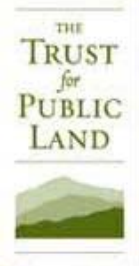


# Remedial Action Closure Report Former Ponagansett Avenue Landfill 67 Melissa Street Providence, Rhode Island

*Prepared for*



The Trust for Public Land  
33 Union Street, 4th Floor  
Boston, MA 02108



*Prepared by*



EA Engineering, Science, and Technology, Inc.  
2350 Post Road  
Warwick, RI 02886

**June 2007**

*Version: Final  
Project No. 61846.01*

**Remedial Action Closure Report  
Former Ponagansett Landfill  
67 Melissa Street  
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1	Site location map.
2	Pre-closure conditions.
3	Finished Grade Elevations.

## 1. INTRODUCTION

### 1.1 PURPOSE

This Remedial Action Closure Report (RACR) has been prepared by EA Engineering, Science, and Technology, Inc. (EA) to summarize the remedial activities conducted to date at the property identified on the City of Providence Tax Assessor' Map as Plat 113, Lot 440. The site also consists of small segments of the City of Providence (Plat 113, Lot 429), Rhode Island Department of Transportation (Route 6 Highway Plat), and Providence Turner's (Plat 113, Lots 419 and 261) property. This RACR and all remedial activities described herein were conducted in accordance with the Rhode Island Department of Environmental Management (RIDEM) *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)* (August 1996, as amended February 2004).

The portion of these properties that was impacted by the former landfill has a total area of approximately 2 acres. The redevelopment of this parcel is an important step in the development of the Woonasquatucket River Greenway and bike trail project. The intended use of the property is for active and passive recreational use. In addition, the redevelopment has restored approximately 1 acre of riparian buffer habitat along the Woonasquatucket River. Remedial activities conducted at the Site consisted of the clearing and grubbing of brush, the construction of a landfill cap which includes geotextile fabric and clean fill, and plantings of a variety of upland, wetland, and transitional plant species. The landfill cap is intended to prevent exposure and migration of petroleum hydrocarbons, volatile organic compounds (VOCs), and several metals.

Figure 1 is a site location map of 67 Melissa Street, Providence, Rhode Island. Figure 2 depicts pre-closure Site conditions. Figure 3 depicts finish-grade elevations.

### 1.2 BACKGROUND INFORMATION

#### 1.2.1 Site Description

The 67 Melissa Street site was used as a landfill from approximately 1960 through 1975. Refuse has been deposited to approximately 10-15 ft below existing ground surface over most of the landfill area, with a greater thickness at the center. The volume of debris is estimated to be 30,000 yd<sup>3</sup> and includes household, industrial, institutional, construction and demolition debris, and commercial waste.

Prior to remediation, the Site was undeveloped and characterized by varying concentrations of woody and scrubby vegetation. The surrounding land usage is a mixture of commercial and high-density residential development. The Site is bound to the north by the Woonasquatucket River and U.S. Route 6, to the east by City of Providence land (former Lincoln Lace and Braid mill), and to the south and west by high-density residential and commercial properties.

Soils in the area are a combination of Sudbury sandy loams soils, and Urban Land complex soils where extensive filling, cutting, and other human-related activities have taken place. Below the disturbed strata are glacial outwash deposits consisting of sands and gravels. Bedrock in the area is quartzite of the Blackstone Group.

### **1.2.2 Previous Environmental Investigations**

A *Remedial Action Work Plan* (RAWP), prepared by EA and dated July 2004, identified site concerns and specified remedial objectives and proposed remedies. Long-term objectives for onsite soil included the prevention of direct exposure to landfill materials. No long-term goals were established for air, groundwater, or surface water resources.

Previous studies on the property include:

1. Former Lincoln Lace and Braid Complex/Response Report, Manton Section, Providence, Rhode Island, prepared by Cyn Environmental Services, dated February 10, 1999.
2. Remediation Evaluation Report, Former Lincoln Lace and Braid Company Property, Providence, Rhode Island, Volumes I & II, prepared by Fuss & O'Neill, Inc. for Rhode Island Department of Environmental Management, dated December 1999.
3. Pre-Design Investigation Report, Former Lincoln Lace and Braid Company Site, Providence, Rhode Island, Volumes I & II, prepared by Fuss & O'Neill, Inc. for Rhode Island Department of Environmental Management, dated September 2000.
4. Remedial Evaluation Report Addendum, Former Lincoln Lace and Braid Property, and Providence Turners of Rhode Island Properties, Providence, Rhode Island, prepared by Fuss & O'Neill, Inc. for Rhode Island Department of Environmental Management, dated April 2003.

EA delineated the extent of the landfill in June and July 2006. Delineations were made utilizing a combination of hand augur, shovel and backhoe to dig small test pits. The extent of the landfill was flagged in order to determine the limit of fill needed to properly cap the site. Results indicated that the landfill had an irregular boundary. During the delineation activities EA identified an additional 500 ft<sup>2</sup> section of landfill in the southern portion of the site. At some locations, the landfill extended to the bank of the Woonasquatucket River. Other locations marked the landfill edge as far away as 20-ft from the river's edge.

### **1.2.3 Contaminants of Concern**

Site contaminants of concern (COCs) were established based upon the previously conducted investigations at the Site. The primary concern at the site is the presence of elevated total petroleum hydrocarbon concentrations previously observed in soil samples throughout the site.

Soil samples from 15 test pits exhibited total petroleum hydrocarbon levels that exceed RIDEM's Method 1 Direct Exposure Criteria (RDEC) for soil in a residential area of 500 mg/kg. Exceedances of the RDEC for arsenic, beryllium, lead, and mercury were also found in some soil samples. Low levels of volatile organic compounds (VOCs) are also present in the landfill soil, but below the threshold levels established by RIDEM.

## 2. REMEDIAL ACTIVITIES

Remedial activities were conducted at the Site from approximately 21 July 2006 through 31 December 2006. The following sections summarize activities conducted at the Site to bring the Site into compliance with the *Remediation Regulations*. Photo documentation of construction activities are included as Appendix A.

### 2.1 SITE PREPARATION AND SUBGRADE CONSTRUCTION

Pre-remedial action conditions at the site are depicted in Figure 2. Prior to the start of remediation activities at the site, pre-construction test pitting operations were conducted to confirm the lateral extent of the landfill along the southern border. As previously noted an additional 500 ft<sup>2</sup> of landfill was identified in the southern portion of the site. Following the landfill delineation, the site was cleared and grubbed of vegetation less than 10-in in diameter at breast height (dbh) as well as any non-native woody vegetation. Following clearing and grubbing, a closure cap subgrade was prepared from the existing site grade. The cap subgrade served as a suitable base for the components of the closure cap system. Excess fill material was regraded to fill voids in the existing grade and to help protect the fabric filter layer from potential damage associated with protruding waste material. All site preparation activities were preceded by the installation of a silt fence/hay bale line.

### 2.2 CAP CONSTRUCTION

An engineered cap was selected as the remedial alternative most effective to prevent direct exposure to fill material containing contaminant levels above the RIDEM RDEC. Based upon the redevelopment plan, two types of engineered caps have been constructed at the Site, including a cap for the riparian restoration area and a cap for the remainder of the Site. A geosynthetic fabric filter layer was placed above the closure cap subgrade to prevent human exposure to impacted soil at the site while allowing precipitation to infiltrate. The geosynthetic fabric was not placed within the riparian restoration area. The extent of vegetation present did not allow for the placement of geosynthetic fabric within this area. Existing mature trees >10-in dbh were retained within the riparian restoration area in order to contribute to soil stabilization near the water's edge.

Geosynthetic fabric filter materials are currently the standard of practice in landfill design systems, and are recommended by most designers and the regulatory community. The fabric filter is pink so as to be easily identified should anyone dig through the closure cap. The geosynthetic fabric was installed so that the seams overlap to prevent the underlying impacted soil from mixing with the clean soil. The geosynthetic fabric was toed-in at the upper and lower limits of disturbance by excavating 12-in. minimum depth and 18-in. maximum lateral extent anchor trench. Technical specifications for the fabric filter are included as Appendix B.

The protective cover soil layer of the closure cap system, also commonly termed the vegetative support soil layer, consists of a minimum of 12-in. of certified clean fill material. Two types of clean fill were utilized in the construction of the closure cap. A minimum of 12-in. of loam

material was added to existing grades throughout the riparian restoration area. The portion of the site which received a geosynthetic fabric filter was topped with a minimum of 8-in. clean sandy loam fill material was utilized throughout the remainder of the site, which was subsequently topped with 4-in. of clean topsoil. Figure 3 depicts the finished grades at the site following the completion of the cap.

### 2.2.1 Fill Material Testing

All types of fill material utilized in the construction of the closure cap were tested and certified by ESS Laboratories. One-quarter of the total number of compliance samples of sandy loam were sampled for VOCs, Total Priority Pollutant (PP13) Metals, PAHs and TPH (Appendix C). Additional samples of each cap material were tested solely for arsenic at a frequency of one sample per 500 tons (Appendices D and E).

Two samples of the topsoil loam was tested for VOCs, Total Priority Pollutant (PP13) Metals, PAHs and TPH (Appendix F and G). One sample of the topsoil loam was tested solely for arsenic (Appendix H). One sample of the organic loam material utilized within the riparian restoration area was tested for VOCs, Total Priority Pollutant (PP13) Metals, PAHs and TPH (Appendix I). One additional sample of topsoil loam was tested for VOCs, PP13 Metals, PAHs, and TPH (Appendix J) for material imported and placed on-site in May 2007 to repair minor erosional scars (i.e., rills and gullies) which developed over the 2006-2007 winter season prior to seed establishment.

All samples were below RDEC and GB Leachability Criteria. Certificates of analysis are attached in Appendices C – J.

