



Engineering a Sustainable Future

Nobis Engineering, Inc. | New Hampshire | Massachusetts

June 17, 2011  
File No. 84640.01

Mr. Thomas Bierbaum  
Volunteers of America  
411 Centre Street  
Jamaica Plain, MA 02130

**Re: Phase II Site Investigation  
1323 Broadway  
Somerville, Massachusetts**

Dear Mr. Bierbaum:

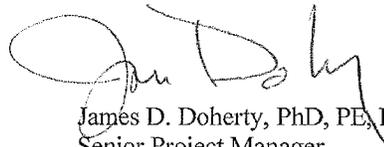
Nobis Engineering Inc. is pleased to provide the Phase II Site Investigation completed at the above-referenced site.

Please contact either of the undersigned at (978) 683-0891 should you have any further questions regarding the information provided.

Sincerely,

**NOBIS ENGINEERING, INC.**

  
Corey Rousseau  
Project Scientist

  
James D. Doherty, PhD, PE, LSP  
Senior Project Manager

Attachment: Phase II Site Investigation

cc: Nobis File No. 84640.01

Client-Focused, Employee-Owned  
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**ASTM PHASE II  
ENVIRONMENTAL SITE ASSESSMENT**

**1323 BROADWAY  
SOMERVILLE, MASSACHUSETTS**

Prepared for:

Mr. Thomas Bierbaum  
Volunteers of America  
411 Centre Street  
Jamaica Plain, MA 02130

Prepared by:

Nobis Engineering, Inc.  
585 Middlesex Street  
Lowell, Massachusetts 01851  
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June 17, 2011  
File No. 84640.01

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June 17, 2011

## **1.0 INTRODUCTION**

Nobis Engineering, Inc. (Nobis) was retained by the Volunteers of America to complete a Phase II Site Investigation in general accordance with ASTM E 1903-97, "Environmental Site Assessments: Phase II Environmental Site Assessment Process" for the property located at 1323 Broadway in Somerville, Massachusetts (the Site). The site location and site features are depicted on Figures 1 and 2, respectively.

## **2.0 BACKGROUND**

On April 15, 2011, Nobis submitted a Phase I Environmental Site Assessment (ESA) for the Site to Mr. Thomas Bierbaum of Volunteers of America (VOA). Findings of the Phase I ESA identified one recognized environmental condition (REC). Historical information identified the presence of a former 2,000-gallon underground storage tank (UST) which was reportedly situated under the grass area east of the Site building from 1993 to 2003. However, required documentation regarding the integrity of the former 2,000-gallon UST and condition of the soils in the excavation was not identified during our document review.

Based on the findings of the ESA, Nobis proposed further site investigation. Prior to initiating work, Nobis developed a Phase II Scope of Work and Cost Estimate providing VOA with details of the proposed activities and costs associated with further evaluation of the REC. The objective of this Phase II ESA was to conduct a screening assessment for the presence of petroleum products in soils at the Site in the vicinity of the former underground storage tank (UST).

### **2.1 Scope of Work**

Nobis recommended the advancement of up to six soil borings and collection of soil samples to address the aforementioned RECs at the Site, the Scope of Work (SOW) for this Phase II included the performance of a subsurface investigation including the advancement of soil borings and collection of soil samples. Soil samples were collected from the grassy area between the Site building and North Street (the former location of the UST) for headspace analysis of volatile compounds (VCs) using a Geoprobe® direct push soil sampler.

### **2.2 Objectives**

The objectives of this Phase II were to further investigate areas of concern identified by the ESA to assess the possibility that petroleum products were released from the former UST at the site.

### **2.3. Site Description and Features**

The Site consists of a developed 0.45 acre parcel identified on City of Somerville Tax Assessor's Map 5, Block B Lot 3 in Somerville, Massachusetts. The Site improvements consist of a two-story building with a full basement located at 1323 Broadway. The Site is currently zoned as Residential/Business (RB).

