APPENDIX A: PHOTOGRAPHS OF TEST SITES

Figure 54: G-106 Wilshire/Arden.
View looking west. Accelerometers placed along the row of small traffic cones, directly in-line with the borehole.

Figure 55: G-124 Wilshire/Fairfax
View looking west. Accelerometers along the edge of the median.
Results of Borehole Vibration Propagation Tests for Westside Subway Extension
June 21, 2011
Page 70

Figure 56: G-134 Wilshire/Hamel
View looking east. Accelerometers placed near small traffic cones.

Figure 57: G-152 Santa Monica/Wilshire.
View looking east towards Wilshire Boulevard. Accelerometers placed approximately one lane from traffic. Borehole is only a few feet from accelerometer line.
Figure 58: G-164 Moreno/Young.
View looking northwest, education center bldg is to the right. Accelerometers were in a line extending to the southeast between the trucks.

Figure 59: G-165 Beverly Hills High School.
View looking toward the north.
Figure 60: G-166 Beverly Hills High School.
View looking south, along the west edge of the school’s Lacrosse field.

Figure 61: G-173 Fox Hills/Missouri.
View of Missouri Ave looking east (left photo). Accelerometer line runs parallel to white stop line, south along Fox Hills sidewalk.
Figure 62: G-178 Wilshire/Manning.

View looking west along Wilshire blvd.
FIGURES B-1.1A THROUGH B-1.20B
LOGS OF HOLLOW-STEM AUGER BORINGS (ACE PHASE)
Boring M-1

Date Drilled: May 18, 2009
Equipment Used: Hollow Stem Auger
Hole Diameter (in.): 8
Elevation: 205 ft
Latitude: 34.06218°
Longitude: -118.32581

<table>
<thead>
<tr>
<th>Elevation (ft)</th>
<th>Depth (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-inch thick Asphalt Concrete</td>
<td></td>
</tr>
<tr>
<td>FILL - SILTY CLAY - moist, dark brown mottled with dark gray, some sand</td>
<td></td>
</tr>
<tr>
<td>FILL - SANDY Silt - dark brown, some clay, hairlike rootlets observed</td>
<td></td>
</tr>
<tr>
<td>FILL - SILTY CLAY - moist, dark brown</td>
<td></td>
</tr>
<tr>
<td>FILL - CLAYEY Silt - moist, brown mottled with dark gray, some organic matter, some oxidized grains</td>
<td></td>
</tr>
<tr>
<td>SILTY SAND - moist, dark yellowish brown, fine, micaceous, oxidized hairline joints</td>
<td></td>
</tr>
</tbody>
</table>

Wet, fine to medium

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.

(continued on following figure)
**BORING M-1 (Continued)**

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
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<th>MATERIAL</th>
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<tbody>
<tr>
<td>160</td>
<td>45</td>
<td>SP</td>
<td>POORLY GRADED SAND - wet, dark gray, fine to coarse, micaceous</td>
</tr>
<tr>
<td>155</td>
<td>50</td>
<td>SM</td>
<td>SILTY SAND - wet</td>
</tr>
<tr>
<td>150</td>
<td>55</td>
<td>ML</td>
<td>CLAYEY SILT - wet, dark blueish gray, micaceous</td>
</tr>
<tr>
<td>145</td>
<td>60</td>
<td>SM</td>
<td>SILTY SAND - wet, dark blueish gray</td>
</tr>
<tr>
<td>140</td>
<td>65</td>
<td>CH</td>
<td>FAT CLAY - wet, dark blueish gray, micaceous</td>
</tr>
<tr>
<td>135</td>
<td>70</td>
<td>SP</td>
<td>POORLY GRADED SAND - wet, dark blueish gray, micaceous</td>
</tr>
<tr>
<td>130</td>
<td>75</td>
<td>ML</td>
<td>CLAYEY SILT - wet, dark blueish gray, some sand</td>
</tr>
<tr>
<td>80</td>
<td></td>
<td>SP</td>
<td>POORLY GRADED SAND - wet, dark blueish gray, fine to medium, micaceous</td>
</tr>
</tbody>
</table>

*This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.*

*(CONTINUED ON FOLLOWING FIGURE)*

MTA Westside Subway Extension
Los Angeles, California

Log of Boring

---

**LOG OF BORING**

<p>| Project: 4953-10-1561 | Figure: B-1.1b |</p>
<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>85</td>
</tr>
<tr>
<td>115</td>
<td>90</td>
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<td>110</td>
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<tr>
<td>90</td>
<td>115</td>
</tr>
<tr>
<td>85</td>
<td>120</td>
</tr>
</tbody>
</table>