### 2.2.3 Vegetative Cover Layer

The vegetative cover component is a locally adapted perennial plant mix that is suitable for the Rhode Island area climate, with root penetration into the soil the thickness of the soil cover layer so as not to affect the drainage media or geotextile material beneath. A total of 433 individual containerized plants were installed in November 2006. The restoration planting plan is comprised of three distinct zones. Zone A is designated as Floodplain Forest. As such, plants tolerant of saturated soil conditions and infrequent flooding were planted in this zone. Plantings included red maple (*Acer rubrum*), silver maple (*A. saccharinum*), and grey birch (*Betula populifolia*).

Zone B is designated as riparian upland habitat, and consists of plants that are tolerant of infrequent inundation, and are more associated with upland areas. Plantings included white pine (*Pinus strobus*), red oak (*Quercus rubra*), and sweet fern (*Comptonia peregrina*). An additional zone was planted adjacent to the proposed alignment of the Rhode Island Department of Transportation's bike path. This zone consisted of deterrent vegetation species intended to prevent human access to the riparian restoration area. Vegetation in this zone includes plant species that have a low, dense growth pattern, such as Virginia rose (*Rosa virginiana*) and bayberry (*Myrica pensylvanica*).



In May 2007, an additional 100 pounds of native seed mix were applied to the recently placed soils, surplus seed was applied to the remainder of the site to enhance overall vegetative establishment.

As specified in the Environmental Land Usage Restriction (ELUR), the vegetative cover will be regularly inspected, particularly during landscaping maintenance, to ensure that the integrity of the engineered cap is maintained over time.

### 3. QUALITY CONTROL

EA conducted a site visit prior to the start of construction activities to ensure that erosion controls were properly installed. During construction activities, daily inspections were conducted by EA to document that the materials used in constructing the cap conformed to the approved design specifications, and to ensure that the required thickness of the cap was achieved, and that the geotextile was appropriately installed. On 15 December 2006, EA, TPL, RIDEM and Vertex met on-site with a representative of Rhode Island Legal Services, a legal group specializing in environmental justice, where the thickness of the engineered cap was verified through the examination of 15 test pits.

The majority of remediation activities at the site were completed in December 2006 resulting in a limited growing period for seed establishment. As a result of limited vegetative cover several small areas of the site experienced localized erosion in the form of rills and gullies. In May 2007, an additional 141 yd<sup>3</sup> of topsoil was analyzed, approved, imported and placed on site to repair erosional rills which developed over the winter season. Erosional scars were backfilled to match adjacent grades in order to ensure that the required thickness of the engineered cap was achieved/maintained.

A portion of the material imported in May 2007 was used to supplement a small area of the engineered cap which was identified during the 15 December 2006 verification exercise to be in need of minor augmentation. The extent of the area to be repaired was determined by manually probing to cap to determine the depth of soil to geotextile material.

In addition, 100 pounds of additional native seed mix were subsequently applied to the recently placed soils, surplus seed was applied to the remainder of the site to enhance overall vegetative establishment.

#### **4. ENVIRONMENTAL LAND USAGE RESTRICTION**

An ELUR documenting the required maintenance and annual inspection of the remedy has been recorded in the land evidence records of the City of Providence, along with an SMP to be followed during future activities that may disrupt the cap, such as utility maintenance. The DEM approved ELUR and SMP are included as Appendix K.

## APPENDIX A

### PHOTO DOCUMENTATION



Photo 1: View of landfill in April 2004.



Photo 2: View of riparian area adjacent to the Woonasquatucket River.



Photo 3: View of landfill cleared of vegetation. Subgrade has been prepared and geotextile fabric is being installed over the subgrade.



Photo 4: Transition zone between geotextile fabric and riparian restoration area.



Photo 5: Installation of topsoil layer above sandy loam fill material.



Photo 6: Continued installation of topsoil layer above sandy loam fill material.



Photo 7: Installation of plantings along alignment of the future DOT bike path.



Photo 8: View of riparian restoration area adjacent to the future DOT bike path. Plantings have been placed throughout the area.





Photo 9: View of riparian restoration area adjacent to the future DOT bike path. Native seed mixes are establishing well and, along with containerized plantings and retained mature trees, will promote long-term slope stabilization. (Photo taken June 2007)



Photo 10: View of landfill cap with demonstrating establishment of vegetative cover. (Photo taken June 2007)

## APPENDIX B

### SPECIFICATIONS FOR GEOTEXTILE FABRIC



# HIGHLY UV STABLE AASHTO CLASS 1 AND CLASS 2 GEOTEXTILES

**UV RESISTANCE**  
**95% @ 500 Hours**



Technical Data

PROPERTY	TEST METHODS	UNITS	MINIMUM AVERAGE		TEST FREQUENCY
			ROLL VALUE <sup>1*</sup>		
PHYSICAL			AASHTO CLASS 1	AASHTO CLASS 2	
♦ Color			Orange	Orange	
<b>Mechanical<sup>2</sup></b>					
<b>Durability</b>	ASTM G 154	U.V. Resistance (500 hrs)	95 %	95 %	Every Formulation
♦ Serviceability Class	AASHTO M-288	lbs (N)	1	2	
♦ Grab Strength	ASTM D 4632	lbs (N)	202 (900)	157 (700)	100,000 sf
♦ Tear Strength	ASTM D 4533	lbs (N)	79 (350)	56 (250)	100,000 sf
♦ Puncture Resistance	ASTM D 4833	lbs (N)	79 (350)	56 (250)	100,000 sf
♦ CBR Puncture Strength	ASTM D 6241	lbs (N)	449 (2000)	346 (1540)	100,000 sf
<b>Hydraulic<sup>2</sup></b>					
♦ Permittivity	ASTM D 4491	sec <sup>-1</sup>	0.5	0.5	500,000 sf
♦ AOS <sup>3</sup>	ASTM D 4751	Sieve size (mm)	80 (0.18)	70 (0.212)	500,000 sf
<b>Packaging</b>			<b>Typical Dimensions</b>		
♦ Roll width	Direct Measure	ft (m)	15 (4.57)	15 (4.57)	
♦ Roll length	Direct Measure	ft (m)	300 (91.4)	300 (91.4)	
♦ Roll area	Direct Measure	yd <sup>2</sup> (m <sup>2</sup> )	500 (418)	500 (418)	
♦ Roll weight	Direct Measure	lb (kg)	-	197 (89)	
♦ Roll diameter	Direct Measure	in	20	17	
♦ Core ID	Direct Measure	in	4.25	4.25	
♦ Labeling	Product code, roll dimensions, finished product lot and roll number.				

<sup>1</sup> VALUES IN WEAKER PRINCIPLE DIRECTION. UNLESS NOTED OTHERWISE, THESE VALUES REPRESENT MINIMUM AVERAGE ROLL VALUES (I.E., CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS STATISTICALLY YIELDING A 97.5% DEGREE OF CONFIDENCE THAT ANY SAMPLE TAKEN DURING QUALITY ASSURANCE TESTING WILL EXCEED THE VALUE REPORTED.)  
<sup>2</sup> GEOTEXTILE MEETS AASHTO STANDARD SPECIFICATION M 288-00 STRENGTH REQUIREMENTS OF CLASS 2 AND THE HIGHEST FILTER REQUIREMENTS.  
<sup>3</sup> SMALLER SIEVE SIZE NUMBER REPRESENTS THE MAXIMUM AVERAGE ROLL VALUE.  
<sup>\*</sup> DETERMINED AT TIME OF MANUFACTURING. STORAGE AND HANDLING CONDITIONS THAT DIFFER FROM THOSE FOUND IN ASTM D 4873-88 MAY INFLUENCE THESE PROPERTIES.



Sales & Technical Service  
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 E-Mail: info@tenax.com

