B-3a 25' depth
B-4a 25' depth
B-5a 25' depth

Pontiac Tr.
1 inch = 80 feet
Boring performed 2' east of west edge of road, 61' north of address 3185 driveway.
12 inches of dark brown moist sandy TOPSOIL with traces of gravel
Brown moist medium dense clayey fine to medium SAND with silt and some gravel - (SC)
Brown moist hard sandy CLAY with silt, trace of gravel and frequent silt partings - (CL)
Brown moist medium dense silty fine to coarse SAND with some gravel and occasional cobbles - (SM)
Brown moist medium dense silty, clayey fine SAND with trace of gravel - (SC-SM)
Brown moist medium dense silty fine SAND with traces of gravel and clay - (SM)

Boring performed 20' west of west edge of road, 40' north of center of Dhu Varren Road
6 inches of ASPHALT PAVEMENT
18 inches of brown moist fine to medium SAND with some gravel and clay - (FILL)
Brown moist medium dense gravelly fine to coarse SAND with some clay and occasional clay lenses - (SP-SC)
Brown moist hard CLAY with silt, traces of gravel and sand and occasional silt partings - (CL)
Brown moist dense fine SAND with some silt, trace of gravel and occasional cobbles - (SP-SM)
Brown wet dense sandy SILT - (ML)
Light brown moist dense to medium dense fine SAND with some silt - (SP-SM)

Bottom of borehole at 25.0 feet.

Boring performed 10’ west of east curb, 20’ south of Knightsbridge Circle.
2 inches of dark brown TOPSOIL
Brown moist medium dense silty, sandy GRAVEL  - (GM)

Brown moist hard CLAY with silt, traces of gravel and sand and frequent silt partings  - (CL)

Light brown moist dense to medium dense fine SAND with some silt  - (SP-SM)

Bottom of borehole at 25.0 feet.

Boring performed 15’ west of west edge of road, 260’ north of driveway to address 2735 Pontiac Trail
### MATERIAL DESCRIPTION

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>GRAPHIC LOG</th>
<th>MATERIAL DESCRIPTION</th>
<th>SAMPLE TYPE NUMBER</th>
<th>RECOVERY % (RQD)</th>
<th>BLOW COUNTS (N VALUE)</th>
<th>POCKET PEN (MP)</th>
<th>UNC. STRENGTH (PSF)</th>
<th>NATURAL MOISTURE CONTENT (%)</th>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td>6 inches of brown moist silty fine to medium SAND with gravel - (FILL)</td>
<td>SS 1</td>
<td>89</td>
<td>6-7-3 (10)</td>
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<td>5</td>
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<td>Brown moist fine to medium SAND with some gravel and silt - (FILL)</td>
<td>SS 2</td>
<td>83</td>
<td>3-5-5 (10)</td>
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<td>Brown moist CLAY with silt, traces of gravel and sand and occasional silt seams - (FILL)</td>
<td>SS 3</td>
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<td>2-5-4 (9)</td>
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<td>15</td>
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<td>Brown moist loose fine to medium SAND with some silt, trace of gravel and occasional organic clay seams - (SP-SM/Poss. FILL) Loss-on-Ignition (organic content) = 3.5%</td>
<td>SS 5</td>
<td>78</td>
<td>1-0-0 (0)</td>
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<td>Brown moist stiff CLAY with silt, traces of gravel and sand and occasional silt seams - (CL)</td>
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<td>7-9-7 (16)</td>
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<td>25</td>
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<td>Gray wet loose clayey fine to medium SAND with trace of gravel and occasional clay seams - (SC)</td>
<td>SS 7</td>
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<td>2-2-2 (4)</td>
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</table>

#### LOSS-ON-IGNITION (organic content) = 3.5%

Boring backfilled with auger cuttings.