The Site consists of an approximately 0.45 acre parcel of land improved by a 10,512 square-foot, two-story building with a full basement. An elevator services all three levels of the building. The on-Site building is serviced by public water and sewer. The second floor of the building is currently occupied by the Wayside Shortstop program, which is a non-profit program providing shelter to youth and families. The first floor and the basement of the building are currently vacant, and reportedly unused for the last five to ten years. According to the City of Somerville Assessor's office records, the building was reportedly constructed in 1960 for use as a nursing home. The basement was reportedly formerly used as

June 16, 2011

a common area for the nursing home and the youth shelter. The remainder of the Site consists of paved asphalt parking areas and landscaped areas.

Based on Site observations and review of the Boston South, Massachusetts, United States Geological Survey (USGS) Topographic Map, elevation at the Site is approximately 46 feet above the National Geodetic Vertical Datum of 1929. The surrounding topography appears to slope down to the west/northwest. It should be noted that the inferred groundwater flow direction is only an approximate interpretation.

Based on review of the Bedrock Geologic Map of Massachusetts, 1983, bedrock at the Site is classified as Cambridge Argillite; a gray conglomerate of gray argillite, minor quartzite, and rare sandstone. Depth to bedrock is not known and no subsurface investigation was performed to assess soils.

#### **2.4 Site History and Land Use**

The Site was occupied by a residence from 1884 to 1910. An addition was constructed to the residence and it was occupied by the Somerville Contagious Hospital from 1915 to 1950 when it was converted to the Hillcrest Nursing Home. The Hillcrest Nursing Home was demolished between 1950 and 1960 when the current building was constructed as the Clarendon Nursing Home. The Site has been occupied by a homeless shelter since at least 1993.

The basement and first floor of the Site building are vacant. The second floor is occupied by the Wayside Shortstop program, which is a non-profit program providing shelter to youth and families.

#### **2.5 Adjacent Property Land Use**

A playground and basketball courts abut the Site to the north and a cemetery abuts the Site to the west. Residential properties abut the Site to the south, across Broadway, and to the east, across North Street.

### **3.0 PHASE II ACTIVITIES**

#### **3.1 Soil Boring Advancement and Soil Sampling**

On June 9, 2011, six soil borings were advanced at the Site to evaluate subsurface conditions and collect soil samples for headspace analysis. Boring locations were selected based on areas of concern identified during the Phase I ESA, and current site conditions. Nobis visually observed a depression in the landscaped area between the building and North Street and it is likely that this area is the former location of the UST. Refer to Figure 2 for soil boring locations.

Soil borings were advanced by Technical Drilling Services (TDS) of Sterling, MA using a track mounted Geoprobe® rig. Borings were advanced using a 2-inch direct push sampler lined with acetate sleeves.

Soil samples were collected in 4-foot intervals continuously from the ground surface to inferred native material or refusal at each boring location.

Two soil borings (NOB-101 and NOB-103) were advanced north of the suspected former UST location. Soil borings were advanced to a depth of 7.5 and 11 ft bgs, respectively. No visual or olfactory evidence of potential petroleum contamination was noted during the advancement of the above referenced borings.

Four additional soil borings were advanced within suspected location of the former UST (NOB-102, NOB-104, NOB-105, and NOB-106). Soil samples were continuously collected; visually, olfactory, and PID screened until refusal or native material was encountered. Soil borings were advanced to depths of 16, 15, 10, and 12 feet (ft) below the ground surface (bgs), respectively. No visual or olfactory evidence of potential petroleum contamination was noted during the advancement of the above referenced borings.

Observations made while advancing borings NOB-102, NOB-104, NOB-105, and NOB-106 support the conclusion that these wells were in the former location of the UST. Soil density was observed to be lower in the borings advanced in the likely former UST location than that observed in borings outside of the former UST location. In addition, probe refusal was encountered at shallower depths the background locations than in the former UST locations. Thus, although records of the exact location of the former UST are not available, based on field observations, it is likely that soils in the location of the former UST were sampled during the field investigations.