APPENDIX C

CERTIFICATE OF ANALYSIS –  
SANDY LOAM (# 0606360)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	6.1	6010B	1	SVD	06/27/06	1.77	100
Arsenic	ND	mg/kg dry	1.5	7060A	5	JP	06/30/06	1.77	100
<b>Beryllium</b>	<b>0.20</b>	mg/kg dry	0.06	6010B	1	SVD	06/27/06	1.77	100
Cadmium	ND	mg/kg dry	0.61	6010B	1	SVD	06/27/06	1.77	100
<b>Chromium</b>	<b>2.9</b>	mg/kg dry	1.2	6010B	1	SVD	06/27/06	1.77	100
<b>Copper</b>	<b>3.7</b>	mg/kg dry	1.2	6010B	1	SVD	06/27/06	1.77	100
Lead	ND	mg/kg dry	6.1	6010B	1	SVD	06/27/06	1.77	100
Mercury	ND	mg/kg dry	0.034	7471A	1	EEM	06/29/06	0.63	40
Nickel	ND	mg/kg dry	3.0	6010B	1	SVD	06/27/06	1.77	100
Selenium	ND	mg/kg dry	6.1	6010B	1	SVD	06/27/06	1.77	100
Silver	ND	mg/kg dry	0.61	6010B	1	SVD	06/27/06	1.77	100
Thallium	ND	mg/kg dry	1.5	7841	5	JP	06/29/06	1.77	100
<b>Zinc</b>	<b>17.9</b>	mg/kg dry	3.0	6010B	1	SVD	06/27/06	1.77	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 19.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>2xMDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	ug/Kg dry	91.1	58.4000	1	06/28/06
1,1,1-Trichloroethane	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
1,1,2,2-Tetrachloroethane	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
1,1,2-Trichloroethane	ND	ug/Kg dry	45.5	38.2000	1	06/28/06
1,1-Dichloroethane	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
1,1-Dichloroethene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
1,1-Dichloropropene	ND	ug/Kg dry	45.5	16.4000	1	06/28/06
1,2,3-Trichlorobenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
1,2,3-Trichloropropane	ND	ug/Kg dry	45.5	45.6000	1	06/28/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
1,2,4-Trimethylbenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
1,2-Dibromo-3-Chloropropane	ND	ug/Kg dry	228	182.2000	1	06/28/06
1,2-Dibromoethane	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
1,2-Dichlorobenzene	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
1,2-Dichloroethane	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
1,2-Dichloropropane	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
1,3,5-Trimethylbenzene	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
1,3-Dichlorobenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
1,3-Dichloropropane	ND	ug/Kg dry	45.5	16.4000	1	06/28/06
1,4-Dichlorobenzene	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
1,4-Dioxane - Screen	ND	ug/Kg dry	4550	4380.0000	1	06/28/06
1-Chlorohexane	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
2,2-Dichloropropane	ND	ug/Kg dry	91.1	42.0000	1	06/28/06
2-Butanone	ND	ug/Kg dry	1140	372.0000	1	06/28/06
2-Chlorotoluene	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
2-Hexanone	ND	ug/Kg dry	455	91.0000	1	06/28/06
4-Chlorotoluene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
4-Isopropyltoluene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
4-Methyl-2-Pentanone	ND	ug/Kg dry	455	114.8000	1	06/28/06
Acetone	ND	ug/Kg dry	1140	774.0000	1	06/28/06
Benzene	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
Bromobenzene	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
Bromochloromethane	ND	ug/Kg dry	45.5	27.4000	1	06/28/06
Bromodichloromethane	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
Bromoform	ND	ug/Kg dry	45.5	20.0000	1	06/28/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
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Initial Volume: 19.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	ug/Kg dry	91.1	18.2000	1	06/28/06
Carbon Disulfide	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
Carbon Tetrachloride	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
Chlorobenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Chloroethane	ND	ug/Kg dry	91.1	54.6000	1	06/28/06
Chloroform	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Chloromethane	ND	ug/Kg dry	91.1	27.4000	1	06/28/06
cis-1,2-Dichloroethene	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
cis-1,3-Dichloropropene	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
Dibromochloromethane	ND	ug/Kg dry	45.5	14.6000	1	06/28/06
Dibromomethane	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
Dichlorodifluoromethane	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Diethyl Ether	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
Di-isopropyl ether	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Ethyl tertiary-butyl ether	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
Ethylbenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Hexachlorobutadiene	ND	ug/Kg dry	45.5	40.0000	1	06/28/06
Isopropylbenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Methyl tert-Butyl Ether	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Methylene Chloride	ND	ug/Kg dry	228	34.6000	1	06/28/06
Naphthalene	ND	ug/Kg dry	45.5	14.6000	1	06/28/06
n-Butylbenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
n-Propylbenzene	ND	ug/Kg dry	45.5	18.2000	1	06/28/06
sec-Butylbenzene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
Styrene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
tert-Butylbenzene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Tertiary-amyl methyl ether	ND	ug/Kg dry	45.5	25.6000	1	06/28/06
Tetrachloroethene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
Tetrahydrofuran	ND	ug/Kg dry	228	182.2000	1	06/28/06
Toluene	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
trans-1,2-Dichloroethene	ND	ug/Kg dry	45.5	29.2000	1	06/28/06
trans-1,3-Dichloropropene	ND	ug/Kg dry	45.5	21.8000	1	06/28/06
Trichloroethene	ND	ug/Kg dry	45.5	20.0000	1	06/28/06
Trichlorofluoromethane	ND	ug/Kg dry	45.5	23.6000	1	06/28/06
Vinyl Acetate	ND	ug/Kg dry	228	34.6000	1	06/28/06
Vinyl Chloride	ND	ug/Kg dry	45.5	21.8000	1	06/28/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 19.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	ug/Kg dry	45.5	16.4000	1	06/28/06
Xylene P,M	ND	ug/Kg dry	91.1	43.8000	1	06/28/06
Xylenes (Total)	ND	ug/Kg dry	137			06/28/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	86 %		70-130
Surrogate: 4-Bromofluorobenzene	100 %		70-130
Surrogate: Dibromofluoromethane	103 %		70-130
Surrogate: Toluene-d8	104 %		70-130



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 30.8  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 06/23/06

### 8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	26.2	1	06/23/06

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	90 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 30.3  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 06/28/06

### 8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>2xMDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	ug/Kg dry	355	36.2000	1	06/30/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	355	46.4000	1	06/30/06
1,2-Dichlorobenzene	ND	ug/Kg dry	355	40.0000	1	06/30/06
1,3-Dichlorobenzene	ND	ug/Kg dry	355	42.2000	1	06/30/06
1,4-Dichlorobenzene	ND	ug/Kg dry	355	39.8000	1	06/30/06
2,3,4,6-Tetrachlorophenol	ND	ug/Kg dry	1780	49.0000	1	06/30/06
2,4,5-Trichlorophenol	ND	ug/Kg dry	355	66.0000	1	06/30/06
2,4,6-Trichlorophenol	ND	ug/Kg dry	355	37.0000	1	06/30/06
2,4-Dichlorophenol	ND	ug/Kg dry	355	41.6000	1	06/30/06
2,4-Dimethylphenol	ND	ug/Kg dry	355	29.8000	1	06/30/06
2,4-Dinitrophenol	ND	ug/Kg dry	1780	412.0000	1	06/30/06
2,4-Dinitrotoluene	ND	ug/Kg dry	355	53.2000	1	06/30/06
2,6-Dinitrotoluene	ND	ug/Kg dry	355	37.0000	1	06/30/06
2-Chloronaphthalene	ND	ug/Kg dry	355	38.4000	1	06/30/06
2-Chlorophenol	ND	ug/Kg dry	355	47.4000	1	06/30/06
2-Methylnaphthalene	ND	ug/Kg dry	355	35.2000	1	06/30/06
2-Methylphenol	ND	ug/Kg dry	355	25.6000	1	06/30/06
2-Nitroaniline	ND	ug/Kg dry	355	46.2000	1	06/30/06
2-Nitrophenol	ND	ug/Kg dry	355	38.2000	1	06/30/06
3,3'-Dichlorobenzidine	ND	ug/Kg dry	710	47.4000	1	06/30/06
3+4-Methylphenol	ND	ug/Kg dry	710	33.2000	1	06/30/06
3-Nitroaniline	ND	ug/Kg dry	355	44.8000	1	06/30/06
4,6-Dinitro-2-Methylphenol	ND	ug/Kg dry	1780	43.4000	1	06/30/06
4-Bromophenyl-phenylether	ND	ug/Kg dry	355	54.2000	1	06/30/06
4-Chloro-3-Methylphenol	ND	ug/Kg dry	355	48.0000	1	06/30/06
4-Chloroaniline	ND	ug/Kg dry	710	242.0000	1	06/30/06
4-Chloro-phenyl-phenyl ether	ND	ug/Kg dry	355	40.6000	1	06/30/06
4-Nitroaniline	ND	ug/Kg dry	355	47.2000	1	06/30/06
4-Nitrophenol	ND	ug/Kg dry	1780	390.0000	1	06/30/06
Acenaphthene	ND	ug/Kg dry	355	52.2000	1	06/30/06
Acenaphthylene	ND	ug/Kg dry	355	34.2000	1	06/30/06
Acetophenone	ND	ug/Kg dry	710	456.0000	1	06/30/06
Aniline	ND	ug/Kg dry	1780	51.2000	1	06/30/06
Anthracene	ND	ug/Kg dry	355	40.2000	1	06/30/06
Azobenzene	ND	ug/Kg dry	355	74.4000	1	06/30/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 30.3  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 06/28/06

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	ND	ug/Kg dry	355	36.4000	1	06/30/06
Benzo(a)pyrene	ND	ug/Kg dry	178	37.6000	1	06/30/06
Benzo(b)fluoranthene	ND	ug/Kg dry	355	65.6000	1	06/30/06
Benzo(g,h,i)perylene	ND	ug/Kg dry	355	41.6000	1	06/30/06
Benzo(k)fluoranthene	ND	ug/Kg dry	355	62.0000	1	06/30/06
Benzoic Acid	ND	ug/Kg dry	1780	448.0000	1	06/30/06
Benzyl Alcohol	ND	ug/Kg dry	355	42.4000	1	06/30/06
bis(2-Chloroethoxy)methane	ND	ug/Kg dry	355	29.8000	1	06/30/06
bis(2-Chloroethyl)ether	ND	ug/Kg dry	355	56.0000	1	06/30/06
bis(2-chloroisopropyl)Ether	ND	ug/Kg dry	355	40.0000	1	06/30/06
bis(2-Ethylhexyl)phthalate	ND	ug/Kg dry	355	46.8000	1	06/30/06
Butylbenzylphthalate	ND	ug/Kg dry	355	37.0000	1	06/30/06
Carbazole	ND	ug/Kg dry	355	46.4000	1	06/30/06
Chrysene	ND	ug/Kg dry	178	44.6000	1	06/30/06
Dibenzo(a,h)Anthracene	ND	ug/Kg dry	178	43.6000	1	06/30/06
Dibenzofuran	ND	ug/Kg dry	355	39.4000	1	06/30/06
Diethylphthalate	ND	ug/Kg dry	355	51.6000	1	06/30/06
Dimethylphthalate	ND	ug/Kg dry	355	49.0000	1	06/30/06
Di-n-butylphthalate	ND	ug/Kg dry	355	44.0000	1	06/30/06
Di-n-octylphthalate	ND	ug/Kg dry	355	48.4000	1	06/30/06
Fluoranthene	ND	ug/Kg dry	355	42.6000	1	06/30/06
Fluorene	ND	ug/Kg dry	355	33.8000	1	06/30/06
Hexachlorobenzene	ND	ug/Kg dry	355	50.0000	1	06/30/06
Hexachlorobutadiene	ND	ug/Kg dry	355	65.4000	1	06/30/06
Hexachlorocyclopentadiene	ND	ug/Kg dry	1780	202.0000	1	06/30/06
Hexachloroethane	ND	ug/Kg dry	355	40.0000	1	06/30/06
Indeno(1,2,3-cd)Pyrene	ND	ug/Kg dry	355	51.2000	1	06/30/06
Isophorone	ND	ug/Kg dry	355	29.8000	1	06/30/06
Naphthalene	ND	ug/Kg dry	355	35.6000	1	06/30/06
Nitrobenzene	ND	ug/Kg dry	355	46.0000	1	06/30/06
N-Nitrosodimethylamine	ND	ug/Kg dry	355	60.0000	1	06/30/06
N-Nitroso-Di-n-Propylamine	ND	ug/Kg dry	355	43.8000	1	06/30/06
N-nitrosodiphenylamine	ND	ug/Kg dry	355	38.0000	1	06/30/06
Pentachlorophenol	ND	ug/Kg dry	1780	364.0000	1	06/30/06
Phenanthrene	ND	ug/Kg dry	355	48.8000	1	06/30/06
Phenol	ND	ug/Kg dry	355	36.2000	1	06/30/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Material Sand  
Date Sampled: 06/22/06 09:45  
Percent Solids: 93  
Initial Volume: 30.3  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0606360  
ESS Laboratory Sample ID: 0606360-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 06/28/06