**Bottom of borehole at 25.0 feet.**

Boring performed 4' east of east edge of road, 2 feet north of address 2672 driveway.
6 inches of brown moist silty fine to medium SAND with gravel - (FILL)
Brown moist loose fine to coarse SAND with some gravel and silt - (SP-SM)
Brown moist loose fine to coarse SAND with some gravel and clay - (SP-SC)
Brown moist loose fine SAND with some silt and trace of gravel - (SP-SM)
Brown moist medium dense fine to medium SAND with silt and some gravel - (SM)
Brown moist medium dense fine to medium SAND with some gravel, trace of silt and occasional cobbles - (SP)

Bottom of borehole at 25.0 feet.
Boring performed 1' east of east edge of road, 65' south of address 2600 driveway.
**Boring Number:** Pontiac Trail B-7

**Depth (ft)** | **Material Description** | **Sample Type Number** | **Recovery % (RQD)** | **Blow Counts (N Value)** | **Pocket Pen (PI) Unc. Strength (psf)** | **Fines Content (%)** | **Natural Moisture Content (%)** |
---|---|---|---|---|---|---|---|
0 | 6 inches of ASPHALT PAVEMENT | SS 1 | 89 | 6-9-7 (16) | | | |
0 | 6 inches of dark brown moist silty fine to medium SAND with gravel - (FILL) | SS 2 | 94 | 4-5-7 (12) | | | |
5 | 12 inches of gray moist fine to coarse SAND and GRAVEL - (FILL) | Brown moist medium dense silty fine sand with traces of gravel and clay and occasional clay seams - (SM) | SS 3 | 100 | 3-5-5 (10) | | |
5 | Brown moist loose silty fine SAND - (SM) | SS 4 | 89 | 4-5-5 (10) | | | |
10 | Brown moist to very moist loose sandy Silt - (ML) | SS 5 | 94 | 4-4-4 (8) | | | |
15 | Light brown moist loose fine to medium SAND with some gravel, trace of silt and occasional silt lenses - (SP) | SS 6 | 44 | 3-5-6 (11) | | | |
20 | Brown moist medium dense to loose fine to medium SAND with some gravel and silt - (SP-SM) | SS 7 | 67 | 5-4-5 (9) | | | |
25 | Bottom of borehole at 25.0 feet. | | | | | | |

Boring performed 11' west of east edge of road, 61' south of address 2520 driveway.
Boring No.: PT1 Pontiac Trail  
Job No.: 51989  
Project: Miscellaneous Geotechnical Services, Bundle One  
Client: City of Ann Arbor  
Location: Ann Arbor, Michigan  
Type of Rig: Truck  
Drilled By: L. Mickle  
Ground Surface Elevation:  
Started: 12/21/2011  
Completed: 12/21/2011

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<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
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<td>ASPHALT (3&quot;)</td>
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<td>16</td>
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<td>Medium Compact Moist Brown Gravely Well Graded Sand With Some Clay-FILL</td>
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<td>12</td>
<td>5</td>
<td>Medium Compact Moist Brown Clayey SAND With Trace Of Gravel &amp; Clay Layers</td>
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<td>6</td>
<td>9/4&quot;</td>
<td>Bottom of Borehole at 5'</td>
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<td></td>
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<tr>
<td>7.5</td>
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</table>

*N* - Standard Penetration Resistance  
SS - 2" D. Split Spoon Sample  
LS - Sectional Liner Sample  
ST - Shelby Tube Samples  
AS - Auger Samplers  

w - H2O, % d' dry weight  
c - Bulk Density, pcf  
qu - Unconfined Compression, psf  
DP - Direct Push  

Water Encountered: None  
At Completion: None  
Boring No. PT1 Pontiac Trail
Boring No.: PT2 Pontiac Trail  
Job No.: 51989  
Project: Miscellaneous Geotechnical Services, Bundle One
Client: City of Ann Arbor  
Location: Ann Arbor, Michigan  
Type of Rig: Truck  
Drilled By: L. Mickle  
Drilling Method: Solid Stem Augers  
Started: 12/21/2011  
Completed: 12/21/2011

