| 5.0          | 8.0           | **Well Graded Sand with Silt and Gravel**  
Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor | | | | |
| 10.0         | 8.0           |  
| | 21.6 | | Sampled 10-12' |
| 15.0         | 8.0           |  
| | 740.3 | | |
| 20.0         | 8.0           |  
| | 740.0 | | |
| 20.0         | 16.0          | End of Test Pit |

**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-27-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 8-16’
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-53  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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<tr>
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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, slight odor 6-8'</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-27-12  
**Length:** 10'  
**Width:** 3'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Depth:** 16'  
**Olfactory Observations:** Slight odor 6-16'

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-54  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY  

**SUBSURFACE PROFILE**

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-27-12  
**Comments:**

**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 6-16’
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-55  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY  

## SUBSURFACE PROFILE

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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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<td>Well Graded Sand with Silt and Gravel</td>
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- **Excavated By:** Todd Company  
- **Length:** 10'  
- **Depth to Water:** None  
- **Excavator Type:** John Deere 690ELC  
- **Width:** 3'  
- **Visual Impacts:** None  
- **Excavation Date(s):** 8-27-12  
- **Depth:** 16'  
- **Olfactory Observations:** Slight odor 8-16'  

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-56

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

---

**SUBSURFACE PROFILE**

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G

**Length:** 10’  
**Width:** 3’

**Excavation Date(s):** 8-30-12  
**Visual Impacts:** Product in sample bags 4-12’

**Comments:**

**Depth to Water:** None  
**Olfactory Observations:** Slight odor 4-16’

---

*Sheet: 1 of 1*
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001

**Test Pit I.D.:** TT-57

**Project:** Olean Redevelopment Site

**Logged By:** BMG

**Client:** Olean Gateway, LLC

**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company

**Length:** 10'

**Depth to Water:** None

**Excavator Type:** John Deere 690ELC

**Width:** 3'

**Visual Impacts:** None

**Excavation Date(s):** 8-23-12

**Depth:** 16'

**Olfactory Observations:** Moderate odor

---

**TurnKey Environmental Restoration, LLC**

2558 Hamburg Turnpike, Suite 300

Buffalo, NY 14218

(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-58  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Visual Impacts:** None  
**Excavation Date(s):** 8-30-12  
**Depth:** 16’  
**Olfactory Observations:** Moderate odor 7-16'  
**Comments:**
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-59  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None

**Excavation Date(s):** 8-24-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 4-16’

**Comments:**

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

Sheet: 1 of 1
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-60  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-24-12  
**Length:** 10’  
**Width:** 3’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor  
**Depth:** 16’  
**Comments:**
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-61  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

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## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 8-30-12  
**Comments:**

- **Length:** 10’  
- **Width:** 3’  
- **Depth:** 16’  
- **Depth to Water:** None  
- **Visual Impacts:** Product in sample bags 10-14’  
- **Olfactory Observations:** Slight odor 0-8’, moderate odor 8-16’

---

*TurnKey Environmental Restoration, LLC*  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
### Test Pit Excavation Log

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-62

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

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#### Subsurface Profile

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 8-31-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight 4-12’, moderate 12-16’

---

*TurnKey Environmental Restoration, LLC*  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-63  
**Logged By:** BMG

**Project:** Olean Redevelopment Site  
**Checked By:** BCH

**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-29-12  
**Length:** 10'  
**Width:** 3'  
**Depth:** 16'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 8-16'

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-64  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-28-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 4-16’

Sheet: 1 of 1
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-65  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

---

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-27-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** None  

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-66  
**Logged By:** BMG  
**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY  
**Checked By:** BCH

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Visual Impacts:** None

**Excavation Date(s):** 8-30-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 10-16’
**TEST PIT EXCAVATION LOG**

Project No: 0250-012-001
Project: Olean Redevelopment Site
Logged By: BMG
Client: Olean Gateway, LLC
Checked By: BCH
Site Location: 1400 Buffalo Street, Olean, NY

---

**SUBSURFACE PROFILE**

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**Excavated By:** Todd Company
**Length:** 10’
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC
**Width:** 3’
**Visual Impacts:** None

**Excavation Date(s):** 8-29-12
**Depth:** 16’
**Olfactory Observations:** None

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Sheet: 1 of 1
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-68  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

## SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-29-12  
**Comments:**

- **Length:** 10’
- **Width:** 3’
- **Depth to Water:** None
- **Visual Impacts:** None
- **Olfactory Observations:** Slight odor 5-16’

---

*TurnKey Environmental Restoration, LLC*
*2558 Hamburg Turnpike, Suite 300*
*Buffalo, NY 14218*
*(716) 856-0635*
SUBSURFACE PROFILE

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Excavated By: Todd Company
Excavator Type: John Deere 690ELC
Excavation Date(s): 8-28-12

Length: 10'
Width: 3'
Depth: 16'
Depth to Water: None
Visual Impacts: None
Olfactory Observations: Slight odor 12-16'

Sheet: 1 of 1
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-70  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

---

**SUBSURFACE PROFILE**

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-29-12  
**Length:** 10'  
**Width:** 3'  
**Depth to Water:** None  
**Visual Impacts:** None  
**Depth:** 14'  
**Olfactory Observations:** Slight odor 4-14'
**Test Pit I.D.:** TT-71  
**Logged By:** BMG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-71  
**Logged By:** BMG

**Project:** Olean Redevelopment Site  
**Logged By:** BMG

**Client:** Olean Gateway, LLC  
**Logged By:** BMG

**Site Location:** 1400 Buffalo Street, Olean, NY  
**Logged By:** BMG

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:** None

**Excavation Date(s):** 8-28-12  
**Depth:** 6’  
**Olfactory Observations:** Strong odor 0-6+

**Comments:** Stopped test pit due to strong odors  

---

**TurnKey Environmental Restoration, LLC**
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635  

---

**Sheet:** 1 of 1
**TEST PIT EXCAVATION LOG**

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-72  
**Logged By:** BMG  
**Checked By:** BCH

**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

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### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-28-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Visual Impacts:** Product in sample bags 10-16’  
**Olfactory Observations:** Slight odor 2-16’  
**Depth to Water:** None  
**Comments:**

---

TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
**Subsurface Profile**

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-29-12  
**Length:** 10'  
**Width:** 3'  
**Depth:** 12'  
**Depth to Water:** None  
**Visual Impacts:** Product in sample bags 6-10'  
**Olfactory Observations:** Slight odor 4-12'
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

#### SUBSURFACE PROFILE

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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-28-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 2-16’
# TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-75  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY

---

## SUBSURFACE PROFILE

<table>
<thead>
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<tr>
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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place</td>
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<tr>
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<td>Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense, slight odor 4-6’</td>
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<td>Gray, moist to wet (8’), fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 690ELC  
**Excavation Date(s):** 8-28-12  
**Length:** 10’  
**Width:** 3’  
**Depth:** 16’  
**Depth to Water:** None  
**Visual Impacts:** None  
**Olfactory Observations:** Slight odor 4-16’

---

*TurnKey Environmental Restoration, LLC*  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
### TEST PIT EXCAVATION LOG

**Test Pit I.D.:** TT-76  
**Logged By:** BMG

**Project:** Olean Redevelopment Site  
**Client:** Olean Gateway, LLC  
**Site Location:** 1400 Buffalo Street, Olean, NY

---

#### SUBSURFACE PROFILE

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<td>Fill Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, dense in place</td>
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<td>Well Graded Sand with Silt and Gravel Gray, moist, fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor (10-16'), product in sample bag (10-14')</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None

**Excavator Type:** John Deere 690ELC  
**Width:** 3’  
**Visual Impacts:**

**Excavation Date(s):** 8-28-12  
**Depth:** 16’  
**Olfactory Observations:** Slight odor 10-16’

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

**Sheet:** 1 of 1
### TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001

**Test Pit I.D.:** TT-77

**Project:** Olean Redevelopment Site

**Logged By:** BMG

**Client:** Olean Gateway, LLC

**Checked By:** BCH

**Site Location:** 1400 Buffalo Street, Olean, NY

---

**SUBSURFACE PROFILE**

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<td>Brown, moist, fine to coarse sand with some fine to coarse gravel, few brick, cinders, and ash, dense in place</td>
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<td>Silty Sand with Gravel</td>
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<td>Brown and gray, moist, fine to coarse sand with some fine to coarse rounded gravel, few low plastic fines, dense</td>
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<td>Gray and black, moist to wet (10’), fine to coarse sand with some fine to coarse rounded gravel, little non-plastic fines, dense in place, slight odor 14-16’</td>
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Length:** 10’  
**Depth to Water:** None

**Excavation Date(s):** 9-4-12  
**Width:** 3’  
**Visual Impacts:** None

**Depth:** 16’  
**Olfactory Observations:** Slight odor 14-16’

**Remarks:**

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TurnKey Environmental Restoration, LLC  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635
## TEST PIT EXCAVATION LOG

- **Project No:** 0250-012-001
- **Test Pit I.D.:** TT-78
- **Project:** Olean Redevelopment Site
- **Logged By:** BMG
- **Client:** Olean Gateway, LLC
- **Checked By:** BCH
- **Site Location:** 1400 Buffalo Street, Olean, NY

### SUBSURFACE PROFILE

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- **Excavated By:** Todd Company
- **Excavator Type:** John Deere 160 G
- **Excavation Date(s):** 9-11-12
- **Comments:** Located SW of TT-46

- **Length:** 10’
- **Width:** 3’
- **Depth:** 16’
- **Depth to Water:** None
- **Visual Impacts:** None
- **Olfactory Observations:** Slight odor 10-16’
### Project Information
- **Project No:** 0250-012-001
- **Test Pit I.D.:** TT-79
- **Project:** Olean Redevelopment Site
- **Logged By:** BMG
- **Client:** Olean Gateway, LLC
- **Checked By:** BCH
- **Site Location:** 1400 Buffalo Street, Olean, NY

### Subsurface Profile

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<th>Description</th>
<th>Lithologic Symbol</th>
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<th>Lab Sample</th>
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<td>-4.0</td>
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<td>Brown, moist to wet (10'), fine to coarse sand with some fine to coarse gravel, little non-plastic fines, dense in place, slight odor 10-16'</td>
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### Other Information
- **Excavated By:** Todd Company
- **Length:** 10'
- **Excavator Type:** John Deere 160 G
- **Width:** 3'
- **Excavation Date(s):** 9-13-12
- **Comments:**
  - **Depth to Water:** None
  - **Visual Impacts:** Product in sample bags 10-16'
  - **Olfactory Observations:** Slight odor 10-16'
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**Excavated By:** Todd Company  
**Excavator Type:** John Deere 160 G  
**Excavation Date(s):** 10-24-12  
**Comments:**

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635

**Sheet:** 1 of 1
## TEST PIT EXCAVATION LOG

**Project No:** 0250-012-001  
**Test Pit I.D.:** TT-81  
**Project:** Olean Redevelopment Site  
**Logged By:** BMG  
**Client:** Olean Gateway, LLC  
**Checked By:** BCH  
**Site Location:** 1400 Buffalo Street, Olean, NY  

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### SUBSURFACE PROFILE

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<td><strong>Fill</strong> Black, moist, cinders and ash with few wood pieces, dense, slight odor 6-8’</td>
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<td><strong>Silty Sand with Gravel</strong> Brown, moist, fine to coarse sand with some fine to coarse rounded gravel, little low plasticity fines, dense</td>
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**Excavated By:** Todd Company  
**Length:** 10’  
**Depth to Water:** None  
**Excavator Type:** John Deere 160 G  
**Width:** 3’  
**Excavation Date(s):** 10-24-12  
**Depth:** 16’  
**Visual Impacts:**  
**Olfactory Observations:** Slight odor 10-16’  

---

**TurnKey Environmental Restoration, LLC**  
2558 Hamburg Turnpike, Suite 300  
Buffalo, NY 14218  
(716) 856-0635  

---

*Sheet: 1 of 1*
## Test Pit Log

**ID NO.** TP-1

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025

<table>
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<th>Sampling Method</th>
<th>Soil Class. System</th>
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<td>J. Vinci</td>
<td>6/17/08</td>
<td>Todd Company</td>
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**Surface Elev.:** NA  
**Water Depth:** NA  
**Drillhole Dia.:** NA  
**Well Dia.:** NA  
**Total Depth:** 4 feet

**Remarks:** Bottom of excavation at 4 feet, bedrock not encountered.

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

---

**General Comments:**  
Bottom of excavation at 4 feet, bedrock not encountered.
**BORING LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: J. Vinci/ R. Sickler/ E. Popken  
Dates Drilled: 6/17/08; 7/28/08  
Drilling Company: Todd Company/Parratt Wolff

**SURFACE ELEV.:** 1426.6 feet  
**WATER DEPTH:** 18 feet  
**CASING EL.:** 1428.67 feet  
**BOREHOLE DIA.:** 10.5 inches  
**WELL DIA.:** 4 inches

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>GENERAL COMMENTS</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.9</td>
<td>NA</td>
<td>NA</td>
<td>Topsoil, Grass, Roots, trace Cobble</td>
<td>Dry</td>
<td>See attached Monitoring Well Design Plan for well construction details.</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>26.0</td>
<td></td>
<td>NA</td>
<td>Gray SILT, some medium Gravel</td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>1.8</td>
<td>NA</td>
<td>NA</td>
<td>Gray Coarse GRAVEL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>8.6</td>
<td>1.2 / 1.0</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND, little fine to coarse Gravel, trace Silt</td>
<td>Dry to Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>9.6</td>
<td>1.3 / 1.0</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND and fine to coarse GRAVEL, trace Silt</td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>9.9</td>
<td>1.3 / 0.5</td>
<td>NA</td>
<td></td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>6.1</td>
<td>1.5 / 1.5</td>
<td>NA</td>
<td>Brown SILT, some to little fine to coarse Sand, trace fine to coarse Gravel and Clay</td>
<td>Wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>6.1</td>
<td>0.8 / 1.5</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND, some to little fine to coarse Gravel, trace Silt</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>186</td>
<td>1.2 / 1.25</td>
<td>NA</td>
<td>No Recovery; Rock lodged in tip of Spoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>NA</td>
<td>NR</td>
<td>NA</td>
<td>Gray Fine to Coarse GRAVEL, little fine to coarse Sand</td>
<td>Saturated, SPH Blebs noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>118</td>
<td>1.5 / 0.75</td>
<td>NA</td>
<td></td>
<td>Moist, SPH Blebs noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>163</td>
<td>1.8 / 0.5</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND and Fine to Coarse GRAVEL</td>
<td>Saturated, SPH noted, ST = Pos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>246</td>
<td>1.7 / 0.5</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND and Fine to Coarse GRAVEL, trace Silt</td>
<td>Wet, SPH Blebs noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>208</td>
<td>1.0 / 0.5</td>
<td>NA</td>
<td>Gray Fine to Coarse GRAVEL, little fine to coarse Sand</td>
<td>SPH Blebs noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-28</td>
<td>199</td>
<td>1.2 / 0.5</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:**  
Bottom of boring at 28 feet, bedrock not encountered.  
ST = Shake Test, N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

p. 1 of 1
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO:** 06-02025  

**Logged By:** J. Vinci/J. Simms/E. Popken  
**Dates Drilled:** 6/18/08; 6/25/08; 7/31/08  
**Drilling Company:** Todd Company/Parrott Wolff  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.1</td>
<td>NA</td>
<td>NA</td>
<td>Grass, Topsoil, Roots, some coarse Gravel</td>
<td>Moist to Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL: Bricks, Rebar, Concrete, some brown fine to medium Sand and medium Gravel</td>
<td>See attached Monitoring Well Design Plan for well construction details.</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL: Bricks, Concrete, some brown fine to medium Sand and medium Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>1.9</td>
<td>0.8 / 0.5</td>
<td>NA</td>
<td>FILL: Brown Fine to Medium SAND, some Gravel and Silt, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>NA</td>
<td>NR</td>
<td>NA</td>
<td>No Recovery; Concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>1.8</td>
<td>1.2 / 0.75</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>0.0</td>
<td>1.5 / 1.0</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>0.0</td>
<td>1.2 / 1.25</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>0.0</td>
<td>1.4 / 0.5</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>0.0</td>
<td>1.3 / 1.0</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>0.0</td>
<td>1.0 / 0.5</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>0.0</td>
<td>1.0 / 1.5</td>
<td>NA</td>
<td>Gray Fine to Medium SAND, some Gravel, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>17.4</td>
<td>1.5 / 0.5</td>
<td>NA</td>
<td>Gray Fine to Medium SAND and Fine to Coarse GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>253</td>
<td>1.0 / 1.25</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND, little fine to coarse GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-28</td>
<td>113</td>
<td>1.0 / 1.0</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND, little fine to coarse GRAVEL, trace Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>50.5</td>
<td>1.0 / 3.0</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND, little fine to coarse GRAVEL, trace Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-32</td>
<td>40.8</td>
<td>1.5 / 1.75</td>
<td>NA</td>
<td>Gray Fine to Coarse GRAVEL, some to little fine to coarse Sand, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32-34</td>
<td>60.2</td>
<td>1.8 / 2.0</td>
<td>NA</td>
<td>Gray Fine to Coarse GRAVEL, some fine to coarse Sand, trace Silt and Clay</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
**Easting/Longitude:**  
**Northing/Latitude:**  
**Horizontal Datum:**  
**Vertical Datum:**

**General Comments:**  
Bottom of boring at 34 feet, bedrock not encountered.  
**Symbol Key:**  
**Apparent Water Level**  
**Lab Sample Location**  

**Surface Elevation:** 1431.9 Feet  
**WATER DEPTH:** 22 feet  
**Total Depth:** 34 feet  
**Casing El.:** 1433.72 feet  
**WELL DIA.:** 4 inches  
**BOREHOLE DIA.:** 10.5 inches
**TEST PIT LOG**

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Fine to Medium SAND, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>0.5</td>
<td>6.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>0.5</td>
<td>8.1</td>
<td></td>
<td>Dark Brown Fine to Medium SAND, some Silt and coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.5</td>
<td>7.5</td>
<td></td>
<td>Brown SILT, some Clay and coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago  
**Dates Drilled:** 6/13/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**Remarks:** Backfilled with excavated material

**Location:**  
**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

p. 1 of 1
# TEST PIT LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.** 06-02025

|Logged By:| P. Domago|
|Drilled By:| 6/12/08|
|Drilling Company:| Todd Company|

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.** 06-02025

|Logged By:| P. Domago|
|Drilled By:| 6/12/08|
|Drilling Company:| Todd Company|

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery Screen (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>12.1</td>
<td></td>
<td>FILL; Brown Fine to Medium SAND, some coarse Gravel</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.5-2</td>
<td>10.0</td>
<td></td>
<td>FILL; Dark Brown Fine to Coarse SAND, som slag and coal pieces, trace coarse Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>2-4</td>
<td>8.0</td>
<td></td>
<td>Brown Fine to Medium SAND, some coarse Gravel, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**

---

p. 1 of 1
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Brown Fine SAND, some Silt and Slag, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>12.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Brown Coarse SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>16.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago  
**Dates Drilled:** 6/12/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA  
**TOTAL DEPTH:** 4 feet

**PID (Readings in ppm):**

<table>
<thead>
<tr>
<th>Location</th>
<th>General Comments</th>
<th>Symbol Key</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom of excavation at 4 feet, bedrock not encountered</td>
<td>Apparent Water Level Lab Sample Location</td>
</tr>
</tbody>
</table>

**Groundwater and Environmental Services, Inc.**

**FILL; Brown Fine SAND, some Silt and Slag, trace coarse Gravel**

Backfilled with excavated material
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.** TP-7  
Page 1 of 1

---

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Logged By</th>
<th>Drilling Method</th>
<th>Sampling Method</th>
<th>Soil Class. System</th>
<th>Field Screening</th>
<th>PID (Readings in ppm)</th>
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</thead>
<tbody>
<tr>
<td>P. Domago</td>
<td>Excavator</td>
<td>Excavator Bucket</td>
<td>Burmister</td>
<td>PID (Readings in ppm)</td>
<td></td>
</tr>
<tr>
<td>Dates Drilled:</td>
<td>6/12/08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling Company</td>
<td>Todd Company</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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**Surficial Geology:**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>24.0</td>
<td>Dark Brown Fine SAND and SILT, trace coarse Gravel</td>
<td></td>
<td>Backfilled</td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.5-2</td>
<td>7.5</td>
<td>Brown SILT, some Clay, trace Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>16.3</td>
<td>Brown SILT and Coarse GRAVEL, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Location:**

- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**General Comments:**

Bottom of excavation at 4 feet, bedrock not encountered.

---

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**

---

**Vertical Datum:**

NA
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Fine to Medium SAND, some coarse Gravel and SILT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Tan Fine SAND and SILT</td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Gray Coarse SAND and GRAVEL</td>
<td>Moist</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**ID NO.**  TP-9

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass, Top Soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>28.7</td>
<td></td>
<td></td>
<td>FILL; Black ash, metal pieces, cinders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>7.5</td>
<td></td>
<td></td>
<td>FILL; Brown cinders, ash, GRAVEL, SAND, trace Silt</td>
<td>Iron stained layer at 13 - 15 inches</td>
<td>Dry</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Brown Gray CLAY and SILT, some fine Gravel, trace Sand</td>
<td>Bottom of excavation at 4 feet, bedrock not encountered.</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO:** 06-02025

**Logged By:** V. Maresco

**Dates Drilled:** 6/6/08

**Drilling Company:** Todd Company

**SURFACE ELEV.:** NA
**WATER DEPTH:** NA
**BOREHOLE DIA.:** NA

**TOTAL DEPTH:** 4 feet
**CASING EL.:** NA
**WELL DIA.:** NA

**Drilling Method:** Excavator
**Sampling Method:** Excavator Bucket
**Soil Class. System:** Burmister
**Field Screening:** PID (Readings in ppm)
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery Screen (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>6.1</td>
<td></td>
<td>Brown Fine to Medium SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5-2</td>
<td>6.8</td>
<td></td>
<td>Tan Medium to Coarse SAND and Coarse GRAVEL</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>1.7</td>
<td></td>
<td>Tan Coarse SAND, trace Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.
2 pipes identified on east side of TP; one running N/S, second running NE/SW.