### 8270C Semi-Volatile Organic Compounds

Pyrene	ND	ug/Kg dry	355	33.0000	1	06/30/06
Pyridine	ND	ug/Kg dry	1780	80.0000	1	06/30/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	81 %		30-130
Surrogate: 2,4,6-Tribromophenol	84 %		30-130
Surrogate: 2-Chlorophenol-d4	75 %		30-130
Surrogate: 2-Fluorobiphenyl	81 %		30-130
Surrogate: 2-Fluorophenol	74 %		30-130
Surrogate: Nitrobenzene-d5	84 %		30-130
Surrogate: Phenol-d6	81 %		30-130
Surrogate: p-Terphenyl-d14	73 %		30-130

APPENDIX D

CERTIFICATE OF ANALYSIS –  
SANDY LOAM (# 0607220)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	6.0	6010B	1	SVD	07/18/06	1.76	100
Arsenic	ND	mg/kg dry	1.5	7060A	5	JP	07/23/06	1.76	100
<b>Beryllium</b>	<b>0.12</b>	mg/kg dry	0.06	6010B	1	SVD	07/18/06	1.76	100
Cadmium	ND	mg/kg dry	0.60	6010B	1	SVD	07/18/06	1.76	100
<b>Chromium</b>	<b>2.5</b>	mg/kg dry	1.2	6010B	1	SVD	07/18/06	1.76	100
<b>Copper</b>	<b>6.7</b>	mg/kg dry	1.2	6010B	1	SVD	07/18/06	1.76	100
Lead	ND	mg/kg dry	6.0	6010B	1	SVD	07/18/06	1.76	100
Mercury	ND	mg/kg dry	0.034	7471A	1	EEM	07/19/06	0.61	40
Nickel	ND	mg/kg dry	3.0	6010B	1	SVD	07/18/06	1.76	100
Selenium	ND	mg/kg dry	6.0	6010B	1	SVD	07/18/06	1.76	100
Silver	ND	mg/kg dry	0.60	6010B	1	SVD	07/18/06	1.76	100
Thallium	ND	mg/kg dry	1.5	7841	5	JP	07/23/06	1.76	100
<b>Zinc</b>	<b>17.0</b>	mg/kg dry	3.0	6010B	1	SVD	07/18/06	1.76	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 15  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>2xMDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	ug/Kg dry	111	70.8000	1	07/24/06
1,1,1-Trichloroethane	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
1,1,2,2-Tetrachloroethane	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
1,1,2-Trichloroethane	ND	ug/Kg dry	55.3	46.4000	1	07/24/06
1,1-Dichloroethane	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
1,1-Dichloroethene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
1,1-Dichloropropene	ND	ug/Kg dry	55.3	19.8000	1	07/24/06
1,2,3-Trichlorobenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
1,2,3-Trichloropropane	ND	ug/Kg dry	55.3	55.2000	1	07/24/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
1,2,4-Trimethylbenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
1,2-Dibromo-3-Chloropropane	ND	ug/Kg dry	276	222.0000	1	07/24/06
1,2-Dibromoethane	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
1,2-Dichlorobenzene	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
1,2-Dichloroethane	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
1,2-Dichloropropane	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
1,3,5-Trimethylbenzene	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
1,3-Dichlorobenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
1,3-Dichloropropane	ND	ug/Kg dry	55.3	19.8000	1	07/24/06
1,4-Dichlorobenzene	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
1,4-Dioxane - Screen	ND	ug/Kg dry	5530	5300.0000	1	07/24/06
1-Chlorohexane	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
2,2-Dichloropropane	ND	ug/Kg dry	111	50.8000	1	07/24/06
2-Butanone	ND	ug/Kg dry	1380	450.0000	1	07/24/06
2-Chlorotoluene	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
2-Hexanone	ND	ug/Kg dry	553	110.6000	1	07/24/06
4-Chlorotoluene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
4-Isopropyltoluene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
4-Methyl-2-Pentanone	ND	ug/Kg dry	553	139.2000	1	07/24/06
Acetone	ND	ug/Kg dry	1380	940.0000	1	07/24/06
Benzene	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
Bromobenzene	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
Bromochloromethane	ND	ug/Kg dry	55.3	33.2000	1	07/24/06
Bromodichloromethane	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
Bromoform	ND	ug/Kg dry	55.3	24.4000	1	07/24/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 15  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	ug/Kg dry	111	22.2000	1	07/24/06
Carbon Disulfide	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
Carbon Tetrachloride	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
Chlorobenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Chloroethane	ND	ug/Kg dry	111	66.4000	1	07/24/06
Chloroform	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Chloromethane	ND	ug/Kg dry	111	33.2000	1	07/24/06
cis-1,2-Dichloroethene	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
cis-1,3-Dichloropropene	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
Dibromochloromethane	ND	ug/Kg dry	55.3	17.6000	1	07/24/06
Dibromomethane	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
Dichlorodifluoromethane	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Diethyl Ether	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
Di-isopropyl ether	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Ethyl tertiary-butyl ether	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
Ethylbenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Hexachlorobutadiene	ND	ug/Kg dry	55.3	48.6000	1	07/24/06
Isopropylbenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Methyl tert-Butyl Ether	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Methylene Chloride	ND	ug/Kg dry	276	42.0000	1	07/24/06
Naphthalene	ND	ug/Kg dry	55.3	17.6000	1	07/24/06
n-Butylbenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
n-Propylbenzene	ND	ug/Kg dry	55.3	22.2000	1	07/24/06
sec-Butylbenzene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
Styrene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
tert-Butylbenzene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Tertiary-amyl methyl ether	ND	ug/Kg dry	55.3	31.0000	1	07/24/06
Tetrachloroethene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
Tetrahydrofuran	ND	ug/Kg dry	276	222.0000	1	07/24/06
Toluene	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
trans-1,2-Dichloroethene	ND	ug/Kg dry	55.3	35.4000	1	07/24/06
trans-1,3-Dichloropropene	ND	ug/Kg dry	55.3	26.6000	1	07/24/06
Trichloroethene	ND	ug/Kg dry	55.3	24.4000	1	07/24/06
Trichlorofluoromethane	ND	ug/Kg dry	55.3	28.8000	1	07/24/06
Vinyl Acetate	ND	ug/Kg dry	276	42.0000	1	07/24/06
Vinyl Chloride	ND	ug/Kg dry	55.3	26.6000	1	07/24/06



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 15  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	ug/Kg dry	55.3	19.8000	1	07/24/06
Xylene P,M	ND	ug/Kg dry	111	53.0000	1	07/24/06
Xylenes (Total)	ND	ug/Kg dry	166			07/24/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	94 %		70-130
Surrogate: 4-Bromofluorobenzene	92 %		70-130
Surrogate: Dibromofluoromethane	99 %		70-130
Surrogate: Toluene-d8	96 %		70-130

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 30  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 07/19/06

### 8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	26.3	1	07/19/06

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	92 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 29.5  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: ML  
Prepared: 07/21/06