Soil samples were classified in accordance with the ASTM D2488-Visual Manual Procedure. Headspace screening was conducted on soil samples collected from each sample interval using a MiniRAE 2000 photoionization detector (PID). The PID, equipped with a 10.6 eV lamp and calibrated to an isobutylene standard, is capable of detecting total VOCs at levels down to 0.1 ppmv (parts per million by volume). Headspace screening reading ranged from 0.0 to a maximum of 0.5 ppmv in NOB-106, slightly higher than the ambient air reading of 0.3 ppmv. Possible groundwater was encountered in NOB-102 at depth of 14 feet below ground surface. Headspace screening results are included as Table 1, and boring logs are included as Appendix A.

No soil samples were submitted for laboratory analysis.

## **4.0 FINDINGS AND CONCLUSIONS**

### **4.1 Recognized Environmental Conditions**

During the course of the Phase I ESA, one REC was identified at the site relating to the lack of documented observations during the closure of the former UST at the site. Due to the deficiency of this documentation it could not be concluded that a release from the former UST had not occurred.

Phase II investigations were conducted to assess soils in the former tank grave to evaluate the possible presence of petroleum contamination in soils at the former UST grave. The results of the Phase II subsurface investigation did not identify any evidence of petroleum contamination in the likely location of the former underground storage tank at the above address. As a result, the REC identified in our ASTM Phase I Site Investigation Report has been resolved.

## **5.0 RECOMMENDATIONS**

Based on the results of the Limited Phase II Site Investigation, Nobis has no further recommendations regarding environmental conditions or possible RECs at the Site.

## **6.0 LIMITATIONS AND CONDITIONS**

The results, conclusions and recommendations of Phase II Report are subject to the Limitations and Conditions identified in Appendix B.

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**Table 1**  
**Summary of Headspace Screening Results**  
**1323 Broadway**  
**Somerville, Massachusetts**

Soil Boring ID	NOB-101	NOB-102	NOB-103	NOB-104	NOB-105	NOB-106
Depth Interval (ft)	PID Screening Reading (ppmv)					
1	0.0	0.0	0.0	0.0	0.0	0.4
2	0.0	0.0	0.1	0.0	0.3	0.4
3	0.1	0.0	0.0	0.0	0.3	0.4
4	0.1	0.0	0.0	0.0	0.3	0.4
5	0.4	0.0	0.1	0.2	0.4	0.4
6	0.1	0.0	0.1	0.3	0.4	0.5
7	0.1*	0.0	0.1	0.2	0.3	0.4
8		0.0	0.1	0.3	0.4	0.5
9		0.0	0.0	0.3	0.4	0.3
10		0.2	0.0	0.3	0.3*	0.4
11		0.0	0.0*	0.3		0.4
12		0.2		0.3		0.4*
13		0.2		0.3		
14		0.2		0.3		
15		0.1		0.3*		
16		0.1*				