Greenish black

**END OF BORING AT 100 FEET**

**NOTES:**

- Soil logged from cuttings only.
- Hand augered top 5 feet due to utilities.
- Ground water encountered at 30 feet.
- Photoionization detector measurements recorded for carbon monoxide, volatile organic compounds, hydrogen sulfide, and lower explosive limit.
- Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 100 feet (yellow). See well construction diagram for M-1.
BOTHING M-2

DATE DRILLED: 5/20/2009 to 5/21/2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 216 *
LATITUDE: 34.06226° LONGITUDE: -118.33307

3-inch thick Asphalt Concrete and 3-inch thick Concrete
FILL - SILTY SAND - moist, dark yellowish brown, fine to coarse, some clay

CLAYEY SAND - moist, dark yellowish brown, fine to coarse

SILTY SAND - moist, brown, fine to coarse

Wet

1-inch subrounded rock fragment

(CONTINUED ON FOLLOWING FIGURE)

MTA Westside Subway Extension
Los Angeles, California

LOG OF BORING
Project: 4953-10-1561
Figure: B-1.2a
BORING M-2  (Continued)

DATE DRILLED:  5/20/2009 to 5/21/2009
EQUIPMENT USED:  Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:  216 *
LATITUDE: 34.06226°  LONGITUDE: -118.33307

SILTY CLAY - wet, blueish gray, some sand

Olive gray

Greenish gray

SANDY CLAY - wet, greenish gray

(Continued on following figure)
NOTES:

Soil logged from cuttings only.
Hand augered top 5 feet due to utilities.
Ground water encountered at 30 feet.
Photoionization detector measurements recorded for carbon monoxide, volatile organic compounds, hydrogen sulfide, and lower explosive limit.
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 90 feet (yellow). See well construction diagram for M-2.

END OF BORING AT 91 FEET
6-inch thick Concrete over 12-inch thick Base Course

FILL - SANDY SILT - slightly moist, yellowish brown, no odor

SILTY CLAY - moist, yellowish brown, medium plasticity, trace sand, no odor

LEAN CLAY - moist, olive, medium plasticity, no odor

Dark greenish gray, high plasticity, no odor

Olive

Trace fine sand

SILT - soft, moist, olive, some fine sand, medium plasticity, no odor

Wet

(Continued on following figure)
# BORING M-3  (Continued)

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>198 *</td>
<td></td>
</tr>
<tr>
<td>34.06194 °</td>
<td>-118.33948</td>
</tr>
</tbody>
</table>

**DATE DRILLED:** May 29, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8

- **SM**: Sandier
- **Silty Sand - wet, olive**: Dark greenish gray

---

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.

---

Field Tech: PK  
Prepared By: NH  
Checked By:

---

MTA Westside Subway Extension  
Los Angeles, California

**LOG OF BORING**  
Project: 4953-10-1561  
Figure: B-1.3b
**BORING M-3 (Continued)**

<table>
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<th>ELEVATION (ft)</th>
<th>DEPTH (f)</th>
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</thead>
<tbody>
<tr>
<td>120</td>
<td>115</td>
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<td>85</td>
</tr>
<tr>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>80</td>
<td>75</td>
</tr>
</tbody>
</table>

**DATE DRILLED:** May 29, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 198 *  
**LATITUDE:** 34.06194°  
**LONGITUDE:** -118.33948

END OF BORING AT 91 FEET

**NOTES:**

- Soil logged from cuttings only.
- Hand augered top 5 feet due to utilities.
- Ground water encountered at 35 feet.
- Photoionization detector measurements recorded for volatile organic compounds and hydrogen sulfide.
- Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 90 feet (yellow). See well construction diagram for M-3.
### LOG OF BORING

**BORING M-4**

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>6-inch thick Asphalt Concrete FILL - SILTY SAND</td>
</tr>
<tr>
<td>SC</td>
<td>CLAYEY SAND - moist, dark grayish brown, some silt, rootlets</td>
</tr>
<tr>
<td>CL</td>
<td>SANDY LEAN CLAY - moist, dark brown, medium plasticity</td>
</tr>
<tr>
<td>CH</td>
<td>FAT CLAY - moist, grayish brown, some sand, oxidized pods, silt pods</td>
</tr>
<tr>
<td></td>
<td>Dark gray, less sand</td>
</tr>
<tr>
<td></td>
<td>Dark greenish gray, sandier</td>
</tr>
<tr>
<td></td>
<td>Light olive brown, no silt pods</td>
</tr>
<tr>
<td></td>
<td>Dark gray mottled with light brown</td>
</tr>
</tbody>
</table>