### 8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>2xMDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	ug/Kg dry	356	36.4000	1	07/22/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	356	46.6000	1	07/22/06
1,2-Dichlorobenzene	ND	ug/Kg dry	356	40.2000	1	07/22/06
1,3-Dichlorobenzene	ND	ug/Kg dry	356	42.4000	1	07/22/06
1,4-Dichlorobenzene	ND	ug/Kg dry	356	40.0000	1	07/22/06
2,3,4,6-Tetrachlorophenol	ND	ug/Kg dry	1790	49.2000	1	07/22/06
2,4,5-Trichlorophenol	ND	ug/Kg dry	356	66.4000	1	07/22/06
2,4,6-Trichlorophenol	ND	ug/Kg dry	356	37.2000	1	07/22/06
2,4-Dichlorophenol	ND	ug/Kg dry	356	41.8000	1	07/22/06
2,4-Dimethylphenol	ND	ug/Kg dry	356	30.0000	1	07/22/06
2,4-Dinitrophenol	ND	ug/Kg dry	1790	414.0000	1	07/22/06
2,4-Dinitrotoluene	ND	ug/Kg dry	356	53.6000	1	07/22/06
2,6-Dinitrotoluene	ND	ug/Kg dry	356	37.2000	1	07/22/06
2-Chloronaphthalene	ND	ug/Kg dry	356	38.6000	1	07/22/06
2-Chlorophenol	ND	ug/Kg dry	356	47.8000	1	07/22/06
2-Methylnaphthalene	ND	ug/Kg dry	356	35.4000	1	07/22/06
2-Methylphenol	ND	ug/Kg dry	356	25.6000	1	07/22/06
2-Nitroaniline	ND	ug/Kg dry	356	46.4000	1	07/22/06
2-Nitrophenol	ND	ug/Kg dry	356	38.4000	1	07/22/06
3,3'-Dichlorobenzidine	ND	ug/Kg dry	714	47.8000	1	07/22/06
3+4-Methylphenol	ND	ug/Kg dry	714	33.4000	1	07/22/06
3-Nitroaniline	ND	ug/Kg dry	356	45.0000	1	07/22/06
4,6-Dinitro-2-Methylphenol	ND	ug/Kg dry	1790	43.6000	1	07/22/06
4-Bromophenyl-phenylether	ND	ug/Kg dry	356	54.6000	1	07/22/06
4-Chloro-3-Methylphenol	ND	ug/Kg dry	356	48.2000	1	07/22/06
4-Chloroaniline	ND	ug/Kg dry	714	244.0000	1	07/22/06
4-Chloro-phenyl-phenyl ether	ND	ug/Kg dry	356	40.8000	1	07/22/06
4-Nitroaniline	ND	ug/Kg dry	356	47.6000	1	07/22/06
4-Nitrophenol	ND	ug/Kg dry	1790	392.0000	1	07/22/06
Acenaphthene	ND	ug/Kg dry	356	52.4000	1	07/22/06
Acenaphthylene	ND	ug/Kg dry	356	34.4000	1	07/22/06
Acetophenone	ND	ug/Kg dry	714	460.0000	1	07/22/06
Aniline	ND	ug/Kg dry	1790	51.4000	1	07/22/06
Anthracene	ND	ug/Kg dry	356	40.4000	1	07/22/06
Azobenzene	ND	ug/Kg dry	356	74.8000	1	07/22/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 29.5  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: ML  
Prepared: 07/21/06

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	ND	ug/Kg dry	356	36.6000	1	07/22/06
Benzo(a)pyrene	ND	ug/Kg dry	179	37.8000	1	07/22/06
Benzo(b)fluoranthene	ND	ug/Kg dry	356	66.0000	1	07/22/06
Benzo(g,h,i)perylene	ND	ug/Kg dry	356	41.8000	1	07/22/06
Benzo(k)fluoranthene	ND	ug/Kg dry	356	62.4000	1	07/22/06
Benzoic Acid	ND	ug/Kg dry	1790	452.0000	1	07/22/06
Benzyl Alcohol	ND	ug/Kg dry	356	42.6000	1	07/22/06
bis(2-Chloroethoxy)methane	ND	ug/Kg dry	356	30.0000	1	07/22/06
bis(2-Chloroethyl)ether	ND	ug/Kg dry	356	56.4000	1	07/22/06
bis(2-chloroisopropyl)Ether	ND	ug/Kg dry	356	40.2000	1	07/22/06
bis(2-Ethylhexyl)phthalate	ND	ug/Kg dry	356	47.2000	1	07/22/06
Butylbenzylphthalate	ND	ug/Kg dry	356	37.2000	1	07/22/06
Carbazole	ND	ug/Kg dry	356	46.6000	1	07/22/06
Chrysene	ND	ug/Kg dry	179	44.8000	1	07/22/06
Dibenzo(a,h)Anthracene	ND	ug/Kg dry	179	43.8000	1	07/22/06
Dibenzofuran	ND	ug/Kg dry	356	39.6000	1	07/22/06
Diethylphthalate	ND	ug/Kg dry	356	51.8000	1	07/22/06
Dimethylphthalate	ND	ug/Kg dry	356	49.2000	1	07/22/06
Di-n-butylphthalate	ND	ug/Kg dry	356	44.4000	1	07/22/06
Di-n-octylphthalate	ND	ug/Kg dry	356	48.6000	1	07/22/06
Fluoranthene	ND	ug/Kg dry	356	42.8000	1	07/22/06
Fluorene	ND	ug/Kg dry	356	34.0000	1	07/22/06
Hexachlorobenzene	ND	ug/Kg dry	356	50.4000	1	07/22/06
Hexachlorobutadiene	ND	ug/Kg dry	356	65.8000	1	07/22/06
Hexachlorocyclopentadiene	ND	ug/Kg dry	1790	204.0000	1	07/22/06
Hexachloroethane	ND	ug/Kg dry	356	40.2000	1	07/22/06
Indeno(1,2,3-cd)Pyrene	ND	ug/Kg dry	356	51.4000	1	07/22/06
Isophorone	ND	ug/Kg dry	356	30.0000	1	07/22/06
Naphthalene	ND	ug/Kg dry	356	35.8000	1	07/22/06
Nitrobenzene	ND	ug/Kg dry	356	46.2000	1	07/22/06
N-Nitrosodimethylamine	ND	ug/Kg dry	356	60.4000	1	07/22/06
N-Nitroso-Di-n-Propylamine	ND	ug/Kg dry	356	44.2000	1	07/22/06
N-nitrosodiphenylamine	ND	ug/Kg dry	356	38.2000	1	07/22/06
Pentachlorophenol	ND	ug/Kg dry	1790	366.0000	1	07/22/06
Phenanthrene	ND	ug/Kg dry	356	49.0000	1	07/22/06
Phenol	ND	ug/Kg dry	356	36.4000	1	07/22/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #2  
Date Sampled: 07/17/06 16:00  
Percent Solids: 95  
Initial Volume: 29.5  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-01  
Sample Matrix: Soil  
Analyst: ML  
Prepared: 07/21/06

### 8270C Semi-Volatile Organic Compounds

Pyrene	ND	ug/Kg dry	356	33.2000	1	07/22/06
Pyridine	ND	ug/Kg dry	1790	80.4000	1	07/22/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	74 %		30-130
Surrogate: 2,4,6-Tribromophenol	69 %		30-130
Surrogate: 2-Chlorophenol-d4	71 %		30-130
Surrogate: 2-Fluorobiphenyl	74 %		30-130
Surrogate: 2-Fluorophenol	23 %	+	30-130
Surrogate: Nitrobenzene-d5	72 %		30-130
Surrogate: Phenol-d6	78 %		30-130
Surrogate: p-Terphenyl-d14	69 %		30-130

## APPENDIX E

CERTIFICATES OF ANALYSIS –  
SANDY LOAM ARSENIC SAMPLING  
(#’s: 0607220-02, 0609268-01, 0609268-02, 0609268-03)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #3  
Date Sampled: 07/17/06 16:05  
Percent Solids: 96

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-02  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	1.4	7060A	5	JP	07/23/06	1.86	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL #6  
Date Sampled: 07/17/06 16:20  
Percent Solids: 96

ESS Laboratory Work Order: 0607220  
ESS Laboratory Sample ID: 0607220-05  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	1.4	7060A	5	JP	07/23/06	1.82	100



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL AR1  
Date Sampled: 09/19/06 08:21  
Percent Solids: 94

ESS Laboratory Work Order: 0609268  
ESS Laboratory Sample ID: 0609268-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.0	6010B	1	SVD	09/19/06	1.76	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL AR2  
Date Sampled: 09/19/06 08:22  
Percent Solids: 94

ESS Laboratory Work Order: 0609268  
ESS Laboratory Sample ID: 0609268-02  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.0	6010B	1	SVD	09/19/06	1.76	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL AR3  
Date Sampled: 09/19/06 08:23  
Percent Solids: 95

ESS Laboratory Work Order: 0609268  
ESS Laboratory Sample ID: 0609268-03  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	5.8	6010B	1	SVD	09/19/06	1.82	100