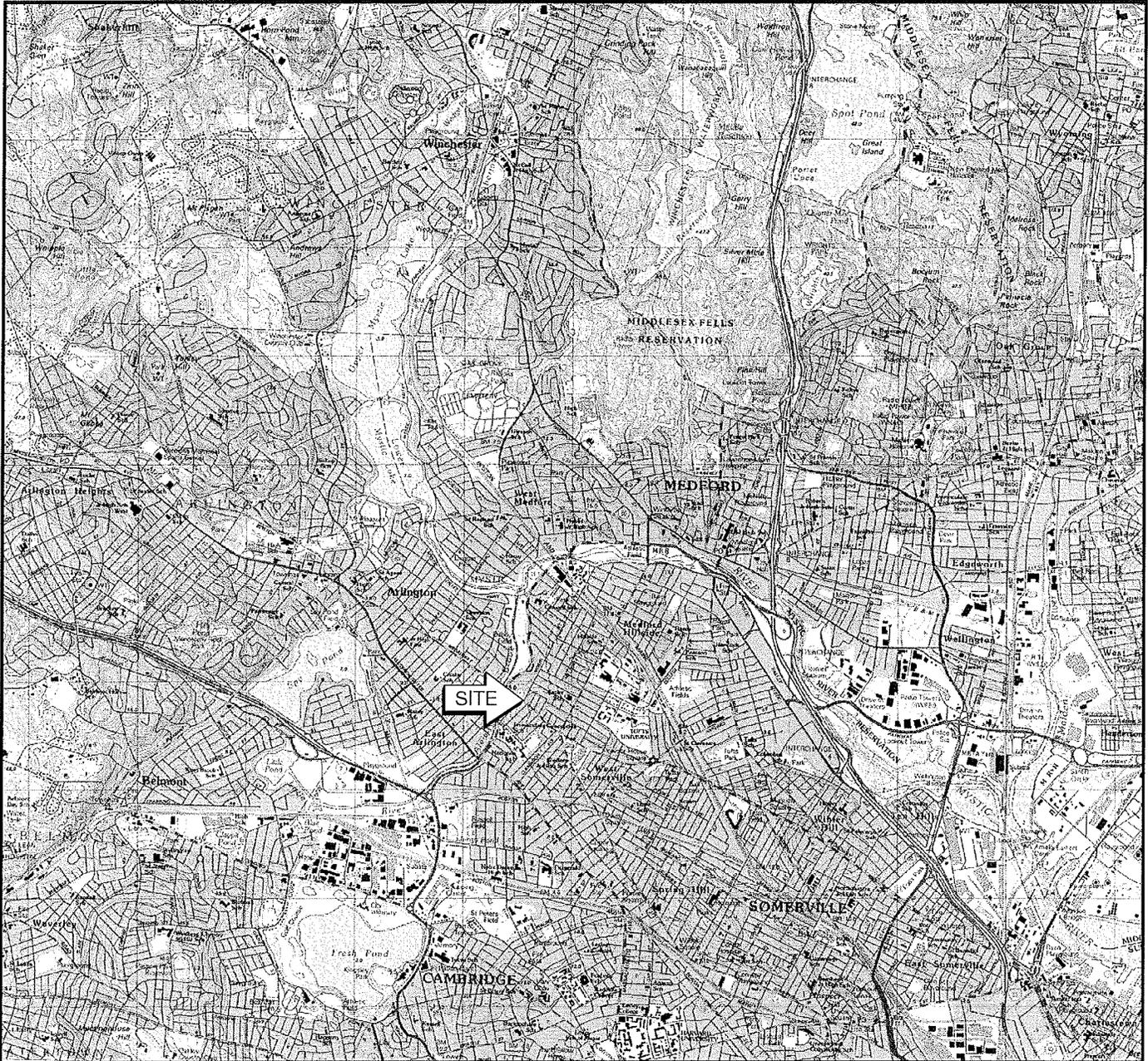
NOTES:

- 1) Photoionization detector (PID) readings are in parts per million by volume (ppmv) referenced to an isobutylene-in-air standard.
- 2) PID readings obtained from head-space tests of 8-ounce jar soil samples obtained from the soil borings performed on June 9, 2011.
- 3) PID readings obtained by Nobis Engineering, Inc. personnel using a MiniRAE 2000 PID equipped with a 10.6 eV lamp.
- 4) "\*" indicates bottom of boring.
- 5) Ambient air background readings ranged from 0.0 to maximum of 0.3 ppmv.

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**F I G U R E S**



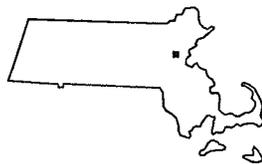
NORTH

USGS TOPOGRAPHIC MAP  
SOMERVILLE, MASSACHUSETTS  
1985

APPROXIMATE SCALE  
1 INCH = 2,000 FEET



Engineering a Sustainable Future  
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QUADRANGLE LOCATION