***DATE DRILLED:*** 5/22/2009 to 5/26/2009  
***EQUIPMENT USED:*** Hollow Stem Auger  
***HOLE DIAMETER (in.):*** 8  
***ELEVATION:*** 196 *  
***LATITUDE:*** 34.06223 °  
***LONGITUDE:*** -118.34456

---

*Field Tech: RM  
Prepared By: NH  
Checked By:*

---

MTA Westside Subway Extension  
Los Angeles, California  

---

LOG OF BORING  
Project: 4953-10-1561  
Figure: B-1.4a
BOARING M-4  (Continued)

EQUIPMENT USED:  Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:  196 *
LATITUDE:  34.06223°  LONGITUDE:  -118.34456

SANDY LEAN CLAY - wet, greenish gray
Sample not recovered

Sample not recovered

Sample not recovered

END OF BORING AT 100 FEET

NOTES:

Soil logged from cuttings only.
Hand augered top 5 feet due to utilities.
Ground water encountered at 45 feet.
Photoionization detector measurements recorded for carbon monoxide, volatile organic compounds, hydrogen sulfide, and lower explosive limit.
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 100 feet (yellow). See well construction diagram for M-4.
<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-inch thick Asphalt Concrete</td>
<td></td>
</tr>
<tr>
<td>FILL - SILTY CLAY - moist, black, some coarse sand</td>
<td></td>
</tr>
<tr>
<td>SANDY CLAY - moist, brown, medium plasticity</td>
<td></td>
</tr>
<tr>
<td>Grayish brown</td>
<td></td>
</tr>
<tr>
<td>Dark greenish gray</td>
<td></td>
</tr>
</tbody>
</table>

DATE DRILLED: May 27, 2009  
EQUIPMENT USED: Hollow Stem Auger  
ELEVATION: 196 *  
LATITUDE: 34.06232 °  LONGITUDE: -118.34594

(Continued on following figure)
DATE DRILLED: May 27, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 196 *
LATITUDE: 34.06232° LONGITUDE: -118.34594

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.

Field Tech: RM
Prepared By: NH
Checked By: 

MTA Westside Subway Extension
Los Angeles, California

LOG OF BORING
Project: 4953-10-1561 Figure: B-1.5b
### BORING M-5 (Continued)

**DATE DRILLED:** May 27, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 196 *  
**LATITUDE:** 34.06232 °  
**LONGITUDE:** -118.34594

---

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>120</td>
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<td>110</td>
<td>95</td>
</tr>
<tr>
<td>115</td>
<td>90</td>
</tr>
<tr>
<td>120</td>
<td>85</td>
</tr>
</tbody>
</table>

---

**SILTY CLAY - wet, dark greenish gray, micaceous, medium to high plasticity**  
**END OF BORING AT 90 FEET**

**NOTES:**

- Soil logged from cuttings only.  
- Hand augered top 5 feet due to utilities.  
- Ground water encountered at 50 feet.  
- Photoionization detector measurements recorded for carbon monoxide, volatile organic compounds, hydrogen sulfide, lower explosive limit, and oxygen.  
- Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 100 feet (yellow). See well construction diagram for M-4.
**BORING M-6**

**DATE DRILLED:** 5/28/2009 to 6/01/2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 196 *  
**LATITUDE:** 34.06252 °  
**LONGITUDE:** -118.34937

- **4-inch thick Asphalt Concrete over 1-foot thick Base Course**
- **FILL - SILTY CLAY** - moist, black, trace medium sand, no odor
- **CLAYEY SILT** - moist, olive, trace fine sand, no odor
- **LEAN CLAY** - moist, olive, medium plasticity, some silt, no odor
- **Dark greenish gray**
  - Thin layer of Poorly Graded Sand
- **SANDY SILT** - wet, dark greenish gray

(this record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.)

(continued on following figure)
BORING M-6  (Continued)

EQUIPMENT USED:  Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:  196 *
LATITUDE:  34.06252 °  LONGITUDE:  -118.34937

SILTY SAND - wet, black, fine, strong hydrocarbon odor, top of tar sands

(Continued on following figure)
BORING M-6  (Continued)

EQUIPMENT USED:  Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:  196 *
LATITUDE: 34.06252 °  LONGITUDE: -118.34937

120
80
85
90
95
100
105
110
115
120
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

ELEVATION (ft)
DEPTH (ft)

CL-ML
SILTY CLAY

END OF BORING AT 81 FEET

NOTES:

Soil logged from cuttings only.
Hand augered top 5 feet due to utilities.
Ground water encountered at 27½ feet.
Caving observed at 40 feet.
Hit pocket of hydrogen sulfide and methane at 80 feet. Elevated levels of hydrogen sulfide from augers. Area evacuated and rig shut down.
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 80 feet (yellow). See well construction diagram for M-6.
**BORING M-7**