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

**Location:**
North/Longitude: 1406 Buffalo St., Olean, NY
Horizontal Datum: Former Vacuum Oil Refinery

**Log**
Logged By: P. Domago
Dates Drilled: 6/12/08
Drilling Company: Todd Company

**Drilling Method:** Excavator
**Sampling Method:** Excavator Bucket
**Soil Class. System:** Burmister
**Field Screening:** PID (Readings in ppm)

**Surface Elevation:** NA
**Total Depth:** 4 feet
**Borehole Dia.:** NA
**WELL Dia.:** NA

**General Notes:**
- Excavated material backfilled.
**TEST PIT LOG**

**Location:**
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**
Bottom of excavation at 6 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Former Vacuum Oil Refinery**

**Logged By:** P. Domago
**Dates Drilled:** 6/11/08
**Drilling Company:** Todd Company

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>112</td>
<td></td>
<td>Odor</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shake Test negative</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>154</td>
<td></td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shake Test negative</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>NA</td>
<td></td>
<td>Wet</td>
<td></td>
</tr>
</tbody>
</table>

**Field Screening:**
- PID (Readings in ppm)

- PID 112
- PID 154

**Comments:**
- Odor
- Shake Test negative
- Moist
- Shake Test negative
- Wet

**PICTURE:**
- FILL: Brown Fine to Medium SAND, GRAVEL and COBBLE
- FILL: Dark Gray Fine to Medium SAND
- FILL: Dark Gray Fine to Medium SAND, fiberglass pieces
- Coarse GRAVEL, some Cobble and fine Sand

**Soil Class. System:**

- Burmister

**Field Screening:**
- PID (Readings in ppm)

- PID 112
- PID 154

**General Comments:**
Bottom of excavation at 6 feet, bedrock not encountered.
TEST PIT LOG

ID NO. TP-12

Groundwater and Environmental Services, Inc.

PROJECT: Former Vacuum Oil Refinery
ADDRESS: 1406 Buffalo St., Olean, NY
STATION NO.: 06-02025

Logged By: P. Domago
Dates Drilled: 6/11/08
Drilling Company: Todd Company

Drilling Method: Excavator
Sampling Method: Excavator Bucket
Soil Class. System: Burmister
Field Screening: PID (Readings in ppm)

SURFACE ELEV.: NA
WATER DEPTH: 6 feet
CASING EL.: NA
BOREHOLE DIA.: NA
WELL DIA.: NA
TOTAL DEPTH: 7.5 feet

Depth (feet) | Sample Interval | Field Screen | Recovery (Feet) | SAMPLE LITHOLOGY | Comments | COMPLETION DETAILS
--- | --- | --- | --- | --- | --- | ---
0 | | | | FILL: Brown Fine to Medium SAND, Coarse GRAVEL, COBBLE, Concrete | | Backfilled with excavated material
0-2 | 0.2 | 7.5 | | Brown SILT and Fine SAND, some coarse Gravel | Moist
2-4 | 0.9 | 9.0 | | Coarse GRAVEL and COBBLE, some Silt | | Bottom of excavation at 7.5 feet, bedrock not encountered.
4-6 | 0.0 | 0.0 | | | Wet
6-7.5 | 0.5 | 5.7 | | | |
**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

- **Logged By:** V. Maresco  
- **Dates Drilled:** 6/6/08  
- **Drilling Company:** Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Asphalt</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0-2</td>
<td>0.0</td>
<td></td>
<td>0.0</td>
<td>FILL; Gray Fine GRAVEL</td>
<td></td>
<td>Coal Ash and Slag present</td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td></td>
<td>0.0</td>
<td>FILL: Black Medium SAND and Fine GRAVEL, some medium to coarse Gravel, Coal Ash and Slag, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL: Brown Medium SAND and Fine GRAVEL, some medium Gravel and Coal Ash, trace Silt and raw Coal pieces</td>
<td></td>
<td>Raw Coal pieces observed below 2 feet</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>FILL; asphalt</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
</tbody>
</table>

**Location:**  
- **Northing/Latitude:**  
- **Easting/Longitude:**  
- **Horizontal Datum:**  
- **Vertical Datum:**

**General Comments:** Bottom of excavation at 4 feet, concrete footed at 4 feet; did not penetrate.

**Apparent Water Level Lab Sample Location**

- **Symbol Key:**
  - p. 1 of 1
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  
**Logged By:** P. Domago  
**Dates Drilled:** 6/5/08  
**Drilling Company:** Todd Company  
**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA  
**TOTAL DEPTH:** 4 feet

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>0.0</td>
<td></td>
<td>Brown Fine to Medium SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brown Fine SAND and SILT, some Gravel, trace Cobble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td></td>
<td></td>
<td>Brown Coarse SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Laboratory Sample Location:**
- **Apparent Water Level**
- **General Comments:** Bottom of excavation at 4 feet, bedrock not encountered. 3 inch conduit encountered on North Eastern side of Test Pit on concrete.
**PROJECT:** Former Vacuum Oil Refinery
**ADDRESS:** 1406 Buffalo St., Olean, NY

Logged By: P. Domago
Dates Drilled: 6/5/08
Drilling Company: Todd Company

**SURFACE ELEV.:** NA
**WATER DEPTH** NA
**BOREHOLE DIA.:** NA
**TOTAL DEPTH:** 0.6 feet

**Drilling Method:** Excavator
**Sampling Method:** Excavator Bucket
**Soil Class. System:** Burnister
**Field Screening:** PID (Readings in ppm)

---

**Depth (feet) | Sample Interval | Field Screen | Recovery (Feet) | SAMPLE LITHOLOGY | Comments | COMPLETION DETAILS**

<table>
<thead>
<tr>
<th>0</th>
<th></th>
<th></th>
<th></th>
<th>Dark Brown Fine to Medium SAND and SILT, some Coarse Gravel</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td>Concrete encountered; Test Pit Abandoned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Location:**
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**
1 foot wide Concrete encountered at 22 inches; Test Pit abandoned.

---

**Symbol Key:**
Apparent Water Level
Lab Sample Location

---

p. 1 of 1
## Test Pit Log

### General Information

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025  
**Logged By:** P. Domago  
**Dates Drilled:** 6/5/08  
**Drilling Company:** Todd Company  
**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Brown Black Medium to Coarse SAND and GRAVEL</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0.2</td>
<td>0.2</td>
<td>107</td>
<td></td>
<td>Shake Test negative</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Gray CLAY, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>2.4</td>
<td>1.3</td>
<td>Gray SILT and Coarse GRAVEL, some coarse Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Surface Elev.:** NA  
**Top Depth:** NA  
**Casings El.:** NA  
**WELL DIA.:** NA  
**Borehole DIA.:** NA  
**Water Depth:** NA  
**Total Depth:** 4 feet

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**

---

**Location:**  
**Northing/Latitude:**  
**Easting/Longitude:**  
**Horizontal Datum:**  
**Vertical Datum:**  
**p. 1 of 1**
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  

Logged By: V. Maresco  
Dates Drilled: 6/6/08  
Drilling Company: Todd Company

Drilling Method: Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

**ID NO.:** TP-16  
**TOTAL DEPTH:** 4.3 feet

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass, Top Soil, Black Organic material</td>
<td>Odor</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.5</td>
<td></td>
<td></td>
<td>FILL: Black Ash, Cinders, Raw Coal</td>
<td>Brick fragments noted throughout Test Pit</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2</td>
<td>471</td>
<td></td>
<td></td>
<td>FILL: Brown Gray Ash, Cinders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>FILL: Dark Gray SILT, some Ash, Cinders and medium to fine Sand</td>
<td>Shake Test negative</td>
<td></td>
</tr>
</tbody>
</table>

---

**Odor**

**General Comments:** Bottom of excavation at 4.3 feet, bedrock not encountered.

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**

---

**Location:**

Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

---

**Page 1 of 1**
## TEST PIT LOG

**ID NO.:** TP-17  
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Black Coarse SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0-2</td>
<td>49.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-2.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago  
**Dates Drilled:** 6/5/08  
**Drilling Company:** Todd Company  

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)  

**General Comments:**  
- 2 inch steel pipe running East West on North side of hole at 31 inches bg  
- 2 inch steel pipe running North South on East side of hole at 31 inches bg  
- Test Pit abandoned at 31 inches  

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**Details:**
- Backfilled with excavated material
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago  
Dates Drilled: 6/5/08  
Drilling Company: Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DEPTH:** 4 feet  
**CASING EL.:** NA  
**WELL DIA.:** NA

**Logged By:** P. Domago  
Dates Drilled: 6/5/08  
Drilling Company: Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Black Coarse SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td></td>
<td></td>
<td></td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>19.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**

**Page 1 of 1**
## TEST PIT LOG
### ID NO. TP-18

<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Sample Screen (Feet)</th>
<th>Recovery Method</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>13.4</td>
<td>1.4</td>
<td>Brown Fine to Medium SAND and GRAVEL</td>
<td>Compact</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0.5-2</td>
<td></td>
<td>1.4</td>
<td>Brown SILT and Fine SAND, some Clay, trace Gravel</td>
<td>Loose, Moist</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>8.1</td>
<td></td>
<td>Tan Coarse SAND, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Details
- **Logged By:** P. Domago
- **Dates Drilled:** 6/12/08
- **Drilling Company:** Todd Company

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.
### TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.: TP-19**

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>Former Vacuum Oil Refinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>1406 Buffalo St., Olean, NY</td>
</tr>
<tr>
<td>STATION NO.:</td>
<td>06-02025</td>
</tr>
<tr>
<td>SURFACE ELEV.:</td>
<td>NA</td>
</tr>
<tr>
<td>WATER DEPTH:</td>
<td>NA</td>
</tr>
<tr>
<td>CASING EL.:</td>
<td>NA</td>
</tr>
<tr>
<td>BOREHOLE DIA.:</td>
<td>NA</td>
</tr>
<tr>
<td>WELL DIA.:</td>
<td>NA</td>
</tr>
<tr>
<td>TOTAL DEPTH:</td>
<td>4 feet</td>
</tr>
<tr>
<td>Logged By:</td>
<td>P. Domago</td>
</tr>
<tr>
<td>Dates Drilled:</td>
<td>6/10/08</td>
</tr>
<tr>
<td>Drilling Company:</td>
<td>Todd Company</td>
</tr>
<tr>
<td>Drilling Method:</td>
<td>Excavator</td>
</tr>
<tr>
<td>Sampling Method:</td>
<td>Excavator Bucket</td>
</tr>
<tr>
<td>Soil Class. System:</td>
<td>Burmister</td>
</tr>
<tr>
<td>Field Screening:</td>
<td>PID (Readings in ppm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Interval</th>
<th>Sample Screen</th>
<th>Recovery (Feet)</th>
<th>Field Screen</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>4.2</td>
<td></td>
<td>FILL; Brown Fine SAND, trace coarse Gravel</td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>4.5</td>
<td></td>
<td>FILL; Slag and Fine SAND, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>3.1</td>
<td></td>
<td>Gray CLAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>Tan Orange SILT, some Clay</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**Page 1 of 1**
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Fine to Coarse SAND, some coarse Gravel, trace Cobble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0-2</td>
<td>6.1</td>
<td></td>
<td>Brown Fine SAND and SILT, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2-4</td>
<td>10.2</td>
<td></td>
<td></td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago  
**Dates Drilled:** 6/11/08  
**Drilling Company:** Todd Company  

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DEPTH:** 4 feet

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**Location:**  
**Northing/Latitude:**  
**Easting/Longitude:**  
**Horizontal Datum:**  
**Vertical Datum:**  

**General Comments:**  
Bottom of excavation at 4 feet, bedrock not encountered.
### TEST PIT LOG

**ID NO.: TP-21**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.: 06-02025**

- **Logged By:** P. Domago  
- **Dates Drilled:** 6/10/08  
- **Drilling Company:** Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH:** 3 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>7.0</td>
<td></td>
<td>Brown Fine to Medium SAND, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5-2</td>
<td>360</td>
<td></td>
<td>Dark Gray Black CLAY and SILT, trace coarse Gravel</td>
<td>Shake Test negative</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>31.1</td>
<td></td>
<td>Dark Gray Coarse SAND and GRAVEL</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Gray CLAY, some coarse Gravel</td>
<td>Wet</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

---

**Groundwater and Environmental Services, Inc.**
**BORING LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>7.0</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some Gravel</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>0.5-2</td>
<td>360</td>
<td>NA</td>
<td>NA</td>
<td>Dark Gray Black CLAY and SILT, trace coarse Gravel</td>
<td>Saturated (perched)</td>
</tr>
<tr>
<td>2-4</td>
<td>31.1</td>
<td>NA</td>
<td>NA</td>
<td>Dark Gray Coarse SAND and GRAVEL</td>
<td>Moist, Cohesive, Soft, ST = Neg</td>
</tr>
<tr>
<td>4-6</td>
<td>347</td>
<td>1.1 / 1.25</td>
<td>NA</td>
<td>Gray CLAY, some coarse Gravel</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>6-8</td>
<td>89.8</td>
<td>0.7 / 1.25</td>
<td>NA</td>
<td>Brown Medium to Coarse SAND and GRAVEL</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>8-10</td>
<td>571</td>
<td>1.1 / 1.25</td>
<td>NA</td>
<td>Gray SILT, some fine to medium Sand, little fine Gravel, trace Clay and coarse Gravel</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>10-12</td>
<td>56.1</td>
<td>0.5 / 2.0</td>
<td>NA</td>
<td>Brown Fine GRAVEL, some Silt, little medium to coarse Sand</td>
<td>Saturated, Loose, Sheen, ST = Neg</td>
</tr>
<tr>
<td>12-14</td>
<td>46.1</td>
<td>1.5 / 2.5</td>
<td>NA</td>
<td>Gray SILT</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>14-16</td>
<td>89.2</td>
<td>0.9 / 1.75</td>
<td>NA</td>
<td>Gray Silt</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>16-18</td>
<td>331</td>
<td>1.7 / 2.5</td>
<td>NA</td>
<td>Gray Silt and Fine GRAVEL, some fine Sand, little medium to coarse Sand, trace coarse Gravel</td>
<td>Loose, Sheen, ST = Neg</td>
</tr>
<tr>
<td>18-20</td>
<td>248</td>
<td>0.7 / 2.0</td>
<td>NA</td>
<td>Gray Fine GRAVEL, some Silt, little medium to coarse Sand</td>
<td>Saturated, Loose, Sheen, ST = Neg</td>
</tr>
<tr>
<td>20-22</td>
<td>1346</td>
<td>2.0 / 1.5</td>
<td>NA</td>
<td>Gray Silt</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>22-24</td>
<td>1165</td>
<td>2.0 / 1.5</td>
<td>NA</td>
<td>Gray Silt</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>24-26</td>
<td>212</td>
<td>0.8 / &lt;0.5</td>
<td>NA</td>
<td>Gray Silt</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>26-28</td>
<td>3364</td>
<td>1.7 / 1.5</td>
<td>NA</td>
<td>Gray Silt and Fine GRAVEL, some fine Sand, little medium to coarse Sand, trace coarse Gravel</td>
<td>Loose, Sheen, ST = Neg</td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 28 feet, bedrock not encountered.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
[Apparent Water Level]  
[Lab Sample Location]

**PID (Readings in ppm):**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>PID (Readings in ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>7.0</td>
</tr>
<tr>
<td>0.5-2</td>
<td>360</td>
</tr>
<tr>
<td>2-4</td>
<td>31.1</td>
</tr>
<tr>
<td>4-6</td>
<td>347</td>
</tr>
<tr>
<td>6-8</td>
<td>89.8</td>
</tr>
<tr>
<td>8-10</td>
<td>571</td>
</tr>
<tr>
<td>10-12</td>
<td>56.1</td>
</tr>
<tr>
<td>12-14</td>
<td>46.1</td>
</tr>
<tr>
<td>14-16</td>
<td>89.2</td>
</tr>
<tr>
<td>16-18</td>
<td>331</td>
</tr>
<tr>
<td>18-20</td>
<td>248</td>
</tr>
<tr>
<td>20-22</td>
<td>1346</td>
</tr>
<tr>
<td>22-24</td>
<td>1165</td>
</tr>
<tr>
<td>24-26</td>
<td>212</td>
</tr>
<tr>
<td>26-28</td>
<td>3364</td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago/R. Sickler  
**Dates Drilled:** 6/10/08; 7/24/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>0.0</td>
<td></td>
<td>Brown Fine to Medium SAND and GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
<td>FILL: Black Cinders, Slag and Coarse SAND, trace Gravel</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>0.0</td>
<td></td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0.0</td>
<td></td>
<td>Brown Orange Fine SAND and SILT, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Apparent Water Level:**
- PID (Readings in ppm)
- Excavator Bucket
- Excavator
- PID (Readings in ppm)

**Logged By:** P. Domago
- Dates Drilled: 6/9/08
- Drilling Company: Todd Company

**PROJECT:** Former Vacuum Oil Refinery
- **SURFACE ELEV.:** NA
- **TOTAL DEPTH:** 4 feet
- **ADDRESS:** 1406 Buffalo St., Olean, NY
- **WATER DEPTH:** NA
- **CASING EL.:** NA
- **STATION NO.** 06-02025
- **BOREHOLE DIA.:** NA
- **WELL DIA.:** NA

**Drilling Method:** Excavator
**Sampling Method:** Excavator Bucket
**Soil Class. System:** Burmister
**Field Screening:** PID (Readings in ppm)
Groundwater and Environmental Services, Inc.

PROJECT: Former Vacuum Oil Refinery
ADDRESS: 1406 Buffalo St., Olean, NY
STATION NO.: 06-02025

Logged By: P. Domago
Dates Drilled: 6/10/08
Drilling Company: Todd Company

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIA.: NA
TOTAL DEPTH: 4 feet
CASING EL.: NA
WELL DIA.: NA

Drilling Method: Excavator
Sampling Method: Excavator Bucket
Soil Class. System: Burmister
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>56.4</td>
<td></td>
<td>Brown Fine to Medium Coarse SAND and Coarse GRAVEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL: Black Brown Coarse SAND, some Cinders</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.5-2</td>
<td>4.8</td>
<td></td>
<td>Gray CLAY and GRAVEL</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2-4</td>
<td>6.2</td>
<td></td>
<td>Tan Orange SILT, some Clay and Gravel</td>
<td></td>
</tr>
</tbody>
</table>

Location:
Northing/Latitude: 
Easting/Longitude: 
Horizontal Datum: 
Vertical Datum: 

General Comments: Bottom of excavation at 4 feet, bedrock not encountered.

Symbol Key:
Apparent Water Level
Lab Sample Location

Backfilled with excavated material
<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Sample Recovery Screen (Feet)</th>
<th>Field Screen</th>
<th>Recovery Screen (Feet)</th>
<th>Field Lithology</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>28.9</td>
<td></td>
<td></td>
<td>FILL; Brown Fine to Medium SAND and GRAVEL</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>12.0</td>
<td></td>
<td></td>
<td>FILL; Black Coal and Cinders</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>9.7</td>
<td></td>
<td></td>
<td>Tan Fine to Medium SAND and Coarse GRAVEL</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.
**TEST PIT LOG**

**ID NO.**  TP-25

**PROJECT:**  Former Vacuum Oil Refinery

**ADDRESS:**  1406 Buffalo St., Olean, NY

**STATION NO.**  06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>14.2</td>
<td></td>
<td>Brown Fine to Medium SAND, some Gravel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5-2</td>
<td>9.8</td>
<td></td>
<td>Black SILT, trace coarse Gravel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>8.1</td>
<td></td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:**  P. Domago  
**Dates Drilled:**  6/10/08  
**Drilling Company:**  Todd Company  
**Drilling Method:**  Excavator  
**Sampling Method:**  Excavator Bucket  
**Soil Class. System:**  Burmister  
**Field Screening:**  PID (Readings in ppm)

**SURFACE ELEV.:**  NA  
**WATER DEPTH:**  NA  
**CASING EL.:**  NA  
**BOREHOLE DIA.:**  NA  
**WELL DIA.:**  NA

**TOTAL DEPTH:**  4 feet

**Location:**  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**  Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location
**BORING LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>4.1</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND and GRAVEL</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>5.8</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Medium to Coarse SAND and Coarse GRAVEL, some Ash</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>4.9</td>
<td>NA</td>
<td>NA</td>
<td>Tan SILT, some Clay and coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>9.0</td>
<td>0.6 / 0.75</td>
<td>NA</td>
<td>Orange Medium SAND and SILT, some fine Gravel, trace Clay and coarse Gravel</td>
<td>Dry, Loose</td>
</tr>
<tr>
<td>6-8</td>
<td>7.4</td>
<td>1.3 / 2.0</td>
<td>NA</td>
<td></td>
<td>Moist</td>
</tr>
<tr>
<td>8-10</td>
<td>8.0</td>
<td>1.4 / 1.75</td>
<td>NA</td>
<td>Brown Medium SAND, some fine Gravel, little Silt, trace coarse Gravel</td>
<td>Dry, Loose</td>
</tr>
<tr>
<td>10-12</td>
<td>5.5</td>
<td>1.5 / 1.5</td>
<td>NA</td>
<td>Brown Medium SAND and SILT, some fine Gravel, trace coarse Gravel</td>
<td>Loose</td>
</tr>
<tr>
<td>12-14</td>
<td>11.6</td>
<td>1.5 / 2.75</td>
<td>NA</td>
<td>Brown SILT and Fine GRAVEL, some fine Sand, trace coarse Gravel</td>
<td>Loose</td>
</tr>
<tr>
<td>14-16</td>
<td>16.3</td>
<td>2.0 / 2.25</td>
<td>NA</td>
<td>Gray SILT and Fine GRAVEL, some fine Sand, trace coarse Gravel</td>
<td>Moist, Wet around coarse grains, ST = Neg</td>
</tr>
<tr>
<td>16-18</td>
<td>547</td>
<td>1.0 / 2.25</td>
<td>NA</td>
<td>No Recovery; Rock lodged in Spoon Tip</td>
<td>Wet inside Spoon</td>
</tr>
<tr>
<td>18-20</td>
<td>NA</td>
<td>NR</td>
<td>NA</td>
<td>Gray Coarse SAND and Fine GRAVEL, little Silt, trace coarse Gravel</td>
<td>Saturated, Loose, ST = Neg</td>
</tr>
<tr>
<td>20-22</td>
<td>116</td>
<td>1.0 / 1.25</td>
<td>NA</td>
<td></td>
<td>Moist, Cohesive, ST = Neg</td>
</tr>
<tr>
<td>22-24</td>
<td>401</td>
<td>1.3 / &lt;0.50</td>
<td>NA</td>
<td>Gray SILT, some fine Sand, trace fine to coarse Gravel</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>24-26</td>
<td>215</td>
<td>1.3 / 2.5</td>
<td>NA</td>
<td>Gray Coarse SAND and Fine GRAVEL, little Silt, trace fine to medium SAND and coarse Gravel</td>
<td>Saturated, Loose, Sheen noted on coarse grains, ST = Neg</td>
</tr>
<tr>
<td>26-28</td>
<td>292</td>
<td>1.0 / &lt;0.50</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td>See attached Monitoring Well Design Plan for well construction details.</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**
Bottom of boring at 28 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level:  
- Lab Sample Location:

**Datasheet:**
- SURFACE ELEV.: 1424.5 feet  
- TOTAL DEPTH: 28 feet  
- WATER DEPTH: 18 feet  
- CASING EL.: 1426.61 feet  
- BOREHOLE DIA.: 10.5 inches  
- WELL DIA.: 4 inches

**Logged By:** P. Domago/R. Sickler  
**Dates Drilled:** 6/10/08; 7/25/08  
**Drilling Company:** Todd Company/Parrott Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Fine to Medium SAND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>4-9</td>
<td></td>
<td></td>
<td>FILL; Brown Black Fine SAND and SILT, some Ash</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>17-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**TEST PIT LOG**

**ID NO.** TP-27

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.** 06-02025

**Logged By:** P. Domago

**Dates Drilled:** 6/10/08

**Drilling Company:** Todd Company

**SURFACE ELEV.:** NA

**TOTAL DEPTH:** 4 feet

**WATER DEPTH:** NA

**CASING EL.:** NA

**BOREHOLE DIA.:** NA

**WELL DIA.:** NA

**Logged By:** P. Domago

**Dates Drilled:** 6/10/08

**Drilling Company:** Todd Company

**Drilling Method:** Excavator

**Sampling Method:** Excavator Bucket

**Soil Class. System:** Burmister

**Field Screening:** PID (Readings in ppm)
# TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

<table>
<thead>
<tr>
<th>ID NO.</th>
<th>TP-30</th>
</tr>
</thead>
</table>

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

| Logged By: | J. Vinci  
| Dates Drilled: | 6/19/08  
| Drilling Company: | Todd Company |

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DEPTH:** 4 feet  
**CASING EL.:** NA  
**WELL DIA.:** NA

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**DETAILS**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Topsoil, Roots, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>0.3</td>
<td>NA</td>
<td></td>
<td>Light to Dark Gray SILT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>301</td>
<td>NA</td>
<td></td>
<td>Brown Coarse GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>376</td>
<td>NA</td>
<td></td>
<td>Moist, ST = Neg</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northings/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

p. 1 of 1
**TEST PIT LOG**

*Groundwater and Environmental Services, Inc.*

**ID NO.** TP-31

<table>
<thead>
<tr>
<th>Project:</th>
<th>Former Vacuum Oil Refinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>1406 Buffalo St., Olean, NY</td>
</tr>
<tr>
<td>Station No.:</td>
<td>06-02025</td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci  
**Dates Drilled:** 6/25/08  
**Drilling Company:** Todd Company

| Borehole Dia.: | NA |
| Water Depth: | NA |
| Casing El.: | NA |
| Well Dia.: | NA |

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)

---

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Lithology</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>0.9</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL; Dark Brown Topsoil, some Roots and Ash</td>
<td>Wet</td>
</tr>
<tr>
<td></td>
<td>0.5-2</td>
<td>76</td>
<td>NA</td>
<td>FILL; Brown Red Black Slag, some Sand, Roots and Wood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>Brown Tan CLAY, some Silt</td>
<td>Water seeping in excavation</td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>3.3</td>
<td>NA</td>
<td></td>
<td>Dry</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.  
**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location

---

**Backfilled with excavated material**
**TEST PIT LOG**

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025

**Logged By:** J. Vinci  
**Dates Drilled:** 6/23/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>3.2</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brown Topsoil, some medium Gravel</td>
<td>Moist</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td></td>
<td>0.5-2</td>
<td>0.2</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some medium Gravel</td>
<td>Moist</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>144</td>
<td>NA</td>
<td>Gray Coarse SAND and Coarse GRAVEL</td>
<td>Moist, ST = Neg</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Groundwater and Environmental Services, Inc.**

**Total Depth:** 4 feet

**Horizontal Datum:**

**Easting/Longitude:**

**Northing/Latitude:**

**Vertical Datum:**

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

---

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**

---

**Location:**

- **North latitude:**
- **East longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

---

**PID (Readings in ppm):**

- **Groundwater:**
  - **At 0 feet:** 3.2
  - **At 0.5 feet:** 0.2
  - **At 2 feet:** 144

---

**Backfilled with excavated material**
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>1.9</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL: Brown Fine Topsoil, some Medium to Coarse Gravel, some Roots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.5-2</td>
<td>1.2</td>
<td>NA</td>
<td>FILL: Black, Red, Orange Coal Slag and Ash</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brown Medium to Coarse GRAVEL, some Medium Sand, little Silt</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2-4</td>
<td>2-4</td>
<td>1.7</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci  
**Dates Drilled:** 6/23/08  
**Drilling Company:** Todd Company  
**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.
**TEST PIT LOG**

Groundwater and Environmental Services, Inc.

<table>
<thead>
<tr>
<th>Depth Interval</th>
<th>Sample Recovery</th>
<th>Field Screen</th>
<th>ID NO.</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>1.9</td>
<td>NA</td>
<td>TP-34</td>
<td>North:</td>
</tr>
</tbody>
</table>
|                |                 |              |        | Northing/Latitude:
| 0.5-2          | 1.2             | NA           |        | East:     |
|                |                 |              |        | Easting/Longitude:
| 2-4            | 1.7             | NA           |        | Horizontal Datum: |
| 4              |                 |              |        | Vertical Datum: |

**SAMPLE LITHOLOGY**

- **0-0.5 feet:** Grass and Topsoil
- **0.5-2 feet:** Fill: Concrete
- **2-4 feet:** Fill: Brown Fine to Medium SAND, some Medium Gravel
- **4 feet:** Backfilled with excavated material

**GENERAL COMMENTS:**
Bottom of excavation at 4 feet, bedrock not encountered.

**SYMBOL KEY:**
- Apparent Water Level

**DETAILS:**
- Former Vacuum Oil Refinery
- 1406 Buffalo St., Olean, NY
- 06-02025
- J. Vinci, 6/23/08
- Todd Company
- Excavator
- Excavator Bucket
- Burmister
- PID (Readings in ppm)

**RECORDS:**
- Primary Datum: Horizontal
- Vertical Datum: NAVD 88
- Field Screening: NA
- Soil Class. System: NA
- Water Depth: NA
- Surface Elevation: NA
- Total Depth: 4 feet
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

**Logged By:** J. Vinci  
**Dates Drilled:** 6/20/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.5</td>
<td>0.0</td>
<td>NA</td>
<td>Black Topsoil, some Roots, little fine to medium Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>0.0</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some fine to medium Gravel</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>0.0</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some Silt and medium to coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**

---

**Location:**
- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**Surroundings:** Former Vacuum Oil Refinery

**Surface Elevation:** NA  
**Total Depth:** 4 feet  
**Water Depth:** NA  
**Casing El.:** NA  
**Borehole Dia.:** NA  
**Well Dia.:** NA
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.** TP-37

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>Former Vacuum Oil Refinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>1406 Buffalo St., Olean, NY</td>
</tr>
<tr>
<td>STATION NO.:</td>
<td>06-02025</td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago
**Dates Drilled:** 6/9/08
**Drilling Company:** Todd Company

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Brown Fine to Medium SAND and Fine to Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>17.9</td>
<td></td>
<td></td>
<td>Concrete</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE ELEV.:** NA  **TOTAL DEPTH:** 2.5 feet  
**WATER DEPTH:** NA  **CASING EL.:** NA  
**BOREHOLE DIA.:** NA  **WELL DIA.:** NA

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Pipe encountered at 1.5 feet bg on East side of hole.  
Concrete encountered at 2.5 feet bg.  
Excavation abandoned.

**Symbol Key:**  
- **Apparent Water Level**  
- **Lab Sample Location**

Backfilled with excavated material
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago  
Dates Drilled: 6/9/08  
Drilling Company: Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DPTH:** 4 feet  
**WELL DIA.:** NA

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Brown Coarse SAND and Fine to Coarse GRAVEL, some Ash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>94.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Gray CLAY, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shake Test negative</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 4 feet, bedrock not encountered.

**Symbol Key:**  
- **Apparent Water Level**
- **Lab Sample Location**

Location:  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0-2</td>
<td>5.0</td>
<td>NA</td>
<td>FILL; Brown Fine SAND, some Coarse GRAVEL and Brick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>2-4</td>
<td>7.2</td>
<td>NA</td>
<td>FILL; Black Coal, Ash, Cinders, Coarse GRAVEL, some coarse Sand</td>
<td>Saturated (perched)</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>4-6</td>
<td>46.2</td>
<td>NA</td>
<td>FILL; Black Ash, Cinders, Clinkers and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>6-8</td>
<td>183</td>
<td>NA</td>
<td>Gray SILT, some Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>8-10</td>
<td>441</td>
<td>NA</td>
<td>Gray SILT, some Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>10-12</td>
<td>435</td>
<td>NA</td>
<td>Brown Fine to Coarse GRAVEL, little Silt, little to trace fine to coarse Sand, trace Clay</td>
<td>Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td>12-14</td>
<td>23.4</td>
<td>0.5 / 0.5</td>
<td>Gray Fine to Coarse SAND, some to little Silt, little fine to coarse Gravel, trace Clay</td>
<td>SPH Blebs noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td>14-16</td>
<td>382</td>
<td>1.8 / 0.5</td>
<td>Black Fine to Coarse SAND and Fine to Coarse GRAVEL, trace Silt</td>
<td>Saturated, Loose, Sheen and SPH Blebs noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>16.0</td>
<td>16-18</td>
<td>225</td>
<td>0.5 / 0.5</td>
<td>Gray Fine to Coarse SAND and Fine to Coarse GRAVEL, little to trace Silt</td>
<td>Wet, SPH Blebs noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>18.0</td>
<td>18-20</td>
<td>806</td>
<td>1.8 / 1.25</td>
<td>Gray Fine to Coarse SAND and Fine to Coarse GRAVEL, little fine to coarse Gravel</td>
<td>Saturated, Loose, Sheen and SPH Blebs noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>20.0</td>
<td>20-22</td>
<td>552</td>
<td>0.8 / 1.0</td>
<td>Gray Fine to Coarse SAND, little fine to coarse Gravel</td>
<td>Saturated, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>22.0</td>
<td>22-24</td>
<td>240</td>
<td>1.0 / 1.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some fine to coarse Sand, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24.0</td>
<td>24-26</td>
<td>301</td>
<td>0.8 / 2.5</td>
<td>Gray Fine to Coarse SAND, little fine to coarse Sand, trace Silt</td>
<td>Saturated, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

Location:
Nortning/Latitude:
Easting/Longitude:
Horizontal Datum:
Vertical Datum:

General Comments:
Bottom of boring at 26 feet, bedrock not encountered.
ST = Shake Test, N Value = Soil Strength in Tons/Square Foot

Symbol Key:
Apparent Water Level
Lab Sample Location

Page 1 of 1
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  
**Logged By:** J. Vinci / J. Simms / E. Popken  
**Dates Drilled:** 6/24/08; 7/29/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Borehole Dia.:** 4 inches  
**Surface Elev.:** 1423.0 feet  
**Water Depth:** 16 feet  
**Casing El.:** 1424.83 feet  
**Logged By:** J. Vinci / J. Simms / E. Popken  
**Dates Drilled:** 6/24/08; 7/29/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Borehole Dia.:** 4 inches  
**Surface Elev.:** 1423.0 feet  
**Water Depth:** 16 feet  
**Casing El.:** 1424.83 feet

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Sample Lithology</th>
<th>Comments</th>
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<tbody>
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<td>0-0.5</td>
<td>0.5-2</td>
<td>6.2</td>
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<td>Topsoil and Grass</td>
<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
</tr>
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<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>2-4</td>
<td>2-4</td>
<td>78.5</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND, little Gravel and Slag</td>
<td>Moist</td>
<td>Light Gray CLAY</td>
<td>Wet</td>
</tr>
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<td></td>
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</tr>
<tr>
<td>4-6</td>
<td>4-6</td>
<td>0.0</td>
<td>0.3 / 1.0</td>
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<td>Moist</td>
<td>Brown SILT and CLAY</td>
<td>Sheen, ST = Neg</td>
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<td>6-8</td>
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<td>1350</td>
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<td>8-10</td>
<td>1295</td>
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<td>Moist</td>
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<td>Dry</td>
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<tr>
<td>10-12</td>
<td>10-12</td>
<td>993</td>
<td>1.0 / 0.75</td>
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<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
</tr>
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<td>12-14</td>
<td>12-14</td>
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<td>1.3 / 0.75</td>
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<td>Concrete</td>
<td>Dry</td>
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<td>14-16</td>
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<td>585</td>
<td>0.7 / 0.5</td>
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<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
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<td>16-18</td>
<td>16-18</td>
<td>1521</td>
<td>1.75 / 0.5</td>
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<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
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<td>18-20</td>
<td>1667</td>
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<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
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</tr>
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<td>20-22</td>
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<td>619</td>
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<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
</tr>
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<td>22-24</td>
<td>22-24</td>
<td>513</td>
<td>0.6 / 0.5</td>
<td>Topsoil and Grass</td>
<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>24-26</td>
<td>16.2</td>
<td>0.5 / 0.5</td>
<td>Topsoil and Grass</td>
<td>Moist</td>
<td>Concrete</td>
<td>Dry</td>
</tr>
</tbody>
</table>

**Location:**  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location  

*p. 1 of 1*
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**ID NO.** TPSB-2A

---

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.** 06-02025

---

Logged By: P. Domago

Drilled By: 6/13/08

Drilling Company: Todd Company

Drilling Method: Excavator

Sampling Method: Excavator Bucket

Soil Class. System: Burmister

Field Screening: PID (Readings in ppm)

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Concrete, Bricks, Fine to Coarse SAND, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>2.8</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Concrete</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2-3</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**General Comments:** Bottom of excavation at 3 feet, concrete encountered. Test Pit abandoned.

---

**Location:**

Northing/Latitude: 

Eastings/Longitude: 

Horizontal Datum: 

Vertical Datum: 

---

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**
**TEST PIT LOG**

**ID NO.:** TPSB-2B

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>BOREHOLE DIA.:</th>
<th>TOTAL DEPTH:</th>
<th>SURFACE ELEV.:</th>
<th>WATER DEPTH</th>
<th>CASING EL.:</th>
<th>WELL DIA.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>4 feet</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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</tbody>
</table>

**Logged By:** P. Domago  
**Dates Drilled:** 6/13/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND, some brick fragments and coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>4.7</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND AND SILT, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>218</td>
<td>NA</td>
<td>NA</td>
<td>Backfilled with excavated material</td>
<td>Moist, Pipe encountered at 2 ftbg on West side of Test Pit</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>NA</td>
<td>Pipe encountered at 4 ftbg, ST = Neg</td>
<td>Bottom of excavation at 4 feet, pipe encountered. Test Pit abandoned.</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**

**Apparent Water Level:**

**Lab Sample Location:**

**Location:**

- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**Symbol Key:**

- **Backfilled:**
- **Excavated:**
- **Moist, Pipe encountered at 2 ftbg on West side of Test Pit:**
- **Pipe encountered at 4 ftbg, ST = Neg:**
- **Apparent Water Level:**
- **Lab Sample Location:**
## TEST PIT LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166  

Logged By: R. Sickler  
Dates Drilled: 10/9/09  
Drilling Company: Cortland Pump & Equipment, Inc.  

### SURFACE ELEV.: NA  
TOTAL DEPTH: 5 feet  
WATER DEPTH NA  
CASING EL.: NA  
BOREHOLE DIA.: NA  
WELL DIA.: NA  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Screen</th>
<th>Field Shake</th>
<th>Sample Field Screen</th>
<th>Interval</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>0-0.5</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.0</td>
<td>NA</td>
<td>FILL; Dark Brown Fine to Medium SAND and SILT, some Bricks, Brick Fragments and Concrete Pieces</td>
<td>0.5-1</td>
<td>NA</td>
<td></td>
<td>Dry to Slightly Moist, Loose</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>1-2</td>
<td>45.2</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND and SILT, some Ash and Cinders, trace Brick Fragments, fine to coarse Gravel and Cobbles</td>
<td>1-2</td>
<td>NA</td>
<td></td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NA</td>
<td>2-3</td>
<td>59.9</td>
<td>2-3</td>
<td>56.3</td>
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</tr>
<tr>
<td>2-3</td>
<td>56.3</td>
<td>NA</td>
<td>Dry, Loose, Sheen Observed in ST Bottle</td>
<td>2-3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>122</td>
<td>N</td>
<td>122</td>
<td>3-4</td>
<td>122</td>
<td></td>
<td>Moist, Loose, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>4</td>
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<td>N</td>
<td></td>
<td>4-5</td>
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<td></td>
</tr>
<tr>
<td>4-5</td>
<td>208</td>
<td>N</td>
<td></td>
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<td></td>
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</tbody>
</table>

### General Comments:
Bottom of Test Pit at 5 feet. Bedrock was not encountered.

ppm = parts per million; bgs = below ground surface; T8 = Trench #8

SHAKE TEST (ST) RESULT KEY
NA = Not Applicable
N = Negative
P = Positive

Location:
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

Symbol Key:
Apparent Water Level
Lab Sample Location
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**JOB NO.:** 06-02166

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown SILT and CLAY, trace fine to coarse Gravel</td>
<td>Moist, Soft, Cohesive</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>1-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Dark Brown Fine to Medium SAND, Brick and Concrete Fragments, trace fine to coarse Gravel and Cobbles</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown and Light Brown SILT and Fine SAND, some Clay, trace Wood Pieces and Scrap Metal Shards</td>
<td>Moist, Soft, Cohesive, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>111</td>
<td>N</td>
<td></td>
<td>Black and Gray SILT and CLAY, trace fine Gravel</td>
<td>Moist, Very Soft, Cohesive, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>165</td>
<td>N</td>
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**Logged By:** R. Sickler

**Dates Drilled:** 10/9/09

**Drilling Company:** Cortland Pump & Equipment, Inc.

<table>
<thead>
<tr>
<th>Drilling Method:</th>
<th>Bobcat 331 Track-Mounted Excavator</th>
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</thead>
<tbody>
<tr>
<td>Sampling Method:</td>
<td>Excavator Bucket</td>
</tr>
<tr>
<td>Soil Class. System:</td>
<td>Burnister</td>
</tr>
<tr>
<td>Field Screening:</td>
<td>PID (Readings in ppm)</td>
</tr>
</tbody>
</table>

**NA = Not Applicable**

**N = Negative**

**P = Positive**

---

**General Comments:**

Bottom of Test Pit at 5 feet. Bedrock was not encountered.

ppm = parts per million; bgs = below ground surface; Ti = Trench #8

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

---

**Location:**

- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

---

p. 1 of 1
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

| Logged By: | R. Sickler  |
| Dates Drilled: | 10/9/09  |
| Drilling Company: | Cortland Pump & Equipment, Inc.  |

**Drilling Method:** Bobcat 331 Track-Mounted Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass and Topsoil</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>FILL; Black and Brown Fine to Medium SAND, some fine to coarse Gravel, little Silt, trace Cobbles and Organic Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.2</td>
<td>NA</td>
<td></td>
<td>FILL; Black Fine to Medium SAND, some Silt, Raw Coal, Ash and Cinders, trace fine to coarse Gravel</td>
<td></td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>1-2</td>
<td>0.8</td>
<td>NA</td>
<td></td>
<td>FILL; Black Fine to Medium SAND, some Silt, Raw Coal, Ash, Cinders and Brick Fragments, trace fine to coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.7</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2-3</td>
<td>1.7</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>0.0</td>
<td>NA</td>
<td></td>
<td>FILL; Black and Gray Ash, Cinders and Slag, trace fine to coarse Sand and Silt</td>
<td>Wet, Loose</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.6</td>
<td>NA</td>
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<tr>
<td>4-5</td>
<td>1.6</td>
<td>NA</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**
- Bottom of Test Pit at 5 feet. Bedrock was not encountered.  
- ppm = parts per million; bgs = below ground surface; T8= Trench #8

**SHAKE TEST (ST) RESULT KEY**
- NA = Not Applicable  
- N = Negative  
- P = Positive

**Symbol Key:**
- Apparent Water Level  
- Lab Sample Location

p. 1 of 1
**TEST PIT LOG**

**ID NO.** TPSB-2F

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

Logged By: R. Sickler  
Drilled On: 10/9/09  
Drilling Company: Cortland Pump & Equipment, Inc.

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

**Logged By:** Drilling Method: Bobcat 331 Track-Mounted Excavator  
**Dates Drilled:** 10/9/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.  
**Sampling Method:** Excavator Bucket  
**Drilling Company:** Burnister  
**Soil Class. System:** PID (Readings in ppm)

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Grass and Topsoil</td>
<td>Dry, Loose</td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Backfilled with excavated materials</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>3.8</td>
<td>NA</td>
<td></td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>44.0</td>
<td>NA</td>
<td></td>
<td>Moist, Loose, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>13.2</td>
<td>NA</td>
<td></td>
<td>Moist, Soft, Semi-cohesive</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>183</td>
<td>N</td>
<td></td>
<td>Dark Gray Fine to Medium SAND and SILT, some Clay, trace fine to coarse Gravel and Cobbles</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>203</td>
<td>N</td>
<td></td>
<td>Moist, Soft, Semi-cohesive</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**

- **Northing/Latitude:**  
- **Easting/Longitude:**  
- **Horizontal Datum:**  
- **Vertical Datum:**

**General Comments:**

- Bottom of Test Pit at 5 feet. Bedrock was not encountered.
- ppm = parts per million; bgs = below ground surface; T8= Trench #8

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

---

p. 1 of 1
### General Comments:

Bottom of Test Pit at 3 feet. Bedrock was not encountered.

ppm = parts per million; bgs = below ground surface; T8 = Trench #8

SHAKE TEST (ST) RESULT KEY
- NA = Not Applicable
- N = Negative
- P = Positive

### Symbol Key:
- Apparent Water Level
- Lab Sample Location

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Slightly Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND and Bricks, trace fine to coarse Gravel and Concrete Pieces; Refusal occurred at 3' below ground surface due to concrete footers and concrete sub-slabs encountered at multiple locations attempted to excavate below 3'. Test pits abandoned at 3' below ground surface.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Backfilled with excavated materials</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Location:
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

---

### Sample Field Screen Interval Shake Test

<table>
<thead>
<tr>
<th>ID NO.</th>
<th>TPSB-2G</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURFACE ELEV.:</td>
<td>NA</td>
</tr>
<tr>
<td>TOTAL DEPTH:</td>
<td>3 feet</td>
</tr>
<tr>
<td>WATER DEPTH:</td>
<td>NA</td>
</tr>
<tr>
<td>CASING EL.:</td>
<td>NA</td>
</tr>
<tr>
<td>BOREHOLE DIA.:</td>
<td>NA</td>
</tr>
<tr>
<td>WELL DIA.:</td>
<td>NA</td>
</tr>
</tbody>
</table>

---

Logged By: R. Sickler  
Dates Drilled: 10/9/09  
Drilling Company: Cortland Pump & Equipment, Inc.  
Drilling Method: Bobcat 331 Track-Mounted Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burmuster  
Field Screening: PID (Readings in ppm)
### Test Pit Log

**Project:** Former Vacuum Oil Refinery

**Address:** 1406 Buffalo St., Olean, NY

**Station No.:** 06-02025

**Logged By:** J. Vinci/R. Sickler

**Dates Drilled:** 6/16/08; 7/2/08

**Drilling Company:** Todd Company

**Drilling Method:** Excavator

**Sampling Method:** Excavator Bucket

**Drill Hole Diameter:** NA

**Surface Elevation:** NA

**Total Depth:** 12 feet

**Casing Elevation:** NA

**Well Diameter:** NA

### Details

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Grass, Topsoil</td>
<td>Moist, ST = Neg</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0.5-2</td>
<td>1024</td>
<td>NA</td>
<td>NA</td>
<td>FILL: Dark Brown-Black Fine to Medium SAND and Coarse GRAVEL, some ash and coal</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>1311</td>
<td>NA</td>
<td>NA</td>
<td>Dark Brown-Black Medium to Coarse Gravel</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>3083</td>
<td>NA</td>
<td>NA</td>
<td>Gray Medium SAND and CLAY, some fine Gravel, trace Silt and coarse Gravel</td>
<td>Moist, Semi-Cohesive, Soft, Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>3109</td>
<td>NA</td>
<td>NA</td>
<td>Gray Medium SAND and Fine GRAVEL, little coarse Gravel, trace Silt and Cobbles</td>
<td>Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>8250</td>
<td>NA</td>
<td>NA</td>
<td>Loose, Staining, SPH blebs, ST = Neg</td>
<td>Wet, Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>1517</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of excavation at 12 feet, bedrock not encountered.