### FIGURE 1

LOCUS PLAN  
1323 BROADWAY  
SOMERVILLE, MASSACHUSETTS

PROJECT: 84640

APRIL 2011

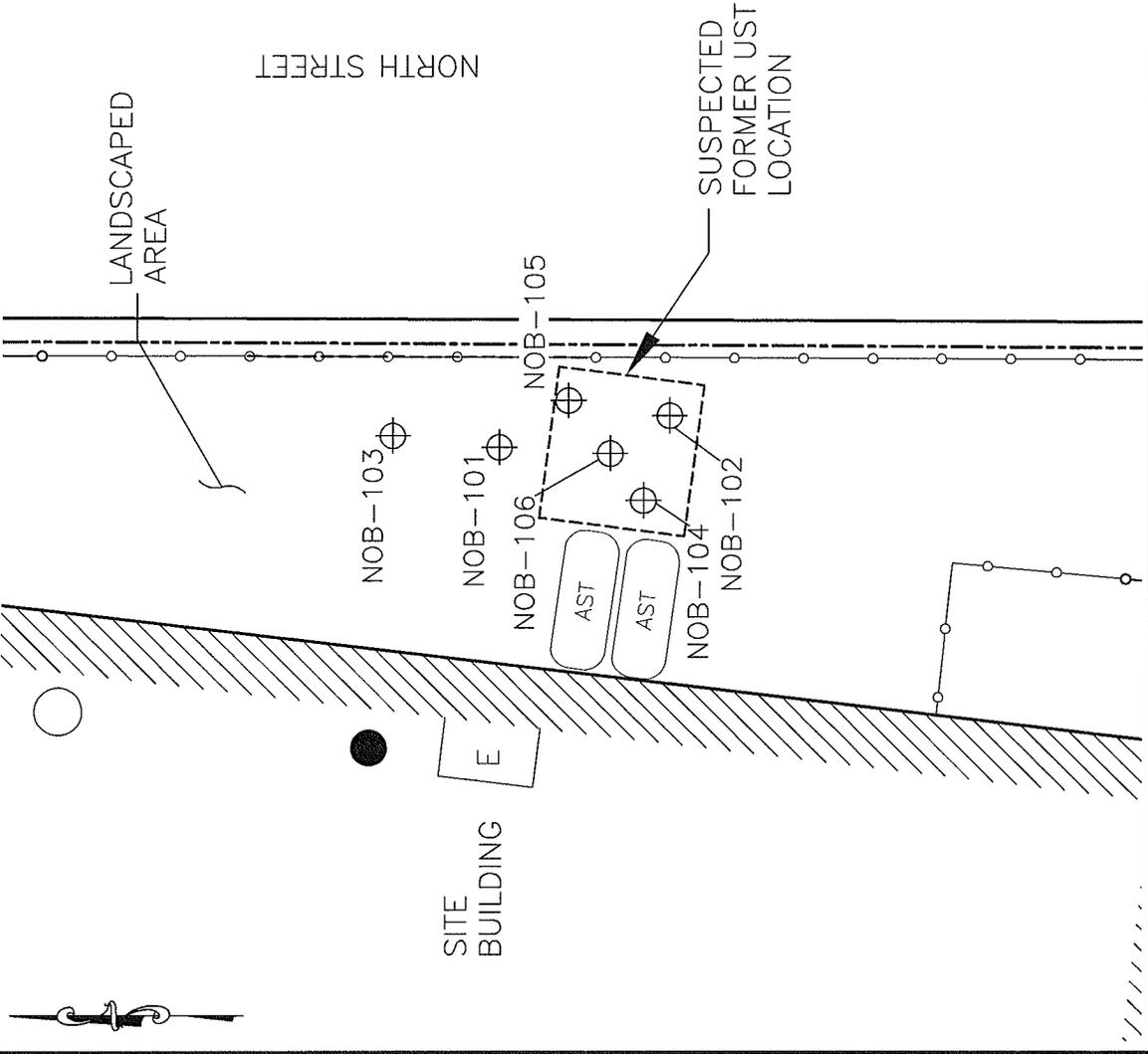
**NOTES**

1. THIS SITE SKETCH WAS DEVELOPED FROM A SITE PLAN SUPPLIED BY THE SITE OPERATIONS BY NOBIS ENGINEERING, INC. AND SOMERVILLE ASSESSOR'S TAX MAPS.
2. LOCATIONS AND SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY.