APPENDIX F

CERTIFICATE OF ANALYSIS –  
TOPSOIL LOAM (# 0609227)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	7.4	6010B	1	JP	09/15/06	1.83	100
Arsenic	6.5	mg/kg dry	1.8	7060A	5	SVD	09/17/06	1.83	100
Beryllium	0.16	mg/kg dry	0.07	6010B	1	JP	09/15/06	1.83	100
Cadmium	ND	mg/kg dry	0.74	6010B	1	JP	09/15/06	1.83	100
Chromium	9.3	mg/kg dry	1.5	6010B	1	JP	09/15/06	1.83	100
Copper	8.0	mg/kg dry	1.5	6010B	1	JP	09/15/06	1.83	100
Lead	ND	mg/kg dry	7.4	6010B	1	JP	09/15/06	1.83	100
Mercury	ND	mg/kg dry	0.043	7471A	1	SVD	09/18/06	0.63	40
Nickel	5.8	mg/kg dry	3.7	6010B	1	JP	09/15/06	1.83	100
Selenium	ND	mg/kg dry	7.4	6010B	1	JP	09/15/06	1.83	100
Silver	ND	mg/kg dry	0.74	6010B	1	JP	09/15/06	1.83	100
Thallium	ND	mg/kg dry	1.8	7841	5	SVD	09/16/06	1.83	100
Zinc	22.1	mg/kg dry	3.7	6010B	1	JP	09/15/06	1.83	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 15.9  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	ug/Kg dry	163	52.0000	1	09/18/06
1,1,1-Trichloroethane	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
1,1,2,2-Tetrachloroethane	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
1,1,2-Trichloroethane	ND	ug/Kg dry	81.3	34.2000	1	09/18/06
1,1-Dichloroethane	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
1,1-Dichloroethene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
1,1-Dichloropropene	ND	ug/Kg dry	81.3	14.6000	1	09/18/06
1,2,3-Trichlorobenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
1,2,3-Trichloropropane	ND	ug/Kg dry	81.3	40.7000	1	09/18/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
1,2,4-Trimethylbenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
1,2-Dibromo-3-Chloropropane	ND	ug/Kg dry	407	163.0000	1	09/18/06
1,2-Dibromoethane	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
1,2-Dichlorobenzene	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
1,2-Dichloroethane	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
1,2-Dichloropropane	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
1,3,5-Trimethylbenzene	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
1,3-Dichlorobenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
1,3-Dichloropropane	ND	ug/Kg dry	81.3	14.6000	1	09/18/06
1,4-Dichlorobenzene	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
1,4-Dioxane - Screen	ND	ug/Kg dry	8130	3900.0000	1	09/18/06
1-Chlorohexane	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
2,2-Dichloropropane	ND	ug/Kg dry	163	37.4000	1	09/18/06
2-Butanone	ND	ug/Kg dry	2030	332.0000	1	09/18/06
2-Chlorotoluene	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
2-Hexanone	ND	ug/Kg dry	813	81.3000	1	09/18/06
4-Chlorotoluene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
4-Isopropyltoluene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
4-Methyl-2-Pentanone	ND	ug/Kg dry	813	102.0000	1	09/18/06
Acetone	ND	ug/Kg dry	2030	691.0000	1	09/18/06
Benzene	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
Bromobenzene	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
Bromochloromethane	ND	ug/Kg dry	81.3	24.4000	1	09/18/06
Bromodichloromethane	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
Bromoform	ND	ug/Kg dry	81.3	17.9000	1	09/18/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 15.9  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	ug/Kg dry	163	16.3000	1	09/18/06
Carbon Disulfide	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
Carbon Tetrachloride	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
Chlorobenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Chloroethane	ND	ug/Kg dry	163	48.8000	1	09/18/06
Chloroform	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Chloromethane	ND	ug/Kg dry	163	24.4000	1	09/18/06
cis-1,2-Dichloroethene	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
cis-1,3-Dichloropropene	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
Dibromochloromethane	ND	ug/Kg dry	81.3	13.0000	1	09/18/06
Dibromomethane	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
Dichlorodifluoromethane	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Diethyl Ether	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
Di-isopropyl ether	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Ethyl tertiary-butyl ether	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
Ethylbenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Hexachlorobutadiene	ND	ug/Kg dry	81.3	35.8000	1	09/18/06
Isopropylbenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Methyl tert-Butyl Ether	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Methylene Chloride	ND	ug/Kg dry	407	30.9000	1	09/18/06
Naphthalene	ND	ug/Kg dry	81.3	13.0000	1	09/18/06
n-Butylbenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
n-Propylbenzene	ND	ug/Kg dry	81.3	16.3000	1	09/18/06
sec-Butylbenzene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
Styrene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
tert-Butylbenzene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Tertiary-amyl methyl ether	ND	ug/Kg dry	81.3	22.8000	1	09/18/06
Tetrachloroethene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
Tetrahydrofuran	ND	ug/Kg dry	407	163.0000	1	09/18/06
Toluene	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
trans-1,2-Dichloroethene	ND	ug/Kg dry	81.3	26.0000	1	09/18/06
trans-1,3-Dichloropropene	ND	ug/Kg dry	81.3	19.5000	1	09/18/06
Trichloroethene	ND	ug/Kg dry	81.3	17.9000	1	09/18/06
Trichlorofluoromethane	ND	ug/Kg dry	81.3	21.1000	1	09/18/06
Vinyl Acetate	ND	ug/Kg dry	407	30.9000	1	09/18/06
Vinyl Chloride	ND	ug/Kg dry	81.3	19.5000	1	09/18/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 15.9  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	ug/Kg dry	81.3	14.6000	1	09/18/06
Xylene P,M	ND	ug/Kg dry	163	39.0000	1	09/18/06
Xylenes (Total)	ND	ug/Kg dry	244			09/18/06

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	105 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	89 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	106 %		70-130
<i>Surrogate: Toluene-d8</i>	95 %		70-130



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 30.1  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 09/18/06

### 8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	33.7	1	09/18/06

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	80 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 19.4  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 09/15/06

### 8270C Semi-Volatile Organic Compounds

<u>Analyte</u>		<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
I,I-Biphenyl		ND	ug/Kg dry	696	35.5000	1	09/16/06
1,2,4-Trichlorobenzene		ND	ug/Kg dry	696	45.6000	1	09/16/06
1,2-Dichlorobenzene		ND	ug/Kg dry	696	39.3000	1	09/16/06
1,3-Dichlorobenzene		ND	ug/Kg dry	696	41.4000	1	09/16/06
1,4-Dichlorobenzene		ND	ug/Kg dry	696	39.1000	1	09/16/06
2,3,4,6-Tetrachlorophenol		ND	ug/Kg dry	3490	48.1000	1	09/16/06
2,4,5-Trichlorophenol		ND	ug/Kg dry	696	64.8000	1	09/16/06
2,4,6-Trichlorophenol		ND	ug/Kg dry	696	36.4000	1	09/16/06
2,4-Dichlorophenol		ND	ug/Kg dry	696	40.7000	1	09/16/06
2,4-Dimethylphenol		ND	ug/Kg dry	696	29.3000	1	09/16/06
2,4-Dinitrophenol		ND	ug/Kg dry	3490	405.0000	1	09/16/06
2,4-Dinitrotoluene		ND	ug/Kg dry	696	52.2000	1	09/16/06
2,6-Dinitrotoluene		ND	ug/Kg dry	696	36.4000	1	09/16/06
2-Chloronaphthalene		ND	ug/Kg dry	696	37.6000	1	09/16/06
2-Chlorophenol		ND	ug/Kg dry	696	46.6000	1	09/16/06
2-Methylnaphthalene		ND	ug/Kg dry	696	34.5000	1	09/16/06
2-Methylphenol		ND	ug/Kg dry	696	25.1000	1	09/16/06
2-Nitroaniline		ND	ug/Kg dry	696	45.3000	1	09/16/06
2-Nitrophenol		ND	ug/Kg dry	696	37.4000	1	09/16/06
3,3'-Dichlorobenzidine		ND	ug/Kg dry	1390	46.6000	1	09/16/06
<b>3+4-Methylphenol</b>	<b>J</b>	<b>53.6</b>	ug/Kg dry	1390	32.6000	1	09/16/06
3-Nitroaniline		ND	ug/Kg dry	696	43.9000	1	09/16/06
4,6-Dinitro-2-Methylphenol		ND	ug/Kg dry	3490	42.6000	1	09/16/06
4-Bromophenyl-phenylether		ND	ug/Kg dry	696	53.3000	1	09/16/06
4-Chloro-3-Methylphenol		ND	ug/Kg dry	696	47.0000	1	09/16/06
4-Chloroaniline		ND	ug/Kg dry	1390	238.0000	1	09/16/06
4-Chloro-phenyl-phenyl ether		ND	ug/Kg dry	696	39.9000	1	09/16/06
4-Nitroaniline		ND	ug/Kg dry	696	46.4000	1	09/16/06
4-Nitrophenol		ND	ug/Kg dry	3490	383.0000	1	09/16/06
Acenaphthene		ND	ug/Kg dry	696	51.2000	1	09/16/06
Acenaphthylene		ND	ug/Kg dry	696	33.6000	1	09/16/06
Acetophenone		ND	ug/Kg dry	1390	448.0000	1	09/16/06
Aniline		ND	ug/Kg dry	3490	50.2000	1	09/16/06
Anthracene		ND	ug/Kg dry	696	39.5000	1	09/16/06
Azobenzene		ND	ug/Kg dry	696	72.9000	1	09/16/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 19.4  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 09/15/06

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene		ND	ug/Kg dry	696	35.7000	1	09/16/06
Benzo(a)pyrene		ND	ug/Kg dry	349	37.0000	1	09/16/06
<b>Benzo(b)fluoranthene</b>	J	<b>396</b>	ug/Kg dry	696	64.4000	1	09/16/06
Benzo(g,h,i)perylene		ND	ug/Kg dry	696	40.7000	1	09/16/06
Benzo(k)fluoranthene		ND	ug/Kg dry	696	60.8000	1	09/16/06
Benzoic Acid		ND	ug/Kg dry	3490	440.0000	1	09/16/06
Benzyl Alcohol		ND	ug/Kg dry	696	41.6000	1	09/16/06
bis(2-Chloroethoxy)methane		ND	ug/Kg dry	696	29.3000	1	09/16/06
bis(2-Chloroethyl)ether		ND	ug/Kg dry	696	55.0000	1	09/16/06
bis(2-chloroisopropyl)Ether		ND	ug/Kg dry	696	39.3000	1	09/16/06
<b>bis(2-Ethylhexyl)phthalate</b>	J	<b>68.3</b>	ug/Kg dry	696	46.0000	1	09/16/06
Butylbenzylphthalate		ND	ug/Kg dry	696	36.4000	1	09/16/06
Carbazole		ND	ug/Kg dry	696	45.6000	1	09/16/06
Chrysene		ND	ug/Kg dry	349	43.7000	1	09/16/06
Dibenzo(a,h)Anthracene		ND	ug/Kg dry	349	42.8000	1	09/16/06
Dibenzofuran		ND	ug/Kg dry	696	38.7000	1	09/16/06
Diethylphthalate		ND	ug/Kg dry	696	50.6000	1	09/16/06
Dimethylphthalate		ND	ug/Kg dry	696	48.1000	1	09/16/06
Di-n-butylphthalate		ND	ug/Kg dry	696	43.3000	1	09/16/06
Di-n-octylphthalate		ND	ug/Kg dry	696	47.4000	1	09/16/06
Fluoranthene		ND	ug/Kg dry	696	41.8000	1	09/16/06
Fluorene		ND	ug/Kg dry	696	33.2000	1	09/16/06
Hexachlorobenzene		ND	ug/Kg dry	696	49.1000	1	09/16/06
Hexachlorobutadiene		ND	ug/Kg dry	696	64.2000	1	09/16/06
Hexachlorocyclopentadiene		ND	ug/Kg dry	3490	199.0000	1	09/16/06
Hexachloroethane		ND	ug/Kg dry	696	39.3000	1	09/16/06
Indeno(1,2,3-cd)Pyrene		ND	ug/Kg dry	696	50.2000	1	09/16/06
Isophorone		ND	ug/Kg dry	696	29.3000	1	09/16/06
Naphthalene		ND	ug/Kg dry	696	34.9000	1	09/16/06
Nitrobenzene		ND	ug/Kg dry	696	45.1000	1	09/16/06
N-Nitrosodimethylamine		ND	ug/Kg dry	696	58.9000	1	09/16/06
N-Nitroso-Di-n-Propylamine		ND	ug/Kg dry	696	43.0000	1	09/16/06
N-nitrosodiphenylamine		ND	ug/Kg dry	696	37.2000	1	09/16/06
Pentachlorophenol		ND	ug/Kg dry	3490	358.0000	1	09/16/06
Phenanthrene		ND	ug/Kg dry	696	47.9000	1	09/16/06
Phenol		ND	ug/Kg dry	696	35.5000	1	09/16/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: Riverside  
Client Sample ID: Denis TS  
Date Sampled: 09/15/06 12:20  
Percent Solids: 74  
Initial Volume: 19.4  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0609227  
ESS Laboratory Sample ID: 0609227-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 09/15/06