**Location:**
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**P. 1 of 1**
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.** 06-02025

**Logged By:** J. Vinci

**Dates Drilled:** 6/17/08

**Drilling Company:** Todd Company

**SURFACE ELEV.:** NA

**TOTAL DEPTH:** 2 feet

**WATER DEPTH:** NA

**CASING EL.:** NA

**BOREHOLE DIA.:** NA

**WELL DIA.:** NA

**Drilling Method:** Excavator

**Sampling Method:** Excavator Bucket

**Soil Class. System:** Burnister

**Field Screening:** PID (Readings in ppm)

---

### Depth (feet) | Sample Interval | Field Screen | Recovery (Feet) | SAMPLE LITHOLOGY | Comments | COMPLETION DETAILS
---|---|---|---|---|---|---
0 | | | | Grass and Topsoil | | |
0-2 | 0.5 | NA | | FILL; Concrete with Rebar, Bricks | | |
2 | | | | Concrete Slab | | Concrete; Refusal

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**General Comments:** Bottom of excavation at 2 feet, concrete encountered. Test Pit abandoned.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**PID (Readings in ppm)**

- 0.5

**Backfilled with excavated material**
**BORING LOG**

**Groundwater and Environmental Services, Inc.**

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>Former Vacuum Oil Refinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>1406 Buffalo St., Olean, NY</td>
</tr>
<tr>
<td>STATION NO.</td>
<td>06-02025</td>
</tr>
<tr>
<td>SURFACE ELEV.:</td>
<td>NA</td>
</tr>
<tr>
<td>WATER DEPTH:</td>
<td>15.1 feet</td>
</tr>
<tr>
<td>CASING EL.:</td>
<td>NA</td>
</tr>
<tr>
<td>BOREHOLE DIA.:</td>
<td>7.25 inches</td>
</tr>
<tr>
<td>WELL DIA.:</td>
<td>NA</td>
</tr>
</tbody>
</table>

Logged By: J. Vinci/J. Simms  
Dates Drilled: 6/17/08; 6/24/08  
Drilling Company: Todd Company/Parratt Wolff  
Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>2.9</td>
<td>NA</td>
<td>Gray Fine SILT, some medium to coarse Gravel</td>
<td>Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>14.8</td>
<td>NA</td>
<td>Gray Medium to Coarse GRAVEL, some Cobbles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>0.0</td>
<td>0.6 / 0.5</td>
<td>Brown Fine to Medium SAND and GRAVEL, little Silt, trace Clay</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>27.4</td>
<td>0.75 / 0.5</td>
<td>Dark Gray Fine to Medium SAND and GRAVEL, little Silt, trace Clay</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>164</td>
<td>1.2 / 1.0</td>
<td>Dark Gray Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td>Sheen, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-12</td>
<td>501</td>
<td>2.0 / 1.5</td>
<td>Moist, Sheen, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12-14</td>
<td>635</td>
<td>2.0 / 1.25</td>
<td>Sheen, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14-16</td>
<td>403</td>
<td>1.2 / 1.25</td>
<td>Wet, Sheen, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16-18</td>
<td>128</td>
<td>1.8 / 1.25</td>
<td>Sheen, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>18-20</td>
<td>0.0</td>
<td>0.75 / &lt;0.5</td>
<td>Gray SILT and Fine to Coarse SAND</td>
<td>Saturated</td>
<td></td>
</tr>
</tbody>
</table>

### Location:

- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

### General Comments:

- Bottom of boring at 20 feet, bedrock not encountered.  
- Test Pit (0-4 ft) completed 6/17/08; Boring (4-20 ft) completed 6/24/08.  
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

### Symbol Key:

- **Apparent Water Level**  
- **Lab Sample Location**

---

p. 1 of 1
**Test Pit Log**

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass and Topsoil</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0-2</td>
<td>1.0</td>
<td>NA</td>
<td></td>
<td>FILL; Dark Topsoil, Slag, Bricks and Concrete</td>
<td>Moist, Cohesive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL; Black SILT, trace white suspect Wax pieces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Black Medium to Coarse GRAVEL, some Ash and Slag</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.9</td>
<td>NA</td>
<td></td>
<td>FILL; Black Gray Ash, Cinders and Coal, trace fine Gravel and Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>45.9</td>
<td>NA</td>
<td></td>
<td>Gray SILT, some Clay, trace coarse Gravel</td>
<td>Saturated (perched), Staining, Loose</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wet, Soft, Cohesive, Sticky</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>Black Medium SAND and Fine GRAVEL, little Clay, trace Silt, coarse Gravel and Cobble</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>74.3</td>
<td>NA</td>
<td></td>
<td></td>
<td>Loose, Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>Black Medium SAND and Fine GRAVEL, little Clay, trace Silt, coarse Gravel and Cobble</td>
<td>Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>384</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>Gray Medium SAND and Fine GRAVEL, little Clay, trace Silt, coarse Gravel and Cobble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>282</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>Black Staining, ST = Neg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 12 feet, bedrock not encountered.  

**Symbol Key:**  
- Apparent Water Level
- Lab Sample Location

**Logged By:** J. Vinci/R. Sickler  
**Dates Drilled:** 6/17/08; 7/2/08  
**Drilling Company:** Todd Company  

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)  

**Surface Elevation:** NA  
**Total Depth:** 12 feet  
**Water Depth:** 6 feet  
**Casing EL.:** NA  
**Well Dia.:** NA
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.** TPSB-6 / DTP-6

### PROJECT:
**Former Vacuum Oil Refinery**

### ADDRESS:
**1406 Buffalo St., Olean, NY**

### STATION NO.:
**06-02025**

**Logged By:** J. Vinci/R. Sickler

**Dates Drilled:** 6/18/08; 7/2/08

**Drilling Company:** Todd Company

**Depth (feet) | Sample Interval | Field Screen | Recovery (Feet) | Sample Lithology | Comments | Completion Details**

| 0   | 0-2          | 0.3          | NA             | Grass and Topsoil | Backfilled with excavated material |
| 2   | 2-4          | 0.0          | NA             | FILL; Brown Gray Black White Ash and Coal Slag |
| 4   | 4-6          | 1.6          | NA             | FILL; Gray Ash and Slag |
| 6   | 6-8          | 216          | NA             | FILL; Yellow Tan SILT, some medium Sand, Coal Slag and Gravel |
| 8   | 8-10         | 696          | NA             | Brown CLAY and Fine GRAVEL, trace coarse Gravel, Cobbles and Silt |
| 10  | 10-12        | 555          | NA             | Gray SILT, some Clay, trace coarse Gravel |
| 12  |              |              |                | Black Medium SAND and Fine GRAVEL, little Clay, trace Silt, coarse Gravel and Cobble |

### General Comments:
Bottom of excavation at 12 feet, bedrock not encountered.

### Symbol Key:
- **Apparent Water Level**
- **Lab Sample Location**

---

**Surface Elevation:** NA  | **Total Depth:** 12 feet
**Water Depth:** NA  | **Casing El.:** NA
**Borehole Dia.:** NA  | **Well Dia.:** NA

---

**Drilling Method:** Excavator  | **Sampling Method:** Excavator Bucket
**Soil Class. System:** Burmister  | **Field Screening:** PID (Readings in ppm)
**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.0</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL; Tan Brown SILT and Black Slag</td>
<td>Moist, Semi-Cohesive</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>8.4</td>
<td>NA</td>
<td>FILL; Red Brown Organic Material, Wood fragments</td>
<td>Soft, Moist</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>32.6</td>
<td>NA</td>
<td>FILL; Brown Peat, CLAY and Medium SAND, little Silt, trace fine to coarse Gravel, coal fragments, wood pieces and organic material</td>
<td>Moist to Wet, Semi-Cohesive, Staining</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>1353</td>
<td>NA</td>
<td>Gray Fine SAND, some Silt, little Clay, trace fine to coarse Gravel</td>
<td>Wet, Black Staining, SPH blebs noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>1294</td>
<td>NA</td>
<td>Gray Medium to Coarse SAND, some fine Gravel, trace Silt, coarse Gravel and Cobble</td>
<td>Loose, Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-12</td>
<td>1254</td>
<td>NA</td>
<td></td>
<td>Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci/R. Sickler  
**Dates Drilled:** 6/17/08; 7/1/08  
**Drilling Company:** Todd Company  

**Logged By:** J. Vinci/R. Sickler  
**Dates Drilled:** 6/17/08; 7/1/08  
**Drilling Company:** Todd Company  

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

---

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 12 feet, bedrock not encountered.

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  

Logged By: J. Vinci / J. Simms  
Dates Drilled: 6/17/08; 6/25/08  
Drilling Company: Todd Company/Parratt-Wolff  
Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Comment</th>
<th>SAMPLE LITHOLOGY</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.0</td>
<td>NA</td>
<td></td>
<td>Grass, Topsoil</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brown SILT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td></td>
<td>Light Brown SILT, some coarse Gravel</td>
<td>Moist, Slightly Cohesive</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>NA</td>
<td>NR</td>
<td>No Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>NA</td>
<td>NR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA  
**TOTAL DEPTH:** 5 feet

**General Comments:** Refusal at 5 ft bgs; Concrete and Rebar encountered.

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location
**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025  
**Logged By:** J. Vinci/ J. Simms  
**Dates Drilled:** 6/26/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Borehole Dia.:** 7.25 inches  
**Well Dia.:** NA  
**Surface Elevation:** NA  
**Total Depth:** 24 feet  
**Water Depth:** 20.6 feet  
**Casing EL.:** NA

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.0 NA</td>
<td></td>
<td>Grass, Topsoil</td>
<td>Dry to Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>0.2 NA</td>
<td></td>
<td>Brown Medium to Coarse GRAVEL, some fine to coarse Gravel</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>0.0 NA</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>0.8 NA</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>8.9 1.0 / &lt;0.5</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-12</td>
<td>18.9 1.3 / &lt;0.5</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12-14</td>
<td>4.4 1.8 / 1.0</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14-16</td>
<td>6.7 1.2 / &lt;0.5</td>
<td></td>
<td>Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16-18</td>
<td>14.3 1.2 / &lt;0.5</td>
<td></td>
<td>Gray Fine to Medium SAND, trace Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>18-20</td>
<td>73.1 1.5 / 0.75</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>20-22</td>
<td>74.0 1.3 / 3.0</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt, little Clay</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>22-24</td>
<td>109 1.5 / 0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td>Saturated, Sheen, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northings/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:**  
Bottom of boring at 24 feet, bedrock not encountered.  
Test Pit (0-4 ft) and Boring (4-24 ft) completed 6/26/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

p. 1 of 1
# Test Pit Log

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025

Logged By: J. Vinci / R. Sickler  
Dates Drilled: 6/17/08; 7/1/08  
Drilling Company: Todd Company

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery Screen (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Grass, Topsoil, Roots</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Dark Gray Brown Medium to Coarse GRAVEL</td>
<td>Moist</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Brown, Red, Yellow Medium to Coarse GRAVEL</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>3.2</td>
<td>NA</td>
<td>NA</td>
<td>Brown Medium SAND, some fine Gravel, trace coarse Gravel, Silt and Clay</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>2.8</td>
<td>NA</td>
<td>NA</td>
<td>Brown Medium SAND, some fine Gravel, little Clay, trace coarse Gravel and Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>2.4</td>
<td>NA</td>
<td>NA</td>
<td>Gray Medium SAND, some fine Gravel, little Clay, trace coarse Gravel and Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Gray Medium SAND, some fine Gravel, trace Silt coarse Gravel and Cobbles</td>
<td>Loose</td>
<td></td>
</tr>
</tbody>
</table>

**Surf. Elev.:** NA  
**Total Depth:** 10 feet  
**Borehole Dia.:** NA  
**Well Dia.:** NA

Drilling Method: Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burnister  
Field Screening: PID (Readings in ppm)

---

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 10 feet, bedrock not encountered.

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

Page 1 of 1
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>Former Vacuum Oil Refinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>1406 Buffalo St., Olean, NY</td>
</tr>
<tr>
<td>STATION NO.:</td>
<td>06-02025</td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci / R. Sickler  
**Dates Drilled:** 6/18/08; 7/1/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

---

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.0 NA</td>
<td>NA</td>
<td>Grass, Topsoil, Roots</td>
<td>Dry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dark Brown Fine to Medium SAND and Medium GRAVEL</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>0.0 NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some Gravel</td>
<td>Moist, Loose</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brown Medium SAND, some fine Gravel, little Clay, trace Silt, coarse Gravel and Cobbles</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4-6</td>
<td>1.2 NA</td>
<td>NA</td>
<td>Brown Medium to Coarse SAND and Fine GRAVEL, trace Silt, coarse Gravel and Cobbles</td>
<td>Wet, Loose</td>
</tr>
<tr>
<td>8</td>
<td>6-8</td>
<td>2.3 NA</td>
<td>NA</td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>8-10</td>
<td>3.2 NA</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**ID NO.:** TPSB-11 / DTP-11  
**TOTAL DEPTH:** 10 feet  
**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:** Bottom of excavation at 10 feet, bedrock not encountered.

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

---

p. 1 of 1
## BORING LOG

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>General Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>Topsoil and Grass</td>
<td>Moist</td>
<td>See attached Monitoring Well Design Plan for well construction details.</td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>NA</td>
<td>Brown SILT, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>1.0 / 1.0</td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>1.0 / 0.5</td>
<td>Gray Fine to Medium SAND and GRAVEL, little Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>1.0 / 0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>1.2 / 0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>1.6 / 1.25</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt, little Clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>1.3 / &lt;0.5</td>
<td>Gray Fine to Medium SAND, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>1.5 / &lt;0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>1.75 / 2.0</td>
<td>Gray Fine to Medium SAND, some Gravel, little Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>1.6 / 2.5</td>
<td>Gray Fine to Medium SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>1.5 / 0.75</td>
<td>Gray Fine to Coarse GRAVEL, some fine to coarse Sand, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>1.1 / 0.5</td>
<td>Gray Fine to Coarse SAND, some fine to coarse Gravel, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-28</td>
<td>0.8 / 0.5</td>
<td>Gray Fine to Coarse SAND, little Silt, trace Clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>1.2 / 2.5</td>
<td>Brown SILT, little fine Sand</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Dates Drilled:** 6/18/08; 6/25/08; 7/31/08
**Logged By:** J. Vinci / J. Simms / E. Popken
**Drilling Company:** Todd Company / Parratt Wolff

**Drilling Method:** Excavator/Hollow Stem Auger
**Soil Class. System:** Burnmister
**Sampling Method:** Excavator Bucket/Split Spoon
**Easting/Longitude:** NA
**Northing/Latitude:** NA
**Depth:** 30 feet
**Surface Elevation:** 1429.2 feet
**Casing EL.:** 1431.14 feet
**Well Dia.:** 4 inches
**Total Depth:** 1431.14 feet
**WATER DEPTH:** 20 feet
**Soil Class. System:** Burnmister
**Sampling Method:** Excavator Bucket/Split Spoon
**Drilling Method:** Excavator/Hollow Stem Auger
**Logged By:** J. Vinci / J. Simms / E. Popken
**Dates Drilled:** 6/18/08; 6/25/08; 7/31/08
**Drilling Company:** Todd Company / Parratt Wolff

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Boring Log:**
- PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Recovery (Feet)</th>
<th>Sample Screen</th>
<th>ID NO.</th>
<th>SurFace Elev.</th>
<th>Total Depth</th>
<th>Well Dia.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 / 0.5</td>
<td>1.0 / 0.5</td>
<td>TPSB-12/W-13</td>
<td>1429.2 feet</td>
<td>30 feet</td>
<td>10.5 inches</td>
</tr>
</tbody>
</table>

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

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- Lab Sample Location

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- Lab Sample Location

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- Lab Sample Location

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**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
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- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

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- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

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- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

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- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

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- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

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Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
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- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**General Comments:**
Bottom of boring at 30 feet, bedrock not encountered.
# Boring Log

## Project Information
- **PROJECT:** Former Vacuum Oil Refinery
- **ADDRESS:** 1406 Buffalo St., Olean, NY
- **STATION NO.:** 06-02025
- **Logged By:** J. Vinci/J. Simms
- **Dates Drilled:** 6/18/08; 6/20-23/08
- **Drilling Company:** Todd Company/Parratt Wolff

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.4</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>0.1</td>
<td>NA</td>
<td>FILL; Bricks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>0.4</td>
<td>0.7 / 1.0</td>
<td>FILL and Rebar</td>
<td>Dry, Cohesive</td>
<td>Moist</td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>0.0</td>
<td>1.2 / 0.5</td>
<td>Brown SILT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>0.0</td>
<td>1.2 / &lt;0.5</td>
<td>Brown Fine to Medium SAND, some Gravel, trace Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-12</td>
<td>0.0</td>
<td>1.0 / 1.0</td>
<td>Gray Brown Fine to Coarse SAND and GRAVEL, little Silt</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12-14</td>
<td>1.2</td>
<td>1.3 / 1.0</td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14-16</td>
<td>3.2</td>
<td>1.25 / 1.0</td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16-18</td>
<td>6.5</td>
<td>1.5 / 0.5</td>
<td>No Recovery</td>
<td>Saturated</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>18-20</td>
<td>NA</td>
<td>NR</td>
<td>Gray Brown Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>20-22</td>
<td>75.6</td>
<td>1.3 / 1.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## General Comments:
- Bottom of boring at 22 feet, bedrock not encountered.
- Test Pit (0-4 ft) completed 6/18/08; Boring (4-26 ft) completed 6/20-23/08.
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

## Location:
- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

## Symbol Key:
- Apparent Water Level
- Lab Sample Location

## PID (Readings in ppm):

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Recovery (Feet)</th>
<th>PID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>2</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>4</td>
<td>0.4</td>
<td>0.1</td>
</tr>
<tr>
<td>6</td>
<td>0.7 / 1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>8</td>
<td>1.2 / 0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>10</td>
<td>1.0 / 1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td>1.3 / 1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>14</td>
<td>1.3 / 1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>16</td>
<td>1.25 / 1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>18</td>
<td>1.5 / 0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>20</td>
<td>1.3 / 1.25</td>
<td>0.5</td>
</tr>
<tr>
<td>22</td>
<td>1.3 / 1.25</td>
<td>1.25</td>
</tr>
</tbody>
</table>

## Sampling Method:
- Excavator Bucket/Split Spoon

## Drilling Method:
- Excavator/Hollow Stem Auger

## Soil Class. System:
- Burnmister

## Field Screening:
- PID (Readings in ppm)
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166  

Logged By: R. Sickler  
Dates Drilled: 10/12/09  
Drilling Company: Cortland Pump & Equipment, Inc.  

Drilling Method: Bobcat 331 Track-Mounted Excavator  
Sampling Method: Excavator Bucket  

**SURFACE ELEV.:** NA  
**TOTAL DEPTH:** 6 feet  
**WATER DEPTH** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA  

**DEPTH** SAMPLE LITHOLOGY COMPLETION COMMENTS

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>FILL; Fine to Coarse GRAVEL</td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.1</td>
<td>NA</td>
<td></td>
<td>FILL; Black and Dark Brown Fine to Medium SAND, Ash and Cinders, trace Silt, fine to coarse Gravel, Bricks, Cobbles, Concrete Pieces and Scrap Pipe Pieces</td>
</tr>
<tr>
<td>1-2</td>
<td>0.1</td>
<td>NA</td>
<td></td>
<td>FILL; Black, Brown and Gray Fine to Coarse Ash, Cinders and Clinkers, trace fine to coarse Gravel</td>
</tr>
<tr>
<td>2-3</td>
<td>0.2</td>
<td>NA</td>
<td></td>
<td>Light Brown Fine to Medium SAND and SILT, some Clay, trace fine to coarse Gravel and Cobbles</td>
</tr>
<tr>
<td>3-4</td>
<td>0.1</td>
<td>NA</td>
<td></td>
<td>Light Brown Fine to Medium SAND and Fine GRAVEL, some Silt, trace coarse Sand, coarse Gravel and Clay</td>
</tr>
<tr>
<td>4-5</td>
<td>0.2</td>
<td>NA</td>
<td></td>
<td>Light Brown Fine to Medium SAND and Fine GRAVEL, some Silt, trace coarse Sand, coarse Gravel and Clay</td>
</tr>
<tr>
<td>5-6</td>
<td>0.1</td>
<td>NA</td>
<td></td>
<td>Light Brown Fine to Medium SAND and Fine GRAVEL, some Silt, trace coarse Sand, coarse Gravel and Clay</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>Light Brown Fine to Medium SAND and Fine GRAVEL, some Silt, trace coarse Sand, coarse Gravel and Clay</td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of Test Pit at 6 feet. Bedrock was not encountered.  
ppm = parts per million; bgs = below ground surface; T8= Trench #8  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  
NA = Not Applicable  
N = Negative  
P = Positive  

p. 1 of 2
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

<table>
<thead>
<tr>
<th>Logged By</th>
<th>Dates Drilled</th>
<th>Drilling Company</th>
<th>Sampling Method</th>
<th>Soil Class. System</th>
<th>Field Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Sickler</td>
<td>10/12/09</td>
<td>Cortland Pump &amp; Equipment, Inc.</td>
<td>Excavator Bucket</td>
<td>Burnister</td>
<td>PID (Reading in ppm)</td>
</tr>
</tbody>
</table>

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry, Loose</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND, some Ash and Cinders, little Silt, trace fine to coarse Gravel, Bricks and Brick Fragments</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.3</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Dark Brown Fine to Medium SAND, some Ash and Cinders, little Silt, trace fine to coarse Gravel, Bricks and Brick Fragments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>0.4</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine to Coarse GRAVEL, some Silt, trace Clay and Cobbles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>0.3</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>0.2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>0.3</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>0.3</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Former Vacuum Oil Refinery**  
1406 Buffalo St., Olean, NY  
06-02166

**Surficial Sediment:**
- **Grass and Topsoil:**
  - Dry, Loose
  - Backfilled with excavated materials
- **FILL:**
  - Black Fine to Medium SAND, some Ash and Cinders, little Silt, trace fine to coarse Gravel, Bricks and Brick Fragments
  - Dark Brown Fine to Medium SAND, some Ash and Cinders, little Silt, trace fine to coarse Gravel, Bricks and Brick Fragments
  - Brown Fine to Medium SAND and Fine to Coarse GRAVEL, some Silt, trace Clay and Cobbles

**General Comments:**
Bottom of Test Pit at 6 feet. Bedrock was not encountered.
ppm = parts per million; bgs = below ground surface; T8 = Trench #8

**SHAKE TEST (ST) RESULT KEY**
- NA = Not Applicable
- N = Negative
- P = Positive

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

---

p. 1 of 2
# TEST PIT LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

Logged By: R. Sickler  
Dates Drilled: 10/12/09  
Drilling Company: Cortland Pump & Equipment, Inc.

**Surface Elevation:** NA  
**Total Depth:** 6 feet  
**Water Depth:** NA  
**Casing EL.:** NA  
**Borehole Dia.:** NA  
**Well Dia.:** NA

## Drilling Company: Bobcat 331 Track-Mounted Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)

## Sample Lithology

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5-1</td>
<td>0.7</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND and Fine to Medium Ash and Cinders, trace fine to coarse Gravel</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>0.5</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine to Coarse GRAVEL, little Silt</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3</td>
<td>0.6</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>5.4</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine to Coarse GRAVEL, little Sand and Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>1.0</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>0.9</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine to Coarse GRAVEL, little Cobbles and Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of Test Pit at 6 feet. Bedrock was not encountered.

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location

**ppm** = parts per million; **bg** = below ground surface; **T8** = Trench #8  
**SHAKE TEST (ST) RESULT KEY**  
- **N** = Negative  
- **P** = Positive

**Location:**  
- **Northing/Latitude:**  
- **Easting/Longitude:**  
- **Horizontal Datum:**  
- **Vertical Datum:**

**p. 1 of 1**
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166  
**Logged By:** R. Sickler  
**Dates Drilled:** 10/12/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.1</td>
<td>NA</td>
<td>NA</td>
<td>FILL: Black Fine to Medium SAND, some Ash, Cinders, fine to coarse Gravel, trace Clinkers, Cobbles, Raw Coal and Silt</td>
<td>Backfilled with excavated materials</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>0.1</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and SILT, some Clay, trace fine to coarse Gravel</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>45.7</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and SILT, some fine to coarse Gravel and Silt, trace Cobbles</td>
<td>Moist to Wet, Semi-cohesive</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>20.6</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some fine to coarse Gravel and Silt, trace Cobbles</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>2.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>0.6</td>
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<td>NA</td>
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</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
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Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of Test Pit at 6 feet. Bedrock was not encountered.  
ppm = parts per million; bgs = below ground surface; T8 = Trench #8

**SHAKE TEST (ST) RESULT KEY**  
NA = Not Applicable  
N = Negative  
P = Positive

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

---

Former Vacuum Oil Refinery  
1406 Buffalo St., Olean, NY  
06-02166  
R. Sickler  
10/12/09  
Cortland Pump & Equipment, Inc.  
Bobcat 331 Track-Mounted Excavator  
Excavator Bucket  
Burmister  
PID (Readings in ppm)
## BORING LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.:** TPSB-14

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.:** 06-02025

**SURFACE ELEV.:** NA

**WATER DEPTH:** 16.2 feet

**TOTAL DEPTH:** 26 feet

**BOREHOLE DIA.:** 7.25 inches

**WELL DIA.:** NA

Logged By: V. Maresco / J. Simms

Dates Drilled: 6/6/08; 6/18/08

Drilling Company: Todd Company/Parratt Wolff

Drilling Method: Excavator/Hollow Stem Auger

Sampling Method: Excavator Bucket/Split Spoon

Soil Class. System: Burmister

Field Screening: PID (Readings in ppm)

### SAMPLE LITHOLOGY

| Depth (feet) | Sample Interval | Field Screen | Recovery (Feet) | Asphalt | FILL; GRAVEL | FILL; Black Coal, Ash, Gravel and Sand | Brown SILT and CLAY, trace fine Sand | Gray Brown GRAVEL and CLAY, trace Silt | Brown Fine to Coarse SAND and GRAVEL, trace Silt | Brown Fine to Coarse SAND and GRAVEL, little Silt and Clay | Gray Fine to Coarse SAND and GRAVEL, trace Silt | Gray Fine to Coarse SAND and GRAVEL, trace Silt | Gray Fine to Coarse SAND and GRAVEL, Trace Silt | Gray Fine to Coarse SAND and GRAVEL, little Silt | Gray Fine to Coarse SAND and GRAVEL, Trace Silt | Black Medium to Coarse SAND and GRAVEL, trace Silt | Gray Medium to Coarse SAND and GRAVEL, trace Silt | Black Medium to Coarse SAND and GRAVEL, trace Silt | Black Medium to Coarse SAND and GRAVEL, Trace Silt | Black Medium to Coarse SAND and GRAVEL, Trace Silt | Black Fine to Coarse SAND and GRAVEL, little Silt | Black Fine to Coarse SAND and GRAVEL, Trace Silt | Black Fine to Coarse SAND and GRAVEL, Trace Silt |
|--------------|-----------------|--------------|----------------|---------|-------------|----------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| 0-2          | 0.0             | NA           |                | Asphalt | FILL; GRAVEL| FILL; Black Coal, Ash, Gravel and Sand | Brown SILT and CLAY, trace fine Sand | Gray Brown GRAVEL and CLAY, trace Silt | Brown Fine to Coarse SAND and GRAVEL, trace Silt | Brown Fine to Coarse SAND and GRAVEL, little Silt and Clay | Gray Fine to Coarse SAND and GRAVEL, trace Silt | Gray Fine to Coarse SAND and GRAVEL, Trace Silt | Gray Fine to Coarse SAND and GRAVEL, little Silt | Gray Fine to Coarse SAND and GRAVEL, Trace Silt | Black Medium to Coarse SAND and GRAVEL, trace Silt | Gray Medium to Coarse SAND and GRAVEL, trace Silt | Black Medium to Coarse SAND and GRAVEL, trace Silt | Black Medium to Coarse SAND and GRAVEL, Trace Silt | Black Medium to Coarse SAND and GRAVEL, Trace Silt | Black Medium to Coarse SAND and GRAVEL, Trace Silt | Black Fine to Coarse SAND and GRAVEL, little Silt | Black Fine to Coarse SAND and GRAVEL, Trace Silt | Black Fine to Coarse SAND and GRAVEL, Trace Silt |
| 2-4          | 0.4             | NA           |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 4-6          | 0.0             | 1.0 / 1.0    |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 6-8          | 0.0             | 0.66 / 0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 8-10         | 0.0             | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 10-12        | 42.5            | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 12-14        | 164             | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 14-16        | 84.1            | 1.5 / 1.25   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 16-18        | 179             | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 18-20        | 245             | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 20-22        | 138             | 1.2 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 22-24        | 99.7            | 1.5 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 24-26        | 88.8            | 1.0 / <0.5   |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| 26-26        |                 |              |                |         |             |                                       |                                      |                                      |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |

**Location:**

- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**

- Bottom of boring at 26 feet, bedrock not encountered.
- Test Pit (0-4 ft) completed 6/6/08; Boring (4-26 ft) completed 6/18/08.
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

**Backfilled with excavated material and drill cuttings**
## BORING LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago/J. Simms  
Dates Drilled: 6/11/08; 6/19 & 20/08; 7/16/08  
Drilling Company: Todd Company/Parratt Wolff

**SURFACE ELEV.:** 1421.9 feet  
**WATER DEPTH:** 18 feet  
**TOTAL DEPTH:** 28 feet  
**CASING EL.:** 1424.93 feet  
**BOREHOLE DIA.:** 10.5 inches  
**WELL DIA.:** 4 inches

**Logged By:** P. Domago/J. Simms  
**Dates Drilled:** 6/11/08; 6/19 & 20/08; 7/16/08  
**Drilling Company:** Todd Company/Parratt Wolff

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.5-2</td>
<td>5.4</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND, some Brick and Concrete</td>
<td>Communications Line encountered at 1 ftbg. Concrete slab on SW side of TP at 2 ftbg.</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>4.1</td>
<td>NA</td>
<td></td>
<td>Gray CLAY, trace coarse Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>2.4</td>
<td>1.0 / 1.25</td>
<td></td>
<td>Gray CLAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>9.5</td>
<td>1.3 / 1.0</td>
<td></td>
<td>Gray CLAY, some fine to medium Sand, trace Gravel</td>
<td>See attached Monitoring Well Design Plan for well construction details.</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>10.3</td>
<td>1.25 / 0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and CLAY, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>24.5</td>
<td>1.0 / 0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>87.9</td>
<td>NA</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>182</td>
<td>1.8 / &lt;0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td>Wet, ST = Pos</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>78.6</td>
<td>1.25 / 1.0</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td>Saturated</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>59.1</td>
<td>1.2 / 1.0</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>45.7</td>
<td>1.0 / 1.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>44.3</td>
<td>1.25 / &lt;0.5</td>
<td></td>
<td>Tan grading to Gray CLAY</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>9.6</td>
<td>1.2 / 1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-28</td>
<td>0.0</td>
<td>1.1 / 0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of boring at 28 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**

---

**Location:**
- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

---

**ST = Shake Test; N Value = Soil Strength in Tons/Square Foot**
### BORING LOG

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY

<table>
<thead>
<tr>
<th>Logged By</th>
<th>Dates Drilled</th>
<th>Drilling Company</th>
<th>Soil Class. System</th>
<th>Field Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. Domago/R. Sickler</td>
<td>6/5/08; 6/10-11/08</td>
<td>Todd Company/Parratt Wolff</td>
<td>Burmister</td>
<td>PID (Readings in ppm)</td>
</tr>
</tbody>
</table>

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon

---

**SURFACE ELEV.:** NA  
**WATER DEPTH:** 16 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**TOTAL DEPTH:** 26 feet

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Dark Brown Medium to Coarse SAND and GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brick Layer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>1.4</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Medium to Coarse SAND, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>0.0</td>
<td>0.5 / 0.5</td>
<td>NA</td>
<td>FILL; Black Dark Brown Medium to Coarse SAND and GRAVEL</td>
<td>Moist, Very Soft, Cohesive</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>3.0</td>
<td>1.0 / 0.5</td>
<td>NA</td>
<td>FILL; Gray CLAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>55.7</td>
<td>1.0 / 0.75</td>
<td>NA</td>
<td>FILL; Brown CLAY, some medium Sand, little red brick fragments, trace Silt and coarse Gravel</td>
<td>Soft, Cohesive</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>86.6</td>
<td>0.5 / 0.5</td>
<td>NA</td>
<td>Brown CLAY and Medium SAND, trace Silt and coarse Sand</td>
<td>Soft</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>326</td>
<td>1.0 / 1.0</td>
<td>NA</td>
<td>Brown grading to Gray Fine to Medium SAND, some fine Gravel, trace Clay, Silt and coarse Gravel</td>
<td>Wet, Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>295</td>
<td>1.2 / 1.25</td>
<td>1.25</td>
<td>Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel; Lense of fine to coarse Sand at 20 - 20.5 ftbg</td>
<td>Backfilled with excavated material and drill cuttings</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>417</td>
<td>1.3 / 1.25</td>
<td>1.25</td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>511</td>
<td>1.2 / 1.5</td>
<td>1.5</td>
<td>Saturated, ST = Neg</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>484</td>
<td>1.5 / 1.5</td>
<td>1.5</td>
<td>Staining, ST = Neg</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>507</td>
<td>2.0 / 1.25</td>
<td>1.25</td>
<td>Some Staining, ST = Neg</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>241</td>
<td>1.0 / 1.0</td>
<td>1.0</td>
<td>Gray Medium SAND, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-26</td>
<td></td>
<td></td>
<td>241</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/5/08; Boring (4-26 ft) completed 6/10-11/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Location:**  
Northings/Latitude:  
Eastings/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**Symbol Key:**  

---

**Apparent Water Level**  
Lab Sample Location  

---

**p. 1 of 1**
**BORING LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

---

**Logged By:** J. Simms  
**Dates Drilled:** 6/19/08  
**Drilling Company:** Parratt Wolff

**Drilling Method:** Hand Auger/Hollow Stem Auger  
**Sampling Method:** Hand Auger/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

---

### BORING LOG

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>Moist</td>
<td>Abandoned with slurry grout to grade with tremie pipe</td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>No Recovery</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>NA</td>
<td>NR</td>
<td></td>
<td>Black Fine to medium SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>68.5</td>
<td>1.0 / 0.5</td>
<td></td>
<td>Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>57.3</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>40.1</td>
<td>1.2 / 0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>116</td>
<td>1.3 / 0.75</td>
<td></td>
<td>Sheen noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>89.4</td>
<td>1.7 / 0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>198</td>
<td>0.6 / 1.5</td>
<td></td>
<td>Sheen noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>228</td>
<td>1.2 / 0.75</td>
<td></td>
<td>Saturated, Sheen noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>239</td>
<td>1.3 / 0.5</td>
<td></td>
<td>Sheen noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:

**General Comments:** 
Bottom of boring at 22 feet, bedrock not encountered.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location  

---

**ID NO.:** TPSB-17  
**TOTAL DEPTH:** 22 feet

---

**SURFACE ELEV.:** NA  
**WATER DEPTH:** 4 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA
### BORING LOG

**ID NO.: TPSB-18**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

---

- **Logged By:** P. Domago / J. Simms  
- **Dates Drilled:** 6/11/08; 6/17/08  
- **Drilling Company:** Todd Company/Parratt Wolff

---

**SURFACE ELEV.:** NA  
**WATER DEPTH:** 7 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA  
**TOTAL DEPTH:** 14 feet

---

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.5</td>
<td>8.4</td>
<td>NA</td>
<td>Brown Fine SAND and SILT, some coarse Gravel</td>
<td>Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>0.5-2</td>
<td>2</td>
<td>19.9</td>
<td>NA</td>
<td>Brown Medium to Coarse SAND, some medium to coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>4</td>
<td>19.9</td>
<td>NA</td>
<td>Olive Brown Fine SAND and GRAVEL, little Silt, trace Clay</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>6</td>
<td>3.1</td>
<td>1.0 / 1.0</td>
<td>Black Fine SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>8</td>
<td>4.4</td>
<td>1.0 / 0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>10</td>
<td>3.6</td>
<td>1.0 / 0.25</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10-12</td>
<td>12</td>
<td>4.6</td>
<td>1.5 / 0.5</td>
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<td>12-14</td>
<td>14</td>
<td>12.3</td>
<td>NA/NA</td>
<td></td>
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---

**General Comments:**  
Bottom of boring at 14 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/11/08; Boring (4-12 ft) completed 6/17/08.  
**ST = Shake Test; N Value = Soil Strength in Tons/Square Foot**
# Boring Log

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.:** 06-02025

**Logged By:** P. Domago/R. Sickler  
**Dates Drilled:** 6/5/08; 6/11/08  
**Drilling Company:** Todd Company/Parratt Wolff

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.5-2</td>
<td>5.2</td>
<td>NA</td>
<td>Dark Brown Fine to Medium SAND and SILT, some coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>2-4</td>
<td>71.3</td>
<td>NA</td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>4-6</td>
<td>188</td>
<td>1.0 / 1.0</td>
<td>Brown CLAY, some medium Sand, trace fine to coarse Gravel and Silt</td>
<td>Moist, Cohesive, ST = Neg</td>
</tr>
<tr>
<td>6-8</td>
<td>6-8</td>
<td>138</td>
<td>1.3 / 2.0</td>
<td>Brown grading to Gray Medium SAND, some fine Gravel, trace Clay, Silt and fine Gravel</td>
<td>Loose, ST = Neg</td>
</tr>
<tr>
<td>8-10</td>
<td>8-10</td>
<td>64.6</td>
<td>1.0 / 1.0</td>
<td>Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel</td>
<td>Moist to Wet</td>
</tr>
<tr>
<td>10-12</td>
<td>10-12</td>
<td>64.7</td>
<td>1.0 / 1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>12-14</td>
<td>56.2</td>
<td>1.0 / 1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>14-16</td>
<td>179</td>
<td>0.8 / 1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>16-18</td>
<td>431</td>
<td>1.5 / 1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>18-20</td>
<td>498</td>
<td>1.5 / 1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>20-22</td>
<td>406</td>
<td>1.5 / 1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>22-24</td>
<td>295</td>
<td>2.0 / 1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>24-26</td>
<td>288</td>
<td>2.0 / 1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/5/08; Boring (4-26 ft) completed 6/11/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location

**Details:**  
Backfilled with excavated material and drill cuttings

**Total Depth:** 26 feet
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.:** 06-02025

**Logged By:** V Maresco/R. Sickler

**Dates Drilled:** 6/6/08; 6/11/08

**Drilling Company:** Todd Company/Parratt Wolff

**Surface Elevation:** NA

**Water Depth:** 18 feet

**Casing El.:** NA

**Borehole Dia.:** 7.25 inches

**Well Dia.:** NA

**Drilling Method:** Excavator/Hollow Stem Auger

**Sampling Method:** Excavator Bucket/Split Spoon

**Soil Class. System:** Burmister

**Field Screening:** PID (Readings in ppm)

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>164</td>
<td>NA</td>
<td>FILL: Black Ash, Bricks, Cinders, some Coal</td>
<td>Dry, ST = Neg</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2-4</td>
<td>58</td>
<td>NA</td>
<td>FILL: Brown SILT and SAND, some Ash and Cinders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>70.2</td>
<td>1.2 / 1.5</td>
<td>Brown CLAY, some medium Sand, trace to coarse Gravel and Silt</td>
<td>Moist, Cohesive</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>518</td>
<td>1.5 / 1.5</td>
<td>Brown grading to Gray Medium SAND, some fine Gravel, trace Clay, Silt and coarse Gravel</td>
<td>Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>488</td>
<td>1.3 / 1.25</td>
<td></td>
<td>Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>907</td>
<td>1.5 / 2.0</td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>659</td>
<td>1.5 / 1.0</td>
<td></td>
<td>Moist to Wet, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>1822</td>
<td>1.5 / 2.5</td>
<td>Gray Medium SAND and Fine GRAVEL, trace coarse Gravel and Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>2505</td>
<td>1.7 / 2.25</td>
<td>Wet, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>1924</td>
<td>1.8 / 2.75</td>
<td>Saturated, Moist, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>1903</td>
<td>1.8 / 2.25</td>
<td>Saturated, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>1226</td>
<td>1.5 / 2.0</td>
<td>Gray Fine to Coarse SAND, trace Silt</td>
<td>Black Staining, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>1039</td>
<td>1.8 / 2.25</td>
<td>Gray Medium SAND and Fine GRAVEL, trace coarse Gravel and Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of boring at 26 feet, bedrock not encountered.

**Test Pit (0-4 ft) completed 6/6/08; Boring (4-26 ft) completed 6/11/08.**

**ST = Shake Test; N Value = Soil Strength in Tons/Square Foot**

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**
# BORING LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>1.1</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Coarse GRAVEL</td>
<td></td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2-4</td>
<td>0.7</td>
<td>NA</td>
<td>NA</td>
<td>Brown Orange Medium SAND, little fine Gravel, trace coarse Gravel, Silt and Clay</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>8.1</td>
<td>1.5 / 3.0</td>
<td>NA</td>
<td>Brown Orange Medium SAND, little fine Gravel, Silt and Clay, trace coarse Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>7.8</td>
<td>1.3 / 2.5</td>
<td>NA</td>
<td>Brown Orange Medium SAND, little fine Gravel, Silt and Clay, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>6.1</td>
<td>2.0 / 2.75</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine GRAVEL, little Silt, trace coarse Gravel</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>9.9</td>
<td>1.7 / 2.0</td>
<td>NA</td>
<td>Gray Fine to Medium SAND, little fine Gravel, trace Silt</td>
<td>Saturated</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>29.8</td>
<td>0.8 / 1.75</td>
<td>NA</td>
<td>Brown Fine to Medium SAND and Fine GRAVEL, little Silt, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>13.9</td>
<td>1.2 / 2.5</td>
<td>NA</td>
<td>Gray Fine to Medium SAND, little fine Gravel, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>35.3</td>
<td>1.3 / 2.5</td>
<td>NA</td>
<td>Gray Fine to Medium SAND, little fine Gravel, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>48.0</td>
<td>0.8 / 3.25</td>
<td>NA</td>
<td>Gray Fine to Medium SAND, little fine Gravel, trace Silt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** P. Domago/R. Sickler  
**Dates Drilled:** 6/12/08; 6/13/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**Location:**  
**Northing/Latitude:**  
**Easting/Longitude:**  
**Horizontal Datum:**  
**Vertical Datum:**  

**General Comments:**  
Bottom of boring at 20 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/12/08; Boring (4-20 ft) completed 6/13/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
**Apparent Water Level**  
**Lab Sample Location**  

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**ID NO.:** TPSB-22  
**SURFACE ELEV.:** NA  
**TOTAL DEPTH:** 20 feet  
**WATER DEPTH:** 17 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.:** 06-02025

**Logged By:** P. Domago/R. Sickler/J. Simms

**Dates Drilled:** 6/9/08; 6/12/08; 7/18/08

**Drilling Company:** Todd Company/Parratt Wolff

**Drilling Method:** Excavator/Hollow Stem Auger

**Sampling Method:** Excavator Bucket/Split Spoon

**Soil Class. System:** Burmister

**Field Screening:** PID (Readings in ppm)

---

**DEPTH (feet)** | **SAMPLE LITHOLOGY** | **Comments** | **COMPLETION DETAILS**
---|---|---|---
0-0.5 | FILL; Brown Fine to Medium SAND |  |  |
0.5-2 | FILL; Black Coarse SAND and GRAVEL, some Slag | Moist, Sheen, ST = Neg |  |
2-4 | FILL; Brown CLAY, Ash, Brick fragments and Black Tar | Moist, Cohesive, Staining noted, ST = Neg |  |
4-6 | Organic Material (possible Sludge), trace Clay | Wet, Cohesive |  |
6-8 | Light Brown CLAY, little Silt, trace fine to coarse Sand and fine Gravel | Moist, ST = Neg |  |
8-10 | Light Brown grading to Gray Medium SAND, some fine Gravel, trace coarse Gravel, Clay and Silt | Dry, Loose, ST = Neg |  |
10-12 | Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel | Moist, Staining, ST = Neg |  |
12-14 | Gray Medium SAND and Fine GRAVEL, little coarse Gravel, trace Clay and Silt | Staining, Black SPH blebs noted on water from 20 - 26 ftbg, ST = Neg |  |
14-16 | Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel | Staining, Black SPH blebs noted on water from 20 - 26 ftbg, ST = Neg |  |
16-18 | Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel | Staining, Black SPH blebs noted on water from 20 - 26 ftbg, ST = Neg |  |
18-20 | Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel | Staining, Black SPH blebs noted on water from 20 - 26 ftbg, ST = Neg |  |
20-22 | Gray Medium SAND and Fine GRAVEL, trace Clay and Silt | ST = Neg |  |
22-24 | Gray Medium SAND and Fine GRAVEL, trace Clay and Silt | ST = Neg |  |
24-26 | Gray Medium SAND and Fine GRAVEL, trace Clay and Silt | ST = Neg |  |
26 |  |  |  |