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<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
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<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
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<td></td>
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<td>Medium Compact Moist Brown Gravelly Well Graded Sand With Some Clayey Seams-FILL</td>
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<td></td>
</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>4</td>
<td>9/5&quot;</td>
<td>Bottom of Borehole at 5'</td>
<td>5.7</td>
<td>97</td>
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*N* - Standard Penetration Resistance  
SS - 2" V.F. Split Spoon Sample  
LS - Sectional Liner Sample  
ST - Shelby Tube Sample  
AS - Auger Sample

W - H2O, % of dry weight  
d - Bulk Density, pcf  
qu - Unconfined Compression, psf  
DP - Direct Push

Water Encountered: None  
At Completion: None  
Boring No. PT2 Pontiac Trail
Boring No.: PT3 Pontiac Trail

Client: City of Ann Arbor

Type of Rig: Truck

Drilling Method: Solid Stem Augers

Ground Surface Elevation: 

Job No.: 51989

Project: Miscellaneous Geotechnical Services, Bundie One

Location: Ann Arbor, Michigan

Drilled By: I. Mickle

Started: 12/21/2011

Completed: 12/21/2011

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
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</thead>
<tbody>
<tr>
<td>2.5</td>
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<td>ASPHALT (3 1/4&quot;)</td>
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<td>11</td>
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<td>With Some Clay-FILL</td>
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<td>Firm Moist Brown CLAY With Some Silt &amp; Trace Of Gravel</td>
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<td>Bottom of Borehole at 5'</td>
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</table>

*N - Standard Penetration Resistance
SS - 2 J.H. Split Spoon Sample
LS - Sectional Liner Sample
ST - Shelby Tube Sample
AS - Auger Sample

w - H2O, % of dry weight
d - Bulk Density, psf
qu - Unconfined Compression, psf
DP - Direct Push

Water Encountered: None
At Completion: None
Boring No. PT3 Pontiac Trail
<table>
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<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
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<td>Firm Moist Brown CLAY With Some Silt &amp; Trace Of Gravel</td>
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<td>Medium Compact MOist Brown Medium SAND</td>
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</tbody>
</table>

Bottom of Borehole at 5'

"N" = Standard Penetration Resistance
SS = 2" J.D. Split Spoon Sample
LS = Sectional Liner Sample
ST = Shelby Tube Sample
AS = Auger Sample
w = k20, % of dry weight
c = Bulk Density, pdf
cu = Unconfined Compression, psi
DP = Direct Push

Water Encountered: None
At Completion: None
Boring No. PT4 Pontiac Trail
**Testing Engineers & Consultants, Inc.**  
1343 Rochester Road - PO Box 249 - Troy, Michigan - 48099-0249  
(248) 588-6200 or (313) T-E-S-T-I-N-G  
Fax (248) 588-6232

---

**Boring No.: PT5 Pontiac Trail**  
**Job No.: 51989**  
**Project: Miscellaneous Geotechnical Services, Bundle One**

**Client:** City of Ann Arbor  
**Type of Rig:** Truck  
**Drilling Method:** Solid Stem Augers  
**Ground Surface Elevation:**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
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**Soil Classification**

- **ASPHALT (3 1/2")**
- Loose Moist Brown Well Graded Sand With Some Gravel & Clay-Fill
- Medium Compact Moist Brown Fine To Medium SAND With Trace Of Gravel

**Bottom of Borehole at 5’**

**w** | **d** | **qu**
---|---|---
14.3 | 124 | 1400
5.2 | 101 |

---

**Water Encountered:** None  
**At Completion:** None  
**Boring No.:** PT5 Pontiac Trail
Boring No.: PT6 Pontiac Trail  
Job No.: 51939  
Client: City of Ann Arbor  
Project: Miscellaneous Geotechnical Services, Bundle One  
Type of Rig: Truck  
Drilling Method: Solid Stem Augers  
Location: Ann Arbor, Michigan  
Ground Surface Elevation:  