- **DATE DRILLED:** June 2, 2009
- **EQUIPMENT USED:** Hollow Stem Auger
- **HOLE DIAMETER (in.):** 8
- **ELEVATION:** 189 *
- **LATITUDE:** 34.06267 °  **LONGITUDE:** -118.35484

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>185</td>
<td>5</td>
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<td>155</td>
<td>35</td>
</tr>
<tr>
<td>150</td>
<td>40</td>
</tr>
</tbody>
</table>

- **6-inch thick Asphalt Concrete over 36-inch thick Base Course**

- **SILTY CLAY** - moist, black, trace fine sand, medium plasticity, tar, gas vapors escaping through water

- Less tar, moist, increasing fine sand

- Increasing fine sand

- **SANDY CLAYEY SILT** - moist, black, medium plasticity, strong hydrocarbon odor, tar

*(CONTINUED ON FOLLOWING FIGURE)*
BORING M-7  (Continued)

DATE DRILLED:       June 2, 2009
EQUIPMENT USED:     Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:         189 *
LATITUDE: 34.06267°  LONGITUDE: -118.35484

Silty Sand - wet, black, fine, trace clay, strong hydrocarbon odor, tar

Silt - wet, black, some fine sand, strong hydrocarbon odor, tar

Field Tech: PK
Prepared By: NH
Checked By:

MTA Westside Subway Extension
Los Angeles, California

LOG OF BORING
Project: 4953-10-1561  Figure: B-1.7b
### BORING M-7 (Continued)

**DATE DRILLED:** June 2, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 189 *  
**LATITUDE:** 34.06267°  
**LONGITUDE:** -118.35484

**NOTES:**

Soil logged from cuttings only.  
Hand augered top 6 feet due to utilities.  
Ground water encountered at 42 feet.  
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 90 feet (yellow). See well construction diagram for M-7.

---

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
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<td>15</td>
<td>105</td>
</tr>
</tbody>
</table>

END OF BORING AT 91 FEET

Field Tech: PK  
Prepared By: NH  
Checked By:
### BORING M-8

**DATE DRILLED:** June 4, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 182 *  
**LATITUDE:** 34.06254 º  
**LONGITUDE:** -118.35652

<table>
<thead>
<tr>
<th>ELEVATION (ft)</th>
<th>DEPTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-inch thick Asphalt Concrete over 20-inch thick Base Course</td>
<td></td>
</tr>
<tr>
<td>FILL - SANDY CLAY - moist, blueish gray, fine sand, low plasticity, no odor</td>
<td></td>
</tr>
<tr>
<td>CLAYEY SILT - moist, blueish gray, trace sand, no odor</td>
<td></td>
</tr>
<tr>
<td>SILTY CLAY - moist, greenish gray, trace fine sand, medium plasticity, hydrocarbon odor</td>
<td></td>
</tr>
<tr>
<td>LEAN CLAY - moist, light olive brown, trace silt, medium plasticity, no odor</td>
<td></td>
</tr>
<tr>
<td>Black, strong hydrocarbon odor, slightly asphaltic sand</td>
<td></td>
</tr>
<tr>
<td>Siltier</td>
<td></td>
</tr>
<tr>
<td>CLAYEY SILT - moist, black, asphaltic fine sand, strong hydrocarbon odor</td>
<td></td>
</tr>
<tr>
<td>SILTY SAND - wet, black, strong hydrocarbon odor, asphaltic</td>
<td></td>
</tr>
</tbody>
</table>

---

**MTA Westside Subway Extension**  
Los Angeles, California

---

(CONTINUED ON FOLLOWING FIGURE)
BOURING M-8  (Continued)

DATE DRILLED:       June 4, 2009
EQUIPMENT USED:    Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION:       182 *
LATITUDE: 34.06254 °  LONGITUDE: -118.35652

MTA Westside Subway Extension
Los Angeles, California

LOG OF BORING

ELEVATION (ft)  DEPTH (ft)

80
105
110
115
120
125
130
135
140

ML

SILT - wet, black, some fine asphaltic sand

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: PK
Prepared By: NH
Checked By:

Figure: B-1.8b
BORING M-8  (Continued)

DATE DRILLED: June 4, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 182 *
LATITUDE: 34.06254° LONGITUDE: -118.35652

END OF BORING AT 96 FEET

NOTES:
Soil logged from cuttings only.
Hand augered top 5 feet due to utilities.
Ground water encountered at 37 feet.
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 95 feet (yellow). See well construction diagram for M-8.
BORING M-9