---

**Location:**

- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**General Comments:**

- Bottom of boring at 26 feet, bedrock not encountered.
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**

**Note:**

- See attached Monitoring Well Design Plan for well construction details.
**TEST PIT LOG**

**ID NO.** TPSB-23A

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**JOB NO:** 06-02166

Logged By: Vin Maresco; L. Tuovila

Dates Drilled: 10/6/09; 10/29/09

Drilling Company: Cortland Pump & Equipment, Inc.; Burmister

Drilling Method: Bobcat 331 Excavator; Track-Mounted Geoprobe

Sampling Method: Excavator Bucket; 2" Diameter Macro-Core

Field Screening: PID (Readings in ppm)

---

**SAMPLE LITHOLOGY**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
</tr>
<tr>
<td>0.5-1</td>
<td>5.9</td>
<td>NA</td>
<td>NA</td>
<td>FILL, Black SAND and GRAVEL, trace Ash</td>
</tr>
<tr>
<td>1-2</td>
<td>1.8</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coal, some Ash and Cinders, trace Sand and Silt</td>
</tr>
<tr>
<td>2-3</td>
<td>2.2</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black, Red and Tan Ash and Cinders, Clinkers (maximum 4&quot; in diameter) and trace Raw Coal</td>
</tr>
<tr>
<td>3-4</td>
<td>2.2</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>1.8</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>3.9</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>2.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coarse SAND and Fine GRAVEL, some fine to medium Sand, trace medium to coarse Gravel and Brick Fragments</td>
</tr>
<tr>
<td>8-10</td>
<td>87.9</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black CLAY, some Silt and fine Sand, trace fine to medium Gravel, Tar-like Material and Brick Fragments</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**

- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**General Comments:**

Bottom of Test Pit at 10 feet. Bedrock was not encountered.

ppm = parts per million; bgs = below ground surface; T8 = Trench #8

**SHAKE TEST (ST) RESULT KEY**

- NA = Not Applicable
- N = Negative
- P = Positive

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

---

p. 1 of 1
**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>Gravel</td>
<td></td>
<td>Grade to 6' bgs was backfilled with an excavator on 10/6/09</td>
</tr>
<tr>
<td></td>
<td>0.5-1</td>
<td>1.2</td>
<td>NA</td>
<td>FILL; Brown Brick Fragments, Fine to Medium SAND and trace Ash</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>1.6</td>
<td>NA</td>
<td>FILL; Brown Brick Fragments, Fine to Medium SAND and little Ash</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3</td>
<td>1.8</td>
<td>NA</td>
<td>FILL; Brown and Brownish Red SAND, some Ash, Brick Fragments and Slag</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>2.3</td>
<td>NA</td>
<td>FILL; Brown SAND and GRAVEL, some Ash, Brick Fragments and Slag</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>1.4</td>
<td>NA</td>
<td>FILL; Brown SAND and GRAVEL, some Ash, Brick Fragments, Slag and Raw Coal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>1.0</td>
<td>NA</td>
<td>FILL; Tan SILT and CLAY, trace Sand and Gravel</td>
<td></td>
<td>Grade to 10' bgs was backfilled with collected soil boring material on 10/29/09</td>
</tr>
<tr>
<td></td>
<td>6-8</td>
<td>1.3</td>
<td>NA</td>
<td>FILL; Dark Brown SILT and CLAY, some fine to coarse Sand, trace fine Gravel</td>
<td>6' to 10' bgs was sampled with a Geoprobe on 10/29/09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>1.8</td>
<td>NA</td>
<td>FILL; Reddish Brown to Tan SILT, some fine Sand, trace fine to medium Gravel and Brick fragments</td>
<td>Moist</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**
Bottom of Test Pit at 10 feet. Bedrock was not encountered.
ppm = parts per million; bgs = below ground surface; T8= Trench #8

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Northing/Latitude:**
**Easting/Longitude:**
**Horizontal Datum:**
**Vertical Datum:**

---

Groundwater and Environmental Services, Inc.

Logged By: Vin Maresco; L. Tuovila  
Drilling Method: Bobcat 331 Excavator; Track-Mounted Geoprobe

Dates Drilled: 10/6/09; 10/29/09

Drilling Company: Cortland Pump & Equipment, Inc.;

Sampling Method: Excavator Bucket; 2" Diameter Macro-Core

Soil Class. System: Burmister

Field Screening: PID (Readings in ppm)
**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

Logged By: J. Siniscalchi; L. Tuovila  
Drilled By: J. Siniscalchi; L. Tuovila  
Dates Drilled: 10/6/09; 10/29/09  
Drilling Company: Cortland Pump & Equipment, Inc.; Burmister

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>Gravel</td>
<td></td>
<td>Grade to 6' bgs was backfilled with an excavator on 10/6/09</td>
</tr>
<tr>
<td></td>
<td>0.5-1</td>
<td>1</td>
<td>NA</td>
<td>FILL; Black Ash, Coal, some Slag</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>2</td>
<td>NA</td>
<td>FILL; Black Coal</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3</td>
<td>2</td>
<td>NA</td>
<td>FILL; Dark Brown Brick, some Ash, fine to coarse Sand, Coal and Gravel, little Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>10</td>
<td>NA</td>
<td>FILL; Dark Brown Fine to Coarse SAND, some Ash, Silt and Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>10</td>
<td>NA</td>
<td>FILL; Brown Fine SAND and SILT, some Ash and Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>10</td>
<td>NA</td>
<td>FILL; Brown fine SAND and SILT, Brick and Coal, some Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-8</td>
<td>3.8</td>
<td>NA</td>
<td>FILL; Dark Brown to Black SILT and CLAY, trace fine to coarse Sand and fine to medium Gravel</td>
<td>Moist</td>
<td>Grade to 10' bgs was backfilled with collected soil boring material on 10/29/09</td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>1.5</td>
<td>NA</td>
<td>FILL; Dark Brown to Black Fine to Medium SAND, some Silt, trace coarse Sand, fine Gravel and Brick Fragments</td>
<td>Wet</td>
<td>Perched water noted at approximately 7' bgs</td>
</tr>
</tbody>
</table>

**SURFACE ELEV.:** NA  | **TOTAL DEPTH:** 10 feet  
**WATER DEPTH:** NA  | **CASING EL.:** NA  
**BOREHOLE DIA.:** 2"  | **WELL DIA.:** NA

**Drilling Method:** Bobcat 331 Excavator; Track-Mounted Geoprobe  
**Sampling Method:** Excavator Bucket; 2" Diameter Macro-Core

**SHAKE TEST (ST) RESULT KEY**
- ppm = parts per million; bgs = below ground surface; T8= Trench #8
- Lab Sample Location

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:**  
Bottom of Test Pit at 10 feet. Bedrock was not encountered.

**Symbol Key:**  
- Apparent Water Level
- Lab Sample Location

p. 1 of 1
## TEST PIT LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166  

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.7</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black and Brown Coal, Ash and Slag</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>0.8</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Coarse SAND, little Silt, Brick and Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>4</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Dark Brown and Black Coarse GRAVEL and Slag, some fine to coarse Sand</td>
<td>Moist to Wet</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>7</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Fine to Coarse SAND, SILT, Ash and Wood</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>7</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black and Dark Brown SILT and CLAY, some fine to medium Sand, trace Sand, Brick Fragments and Wood Fragments</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>18.1</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Coarse SAND, some Silt, fine Gravel, trace Brick Fragments</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Grade to 6' bgs was backfilled with an excavator on 10/6/09</td>
<td>Grade to 10' bgs was backfilled with collected soil boring material on 10/29/09</td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of Test Pit at 10 feet. Bedrock was not encountered.  
ppm = parts per million; bgs = below ground surface; T8= Trench #8  
SHAKE TEST (ST) RESULT KEY  
NA = Not Applicable  
N = Negative  
P = Positive  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

**Logged By:** J. Siniscalchi; L. Tuovila  
**Dates Drilled:** 10/6/09; 10/29/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.; Burmister  
Drilling Method: Bobcat 331 Excavator; Track-Mounted Geoprobe  
Sampling Method: Excavator Bucket; 2" Diameter Macro-Core  
Soil Class. System: PID (Readings in ppm)  
Field Screening:  

**Surficial Geology:**  
Grass and Topsoil  
FILL; Black and Brown Coal, Ash and Slag  
FILL; Brown Fine to Coarse SAND, little Silt, Brick and Gravel  
FILL; Dark Brown and Black Coarse GRAVEL and Slag, some fine to coarse Sand  
FILL; Fine to Coarse SAND, SILT, Ash and Wood  
FILL; Wood, Brick and Railroad Tie Material  
FILL; Black and Dark Brown SILT and CLAY, some fine to medium Sand, trace Sand, Brick Fragments and Wood Fragments  
FILL; Black and Dark Brown SILT and CLAY, trace fine to medium Sand, Brick Fragments and Wood pieces  
FILL; Brown Fine to Coarse SAND, some Silt, fine Gravel, trace Brick Fragments
**Groundwater and Environmental Services, Inc.**

**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo Street, Olean, NY  
**JOB NO.:** 06-02166  
**Logged By:** J. Siniscalchi; L. Tuovila  
**Dates Drilled:** 10/6/09; 10/29/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.; Burnister

**WELL DIA.:** NA  
**SURFACE ELEV.:** NA  
**TOTAL DEPTH:** 10 feet  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 2"  
**WELL DIA.:** NA

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td></td>
<td>Grade to 6' bgs was backfilled with an excavator on 10/6/09</td>
</tr>
<tr>
<td></td>
<td>0.5-1</td>
<td>0.3</td>
<td>NA</td>
<td>Fill; Dark Brown Fine to Coarse SAND and GRAVEL, some tan Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>18</td>
<td>NA</td>
<td>Fill; Dark Brown Fine to Coarse SAND and GRAVEL, some tan Silt, trace coal (single layer)</td>
<td></td>
<td>Grade to 10' bgs was backfilled with collected soil boring material on 10/29/09</td>
</tr>
<tr>
<td></td>
<td>2-3</td>
<td>13</td>
<td>NA</td>
<td>Fill; Dark Brown Fine to Coarse SAND and GRAVEL, some Slag, Coal and tan Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>54</td>
<td>NA</td>
<td>Fill; Dark Brown and Gray Fine to Coarse SAND, SILT, GRAVEL and COBBLES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>44</td>
<td>NA</td>
<td>Fill; Brown Fine SAND and SILT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>6</td>
<td>NA</td>
<td>Dark Gray Fine SAND and SILT, trace medium to coarse Sand and fine Gravel</td>
<td>6' to 10' bgs was sampled with a Geoprobe on 10/29/09</td>
<td>Wet Perched water noted at approximately 6' bgs</td>
</tr>
<tr>
<td></td>
<td>6-8</td>
<td>8</td>
<td>NA</td>
<td>Brown SILT, some fine to medium Sand, trace coarse Sand and fine Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>1.5</td>
<td>NA</td>
<td>Dark Gray Fine SAND and SILT, trace medium to coarse Sand and fine Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td>FILL; Brown Fine SAND and SILT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of Test Pit at 10 feet. Bedrock was not encountered.  
ppm = parts per million; bgs = below ground surface; T8= Trench #8  
SHAKE TEST (ST) RESULT KEY  
NA = Not Applicable  
N = Negative  
P = Positive

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

p. 1 of 1
## Boring Log

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>10.5</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some coarse Gravel</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2-4</td>
<td>2.5</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, trace coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>0.7</td>
<td>1.0 / 22.5</td>
<td>NA</td>
<td>Brown Orange Medium SAND, little fine Gravel, trace Clay, Silt and coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>2.3</td>
<td>1.5 / 1.25</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some fine Gravel, little Clay and Silt, trace coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>5.1</td>
<td>1.3 / 1.75</td>
<td>NA</td>
<td>No Recovery</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>NA</td>
<td>NR</td>
<td>NA</td>
<td>Rock fragment lodged in tip of Spoon</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>55.6</td>
<td>2.0 / 3.75</td>
<td>Brown grading to Gray Medium SAND and Fine GRAVEL, trace Clay, Silt and coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>21.4</td>
<td>2.0 / 2.0</td>
<td>Moist, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>199</td>
<td>2.0 / 3.75</td>
<td>Wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>69.4</td>
<td>1.0 / 1.5</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>84.0</td>
<td>1.0 / &lt;0.5</td>
<td>Saturated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>231</td>
<td>1.1 / 1.0</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>928</td>
<td>1.5 / 1.0</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td>Gray Fine SAND, trace medium Sand and Silt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/12/08; Boring (4-26 ft) completed 6/13/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

**ID NO.:** TPSB-24  
**TOTAL DEPTH:** 26 feet  
**SURFACE ELEV.:** NA  
**WATER DEPTH:** 18 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA

Logged By: P. Domago/R. Sickler  
Dates Drilled: 6/12/08; 6/13/08  
Drilling Company: Todd Company/Parratt Wolff  
Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)
## Boring Log

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Station No.: 06-02025**  
**Logged By:** P. Domago/R. Sickler  
**Dates Drilled:** 6/9/08; 6/12/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

### Details

- **Surf Elevation:** NA  
- **Total Depth:** 26 feet  
- **Water Depth:** 18 feet  
- **Casing El.:** NA  
- **Borehole Dia.:** 7.25 inches  
- **Well Dia.:** NA

### Sample Lithology

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>Brown Fine SAND and GRAVEL</td>
<td>Moist, ST = Neg</td>
</tr>
<tr>
<td>0.5-2</td>
<td>10.8</td>
<td>NA</td>
<td>Dark Brown Yellow Coarse SAND and GRAVEL</td>
<td>Dry, Loose</td>
</tr>
<tr>
<td>2-4</td>
<td>7.8</td>
<td>NA</td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>3.5</td>
<td>1.8 / 1.25</td>
<td>Light Brown Medium SAND, little fine Gravel, trace coarse Gravel and Silt</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>5.4</td>
<td>1.5 / 1.0</td>
<td>Light Brown Medium SAND, little fine Gravel and Clay, trace coarse Gravel and Silt</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>7.3</td>
<td>2.0 / 1.25</td>
<td>Gray Medium SAND, little fine Gravel and Clay, trace coarse Gravel and Silt</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>23.9</td>
<td>1.0 / 1.25</td>
<td>Gray Medium SAND and Fine GRAVEL, trace coarse Gravel and Silt</td>
<td>Moist, ST = Neg</td>
</tr>
<tr>
<td>12-14</td>
<td>21.9</td>
<td>2.0 / &gt;4.5</td>
<td>Gray Medium SAND and Fine GRAVEL, little Silt, trace coarse Gravel</td>
<td>Saturated, ST = Neg</td>
</tr>
<tr>
<td>14-16</td>
<td>53.8</td>
<td>1.3 / 2.5</td>
<td>Gray Medium SAND and Fine GRAVEL, trace medium to coarse Sand and Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>16-18</td>
<td>1030</td>
<td>1.5 / &gt;4.5</td>
<td>Gray Medium SAND and Fine GRAVEL, little Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>18-20</td>
<td>1438</td>
<td>1.5 / 3.25</td>
<td>Gray Fine GRAVEL, trace medium to coarse Sand and Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>20-22</td>
<td>2477</td>
<td>1.5 / &gt;4.5</td>
<td>Gray Medium SAND and Fine GRAVEL, trace coarse Gravel</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>22-24</td>
<td>646</td>
<td>1.8 / 1.75</td>
<td>Gray Fine to Coarse SAND and Fine GRAVEL, trace Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>24-26</td>
<td>445</td>
<td>1.5 / 0.75</td>
<td>Gray Medium SAND and Fine GRAVEL, trace coarse Gravel and Silt</td>
<td></td>
</tr>
</tbody>
</table>

### General Comments

- Bottom of boring at 26 feet, bedrock not encountered.
- Test Pit (0-4 ft) completed 6/9/08; Boring (4-26 ft) completed 6/12/08.
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

### Symbol Key
- Apparent Water Level
- Lab Sample Location

---

**Location:**  
Northings/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/9/08; Boring (4-26 ft) completed 6/12/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot
**TEST PIT LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago  
Dates Drilled: 6/4/08  
Drilling Company: Todd Company  
Drilling Method: Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burnister  
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Brown Fine to Medium SAND, some Coarse Gravel</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0-2</td>
<td>NA</td>
<td>NA / NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Concrete Slab</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 20 inches, concrete encountered. Test Pit abandoned.

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location

**ID NO.:** TPSB-26  
**TOTAL DEPTH:** 20 inches  
**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA
## BORING LOG

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  
**Logged By:** P. Domago/J. Simms  
**Dates Drilled:** 6/4/08; 6/16/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen Interval (Feet)</th>
<th>Field Screen Recovery</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>2.1</td>
<td>NA</td>
<td></td>
<td>FILL; Brown Fine to Medium SAND, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>NA</td>
<td></td>
<td></td>
<td>FILL; Black Medium to Coarse SAND, some Coal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>3.2</td>
<td>NA</td>
<td></td>
<td>Orange Brown SILT and CLAY, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>1.4</td>
<td>1.25 / 2.0</td>
<td></td>
<td>Orange Brown Fine SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>1.0</td>
<td>1.5 / 0.5</td>
<td></td>
<td>Moist</td>
<td></td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>8-10</td>
<td>1.9</td>
<td>1.5 / 1.25</td>
<td></td>
<td>Orange Brown Fine SAND and GRAVEL, some Silt, trace Clay</td>
<td>Saturated (perched)</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>15.2</td>
<td>1.5 / 1.25</td>
<td></td>
<td>Gray Black Fine SAND and GRAVEL, some Silt, trace Clay</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>88.7</td>
<td>1.25 / 1.0</td>
<td></td>
<td>Gray Black Fine to medium SAND and GRAVEL</td>
<td>Sheen, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>385</td>
<td>1.25 / 3.0</td>
<td></td>
<td>Gray Black Fine to medium SAND and GRAVEL</td>
<td>Sheen, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>352</td>
<td>1.0 / 1.25</td>
<td></td>
<td>Gray Black medium SAND and GRAVEL, some Fine Sand, trace Silt</td>
<td>Saturated, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>330</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td>Gray Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>332</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td>Gray Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>232</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td>Gray Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>1124</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td>Gray Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/4/08; Boring (4-26 ft) completed 6/16/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot  

**Symbol Key:**  
- **Apparent Water Level**  
- **Lab Sample Location**

**Locations:**  
- **Groundwater and Environmental Services, Inc.**

**Page 1 of 1**
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO:** 06-02166

Logged By: J. Siniscalchi  
Dates Drilled: 10/6/09  
Drilling Company: Cortland Pump & Equipment, Inc.

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Topsoil and Gravel</td>
<td>Dry</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coal and Ash, some Slag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coal and Ash, some Silt and fine to medium Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>Black Fine to Coarse SAND, some Silt and Ash</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>Orange and Brown Fine to Coarse SAND, some Silt and Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Orange and Brown Fine to Coarse SAND and GRAVEL, some Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of Test Pit at 6 feet. Bedrock was not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location
**Groundwater and Environmental Services, Inc.**

**TEST PIT LOG**

**ID NO.:** TPSB-26C

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**JOB NO.:** 06-02166

**Logged By:** J. Siniscalchi

**Dates Drilled:** 10/6/09

**Drilling Company:** Cortland Pump & Equipment, Inc.

**Drilling Method:** Bobcat 331 Track-Mounted Excavator

**Sampling Method:** Excavator Bucket

**Soil Class. System:** Burmister

**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Topsoil and Gravel</td>
<td>Dry</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coal and Ash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Coal and Ash, some Slag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>Brown and Orange Silt and Fine SAND, little Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>Orange and Brown Fine to Medium SAND and SILT, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>Orange and Brown Fine to Coarse SAND and SILT, some Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**

Bottom of Test Pit at 6 feet. Bedrock was not encountered.

ppm = parts per million; bgs = below ground surface; T8= Trench #8

**SHAKE TEST (ST) RESULT KEY**

NA = Not Applicable

N = Negative

P = Positive

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

---

**Location:**

Northing/Latitude: NA

Easting/Longitude: NA

Horizontal Datum: NA

Vertical Datum: NA
## TEST PIT LOG

**Project:** Former Vacuum Oil Refinery  
**Address:** 1406 Buffalo St., Olean, NY  
**Job No.:** 06-02166  
**Logged By:** R. Sickler  
**Dates Drilled:** 10/7/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-0.5</td>
<td>5.7</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Loose, Dry</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.5-1</td>
<td>854</td>
<td>N</td>
<td>FILL; Black Fine SAND and SILT, little Ash and Cinders</td>
<td>Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>2-3</td>
<td>128</td>
<td>N</td>
<td>Brown Fine to Medium SAND and SILT, trace coarse Sand and fine to coarse Gravel</td>
<td>Sheen Observed in ST Bottle</td>
<td>Moist, Loose, Sheen Observed in ST Bottle</td>
</tr>
<tr>
<td>3-4</td>
<td>3-4</td>
<td>146</td>
<td>N</td>
<td>FILL; Black Fine SAND and SILT, little Ash and Cinders</td>
<td>Sheen Observed in ST Bottle</td>
<td>Slightly Moist, Loose, Sheen Observed in ST Bottle</td>
</tr>
<tr>
<td>4</td>
<td>4-5</td>
<td>123</td>
<td>N</td>
<td>FILL; Black Fine SAND and SILT, little Ash and Cinders</td>
<td>Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>5-6</td>
<td>123</td>
<td>N</td>
<td>Brown Fine to Medium SAND and SILT, trace coarse Sand and fine to coarse Gravel</td>
<td>Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of Test Pit at 6 feet. Bedrock was not encountered.  