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<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
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<td>Bottom of Borehole at 5'</td>
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Soil Classification:  
ASPHALT (7 1/4")  
Medium Compact Moist Brown Well Graded Sand With Some Gravel & Clay-FILL  
Medium Compact Moist Brown Medium SAND With Trace Of Gravel  

W = H2O, % of dry weight  
d = Bulk Density,pcf  
qu = Unconfined Compression, psf  
DP = Direct Push  

Water Encountered: None  
At Completion: None  
Completed: 12/7/2011  

Boring No. PT6 Pontiac Trail
Testing Engineers & Consultants, Inc.
1343 Rochester Road - PO Box 249 - Troy, Michigan - 48099-0249
(248) 588-6200 or (313) T-E-S-T-I-N-G
Fax (248) 588-6232

Boring No.: PT7 Pontiac Trail  Job No.: 51989  Project: Miscellaneous Geotechnical Services, Bundle One
Client: City of Ann Arbor
Type of Rig: Truck
Drilling Method: Solid Stem Augers
Ground Surface Elevation:

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<th>Depth (ft)</th>
<th>Sample Type</th>
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<th>Strata Change</th>
<th>Soil Classification</th>
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<td>Bottom of Borehole at 5’</td>
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</tbody>
</table>

*N* - Standard Penetration Resistance  
SS - 2" ID Split Suction Sample  
LS - Sectional Liner Sample  
ST - Shelby Tube Sample  
AS - Auger Sample  

Water Encountered: None
At Completion: None
Boring No. PT7 Pontiac Trail
<table>
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<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
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<td></td>
<td></td>
<td>6</td>
<td></td>
<td>Bottom of borehole at 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N* - Standard Penetration Resistance  
**w** - H2O, % of dry weight  
**d** - Bulk Density, psf  
**qu** - Unconfined Compression, psf  
**DP** - Direct Push

**Job No.:** 51969  
**Project:** Miscellaneous Geotechnical Services, Bundle One  
**Location:** Ann Arbor, Michigan  
**Drilled By:** I. Mickle  
**Started:** 12/7/2011  
**Completed:** 12/7/2011  
**Water Encountered:** None  
**At Completion:** None  
**Boring No.:** PT8 Pontiac Trail
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>0.56</td>
<td>ASPHALT (6 3/4&quot;)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>LS</td>
<td>4</td>
<td>4</td>
<td>Loose Moist Brown Clayey SAND With Some Gravel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>2/2</td>
<td>2/2&quot;</td>
<td>On Possible Utility At 2.2'. Moved 3.5' North &amp; Redrilled, Possible Utility At 3.4'. Bottom of Borehole at 3.4'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"N" - Standard Penetration Resistance  
"SS" - 2") D. Split Sopen Sample  
"LS" - Sectional Liner Sample  
"ST" - Shelby Tube Sample  
"AS" - Auger Sample  

w - H2O, % of dry weight  
d - Bulk Density, psf  
u' - Unconfined Compression, psf  
DP - Direct Push

Water Encountered:
At Completion:
Boring No. PT9 Pontiac Trail
## Boring No.: PT10 Pontiac Trail

51989

### Client:
City of Ann Arbor

### Type of Rig:
Truck

### Drilling Method:
Solid Stem Augers

### Ground Surface Elevation:

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>LS</td>
<td>7</td>
<td>2</td>
<td>ASPHALT (6 3/4&quot;)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>3</td>
<td>Medium Compact Moist Brown Clayey Medium To Fine SAND With Trace Of Gravel</td>
<td>4.9</td>
<td>128</td>
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</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>7</td>
<td>3</td>
<td>Loose Moist Brown Clayey SAND With Trace Of Gravel</td>
<td>11.1</td>
<td>130</td>
<td>5600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>5</td>
<td>Stiff Moist Brown CLAY With Some Silt &amp; Trace Of Gravel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom of Borehole at 5'

### Project:
Miscellaneous Geotechnical Services, Bundle One

### Location:
Ann Arbor, Michigan

### Drilled By:
I. Mickel

### Started:
12/7/2011

### Completed:
12/7/2011

---

**Water Encountered:** None

**At Completion:** None

Boring No. PT10 Pontiac Trail
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>LS</td>
<td>10</td>
<td>0.35</td>
<td>ASPHALT (4 1/4&quot;)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>LS</td>
<td>7</td>
<td>2.5</td>
<td>Medium Compact Moist Dark Brown Clayey Medium To Fine SAND With Trace Of Gravel</td>
<td>4.3</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>4/1&quot;</td>
<td>3.6</td>
<td>Medium Compact Moist Brown Clayey SILT &amp; Sand</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom of Borehole at 5'

*N* - Standard Penetration Resistance
SS - 2" I.D. Split Sleeve Sample
LS - Sectional Liner Sample
ST - Shelly Tube Sample
AS - Auger Sample

w - H2O, % of dry weight
d - Bulk Density, psf
qu - Unconfined Compression, psf
DP - Direct Push

Water Encountered: None

At Completion: None

Boring No. PT11 Pontiac Trail
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>LS</td>
<td>6</td>
<td>1.3</td>
<td>ASPHALT (7 1/2&quot;)</td>
<td>10.1</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>3</td>
<td>Moist Brown Gravely Well Graded Sand With Some Clay-FILL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>2</td>
<td>3</td>
<td>Medium Compact Moist Brown Clayey SILT &amp; Sand</td>
<td>15.8</td>
<td>115</td>
<td>1400</td>
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<tr>
<td></td>
<td></td>
<td>3</td>
<td>5</td>
<td>Plastic Moist Variegated CLAY With Some Silt &amp; Trace Of Sand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of Borehole at 5'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* "N" - Standard Penetration Resistance  
  "SS" - 2" J. J. Split Spoon Sample  
  "LS" - Sectional Liner Sample  
  "ST" - Shelby Tube Sample  
  "AS" - Auger Sample  
  w - %O of dry weight  
  d - Bulk Density, psf  
  su - Unconfined Compresson, psf  
  DP - Direct Push

Water Encountered: None  
At Completion: None  
Boring No. PT12 Pontiac Trail
## Boring No.: PT13 Pontiac Trail
51989

**Client:** City of Ann Arbor

**Type of Rig:** Truck

**Drilling Method:** Solid Stem Augers

**Ground Surface Elevation:**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>LS</td>
<td>10</td>
<td>9</td>
<td>Moist Brown Gravely Well Graded Sand With Some Clay-FILL</td>
<td>10.6</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>LS</td>
<td>4</td>
<td>6</td>
<td>Medium Compact Moist Brown Fine SAND</td>
<td>3.6</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td>Bottom of Borshole at 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- "N" - Standard Penetration Resistance
- SS - "2", D. Split Spoon Sample
- LS - Sectional Liner Sample
- ST - Shelby Tube Sample
- AS - Auger Sample

**Water Encountered:** None

**At Completion:** None

**Boring No.:** PT13 Pontiac Trail
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>N</th>
<th>Strata Change</th>
<th>Soil Classification</th>
<th>w</th>
<th>d</th>
<th>qu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>LS</td>
<td>12</td>
<td>3</td>
<td>Moist Brown Gravely Well Graded Sand With Some Clay-FILL (5 1/2&quot;)</td>
<td>3.3</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>LS</td>
<td>5</td>
<td>5</td>
<td>Medium Compact Moist Brown Fine SAND With Trace Of Gravel</td>
<td>6.7</td>
<td>107</td>
<td></td>
</tr>
</tbody>
</table>

Bottom of Borehole at 5'

---

7'N - Standard Penetration Resistance
SS - 2" I.D. Split Spoon Sample
LS - Sectional Liner Sample
ST - Shelby Tube Sample
AS - Auger Sample

w - w/o, % of dry weight
s - Bulk Density, psf
qu - Unconfined Compression, psf
DP - Direct Push

Water Encountered: None

At Completion: None

Boring No. PT14 Pontiac Trail