DATE DRILLED: June 8, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 169 *
LATITUDE: 34.06272 °  LONGITUDE: -118.35827

12-inch thick concrete over 48-inch thick Base Course

FILL - WELL GRADED SAND - moist, olive gray, fine to coarse, some gravel, no odor

SANDY SILT - wet, black, some gravel, some asphaltic sand, no odor

SILTY GRAVEL - wet, black, asphaltic sand, hydrocarbon odor

SILTY SAND - moist, black, fine asphaltic sand, strong hydrocarbon odor

Wet

(Continued on following figure)
Some gravel

Shell fragments to 78 feet, trace gravel

Date Drilled: June 8, 2009
Equipment Used: Hollow Stem Auger
Hole Diameter (in.): 8
Elevation: 169 *
Latitude: 34.06272° Longitude: -118.35827

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate. Transitions between strata may be gradual.

(MT)
### BORING M-9 (Continued)

**DATE DRILLED:** June 8, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 169 *  
**LATITUDE:** 34.06272 °  
**LONGITUDE:** -118.35827

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**END OF BORING AT 95 FEET**

**NOTES:**

Soil logged from cuttings only.  
Hand augered top 5 feet due to utilities.  
Ground water encountered at 28 feet.  
Installed nested soil vapor probes at 15 feet (green), 25 feet (red), 65 feet (blue), and 95 feet (yellow). See well construction diagram for M-9.
**BORING M-10**

**DATE DRILLED:** June 10, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 169 *  
**LATITUDE:** 34.06291 °  **LONGITUDE:** -118.36047

<table>
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- 4-inch thick Asphalt Concrete over 10-inch thick Concrete
- **FILL - SANDY SILT** with Clay - moist, reddish brown, no odor
  - Increasing medium to coarse sand
- **CLAYEY SILT** - moist, dark brown, trace fine sand, no odor
- **SILTY CLAY** - moist, olive, medium plasticity, no odor
- **SANDY SILT** - moist, black, strong hydrocarbon odor, asphalitic sand
  - Less sand

*(CONTINUED ON FOLLOWING FIGURE)*
Increasing fine sand

POORLY GRADED SAND - moist, black, fine, strong hydrocarbon odor, asphaltic

Wet

Some medium sand

Oily

(Continued on following figure)
### BORING M-10  (Continued)

**DATE DRILLED:** June 10, 2009  
**EQUIPMENT USED:** Hollow Stem Auger  
**HOLE DIAMETER (in.):** 8  
**ELEVATION:** 169'  
**LATITUDE:** 34.06291°  
**LONGITUDE:** -118.36047

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**NOTES:**

- Soil logged from cuttings only.
- Hand augered top 5 feet due to utilities.
- Ground water encountered at 52 feet.
- Installed nested soil vapor probes at 15 feet (green), 30 feet (red), 65 feet (blue), and 100 feet (yellow). See well construction diagram for M-10.

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**Project:** 4953-10-1561  
**ENVIRONMENT (EMPTY W/USCS):** S:\70131 GEOTECH\GINTW\LIBRARY MACTEC JUNE2011.GLB  
**LOG OF BORING**  
**LOS ANGELES, CALIFORNIA**  
**MTA Westside Subway Extension**  
**LOG OF BORING**  
**Project:** 4953-10-1561  
**Figure:** B-1.10c
**BORING M-11**

- **DATE DRILLED:** June 11, 2009
- **EQUIPMENT USED:** Hollow Stem Auger
- **HOLE DIAMETER (in.):** 10
- **ELEVATION:** 164 *
- **LATITUDE:** 34.06293 °  **LONGITUDE:** -118.36214

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**4-inch thick Asphalt Concrete over 12-inch thick Concrete**

**FILL - SANDY CLAYEY SILT - moist, brown, no odor**

**FILL - SANDY SILT - moist, brown, no odor**

**FILL - CLAYEY SILT - moist, brown, trace fine sand, no odor**

**LEAN CLAY - moist, dark olive brown, medium plasticity, no odor**

**CLAYEY SILT - moist, dark grayish brown, no odor**

Trace asphaltic sand, weak hydrocarbon odor

Strong hydrocarbon odor

Black

**SILTY SAND - stiff, wet, black, fine, strong hydrocarbon odor, asphaltic**

**CLAYEY SILT - stiff, wet**

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*THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.*

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**MTA Westside Subway Extension**

Los Angeles, California

**LOG OF BORING**

Project: 4953-10-1561  **Figure:** B-1.11a

Field Tech: PK  
Prepared By: NH  
Checked By: