

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
 ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

LOG OF BORING WF-1/1A

| | | | | | |
|--|--|-----------------------------|--|---|--|
| PROJECT : Wilbraham Fire Department | | LOCATION: Wilbraham, MA | | PROJECT NO. : 2241-01-01 | |
| DRILLING CONTRACTOR Seaboard Environmental Drilling | | FOREMAN Mike HELPER Doug | | DATE STARTED 9/9/2011 | |
| DRILLING EQUIPMENT B-53 Truck Mounted Rig | | COMPLETION DEPTH 27' | | DATE FINISHED 9/9/2011 | |
| TYPE BIT Hollow Stem Auger | | SIZE & TYPE OF CORE BARREL | | GROUND SURFACE ELEV. DATUM 263' | |
| CASING | | No. Samples 7 | | UNDIST. | |
| CASING HAMM. | | WEIGHT | | DROP | |
| SAMPLER: 2" O.D. Split Spoon | | Rod A (1 5/8" O.D.) | | TIME | |
| SAMPLER HAMMER Safety | | WEIGHT 140 lbs. | | DROP 30" (Wire Line) | |
| | | WATER LEVEL (FT.) | | BORING | |
| | | | | LOCATION Northeast corner of proposed building | |
| | | | | ENGINEER/GEOLOGIST Stephen McLaughlin | |

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|--------------|--------------------------------|-------------|---------------|--|-----------------------|---------|
| | | PENETR. RESIST. BL/6 IN. | REC. IN. | TYPE/ NO. | | | |
| | | | | | 3.5" Asphalt over concrete (see note) | 3.5" ASPHALT | 1 |
| X | | 8/9/9/7 | 15/24 | S-1 1-3' | Medium dense, brown, medium SAND, trace coarse sand, trace(-) gravel, trace fine sand, trace silt, trace(-) debris (brick), dry (FILL) | MEDIUM SAND (FILL) | |
| X | | 6/3/4/5 | 6/24 | S-2 3-5' | Loose, dark brown, medium SAND, trace coarse sand, trace(-) debris (slag), trace silt, dry (FILL) | ↓ | |
| X | 5 | 10/10/11/11 | 6/24 | S-3 5-7' | Medium dense, brown, medium SAND, trace coarse sand, trace(-) gravel, trace(-) silt, dry | 5' MEDIUM SAND | 2 |
| X | 10 | 15/15/14/14 | 4/24 | S-4 10-12' | Medium dense, brown, medium SAND, trace coarse sand, trace(-) gravel, trace(-) silt, dry | ↓ | 3 |
| X | 15 | 5/9/10/11 | 11/24 | S-5 15-17' | Medium dense, light brown, medium SAND, trace(-) coarse sand, dry | ↓ | |
| X | 20 | 13/32/ 50 for 5" | 3/24 | S-6 20-22' | Dense, light brown, medium SAND, trace coarse sand, trace gravel, trace(-) fine sand, dry | ↓ | 4 |
| X | 25 | 29/50 for 5" | 13/24 | S-7 25-27' | Very dense, light brown, fine SAND, trace(-) silt, dry | 25' FINE SAND | |
| | | | | | End of Exploration at 27' | ↓ | |

Remarks:

1. Concrete (+1 foot) encountered directly below asphalt, offset boring 20 feet to north and continued drilling
2. Rock in tip
3. Rock in tip
4. Auger grinding from 20-25'

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
 ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

LOG OF BORING WF-2

| | | | | | |
|--|--|---|--|---------------------------------------|--|
| PROJECT : Wilbraham Fire Department | | LOCATION: Wilbraham, MA | | PROJECT NO. : 2241-01-01 | |
| DRILLING CONTRACTOR Seaboard Environmental Drilling | | FOREMAN Mike HELPER Doug | | DATE STARTED 9/9/2011 | |
| DRILLING EQUIPMENT B-53 Truck Mounted Rig | | COMPLETION DEPTH 32' | | DATE FINISHED 9/9/2011 | |
| TYPE BIT Hollow Stem Auger | | SIZE &TYPE OF CORE BARREL | | GROUND SURFACE ELEV. DATUM ~264.5' | |
| CASING | | No. Samples 7 | | UNDIST. | |
| CASING HAMM. | | WEIGHT | | TIME | |
| SAMPLER: 2" O.D. Split Spoon | | Rod A (1 5/8" O.D.) | | FIRST | |
| SAMPLER HAMMER Safety | | WEIGHT 140 lbs. | | COMPL. | |
| | | DROP 30" (Wire Line) | | HR. | |
| | | WATER LEVEL (FT.) | | - | |
| | | BORING | | | |
| | | LOCATION Southeast corner of proposed building | | | |
| | | ENGINEER/GEOLOGIST Stephen McLaughlin | | | |

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|-----------|--------------------------|----------|---------------|--|---|---------|
| | | PENETR. RESIST. BL/6 IN. | REC. IN. | TYPE/ NO. | | | |
| X | 5 | 7/16/13/17 | 9/24 | S-1 1-3' | 4" Asphalt Medium dense, brown, medium SAND, little gravel, trace coarse sand, trace fine sand, trace(-) silt, dry (FILL) | 4" ASPHALT MEDIUM SAND AND GRAVEL (FILL) | 1 |
| X | | 29/25/27/39 | 12/24 | S-2 3-5' | Very dense, light brown, medium SAND, trace(+) gravel, trace coarse sand, trace fine sand, trace(-) silt, dry (FILL) | ↓ MEDIUM SAND | |
| X | 10 | 27/50 for 4" | 7/24 | S-3 10-12' | Very dense, brown, medium SAND, little coarse sand, trace gravel, trace(-) fine sand, trace(-) silt, dry | ↓ | |
| X | 15 | 8/11/15/15 | 16/24 | S-4 15-17' | Medium dense, brown, medium SAND, trace(-) coarse sand, dry | ↓ | |
| X | 20 | 6/12/16/17 | 18/24 | S-5 20-22' | Medium dense, brown, fine SAND, trace(-) silt, dry | 20' ↓ FINE SAND | |
| X | 25 | 6/14/17/31 | 12/24 | S-6 25-27' | Dense, brown, fine SAND, some medium sand, trace silt, trace(-) coarse sand, dry | ↓ | |

Remarks:
 1. Auger grinding from 5-10'
 2. Rock in tip

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
 ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

LOG OF BORING WF-2

Sheet 2 of 2

Project No. 2241-01-01

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|---------------------------------------|-------------------------------|-------------|---------------|--|---------------------|---------|
| | | PENETR. RESIST. BL/6IN. | REC. IN. | TYPE/ NO. | | | |
| X | 30 | 8/16/28/43 | 15/24 | S-7 30-32' | Dense, brown, medium SAND, trace gravel, trace(-) silt, bottom 3" damp | FINE SAND ↓ | 2 |
| | 30' MEDIUM SAND AND GRAVEL ↓ | | | | | | |
| | | | | | End of Exploration at 32' | | |
| | 35 | | | | | | |
| | 40 | | | | | | |
| | 45 | | | | | | |
| | 50 | | | | | | |
| | 55 | | | | | | |
| | 60 | | | | | | |

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
 ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

LOG OF BORING WF-3

| | | | | | |
|--|--|-----------------------------|--|---|--|
| PROJECT : Wilbraham Fire Department | | LOCATION: Wilbraham, MA | | PROJECT NO. : 2241-01-01 | |
| DRILLING CONTRACTOR Seaboard Environmental Drilling | | FOREMAN Mike HELPER Doug | | DATE STARTED 9/9/2011 | |
| DRILLING EQUIPMENT B-53 Truck Mounted Rig | | COMPLETION DEPTH 27' | | DATE FINISHED 9/9/2011 | |
| TYPE BIT Hollow Stem Auger | | SIZE & TYPE OF CORE BARREL | | GROUND SURFACE ELEV. DATUM 263' | |
| CASING | | No. Samples 8 | | UNDIST. | |
| CASING HAMM. | | WEIGHT | | DROP | |
| SAMPLER: 2" O.D. Split Spoon | | Rod A (1 5/8" O.D.) | | TIME | |
| SAMPLER HAMMER Safety | | WEIGHT 140 lbs. | | DROP 30" (Wire Line) | |
| | | BORING | | LOCATION Southwest corner of proposed building | |
| | | ENGINEER/GEOLOGIST | | Stephen McLaughlin | |

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|--------------|--------------------------------|-------------|---------------|--|-----------------------|---------|
| | | PENETR. RESIST. BL/6 IN. | REC. IN. | TYPE/ NO. | | | |
| | | | | | 1.5" Asphalt | 1.5" ASPHALT | |
| X | | 14/23/22/19 | 12/24 | S-1 1-3' | Dense, brown, fine SAND, trace coarse sand, trace gravel, trace(-) debris (brick), trace(-) medium sand, trace silt, dry (FILL) | MEDIUM SAND (FILL) | |
| X | | 22/13/10/7 | 2/24 | S-2 3-5' | Medium dense, brown, fine SAND, trace coarse sand, trace gravel, trace(-) medium sand, trace silt, dry (FILL) | | |
| X | 5 | 9/6/3/4 | 6/24 | S-3 5-7' | Loose, brown, medium SAND, trace(+) gravel, trace coarse sand, trace(-) fine sand, trace silt, dry (FILL) | | |
| X | | 3/2/1/2 | 10/24 | S-4 10-12' | Very loose, brown, medium SAND, trace(-) gravel, trace(-) coarse sand, dry 2" layer of dark brown, fine sand, trace organics at approximately 11 feet | | |
| X | | 5/7/7/7 | 10/24 | S-5 12-14' | Medium dense, brown, fine SAND, trace medium sand, trace coarse sand, trace silt, dry 4" layer of dark brown fine sand, trace organics (roots) at approximately 13 feet | 12' FINE SAND | |
| X | 15 | 10/11/7/7 | 6/24 | S-6 15-17' | Medium dense, brown, fine SAND, trace(+) medium sand, trace(+) silt, trace(-) gravel, damp | | 1 |
| X | | 21/23/23/21 | 12/24 | S-7 20-22' | Dense, light brown, medium SAND, trace coarse sand, trace(-) fine sand, trace gravel, dry | 20' MEDIUM SAND | |
| X | 25 | 18/25/20/25 | 11/24 | S-8 25-27' | Dense, light brown, medium SAND, trace(-) fine sand, dry | | |
| | | | | | End of Exploration at 27' | | |

Remarks:
 1. Auger grinding from 14-15'

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
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LOG OF BORING WF- 4

| | | | | | |
|--|--|-----------------------------|--|---|--|
| PROJECT : Wilbraham Fire Department | | LOCATION: Wilbraham, MA | | PROJECT NO. : 2241-01-01 | |
| DRILLING CONTRACTOR Seaboard Environmental Drilling | | FOREMAN Mike HELPER Doug | | DATE STARTED 9/9/2011 | |
| DATE FINISHED 9/9/2011 | | COMPLETION DEPTH 37' | | GROUND SURFACE ELEV. DATUM ~263.5' | |
| DRILLING EQUIPMENT B-53 Truck Mounted Rig | | SIZE &TYPE OF CORE BARREL | | No. Samples 10 | |
| TYPE BIT Hollow Stem Auger | | CASING | | UNDIST. | |
| CASING HAMM. | | WEIGHT | | DROP | |
| SAMPLER: 2" O.D. Split Spoon | | Rod A (1 5/8" O.D.) | | BORING | |
| SAMPLER HAMMER Safety | | WEIGHT 140 lbs. | | DROP 30" (Wire Line) | |
| | | | | LOCATION Northwest corner of proposed building | |
| | | | | ENGINEER/GEOLOGIST Stephen McLaughlin | |

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|--------------|--------------------------------|-------------|---------------|--|---------------------|---------|
| | | PENETR. RESIST. BL/6 IN. | REC. IN. | TYPE/ NO. | | | |
| | | | | | 4" Asphalt | 4" ASPHALT | |
| X | | 14/17/19/22 | 16/24 | S-1 1-3' | Dense, brown, fine SAND, trace medium sand, trace coarse sand, trace silt, trace(-) debris (concrete), trace(-) gravel, dry (FILL) | FINE SAND (FILL) | |
| X | | 11/7/6/7 | 5/24 | S-2 3-5' | Medium dense, brown, fine SAND, trace coarse sand, trace silt, trace(-) medium sand, trace(-) gravel, dry (FILL) | ↓ | |
| X | 5 | 5/7/8/16 | 8/24 | S-3 5-7' | Medium dense, brown, fine SAND, trace coarse sand, trace gravel, trace(-) medium sand, trace(-) silt, dry | 5' FINE SAND | |
| X | | 50 for 6" | 0/24 | S-4 10-12' | No recovery (spoon bouncing) | ↓ | |
| X | | 8/11/14/22 | 14/24 | S-5 12-14' | Medium dense, light brown, medium SAND, trace(-) fine sand, dry | 12' MEDIUM SAND | |
| X | 15 | 8/12/13/22 | 13/24 | S-6 15-17' | Medium dense, light brown, medium SAND, trace(-) fine sand, dry | ↓ | |
| X | | 9/17/17/18 50 for 5" | 17/24 | S-7 20-22' | Dense, light brown, medium SAND, trace(-) fine sand, damp | ↓ | |
| X | 25 | 6/10/17/32 | 9/24 | S-8 25-27' | Medium dense, light brown, medium SAND, trace(-) coarse sand, trace(-) gravel, trace(-) fine sand, damp | ↓ | |

Remarks:

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 ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

LOG OF BORING WF-4

Sheet 2 of 2

Project No. 2241-01-01

| SAMPLES | DEPTH FT. | SAMPLES | | | DESCRIPTION | SOIL DESCRIPTION | REMARKS |
|---------|-----------|-------------------------|----------|----------------|---|------------------|---------|
| | | PENETR. RESIST. BL/6IN. | REC. IN. | TYPE/ NO. | | | |
| | | | | | | MEDIUM SAND | |
| | 30 | 16/15/22/25 | 11/24 | S-9 30-32' | Dense, brown, medium SAND, trace gravel, trace(-) silt, bottom 3" damp | ↓ | |
| | 35 | 15/34/36/49 | 6/24 | S-10 35-37' | Very dense, brown, medium SAND, trace coarse sand, trace(-) gravel, trace(-) fine sand, dry | | |
| | | | | | End of Exploration at 37' | | |
| | 40 | | | | | | |
| | 45 | | | | | | |
| | 50 | | | | | | |
| | 55 | | | | | | |
| | 60 | | | | | | |