**Symbol Key:**
- Apparent Water Level  
- Lab Sample Location

**Location:**
- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**Surficial Geology:**
- Groundwater and Environmental Services, Inc.
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  
**Logged By:** P. Domago/J. Simms  
**Dates Drilled:** 6/4/08; 6/17/08  
**Drilling Company:** Todd Company/Parratt Wolff

<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Field Screen Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>3.3</td>
<td>Brown Fine to Medium SAND and SILT, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>2.9</td>
<td>Dark Brown Fine to Medium SAND and Coarse GRAVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>NA NR</td>
<td>No Recovery</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>1.2 0.75 / 2.5</td>
<td>Brown Fine SAND and GRAVEL, little Silt</td>
<td>Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>8-10</td>
<td>2.1 1.0 / 0.5</td>
<td>Red Brown Fine to Medium SAND and GRAVEL, some Silt</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>1.2 1.5 / 1.5</td>
<td>Brown Fine SAND and GRAVEL, some Silt and Clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>1.0 1.5 / 2.0</td>
<td>Brown Fine SAND and GRAVEL, little Silt, trace Clay</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>2.9 1.75 / 3.0</td>
<td>Brown Fine to Medium SAND and GRAVEL, trace Silt</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>3.4 1.0 / 1.0</td>
<td>Gray Fine to Medium SAND and GRAVEL, trace Silt</td>
<td>Saturated</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>18.4 1.0 / &lt;0.5</td>
<td>Gray Brown Medium SAND, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>64.1 1.5 / &lt;0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>44.9 1.75 / &lt;0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>64.5 1.5 / &lt;0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/4/08; Boring (4-26 ft) completed 6/17/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Location:**  
North/Rad/Latitude:  
East/Long/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

**Backfilled with excavated material and drill cuttings**
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

**Logged By:** R. Sickler  
**Dates Drilled:** 10/07/09  
**Drilling Company:** Cortland Pump & Equipment, Inc.

**Drilling Method:** Bobcat 331 Track-Mounted Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass and Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td></td>
<td></td>
<td></td>
<td>Light Brown SILT, trace fine Gravel</td>
<td>Loose, Dry</td>
<td></td>
</tr>
<tr>
<td>.5-1</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Backfilled with excavated materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Loose, Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Brown Fine to Medium SAND, some fine to coarse Gravel and Silt, trace Clay and Organic Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of Test Pit at 4 feet. Bedrock was not encountered.

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location  
- ppb = parts per billion; bgs = below ground surface; T8 = Trench #8

**SHAKE TEST (ST) RESULT KEY**  
NA = Not Applicable  
N = Negative  
P = Positive
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago/J. Simms  
Dates Drilled: 6/10/08; 6/17/08  
Drilling Company: Todd Company/Parratt Wolff

**SURFACE ELEV.:** NA  
**WATER DEPTH:** 19 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA

**Logged By:** P. Domago/J. Simms  
**Dates Drilled:** 6/10/08; 6/17/08  
**Drilling Company:** Todd Company/Parratt Wolff

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>5.2</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Black Fine SAND and GRAVEL</td>
<td>Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2-4</td>
<td>3.5</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Coarse SAND, some coarse Gravel and Cinders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>6.4</td>
<td>0.5 / 0.5</td>
<td>NA</td>
<td>Gray CLAY, some coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>11.1</td>
<td>1.0 / 0.5</td>
<td>NA</td>
<td>Black Fine to Medium SAND and GRAVEL, some Silt</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>9.4</td>
<td>0.75 / &lt;0.5</td>
<td>NA</td>
<td>Olive Black Fine to medium SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>13.0</td>
<td>1.0 / &lt;0.5</td>
<td>NA</td>
<td>No Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>NA</td>
<td>NR</td>
<td>NR</td>
<td>No Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL</td>
<td>Saturated</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>63.4</td>
<td>1.0 / 2.5</td>
<td>NR</td>
<td>No Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>236</td>
<td>1.0 / 1.5</td>
<td>NR</td>
<td>Gray Medium to Coarse SAND, little Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>256</td>
<td>1.5 / 0.5</td>
<td>NR</td>
<td>Gray Medium to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>277</td>
<td>1.5 / &lt;0.5</td>
<td>NR</td>
<td>Gray Medium to Coarse SAND and GRAVEL</td>
<td>ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
Northings/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:**
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/10/08; Boring (4-26 ft) completed 6/17/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**

- **Apparent Water Level**  
- **Lab Sample Location**
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.: 06-02025**

Logged By: P. Domago/J. Simms  
Dates Drilled: 6/4/08; 6/17/08  
Drilling Company: Todd Company/Parratt Wolff

**ID NO.: TPSB-29**  
**SURFACE ELEV.: NA**  
**WATER DEPTH:** 21.4 feet  
**CASING EL.: NA**  
**BOREHOLE DIA.: 7.25 inches**  
**WELL DIA.: NA**

---

**SAMPLE LITHOLOGY**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>4.9</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, some coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>1.9</td>
<td>NA</td>
<td>NA</td>
<td>Black Medium to Coarse SAND, some coarse Gravel</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>1.7</td>
<td>NA</td>
<td>NA</td>
<td>Black Medium to Coarse SAND</td>
<td>Moist</td>
</tr>
<tr>
<td>4-6</td>
<td>5.0</td>
<td>1.0 / 1.0</td>
<td>NA</td>
<td>Black Fine to Medium SAND</td>
<td>Moist</td>
</tr>
<tr>
<td>6-8</td>
<td>0.0</td>
<td>0.5 / &lt;0.5</td>
<td>NA</td>
<td>Brown CLAY</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>0.0</td>
<td>0.5 / &lt;0.5</td>
<td>NA</td>
<td>Brown Fine SAND and GRAVEL, some Silt and Clay</td>
<td>Dry</td>
</tr>
<tr>
<td>10-12</td>
<td>0.0</td>
<td>1.0 / 1.0</td>
<td>NA</td>
<td>Gray Fine to Medium SAND and GRAVEL, some Silt</td>
<td>Wet, ST = Neg</td>
</tr>
<tr>
<td>12-14</td>
<td>14.3</td>
<td>1.0 / 1.0</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td>Saturated, ST = Neg</td>
</tr>
<tr>
<td>14-16</td>
<td>7.0</td>
<td>2.0 / 4.0</td>
<td>4.1</td>
<td>Olive Gray Fine SAND and GRAVEL, little Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>16-18</td>
<td>5.1</td>
<td>1.5 / 1.5</td>
<td>4.1</td>
<td>Gray Fine to Medium SAND and GRAVEL, some Silt</td>
<td>Wet, ST = Neg</td>
</tr>
<tr>
<td>18-20</td>
<td>414</td>
<td>1.5 / 0.5</td>
<td>4.1</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td>Saturated, ST = Neg</td>
</tr>
<tr>
<td>20-22</td>
<td>594</td>
<td>2.0 / &lt;0.5</td>
<td>4.1</td>
<td>Olive Gray Fine SAND and GRAVEL, little Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>22-24</td>
<td>789</td>
<td>2.0 / 1.0</td>
<td>4.1</td>
<td>Gray Fine to Medium SAND and GRAVEL, some Silt</td>
<td>Wet, ST = Neg</td>
</tr>
<tr>
<td>24-26</td>
<td>1170</td>
<td>2.0 / 0.5</td>
<td>4.1</td>
<td>Gray Fine to Coarse SAND and GRAVEL, some Silt</td>
<td>Saturated, ST = Neg</td>
</tr>
</tbody>
</table>

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/4/08; Boring (4-26 ft) completed 6/17/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

Location:
  - Northing/Latitude:
  - Easting/Longitude:
  - Horizontal Datum:
  - Vertical Datum:

**General Comments:**

- Backfilled with excavated material and drill cuttings
**BOARING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago/R. Sickler  
Dates Drilled: 6/3/08; 6/4/08  
Drilling Company: Todd Company/Parratt Wolff

---

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>3.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>38.1</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>191</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>630</td>
<td>1.0 / 0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>576</td>
<td>1.5 / 0.75</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>556</td>
<td>0.8 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>3432</td>
<td>1.0 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>813</td>
<td>1.0 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>787</td>
<td>1.2 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>1697</td>
<td>1.0 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>849</td>
<td>1.3 / 0.75</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>1054</td>
<td>2.0 / 0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>575</td>
<td>1.2 / &lt;0.5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>749</td>
<td>1.0 / 1.25</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

- Backfilled with excavated material and drill cuttings
- Wet, Very Soft, Staining, ST = Neg
- Moist, Staining, ST = Neg
- ST = Neg
- Wet, Loose, Sheen, ST = Neg
- Sheen, ST = Neg
- ST = Neg
- ST = Neg
- Saturated, Sheen, ST = Neg
- Moist, Semi-cohesive, 4 inch Medium SAND layer, ST = Neg
- Wet, ST = Neg

---

**DATE**

Test Pit (0-4 ft) completed 6/3/08; Boring (4-26 ft) completed 6/4/08.

**ST =** Shake Test; **N Value =** Soil Strength in Tons/Square Foot

---

**Location:**

- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:

---

**General Comments:**

Bottom of boring at 26 feet, bedrock not encountered.

---

**Symbol Key:**

<table>
<thead>
<tr>
<th>Apparent Water Level</th>
<th>Lab Sample Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>p. 1 of 1</td>
<td></td>
</tr>
</tbody>
</table>
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.: TPSB-31**

<table>
<thead>
<tr>
<th>PROJECT: Former Vacuum Oil Refinery</th>
<th>SURFACE ELEV.: NA</th>
<th>TOTAL DEPTH: 3.0 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS: 1406 Buffalo St., Olean, NY</td>
<td>WATER DEPTH NA</td>
<td>CASING EL.: NA</td>
</tr>
<tr>
<td>STATION NO: 06-02025</td>
<td>BOREHOLE DIA.: NA</td>
<td>WELL DIA.: NA</td>
</tr>
</tbody>
</table>

Logged By: P. Domago
Dates Drilled: 6/4/08
Drilling Company: Todd Company

Drilling Method: Excavator
Sampling Method: Excavator Bucket
Soil Class. System: Burmister
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>FILL; Brown Fine to Medium SAND and SILT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>FILL; Brick, Concrete, some fine to medium Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Backfilled with excavated material</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**

- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**

- Pipe encountered at 3 ftbg.
- Excavation abandoned.

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

### Diagram

- Test pit log with sample intervals and lithology descriptions.

---

**Page 1 of 1**
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO:** 06-02025

Logged By: P. Domago/R. Sickler  
Dates Drilled: 6/4/08; 6/6/08  
Drilling Company: Todd Company/Parratt Wolff

Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>21.1</td>
<td>NA</td>
<td></td>
<td>FILL; Brown Medium to Coarse SAND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>82</td>
<td>NA</td>
<td></td>
<td>FILL; Brick, Concrete, Fine to Medium SAND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>43.9</td>
<td>0.5 / &lt;0.5</td>
<td></td>
<td>FILL; Black Medium to Coarse SAND, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>8.1</td>
<td>2.0 / 1.75</td>
<td></td>
<td>FILL; Brown CLAY, some Silt, trace fine to coarse Sand and Brick fragments</td>
<td>Wet, Cohesive, Very Soft</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>50.4</td>
<td>1.8 / 2.0</td>
<td></td>
<td>Brown CLAY, some Silt, trace fine to coarse Sand and fine Gravel</td>
<td>Moist, Soft</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>147</td>
<td>0.8 / 0.75</td>
<td></td>
<td>Brown Medium SAND, some fine Gravel, little Silt, trace Clay and coarse Gravel</td>
<td>Wet, Loose</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>339</td>
<td>1.0 / 0.5</td>
<td></td>
<td>Brown grading to Gray Medium SAND and Fine GRAVEL, little coarse Gravel, trace Clay and Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>221</td>
<td>1.2 / 2.0</td>
<td></td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>146</td>
<td>1.5 / 1.5</td>
<td></td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>298</td>
<td>0.8 / 1.0</td>
<td></td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>415</td>
<td>2.0 / &lt;0.5</td>
<td></td>
<td>Gray CLAY, some medium Sand, little coarse Sand, trace Silt and coarse Gravel</td>
<td>SPH Blebs noted on water, Moist, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>322</td>
<td>2.0 / 4.0</td>
<td></td>
<td>Gray Medium SAND and Fine GRAVEL, trace Clay and Silt</td>
<td>Moist, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>1057</td>
<td>1.5 / 2.0</td>
<td></td>
<td></td>
<td>Wet, Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>26-0</td>
<td>400</td>
<td>2.0 / 1.5</td>
<td></td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Location:** Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:** Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/4/08; Boring (4-26 ft) completed 6/6/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

---

**ID NO:** TPSB-31B  
**SURFACE ELEV:** NA  
**TOTAL DEPTH:** 26 feet  
**WATER DEPTH:** 17 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166

Logged By: R. Sickler  
Dates Drilled: 10/7/09  
Drilling Company: Cortland Pump & Equipment, Inc.

**Drilling Method:** Bobcat 331 Track-Mounted Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA  
**TOTAL DEPTH:** 6 feet

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Screen</th>
<th>Field Shake</th>
<th>Shake Test</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>1.4</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>2.6</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>31.4</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>41.3</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>106</td>
<td>N</td>
<td></td>
<td></td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>5-6</td>
<td>140</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**

- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum:
- Vertical Datum:

**General Comments:**
Bottom of Test Pit at 6 feet. Bedrock was not encountered.

**Shake Test (ST) Result Key**
- ppm = parts per million; bgs = below ground surface; T8 = Trench #8
- NA = Not Applicable
- N = Negative
- P = Positive

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Grass and Topsoil**
- Moist, Loose

**FILL: Brown Fine to Coarse SAND and SILT, some fine Gravel, trace coarse Gravel, Cobbles and Silt**

**FILL: Brown Fine to Coarse SAND and SILT, some fine Gravel, little Ash and Cinders, trace coarse Gravel, Cobbles and Silt**

**FILL: Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Brown Fine to Coarse SAND and SILT, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**

**FILL; Dark Gray SILT and Fine to Coarse SAND, some fine to coarse Gravel, trace Ash, Cinders and Brick Fragments**
# Test Pit Log

**ID NO.: TPSB-31D**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.: 06-02166**

Logged By: R. Sickler  
Dates Drilled: 10/7/09  
Drilling Company: Cortland Pump & Equipment, Inc.

Drilling Method: Bobcat 331 Track-Mounted Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

## Sample Lithology

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Screen</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>Grass and Topsoil</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>0</td>
<td>0</td>
<td>FILL; Brown SILT and Fine SAND, some fine to coarse Gravel, little Black Ash and Cinders, trace Clay</td>
<td>Moist, Loose</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>0.5-1</td>
<td>1.6</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black and Gray Ash and Cinders, little Silt</td>
<td>Slightly Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>1.7</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Fine to Medium SAND, some Silt, trace Ash, Cinders, Brick Fragments and Wood Fragments</td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>2.4</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Fine SAND (possible Coal Dust), trace fine Gravel and Brick Fragments</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>51.1</td>
<td>NA</td>
<td>NA</td>
<td>Dark Gray SILT, trace fine Gravel</td>
<td>Wet, Soft, Sticky, Cohesive, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>Dark Gray Fine GRAVEL, some fine to coarse Sand and Silt, little coarse Gravel</td>
<td>Wet, Loose, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>187</td>
<td>N</td>
<td>N</td>
<td>Dark Gray Fine GRAVEL, some fine to coarse Sand and Silt, little coarse Gravel</td>
<td>Wet, Loose, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>524</td>
<td>N</td>
<td>Dark Gray Fine GRAVEL, some fine to coarse Sand and Silt, little coarse Gravel</td>
<td>Wet, Loose, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:

**General Comments:**  
Bottom of Test Pit at 6 feet. Bedrock was not encountered.

**Symbol Key:**  
ppm = parts per million; bgs = below ground surface; T8 = Trench #8

**SHAKE TEST (ST) RESULT KEY**  
NA = Not Applicable  
N = Negative  
P = Positive  
Apparent Water Level  
Lab Sample Location
**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**JOB NO.:** 06-02166  

Logged By: R. Sickler  
Dates Drilled: 10/7/09  
Drilling Company: Cortland Pump & Equipment, Inc.

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Grass and Topsoil</td>
<td>Slightly Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>1.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND and SILT, some fine Gravel, trace Clay</td>
<td>Dry, Loose</td>
<td>Backfilled with excavated materials</td>
</tr>
<tr>
<td>1-2</td>
<td>4.1</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Black Ash and Cinders, little Raw Coal Fragments, trace fine to coarse Sand</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>108</td>
<td>N</td>
<td></td>
<td>FILL; Gray Fine to Coarse GRAVEL, little fine to coarse Sand and Silt, trace Cobbles and Clay</td>
<td>Wet, Loose, Sheen Observed in ST Bottle and around Coarse Grains</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>124</td>
<td>N</td>
<td></td>
<td></td>
<td>Wet, Semi-cohesive, Sheen Observed in ST Bottle</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>113</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>102</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of Test Pit at 6 feet. Bedrock was not encountered.

**Symbol Key:**  
- Apparent Water Level  
- Lab Sample Location  

ppm = parts per million; bgs = below ground surface; T8 = Trench #8  

SHAKE TEST (ST) RESULT KEY  
- NA = Not Applicable  
- N = Negative  
- P = Positive
PROJECT: Former Vacuum Oil Refinery
ADDRESS: 1406 Buffalo St., Olean, NY
JOB NO. 06-02166

Logged By: R. Sickler
Dates Drilled: 10/7/09
Drilling Company: Cortland Pump & Equipment, Inc.

Logged By: R. Sickler
Dates Drilled: 10/7/09
Drilling Company: Cortland Pump & Equipment, Inc.

Drilling Method: Bobcat 331 Track-Mounted Excavator
Sampling Method: Excavator Bucket
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Field</th>
<th>Field Screen</th>
<th>Shake Test</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Grass and Topsoil</td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>0-0.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>FILL: Brown Fine to Coarse SAND and Coarse GRAVEL, some Silt, trace fine Gravel and Clay</td>
<td>Backfilled with excavated materials</td>
<td></td>
</tr>
<tr>
<td>0.5-1</td>
<td>0.7</td>
<td></td>
<td></td>
<td>FILL: Black Ash and Cinder, some Brick Fragments, trace fine to medium Sand</td>
<td>Moist, Loose</td>
<td>Staining Observed at 1.5 feet below ground surface</td>
</tr>
<tr>
<td>1-2</td>
<td>28.2</td>
<td></td>
<td></td>
<td></td>
<td>Moist, Loose</td>
<td>Sheen Observed in ST bottle</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>129</td>
<td></td>
<td></td>
<td></td>
<td>Dry, Loose</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>215</td>
<td></td>
<td></td>
<td></td>
<td>Wet, Cohesive, Sheen and Black SPH Blebs</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>256</td>
<td></td>
<td></td>
<td></td>
<td>Moist, Loose</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>191</td>
<td></td>
<td></td>
<td></td>
<td>Moist, Loose</td>
<td></td>
</tr>
</tbody>
</table>

Location:
Northing/Latitude: Bottom of Test Pit at 6 feet. Bedrock was not encountered.
Easting/Longitude: ppm = parts per million; bgs = below ground surface; T8 = Trench #8
Horizontal Datum: SHAKES TEST (ST) RESULT KEY
Vertical Datum: NA = Not Applicable
N = Negative
P = Positive

Symbol Key:
Apparent Water Level
Lab Sample Location

p. 1 of 1
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago/R. Sickler  
Dates Drilled: 6/3/08; 6/4 & 5/08  
Drilling Company: Todd Company/Parratt Wolff

Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

**SURFACE ELEV.:** NA  
**TOTAL DEPTH:** 26 feet  
**WATER DEPTH:** 17 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA

---

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>1.3</td>
<td>NA</td>
<td>NA</td>
<td>Backfilled with excavated material and drill cuttings</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>4.0</td>
<td>NA</td>
<td>NA</td>
<td>Dry, Semi-cohesive</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>2.8</td>
<td>NA</td>
<td>NA</td>
<td>Loose</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>7.0</td>
<td>1.0 / 2.0</td>
<td>NA</td>
<td>Slightly Moist, Cohesive</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>7.1</td>
<td>0.8 / &lt;0.5</td>
<td>NA</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>8.3</td>
<td>1.5 / 1.0</td>
<td>NA</td>
<td>Wet, Sheen, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>8.8</td>
<td>1.2 / 1.5</td>
<td>NA</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>12.5</td>
<td>0.7 / 0.5</td>
<td>NA</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>99.3</td>
<td>1.5 / 2.75</td>
<td>NA</td>
<td>Wet, Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>261</td>
<td>1.5 / 1.0</td>
<td>NA</td>
<td>Slightly Moist to Moist, Cohesive</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>476</td>
<td>1.0 / 3.0</td>
<td>NA</td>
<td>Wet, Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>430</td>
<td>2.0 / 1.0</td>
<td>NA</td>
<td>Slightly Moist to Moist, Cohesive</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>164</td>
<td>0.8 / 1.0</td>
<td>NA</td>
<td>Moist, Soft, Cohesive, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>318</td>
<td>2.0 / 0.5</td>
<td>NA</td>
<td>Neg</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>56.0</td>
<td>2.0 / 0.5</td>
<td>NA</td>
<td>Neg</td>
<td></td>
</tr>
</tbody>
</table>

---

**Location:**  
Northing/Longitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/3/08; Boring (4-26 ft) completed 6/4-5/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location

---

p. 1 of 2
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025  
**SURFACE ELEV.:** NA  
**WATER DEPTH:** 18 feet  
**TOTAL DEPTH:** 26 feet  
**CASING EL.:** NA  
**BOREHOLE DIA.:** 7.25 inches  
**WELL DIA.:** NA

Logged By: P. Domago/R. Sickler  
Dates Drilled: 6/3/08; 6/5/08  
Drilling Company: Todd Company/Parratt Wolff  
Drilling Method: Excavator/Hollow Stem Auger  
Sampling Method: Excavator Bucket/Split Spoon  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>7.8</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND and Coarse GRAVEL</td>
<td>Moist</td>
<td>Backfilled with excavated material and drill cuttings</td>
</tr>
<tr>
<td>2-4</td>
<td>20.6</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Gray Black SAND and SILT, some Brick, trace coarse Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>0.1</td>
<td>0.5 / &lt;0.50</td>
<td>NA</td>
<td>Light Brown CLAY, some Silt, trace very fine Sand</td>
<td>Wet, Very Soft, Cohesive</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>0.3</td>
<td>1.2 / 2.0</td>
<td>NA</td>
<td>Light Brown CLAY, some Silt, little fine Gravel, trace coarse Gravel</td>
<td>Moist, Soft, Cohesive</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>NA</td>
<td>NR</td>
<td>NA</td>
<td>No Recovery</td>
<td>No Recovery; rock lodged in spoon tip</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>0.5</td>
<td>1.2 / 1.5</td>
<td>NA</td>
<td>Brown grading to Gray Medium SAND and Fine GRAVEL, little Clay and coarse Sand, trace coarse Gravel and Silt</td>
<td>Semi-cohesive</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>154</td>
<td>1.0 / 1.5</td>
<td>NA</td>
<td>Wet in Spoon at 14 ftbg, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>211</td>
<td>1.0 / 1.25</td>
<td>NA</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>493</td>
<td>1.3 / 1.5</td>
<td>NA</td>
<td>Wet, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>53.9</td>
<td>0.8 / 2.75</td>
<td>NA</td>
<td>Saturated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>125</td>
<td>1.0 / 2.5</td>
<td>NA</td>
<td>Sheen, ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>96.3</td>
<td>0.8 / 1.25</td>
<td>NA</td>
<td>Sheen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>110</td>
<td>0.8 / 1.75</td>
<td>NA</td>
<td>Gray Medium SAND, some coarse Sand, trace Silt and fine Gravel</td>
<td>Loose, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 26 feet, bedrock not encountered.  
Test Pit (0-4 ft) completed 6/3/08; Boring (4-26 ft) completed 6/5/08.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

p. 1 of 1
## Boring Log

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

Logged By: P. Domago/J. Simms  
Dates Drilled: 6/11/08; 6/18/08; 7/22/08  
Drilling Company: Todd Company/Parratt Wolff

**SURFACE ELEV.:** 1422.7 feet  
**TOTAL DEPTH:** 26 feet  
**WATER DEPTH:** 18 feet  
**CASING EL.:** 1424.64 feet  
**BOREHOLE DIA.:** 10.5 inches  
**WELL DIA.:** 4 inches

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>Apparent Water Level</th>
<th>LAB Sample Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>11.0</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Medium to Coarse SAND, trace Gravel, Coal and Ash</td>
<td>Moist</td>
<td>ST = Neg</td>
<td>[ ]</td>
</tr>
<tr>
<td>2-4</td>
<td>9.1</td>
<td>NA</td>
<td>NA</td>
<td>Tan Fine SAND and SILT, trace coarse Gravel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>0.0</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td>Brown Fine to Medium SAND, some Gravel, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>0.0</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td>Red Brown Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>0.0</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td>Red Brown Fine to Coarse SAND and GRAVEL, trace Silt and Clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>0.0</td>
<td>1.5 / 0.5</td>
<td></td>
<td>Gray Black Fine to Coarse SAND, some Gravel, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>48.9</td>
<td>1.0 / 1.75</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td>Wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>97.4</td>
<td>1.2 / 0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>Saturated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>74.5</td>
<td>1.3 / &lt;0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>168</td>
<td>1.0 / &lt;0.5</td>
<td></td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>ST = Neg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>93.9</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td>Black Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>66.1</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-26</td>
<td>51.9</td>
<td>1.5 / &lt;0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:** Bottom of boring at 26 feet, bedrock not encountered.

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**Symbol Key:**  
Apparent Water Level  
Lab Sample Location  

**Details:** See attached Monitoring Well Design Plan for well construction details.
**BORING LOG**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.** 06-02025

**Logged By:** J. Vinci / J. Simms / C. Letts  
**Dates Drilled:** 6/19/08; 6/25/08; 8/4/08  
**Drilling Company:** Todd Company/Parratt Wolff

**SURFACE ELEV.:** 1431.1 feet  
**TOTAL DEPTH:** 32 feet  
**WATER DEPTH:** 24.26 feet  
**CASING EL.:** 1433.09 feet  
**BOREHOLE DIA.:** 10.5 inches  
**WELL DIA.:** 4 inches

**Drilling Method:** Excavator/Hollow Stem Auger  
**Sampling Method:** Excavator Bucket/Split Spoon  
**Soil Class. System:** Burmister

**Logged By:** J. Vinci / J. Simms / C. Letts  
**Dates Drilled:** 6/19/08; 6/25/08; 8/4/08  
**Drilling Company:** Todd Company/Parratt Wolff  
**Easting/Longitude:**  
**Northing/Latitude:**  
**Vertical Datum:**  
**Horizontal Datum:**  

**SAMPLE LITHOLOGY**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Screen</th>
<th>Recovery (feet)</th>
<th>Comments</th>
<th>General Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>FILL; Brown Topsoil, Organic Material, trace medium to coarse Gravel</td>
<td>Dry</td>
</tr>
<tr>
<td>0.5-2</td>
<td>1.6</td>
<td>NA</td>
<td>FILL; Wood, Concrete, Brown Fine SAND, some medium Gravel and Ash/Coal</td>
<td>Wet</td>
</tr>
<tr>
<td>2-4</td>
<td>0.3</td>
<td>NA</td>
<td>Brown CLAY, some Cobble, trace fine Sand</td>
<td>Saturated, Sheen, ST = Neg</td>
</tr>
<tr>
<td>4-6</td>
<td>0.0</td>
<td>0.3 / 0.5</td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td>Moved between pipes</td>
</tr>
<tr>
<td>6-8</td>
<td>0.0</td>
<td>0.9 / 0.5</td>
<td>Gray Fine to Medium SAND and GRAVEL, some Silt, trace Clay</td>
<td>Moist</td>
</tr>
<tr>
<td>8-10</td>
<td>29.7</td>
<td>0.8 / 0.5</td>
<td>Dark Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td>Wet</td>
</tr>
<tr>
<td>10-12</td>
<td>13.5</td>
<td>0.9 / &lt;0.5</td>
<td>Gray Fine to Medium SAND, little Gravel, trace Silt</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>21.7</td>
<td>1.25 / 0.5</td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td>Moist</td>
</tr>
<tr>
<td>14-16</td>
<td>17.4</td>
<td>1.25 / 3.0</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>4.2</td>
<td>1.1 / 1.0</td>
<td>Gray Fine to Coarse SAND and GRAVEL</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>25.6</td>
<td>1.5 / 0.75</td>
<td>Tan CLAY</td>
<td>Wet</td>
</tr>
<tr>
<td>20-22</td>
<td>94.9</td>
<td>1.8 / 2.0</td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt</td>
<td>Sheen, ST = Neg</td>
</tr>
<tr>
<td>22-24</td>
<td>333</td>
<td>1.5 / 1.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, trace Silt and Clay</td>
<td>Saturated, Sheen, ST = Neg</td>
</tr>
<tr>
<td>24-26</td>
<td>297</td>
<td>1.5 / 1.5</td>
<td>Gray SILT, some Gravel</td>
<td>Dry, Very Stiff</td>
</tr>
<tr>
<td>26-28</td>
<td>180</td>
<td>2.0 / 1.5</td>
<td>Brown SILT, CLAY and GRAVEL</td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>527</td>
<td>2.0 / 1.5</td>
<td>Gray SAND and GRAVEL, some Silt</td>
<td>ST = Neg</td>
</tr>
<tr>
<td>30-32</td>
<td>121</td>
<td>0.2 / 1.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**  
Bottom of boring at 32 feet, bedrock not encountered.

**General Comments:**  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
- [Apparent Water Level](#)  
- [Lab Sample Location](#)

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of boring at 32 feet, bedrock not encountered.  
ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

**Symbol Key:**  
- [Apparent Water Level](#)  
- [Lab Sample Location](#)
**TEST PIT LOG**

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO:** 06-02025

<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>3.9</td>
<td>NA</td>
<td>FILL; Grass and Topsoil</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>3.1</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND, some Topsoil and Roots</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4-6</td>
<td>0.1</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND, some coarse Gravel and Cobbles</td>
<td></td>
<td>Moist, Soft, Cohesive</td>
</tr>
<tr>
<td>6-8</td>
<td>5.1</td>
<td>NA</td>
<td>FILL; Brown Tan CLAY, trace Silt, fine Gravel, Brick and Wood fragments, metal pieces</td>
<td></td>
<td>Loose</td>
</tr>
<tr>
<td>8-10</td>
<td>1.8</td>
<td>NA</td>
<td>Brown Medium SAND, some fine Gravel, trace coarse Sand, Coarse Gravel, Silt and Cobbles</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci / R. Sickler  
**Dates Drilled:** 6/19/08; 7/1/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**Surface ELEV:** NA  
**Water Depth:** NA  
**Casing EL:** NA  
**Well DIA:** NA

**PID (Readings in ppm):**
- 0-2: 3.9
- 2-4: 3.1
- 4-6: 0.1
- 6-8: 5.1
- 8-10: 1.8
- 10 feet: NANA

**General Comments:** Bottom of excavation at 10 feet, bedrock not encountered.

**Symbol Key:**
- **Apparent Water Level**
- **Lab Sample Location**
### TEST PIT LOG

**ID NO.: TPSB-38 / DTP-38**

**PROJECT:** Former Vacuum Oil Refinery  
**SURFACE ELEV.:** NA  
**TOTAL DEPTH:** 10 feet  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**WATER DEPTH** NA  
**STATION NO.: 06-02025**  
**BOREHOLE DIA.:** NA  
**WELL DIA.:** NA

Logged By: J. Vinci / R. Sickler  
Dates Drilled: 6/19/08; 7/1/08  
Drilling Company: Todd Company  
Drilling Method: Excavator  
Sampling Method: Excavator Bucket  
Soil Class. System: Burmister  
Field Screening: PID (Readings in ppm)

---

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>2.3</td>
<td>NA</td>
<td>NA</td>
<td>Topsoil, Organic Material, trace fine Gravel</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.9</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown Fine to Medium SAND and SILT, little fine Gravel</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td></td>
<td>NA</td>
<td>FILL; Tan Brown Mottled CLAY, some Organic Material, trace Silt and Cobbles</td>
<td>Cohesive</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2-4</td>
<td>0.8</td>
<td>NA</td>
<td>NA</td>
<td>FILL; Brown CLAY, little medium Sand, trace Silt, fine Gravel, Cobbles, Brick and Wood fragments, Coal pieces and Clinkers</td>
<td>Soft, Cohesive</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>1.5</td>
<td>NA</td>
<td>NA</td>
<td>Brown Medium SAND, some fine Gravel, little Clay, trace coarse Gravel, Silt and Cobbles</td>
<td>Loose, Iron</td>
<td>Staining noted</td>
</tr>
<tr>
<td>6-8</td>
<td>1.9</td>
<td>NA</td>
<td>NA</td>
<td>Gray Medium to Coarse SAND and Fine GRAVEL, little coarse Gravel, trace Silt and Cobbles</td>
<td>Wet</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>1.5</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:  

**General Comments:**  
Bottom of excavation at 10 feet, bedrock not encountered.

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

---

**Total Depth:** 10 feet
# TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.: 06-02025**

**Logged By:** J. Vinci / R. Sickler  
**Dates Drilled:** 6/19/08; 7/1/08  
**Drilling Company:** Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DEPTH:** 10 feet  
**CASING EL.:** NA  
**WELL DIA.:** NA

### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>68.3</td>
<td>NA</td>
<td></td>
<td>Gray Green Medium to Coarse GRAVEL, trace Silt</td>
<td>Moist</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Gray Medium to Coarse GRAVEL, some Cobbles, trace Silt</td>
<td></td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2-4</td>
<td>66</td>
<td>NA</td>
<td></td>
<td>Gray Fine GRAVEL and Medium SAND, some coarse Gravel, trace coarse Sand, Silt and Cobbles</td>
<td>Loose</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>29.9</td>
<td>NA</td>
<td></td>
<td>Gray Fine GRAVEL, little medium Sand, trace coarse Gravel, Silt and Cobbles</td>
<td>Loose</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>31.9</td>
<td>NA</td>
<td></td>
<td>Gray Fine GRAVEL and Medium SAND, some coarse Gravel, trace coarse Sand, Silt and Cobbles</td>
<td>Loose</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>17.6</td>
<td>NA</td>
<td></td>
<td>Gray Fine GRAVEL and Medium SAND, some coarse Gravel, trace coarse Sand, Silt and Cobbles</td>
<td>Loose</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Horizontal Datum:**  
**Easting/Longitude:**  
**Northing/Latitude:**  
**Vertical Datum:**

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burmister  
**Field Screening:** PID (Readings in ppm)

**General Comments:** Bottom of excavation at 10 feet, bedrock not encountered.

**Location:**

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

---

**TAPSB-44 / DTP-44**

---

**p. 1 of 1**
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>NA</td>
<td>203</td>
<td>Grass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>187</td>
<td>NA</td>
<td>Black Coarse GRAVEL, some Clay, some to little Sand</td>
<td>Moist, ST = Neg</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>959</td>
<td>NA</td>
<td>Gray Black Fine GRAVEL and Medium SAND, trace coarse Sand, coarse Gravel, Cobbles and Silt</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>1387</td>
<td>NA</td>
<td>Gray Fine to Coarse GRAVEL, some medium Sand, trace coarse Sand and Silt</td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>1857</td>
<td>NA</td>
<td></td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-12</td>
<td>1323</td>
<td>NA</td>
<td></td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**General Comments:**
Bottom of excavation at 12 feet, bedrock not encountered.
ST = Shake Test
# TEST PIT LOG

**Groundwater and Environmental Services, Inc.***

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO.:** 06-02025

<table>
<thead>
<tr>
<th>Depth Interval (feet)</th>
<th>Sample Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.8</td>
<td>NA</td>
<td>Grass, Topsoil, Organic Material, Brown SAND</td>
<td>Moist, ST = Neg</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>0.5-2</td>
<td>265</td>
<td>NA</td>
<td>Black GRAVEL, some Clay, little Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>623</td>
<td>NA</td>
<td>Black Fine to Coarse GRAVEL, some Clay</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>2374</td>
<td>NA</td>
<td>Gray Black Fine GRAVEL and Medium SAND, trace coarse Sand, coarse Gravel and Silt</td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>1243</td>
<td>NA</td>
<td></td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>2390</td>
<td>NA</td>
<td></td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>2623</td>
<td>NA</td>
<td></td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Bottom of excavation at 12 feet, bedrock not encountered.**

**ST = Shake Test**

---

**General Comments:**
- Bottom of excavation at 12 feet, bedrock not encountered.
- ST = Shake Test

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen (Feet)</th>
<th>Recovery</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>2.8</td>
<td>NA</td>
<td></td>
<td>Grass, Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>140</td>
<td>NA</td>
<td></td>
<td>FILL; Brown to Gray SILT</td>
<td>Dry, Cohesive</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>4-6</td>
<td>248</td>
<td>NA</td>
<td></td>
<td>FILL; Olive Gray CLAY, some Gravel</td>
<td>Moist, Cohesive, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>879</td>
<td>NA</td>
<td></td>
<td>FILL; Brown CLAY, some fine to coarse Gravel, little medium Sand, trace Silt. Pieces of Wood Timber (planks) encountered at 7.5 ftlbs</td>
<td>Cohesive, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>756</td>
<td>NA</td>
<td></td>
<td>Gray Fine GRAVEL, some coarse Gravel, little medium Sand, trace Silt</td>
<td>Loose, Staining noted, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

General Comments:
Bottom of excavation at 10 feet, bedrock not encountered. ST = Shake Test

Symbol Key:
- Apparent Water Level
- Lab Sample Location

Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum:
Vertical Datum:

Test Pit Log
Groundwater and Environmental Services, Inc.

ID NO. TPSB-47 / DTP-47

PROJECT: Former Vacuum Oil Refinery
ADDRESS: 1406 Buffalo St., Olean, NY
STATION NO. 06-02025
Logged By: J. Vinci / R. Sickler
Dates Drilled: 6/19/08; 6/30/08
Drilling Company: Todd Company

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIA.: NA
TOTAL DEPTH: 10 feet
CASING EL.: NA
WELL DIA.: NA

Drilling Method: Excavator
Sampling Method: Excavator Bucket
Soil Class. System: Burnister
Field Screening: PID (Readings in ppm)
# TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**PROJECT:** Former Vacuum Oil Refinery  
**ADDRESS:** 1406 Buffalo St., Olean, NY  
**STATION NO:** 06-02025

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>110</td>
<td>NA</td>
<td>Grass, Topsoil</td>
<td>Dry, ST = Neg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FILL; Black Fine to Medium SAND, Concrete, Bricks and Ash</td>
<td>Backfilled with excavated material</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>107</td>
<td>NA</td>
<td>FILL; Black Wood, Ash and Coal</td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>72.6</td>
<td>NA</td>
<td>Gray Medium SAND and Fine GRAVEL, some Coarse Sand and Coarse Gravel, little Silt and Clay, trace Cobbles</td>
<td>Moist, Loose, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>7097</td>
<td>NA</td>
<td></td>
<td>ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>1809</td>
<td>NA</td>
<td>Gray Medium SAND, some Fine Gravel, trace Coarse Sand and to Coarse Gravel</td>
<td>Loose, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** J. Vinci / R. Sickler  
**Dates Drilled:** 6/19/08; 6/30/08  
**Drilling Company:** Todd Company  
**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)

**SURFACE ELEV.:** NA  
**WATER DEPTH:** NA  
**CASING EL.:** NA  
**BOREHOLE DIA.:** NA  
**TOTAL DEPTH:** 10 feet  
**WELL DIA.:** NA

**Apparent Water Level**

**Lab Sample Location**

**General Comments:** Bottom of excavation at 10 feet, bedrock not encountered.

**Symbol Key:**

- Apparent Water Level
- Lab Sample Location

**Location:**

- Northing/Latitude:  
- Easting/Longitude:  
- Horizontal Datum:  
- Vertical Datum:  

**General Comments:**

- ST = Shake Test

**Page:** 1 of 1
## TEST PIT LOG

**Groundwater and Environmental Services, Inc.**

**ID NO.** TPSB-50 / DTP-50

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.** 06-02025

---

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>SAMPLE LITHOLOGY</th>
<th>Comments</th>
<th>COMPLETION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-2</td>
<td>0.0</td>
<td>NA</td>
<td>Grass, Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2-4</td>
<td>150</td>
<td>NA</td>
<td>FILL; Concrete encountered at 2 ftbgs. Location moved to the Southeast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4-6</td>
<td>226</td>
<td>NA</td>
<td>Black Gray Fine to Coarse SAND, some Clay and Silt, trace fine to coarse gravel, trace Cobbles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6-8</td>
<td>534</td>
<td>NA</td>
<td>Gray Fine to Coarse SAND and Fine GRAVEL, some medium gravel, trace Silt, coarse Gravel and Cobble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8-10</td>
<td>384</td>
<td>NA</td>
<td>Moist, Staining noted, ST = Neg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location:**
- Northing/Latitude: 
- Easting/Longitude: 
- Horizontal Datum: 
- Vertical Datum: 

**General Comments:**
Bottom of excavation at 10 feet, bedrock not encountered. 

**Symbol Key:**
- Apparent Water Level
- Lab Sample Location

**Logged By:** J. Vinci / R. Sickler
**Dates Drilled:** 6/19/08; 6/30/08
**Drilling Company:** Todd Company

**SURFACE ELEV.:** NA  **TOTAL DEPTH:** 10 feet
**WATER DEPTH:** 4 feet  **CASING EL.:** NA
**BOREHOLE DIA.:** NA  **WELL DIA.:** NA

**Drilling Method:** Excavator
**Sampling Method:** Excavator Bucket
**Soil Class. System:** Burmister
**Field Screening:** PID (Readings in ppm)
**TEST PIT LOG**

**ID NO.** TPSB-51 / DTP-51

**PROJECT:** Former Vacuum Oil Refinery

**ADDRESS:** 1406 Buffalo St., Olean, NY

**STATION NO.** 06-02025

Logged By: J. Vinci  
Dates Drilled: 6/20/08; 6/24/08  
Drilling Company: Todd Company

**SURFACE ELEV.:** NA  
**WATER DEPTH** NA  
**BOREHOLE DIA.:** NA  
**CASING EL.:** NA  
**WELL DIA.:** NA

**Logged By:** J. Vinci  
**Dates Drilled:** 6/20/08; 6/24/08  
**Drilling Company:** Todd Company

**Drilling Method:** Excavator  
**Sampling Method:** Excavator Bucket  
**Soil Class. System:** Burnister  
**Field Screening:** PID (Readings in ppm)

### Sample Lithology

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
<th>Completion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Topsoil, Roots, little coarse Gravel</td>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>0.5-2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Orange Brown Tan SILT and CLAY, little coarse Gravel</td>
<td>Moist</td>
<td>Backfilled with excavated material</td>
</tr>
<tr>
<td>2</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Brown Fine to Medium SAND, little Gravel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>0.0</td>
<td>NA</td>
<td>NA</td>
<td>Black Fine to Coarse GRAVEL, some fine to medium Sand</td>
<td>Moist to Wet, 4 inch pipe encountered, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>2642</td>
<td>NA</td>
<td>NA</td>
<td>Black Coarse GRAVEL, some fine to medium Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>3677</td>
<td>NA</td>
<td>NA</td>
<td>Black Coarse GRAVEL, some fine Sand</td>
<td>Wet, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>3571</td>
<td>NA</td>
<td>NA</td>
<td>Black Medium to Coarse SAND, some Cobbles</td>
<td>Moist, ST = Neg</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>2766</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>Wet, ST = Neg</td>
<td></td>
</tr>
</tbody>
</table>

### General Comments:

Bottom of excavation at 12 feet, bedrock not encountered.  
ST = Shake Test

### Symbol Key:

<table>
<thead>
<tr>
<th>Apparent Water Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lab Sample Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>p. 1 of 1</td>
</tr>
</tbody>
</table>

**Location:**  
Northing/Latitude:  
Easting/Longitude:  
Horizontal Datum:  
Vertical Datum:
### BORELOG

**Former Vacuum Oil Refinery**

**1406 Buffalo St., Olean, NY**

**Station No.: 06-02025**

**Logged By:** J. Vinci / J. Simms

**Dates Drilled:** 6/24/08; 6/30/08

**Drilling Company:** Todd Company/Parratt Wolff

**Drilling Method:** Excavator/Hollow Stem Auger

**Sampling Method:** Excavator Bucket/Split Spoon

**Soil Class. System:** Burmister

**Field Screening:** PID (Readings in ppm)

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#### SAMPLE LITHOLOGY

<table>
<thead>
<tr>
<th>Depth</th>
<th>Field Screen</th>
<th>Recovery (Feet)</th>
<th>Sample Lithology</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>1.4</td>
<td>NA</td>
<td>FILL; Black Dark Brown Topsoil, some Brick fragments, little medium Gravel</td>
<td>Dry</td>
</tr>
<tr>
<td>2-4</td>
<td>0.8</td>
<td>NA</td>
<td>Brown Very Fine to Fine SAND, some Silt, little medium Gravel</td>
<td>Moist to Wet</td>
</tr>
<tr>
<td>4-6</td>
<td>18.6</td>
<td>0.7 / &lt;0.5</td>
<td>Brown Fine to Coarse SAND, some Silt and Gravel, trace Clay</td>
<td>Moist</td>
</tr>
<tr>
<td>6-8</td>
<td>13.9</td>
<td>1.1 / 0.75</td>
<td>Brown Fine to Coarse SAND and GRAVEL, some Silt, trace Clay</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>13.9</td>
<td>1.2 / 1.0</td>
<td>Brown Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>12.1</td>
<td>1.5 / &lt;0.5</td>
<td>Brown grading to Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>16.1</td>
<td>1.3 / 0.75</td>
<td>Brown grading to Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>216</td>
<td>1.8 / &lt;0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt, trace Clay</td>
<td></td>
</tr>
<tr>
<td>16-18</td>
<td>327</td>
<td>1.4 / 0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>257</td>
<td>1.7 / 1.0</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>20-22</td>
<td>279</td>
<td>1.7 / &lt;0.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>211</td>
<td>1.4 / 1.5</td>
<td>Gray Fine to Coarse SAND and GRAVEL, little Silt</td>
<td></td>
</tr>
</tbody>
</table>

---

**Location:**

- **Northing/Latitude:**
- **Easting/Longitude:**
- **Horizontal Datum:**
- **Vertical Datum:**

**General Comments:**

- Bottom of boring at 24 feet, bedrock not encountered.
- Test Pit (0-4 ft) completed 6/24/08; Boring (4-24 ft) completed 6/30/08.
- ST = Shake Test; N Value = Soil Strength in Tons/Square Foot

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**Symbol Key:**

- **Apparent Water Level**
- **Lab Sample Location**

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**COMPLETION DETAILS**

Backfilled with excavated material and drill cuttings