**LEGEND:**

-  ABOVEGROUND STORAGE TANK
-  CHAIN-LINK FENCE
-  SITE PROPERTY BOUNDARY
-  CONCRETE PIPE STRUCTURE
-  FLOOR DRAIN
-  ELEVATOR
-  NOBIS TEST BORING

NOB-101




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**FIGURE 2**

<b>SITE PLAN</b>	
COMMERCIAL BUILDING 1323 BROADWAY SOMERVILLE, MASSACHUSETTS	
DRAWN BY: MAW	APPROVED BY: CR
PROJECT: 84640	JUNE 2011

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Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-101**  
 Boring Location: East side of building, grassy area, North Street  
 Checked by: \_\_\_\_\_  
 Date Start: June 9, 2011  
 Date Finish: June 9, 2011

Contractor: Technical Drilling Services  
 Driller: James  
 Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT  
 Hammer Type: \_\_\_\_\_  
 Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_  
 Top-of-Riser Elev.: \_\_\_\_\_  
 Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations				
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)
Geoprobe	Geoprobe	Macro-Core Liners					
Size (in.)	1.5	1-3/8 ID					
Advancement	Push	Push					

Depth (ft.)	SAMPLE INFORMATION					PID	Ground Water	LITHOLOGY		SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/ 6 in.				Graphic	Stratum / Elev.(ft.)		
1	G1	31	0-4			0			(13"): Brown, fine to medium SAND, trace silt, dry. Organics observed, topsoil. (31"): Orange, fine to coarse SAND AND GRAVEL, dry. No odor detected.	1	
2						0.1					
3						0					
4											
5	G2	48	4-8			0.4			Light brown, fine to medium SAND with silt, dense, moist.		
6						0.1					
7						0.1					
8						0.1			Refusal at 7.6 ft bgs, boring terminated. Native material encountered 4-7.6 ft bgs.		
9											
10											
11											
12											
13											
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34											
35											

<b>SAMPLE IDENTIFICATION</b> G - Geoprobe S - Split Spoon U - Undisturbed Sample R - Core Run	<b>REMARKS:</b> 1) Ambient air 0.1 ppmv
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BOREHOLE LOG REVISED - DATA TEMPLATE MAY 2010.GDT - 6/17/11 09:53 - O:\ACTIVE\84640 VOLUNTEERS OF AMERICA\PHASE II\EXPLORATION LOGS\12 EXPLORATION LOGS.GPJ



Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-102**  
 Boring Location: East side of building, grassy area, North Street  
 Checked by: \_\_\_\_\_  
 Date Start: June 9, 2011  
 Date Finish: June 9, 2011

Contractor: Technical Drilling Services  
 Driller: James  
 Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT  
 Hammer Type: \_\_\_\_\_  
 Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_  
 Top-of-Riser Elev.: \_\_\_\_\_  
 Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations					
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Geoprobe	Geoprobe	Macro-Core Liners						
Size (in.)	1.5	1-3/8 ID						
Advancement	Push	Push						

Depth (ft.)	SAMPLE INFORMATION				PID	Ground Water	LITHOLOGY		SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/6 in.			Graphic	Stratum / Elev.(ft.)		
1	G1	38	0-4		0			Brown, fine to medium SAND, trace silt, organics (roots, grass), trace gravel, dry. No odor detected.	1	
2					0					
3					0					
4					0					
5	G2	40	4-8		0			(20"): Brown, fine to coarse SAND, trace silt, trace gravel, trace organics (roots), dry to moist. No odor detected.		
6					0			(20"): Light brown, fine to coarse SAND with silt, trace gravel, moist, no odor.		
7					0					
8					0					
9	G3	48	8-12		0			Light brown, fine to coarse SAND with silt and gravel, moist. Possible till material, no odor detected.		
10					0.2					
11					0					
12					0.2					
13	G4	48	12-16		0.2			Light brown, fine to coarse SAND with silt and gravel, moist to wet. Till material, no odor detected.		
14					0.2					
15					0.1					
16					0.1					
17										
18										
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**SAMPLE IDENTIFICATION**  
 G - Geoprobe  
 S - Split Spoon  
 U - Undisturbed Sample  
 R - Core Run

**REMARKS:**  
 1) Ambient air 0.0 ppmv

Page No. 1 of 1



Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-103**  
 Boring Location: East side of building, grassy area, North Street  
 Checked by: \_\_\_\_\_  
 Date Start: June 9, 2011  
 Date Finish: June 9, 2011

Contractor: Technical Drilling Services  
 Driller: James  
 Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT  
 Hammer Type: \_\_\_\_\_  
 Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_  
 Top-of-Riser Elev.: \_\_\_\_\_  
 Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations				
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)
Geoprobe	Geoprobe	Macro-Core Liners					
Size (in.)	1.5	1-3/8 ID					
Advancement	Push	Push					

Depth (ft.)	SAMPLE INFORMATION				Ground Water	LITHOLOGY	SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/ 6 in.				
1	G1	35	0-4			(15"): Brown, fine to medium SAND, trace silt, trace organics, dry. No odor detected. (20"): Brownish orange fine to coarse SAND with gravel, rock fragments, dry. No odor detected.	1	
2								
3								
4								
5	G2	48	4-8					
6								
7								
8								
9	G3	36	8-12					
10								
11								
12					Refusal at 11 ft bgs, sleeve stuck in casing, exploration terminated.			
13								
14								
15								
16								
17								
18								
19								
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22								
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35								

<b>SAMPLE IDENTIFICATION</b> G - Geoprobe S - Split Spoon U - Undisturbed Sample R - Core Run	<b>REMARKS:</b> 1) Ambient air 0.0 ppmv
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Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-104**

Boring Location: East side of building, grassy area, North Street

Checked by: \_\_\_\_\_

Date Start: June 9, 2011

Date Finish: June 9, 2011

Contractor: Technical Drilling Services

Driller: James

Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT

Hammer Type: \_\_\_\_\_

Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_

Top-of-Riser Elev.: \_\_\_\_\_

Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations				
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)
Geoprobe	Geoprobe	Macro-Core Liners					
Size (in.)	1.5	1-3/8 ID					
Advancement	Push	Push					

Depth (ft.)	SAMPLE INFORMATION				PID	Ground Water	LITHOLOGY		SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/6 in.			Graphic	Stratum / Elev.(ft.)		
1	G1	36	0-4		0			Brown, fine to medium SAND, trace silt, trace organics (roots), dry. No odor detected.	1	
2					0.1					
3					0					
4					0					
5	G2	40	4-8		0.1			Brown, fine to coarse SAND, trace silt, trace organics (wood fragments), dry to moist, no odor detected.		
6					0.1					
7					0.1					
8					0.1					
9	G3	48	8-12		0			Brown, fine to coarse SAND with silt and gravel, moist. No odor detected.		
10					0					
11					0					
12										
13	G4	36	12-16					Light brown, fine to coarse SAND with silt and gravel, dry to moist. Dense, no odor detected.		
14										
15										
16										
17										
18										
19										
20										
21										
22										
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26										
27										
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30										
31										
32										
33										
34										
35										

SAMPLE IDENTIFICATION

- G - Geoprobe
- S - Split Spoon
- U - Undisturbed Sample
- R - Core Run

REMARKS:

1) Background PID = 0.2 ppm

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Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-105**

Boring Location: East side of building, grassy area, North Street

Checked by: \_\_\_\_\_

Date Start: June 9, 2011

Date Finish: June 9, 2011

Contractor: Technical Drilling Services  
Driller: James  
Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT  
Hammer Type: \_\_\_\_\_  
Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_  
Top-of-Riser Elev.: \_\_\_\_\_  
Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations				
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)
Geoprobe	Geoprobe	Macro-Core Liners					
Size (in.)	1.5	1-3/8 ID					
Advancement	Push	Push					

Depth (ft.)	SAMPLE INFORMATION				PID	Ground Water	LITHOLOGY		SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/6 in.			Graphic	Stratum / Elev.(ft.)		
1	G1	30	0-4		0			Brown, fine to medium SAND, trace silt, trace organics (roots, grass), dry. No odor detected.	1	
2					0					
3					0					
4					0					
5	G2	48	4-8		0.2			Light brown, fine to coarse SAND with silt, trace gravel, moist. Dense, no odor detected.		
6					0.3					
7					0.2					
8					0.3					
9	G3	24	8-12		0.3			Light brown, fine to coarse SAND with silt and gravel, moist, dense. Rock in toe of sleeve.		
10					0.3			Refusal at 10 ft bgs. Exploration terminated.		
11					0.3					
12					0.3					
13					0.3					
14					0.3					
15					0.3					
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35										

SAMPLE IDENTIFICATION

- G - Geoprobe
- S - Split Spoon
- U - Undisturbed Sample
- R - Core Run

REMARKS:

1) Ambient air 0.3 ppmv

BOREHOLE LOG REVISED - DATA TEMPLATE MAY 2010.GDT - 6/17/11 09:53 - 0:\ACTIVE\B84640 VOLUNTEERS OF AMERICA\PHASE II\EXPLORATION LOGS\2 EXPLORATION LOGS.GPJ



Engineering a Sustainable Future

**PROJECT**

1323 Broadway  
Somerville, MA

Nobis File No.: 84640.01

Boring No.: **NOB-106**

Boring Location: East side of building, grassy area, North Street

Checked by: \_\_\_\_\_

Date Start: June 9, 2011

Date Finish: June 9, 2011

Contractor: Technical Drilling Services

Driller: James

Nobis Rep.: C. Rousseau

Rig Type / Model: Geoprobe 6620DT

Hammer Type: \_\_\_\_\_

Hammer Hoist: \_\_\_\_\_

Ground Surface Elev.: \_\_\_\_\_

Top-of-Riser Elev.: \_\_\_\_\_

Datum: \_\_\_\_\_

Type	Drilling Method	Sampler	Groundwater Observations				
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)
Geoprobe		Macro-Core Liners					
Size (in.)	1.5	1-3/8 ID					
Advancement	Push	Push					

Depth (ft.)	SAMPLE INFORMATION				PID	Ground Water	LITHOLOGY		SAMPLE DESCRIPTION	REMARKS
	Type & No.	Rec (in.)	Depth (ft)	Blows/ 6 in.			Graphic	Stratum / Elev.(ft.)		
1	G1	30	0-4		0.3	[Dotted pattern]		Brown fine to medium SAND, trace silt, trace organics, dry. No odor detected.	1	
2					0.3					
3					0.3					
4					0.3					
5	G2	30	4-8		0.4			Brown, fine to coarse SAND, trace silt, trace gravel, dry. No odor detected.		
6					0.4			Rock at bottom of hole, boring relocated approx. 1 ft SW, advanced to 8 feet, and proceeded with screening.		
7					0.3					
8					0.4					
9	G3	48	8-12		0.4			Brownish orange, fine to coarse SAND with silt and gravel, moist. Rock fragments observed, no odor detected.		
10					0.3					
11										
12								No fill noted, native material. Exploration terminated at 12 ft bgs.		
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## STATEMENT OF LIMITATIONS AND CONDITIONS

### Nobis Engineering, Inc.

#### **1. General**

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#### **2. Scope of Service**

The observations and conclusions described in this Report are based solely on the Services provided pursuant to the Agreement with the Client and any approved additional services authorized by Client.

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#### **4. Use by Others**

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#### **5. The conclusions stated in this Opinion are based upon [check and initial appropriate boxes]:**

Visual inspection of existing physical conditions;

- 
- Review and interpretation of site history and site usage information which was made available or obtained within the scope of work authorized by the Client;
  - Information provided by the Client;
  - Information and/or analyses for designated substances or parameters provided by an independent testing service or laboratory on a limited number of samples;
  - A limited number of subsurface explorations made on dates indicated in documentation supporting the Opinion;
  - Other:

Upon which the staff has relied and presumed accurate, and upon which the staff is entitled to reasonably rely. The staff was not authorized and did not attempt to independently verify the accuracy or completeness of information or materials received from the Client and/or from laboratories and other third parties during the performance of its services. Neither Nobis Engineering, Inc. nor the staff shall be liable for any condition, information, or conclusion, the discovery of which required information not available to the staff or for independent investigation of information provided to the staff by the Client and/or independent third parties.

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