### 8270C Semi-Volatile Organic Compounds

Pyrene	ND	ug/Kg dry	696	32.4000	1	09/16/06
Pyridine	ND	ug/Kg dry	3490	78.6000	1	09/16/06

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	84 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	91 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	84 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	89 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	74 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	96 %		30-130
<i>Surrogate: Phenol-d6</i>	86 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	109 %		30-130

APPENDIX G

CERTIFICATE OF ANALYSIS –  
TOPSOIL LOAM (#0610480)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	6.6	6010B	1	SVD	10/25/06	1.84	100
Arsenic	ND	mg/kg dry	6.6	6010B	1	SVD	10/25/06	1.84	100
Beryllium	0.36	mg/kg dry	0.07	6010B	1	SVD	10/25/06	1.84	100
Cadmium	ND	mg/kg dry	0.66	6010B	1	SVD	10/25/06	1.84	100
Chromium	13.0	mg/kg dry	1.3	6010B	1	SVD	10/25/06	1.84	100
Copper	7.9	mg/kg dry	1.3	6010B	1	SVD	10/25/06	1.84	100
Lead	7.4	mg/kg dry	6.6	6010B	1	SVD	10/25/06	1.84	100
Mercury	ND	mg/kg dry	0.038	7471A	1	EEM	10/26/06	0.64	40
Nickel	8.3	mg/kg dry	3.3	6010B	1	SVD	10/25/06	1.84	100
Selenium	ND	mg/kg dry	6.6	6010B	1	SVD	10/25/06	1.84	100
Silver	ND	mg/kg dry	0.66	6010B	1	SVD	10/25/06	1.84	100
Thallium	ND	mg/kg dry	1.7	7841	5	JP	10/26/06	1.84	100
Zinc	18.8	mg/kg dry	3.3	6010B	1	SVD	10/25/06	1.84	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 15.6  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	ug/Kg dry	139	44.5000	1	10/26/06
1,1,1-Trichloroethane	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
1,1,2,2-Tetrachloroethane	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
1,1,2-Trichloroethane	ND	ug/Kg dry	69.6	29.2000	1	10/26/06
1,1-Dichloroethane	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
1,1-Dichloroethene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
1,1-Dichloropropene	ND	ug/Kg dry	69.6	12.5000	1	10/26/06
1,2,3-Trichlorobenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
1,2,3-Trichloropropane	ND	ug/Kg dry	69.6	34.8000	1	10/26/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
1,2,4-Trimethylbenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
1,2-Dibromo-3-Chloropropane	ND	ug/Kg dry	348	139.0000	1	10/26/06
1,2-Dibromoethane	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
1,2-Dichlorobenzene	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
1,2-Dichloroethane	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
1,2-Dichloropropane	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
1,3,5-Trimethylbenzene	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
1,3-Dichlorobenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
1,3-Dichloropropane	ND	ug/Kg dry	69.6	12.5000	1	10/26/06
1,4-Dichlorobenzene	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
1,4-Dioxane - Screen	ND	ug/Kg dry	6960	3340.0000	1	10/26/06
1-Chlorohexane	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
2,2-Dichloropropane	ND	ug/Kg dry	139	32.0000	1	10/26/06
2-Butanone	ND	ug/Kg dry	1740	284.0000	1	10/26/06
2-Chlorotoluene	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
2-Hexanone	ND	ug/Kg dry	696	69.6000	1	10/26/06
4-Chlorotoluene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
4-Isopropyltoluene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
4-Methyl-2-Pentanone	ND	ug/Kg dry	696	87.7000	1	10/26/06
Acetone	ND	ug/Kg dry	1740	592.0000	1	10/26/06
Benzene	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
Bromobenzene	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
Bromochloromethane	ND	ug/Kg dry	69.6	20.9000	1	10/26/06
Bromodichloromethane	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
Bromoform	ND	ug/Kg dry	69.6	15.3000	1	10/26/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 15.6  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	ug/Kg dry	139	13.9000	1	10/26/06
Carbon Disulfide	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
Carbon Tetrachloride	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
Chlorobenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Chloroethane	ND	ug/Kg dry	139	41.8000	1	10/26/06
Chloroform	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Chloromethane	ND	ug/Kg dry	139	20.9000	1	10/26/06
cis-1,2-Dichloroethene	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
cis-1,3-Dichloropropene	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
Dibromochloromethane	ND	ug/Kg dry	69.6	11.1000	1	10/26/06
Dibromomethane	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
Dichlorodifluoromethane	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Diethyl Ether	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
Di-isopropyl ether	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Ethyl tertiary-butyl ether	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
Ethylbenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Hexachlorobutadiene	ND	ug/Kg dry	69.6	30.6000	1	10/26/06
Isopropylbenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Methyl tert-Butyl Ether	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Methylene Chloride	ND	ug/Kg dry	348	26.5000	1	10/26/06
Naphthalene	ND	ug/Kg dry	69.6	11.1000	1	10/26/06
n-Butylbenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
n-Propylbenzene	ND	ug/Kg dry	69.6	13.9000	1	10/26/06
sec-Butylbenzene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
Styrene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
tert-Butylbenzene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Tertiary-amyl methyl ether	ND	ug/Kg dry	69.6	19.5000	1	10/26/06
Tetrachloroethene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
Tetrahydrofuran	ND	ug/Kg dry	348	139.0000	1	10/26/06
Toluene	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
trans-1,2-Dichloroethene	ND	ug/Kg dry	69.6	22.3000	1	10/26/06
trans-1,3-Dichloropropene	ND	ug/Kg dry	69.6	16.7000	1	10/26/06
Trichloroethene	ND	ug/Kg dry	69.6	15.3000	1	10/26/06
Trichlorofluoromethane	ND	ug/Kg dry	69.6	18.1000	1	10/26/06
Vinyl Acetate	ND	ug/Kg dry	348	26.5000	1	10/26/06
Vinyl Chloride	ND	ug/Kg dry	69.6	16.7000	1	10/26/06



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 15.6  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	ug/Kg dry	69.6	12.5000	1	10/26/06
Xylene P,M	ND	ug/Kg dry	139	33.4000	1	10/26/06
Xylenes (Total)	ND	ug/Kg dry	209			10/26/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	103 %		70-130
Surrogate: 4-Bromofluorobenzene	100 %		70-130
Surrogate: Dibromofluoromethane	106 %		70-130
Surrogate: Toluene-d8	100 %		70-130

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 19.8  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: ML  
Prepared: 10/25/06

### 8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	46.2	1	10/26/06

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	68 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 30.1  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 10/25/06

### 8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	ug/Kg dry	405	20.7000	1	10/26/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	405	26.5000	1	10/26/06
1,2-Dichlorobenzene	ND	ug/Kg dry	405	22.9000	1	10/26/06
1,3-Dichlorobenzene	ND	ug/Kg dry	405	24.1000	1	10/26/06
1,4-Dichlorobenzene	ND	ug/Kg dry	405	22.7000	1	10/26/06
2,3,4,6-Tetrachlorophenol	ND	ug/Kg dry	2030	28.0000	1	10/26/06
2,4,5-Trichlorophenol	ND	ug/Kg dry	405	37.7000	1	10/26/06
2,4,6-Trichlorophenol	ND	ug/Kg dry	405	21.1000	1	10/26/06
2,4-Dichlorophenol	ND	ug/Kg dry	405	23.7000	1	10/26/06
2,4-Dimethylphenol	ND	ug/Kg dry	405	17.0000	1	10/26/06
2,4-Dinitrophenol	ND	ug/Kg dry	2030	236.0000	1	10/26/06
2,4-Dinitrotoluene	ND	ug/Kg dry	405	30.4000	1	10/26/06
2,6-Dinitrotoluene	ND	ug/Kg dry	405	21.1000	1	10/26/06
2-Chloronaphthalene	ND	ug/Kg dry	405	21.9000	1	10/26/06
2-Chlorophenol	ND	ug/Kg dry	405	27.1000	1	10/26/06
2-Methylnaphthalene	ND	ug/Kg dry	405	20.1000	1	10/26/06
2-Methylphenol	ND	ug/Kg dry	405	14.6000	1	10/26/06
2-Nitroaniline	ND	ug/Kg dry	405	26.4000	1	10/26/06
2-Nitrophenol	ND	ug/Kg dry	405	21.8000	1	10/26/06
3,3'-Dichlorobenzidine	ND	ug/Kg dry	811	27.1000	1	10/26/06
3+4-Methylphenol	ND	ug/Kg dry	811	19.0000	1	10/26/06
3-Nitroaniline	ND	ug/Kg dry	405	25.5000	1	10/26/06
4,6-Dinitro-2-Methylphenol	ND	ug/Kg dry	2030	24.8000	1	10/26/06
4-Bromophenyl-phenylether	ND	ug/Kg dry	405	31.0000	1	10/26/06
4-Chloro-3-Methylphenol	ND	ug/Kg dry	405	27.3000	1	10/26/06
4-Chloroaniline	ND	ug/Kg dry	811	139.0000	1	10/26/06
4-Chloro-phenyl-phenyl ether	ND	ug/Kg dry	405	23.2000	1	10/26/06
4-Nitroaniline	ND	ug/Kg dry	405	27.0000	1	10/26/06
4-Nitrophenol	ND	ug/Kg dry	2030	223.0000	1	10/26/06
Acenaphthene	ND	ug/Kg dry	405	29.8000	1	10/26/06
Acenaphthylene	ND	ug/Kg dry	405	19.6000	1	10/26/06
Acetophenone	ND	ug/Kg dry	811	261.0000	1	10/26/06
Aniline	ND	ug/Kg dry	2030	29.2000	1	10/26/06
Anthracene	ND	ug/Kg dry	405	23.0000	1	10/26/06
Azobenzene	ND	ug/Kg dry	405	42.4000	1	10/26/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 30.1  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 10/25/06

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	ND	ug/Kg dry	405	20.8000	1	10/26/06	
Benzo(a)pyrene	ND	ug/Kg dry	203	21.5000	1	10/26/06	
Benzo(b)fluoranthene	ND	ug/Kg dry	405	37.4000	1	10/26/06	
Benzo(g,h,i)perylene	ND	ug/Kg dry	405	23.7000	1	10/26/06	
Benzo(k)fluoranthene	ND	ug/Kg dry	405	35.4000	1	10/26/06	
Benzoic Acid	ND	ug/Kg dry	2030	256.0000	1	10/26/06	
Benzyl Alcohol	ND	ug/Kg dry	405	24.2000	1	10/26/06	
bis(2-Chloroethoxy)methane	ND	ug/Kg dry	405	17.0000	1	10/26/06	
bis(2-Chloroethyl)ether	ND	ug/Kg dry	405	32.0000	1	10/26/06	
bis(2-chloroisopropyl)Ether	ND	ug/Kg dry	405	22.9000	1	10/26/06	
<b>bis(2-Ethylhexyl)phthalate</b>	J	<b>31.2</b>	ug/Kg dry	405	26.7000	1	10/26/06
Butylbenzylphthalate	ND	ug/Kg dry	405	21.1000	1	10/26/06	
Carbazole	ND	ug/Kg dry	405	26.5000	1	10/26/06	
Chrysene	ND	ug/Kg dry	203	25.4000	1	10/26/06	
Dibenzo(a,h)Anthracene	ND	ug/Kg dry	203	24.9000	1	10/26/06	
Dibenzofuran	ND	ug/Kg dry	405	22.5000	1	10/26/06	
Diethylphthalate	ND	ug/Kg dry	405	29.4000	1	10/26/06	
Dimethylphthalate	ND	ug/Kg dry	405	28.0000	1	10/26/06	
Di-n-butylphthalate	ND	ug/Kg dry	405	25.2000	1	10/26/06	
Di-n-octylphthalate	ND	ug/Kg dry	405	27.6000	1	10/26/06	
Fluoranthene	ND	ug/Kg dry	405	24.3000	1	10/26/06	
Fluorene	ND	ug/Kg dry	405	19.3000	1	10/26/06	
Hexachlorobenzene	ND	ug/Kg dry	405	28.6000	1	10/26/06	
Hexachlorobutadiene	ND	ug/Kg dry	405	37.3000	1	10/26/06	
Hexachlorocyclopentadiene	ND	ug/Kg dry	2030	116.0000	1	10/26/06	
Hexachloroethane	ND	ug/Kg dry	405	22.9000	1	10/26/06	
Indeno(1,2,3-cd)Pyrene	ND	ug/Kg dry	405	29.2000	1	10/26/06	
Isophorone	ND	ug/Kg dry	405	17.0000	1	10/26/06	
Naphthalene	ND	ug/Kg dry	405	20.3000	1	10/26/06	
Nitrobenzene	ND	ug/Kg dry	405	26.3000	1	10/26/06	
N-Nitrosodimethylamine	ND	ug/Kg dry	405	34.3000	1	10/26/06	
N-Nitroso-Di-n-Propylamine	ND	ug/Kg dry	405	25.0000	1	10/26/06	
N-nitrosodiphenylamine	ND	ug/Kg dry	405	21.6000	1	10/26/06	
Pentachlorophenol	ND	ug/Kg dry	2030	208.0000	1	10/26/06	
Phenanthrene	ND	ug/Kg dry	405	27.8000	1	10/26/06	
Phenol	ND	ug/Kg dry	405	20.7000	1	10/26/06	

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL D.D. TS#1  
Date Sampled: 10/25/06 14:00  
Percent Solids: 82  
Initial Volume: 30.1  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0610480  
ESS Laboratory Sample ID: 0610480-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 10/25/06

### 8270C Semi-Volatile Organic Compounds

Pyrene	J	21.5	ug/Kg dry	405	18.8000	1	10/26/06
Pyridine		ND	ug/Kg dry	2030	45.7000	1	10/26/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	62 %		30-130
Surrogate: 2,4,6-Tribromophenol	78 %		30-130
Surrogate: 2-Chlorophenol-d4	59 %		30-130
Surrogate: 2-Fluorobiphenyl	70 %		30-130
Surrogate: 2-Fluorophenol	52 %		30-130
Surrogate: Nitrobenzene-d5	68 %		30-130
Surrogate: Phenol-d6	60 %		30-130
Surrogate: p-Terphenyl-d14	72 %		30-130

APPENDIX H

CERTIFICATE OF ANALYSIS –  
TOPSOIL LOAM SAMPLING (#0611298)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	6.7	6010B	1	JP	11/17/06	1.81	100
Arsenic	ND	mg/kg dry	6.7	6010B	1	JP	11/17/06	1.81	100
Beryllium	0.34	mg/kg dry	0.07	6010B	1	JP	11/17/06	1.81	100
Cadmium	ND	mg/kg dry	0.67	6010B	1	JP	11/17/06	1.81	100
Chromium	9.2	mg/kg dry	1.3	6010B	1	JP	11/17/06	1.81	100
Copper	9.0	mg/kg dry	1.3	6010B	1	JP	11/17/06	1.81	100
Lead	20.1	mg/kg dry	6.7	6010B	1	JP	11/17/06	1.81	100
Mercury	ND	mg/kg dry	0.040	7471A	1	EEM	11/17/06	0.61	40
Nickel	6.5	mg/kg dry	3.4	6010B	1	JP	11/17/06	1.81	100
Selenium	ND	mg/kg dry	6.7	6010B	1	JP	11/17/06	1.81	100
Silver	ND	mg/kg dry	0.67	6010B	1	JP	11/17/06	1.81	100
Thallium	ND	mg/kg dry	1.7	7841	5	SVD	11/17/06	1.81	100
Zinc	40.3	mg/kg dry	3.4	6010B	1	JP	11/17/06	1.81	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 22  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	ug/Kg dry	105	33.6000	1	11/17/06
1,1,1-Trichloroethane	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
1,1,2,2-Tetrachloroethane	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
1,1,2-Trichloroethane	ND	ug/Kg dry	52.5	22.1000	1	11/17/06
1,1-Dichloroethane	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
1,1-Dichloroethene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
1,1-Dichloropropene	ND	ug/Kg dry	52.5	9.5000	1	11/17/06
1,2,3-Trichlorobenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
1,2,3-Trichloropropane	ND	ug/Kg dry	52.5	26.3000	1	11/17/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
1,2,4-Trimethylbenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
1,2-Dibromo-3-Chloropropane	ND	ug/Kg dry	263	105.0000	1	11/17/06
1,2-Dibromoethane	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
1,2-Dichlorobenzene	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
1,2-Dichloroethane	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
1,2-Dichloropropane	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
1,3,5-Trimethylbenzene	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
1,3-Dichlorobenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
1,3-Dichloropropane	ND	ug/Kg dry	52.5	9.5000	1	11/17/06
1,4-Dichlorobenzene	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
1,4-Dioxane - Screen	ND	ug/Kg dry	5250	2520.0000	1	11/17/06
1-Chlorohexane	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
2,2-Dichloropropane	ND	ug/Kg dry	105	24.2000	1	11/17/06
2-Butanone	ND	ug/Kg dry	1310	214.0000	1	11/17/06
2-Chlorotoluene	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
2-Hexanone	ND	ug/Kg dry	525	52.5000	1	11/17/06
4-Chlorotoluene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
4-Isopropyltoluene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
4-Methyl-2-Pentanone	ND	ug/Kg dry	525	66.2000	1	11/17/06
Acetone	ND	ug/Kg dry	1310	447.0000	1	11/17/06
Benzene	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
Bromobenzene	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
Bromochloromethane	ND	ug/Kg dry	52.5	15.8000	1	11/17/06
Bromodichloromethane	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
Bromoform	ND	ug/Kg dry	52.5	11.6000	1	11/17/06



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 22  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	ug/Kg dry	105	10.5000	1	11/17/06
Carbon Disulfide	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
Carbon Tetrachloride	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
Chlorobenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Chloroethane	ND	ug/Kg dry	105	31.5000	1	11/17/06
Chloroform	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Chloromethane	ND	ug/Kg dry	105	15.8000	1	11/17/06
cis-1,2-Dichloroethene	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
cis-1,3-Dichloropropene	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
Dibromochloromethane	ND	ug/Kg dry	52.5	8.4000	1	11/17/06
Dibromomethane	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
Dichlorodifluoromethane	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Diethyl Ether	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
Di-isopropyl ether	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Ethyl tertiary-butyl ether	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
Ethylbenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Hexachlorobutadiene	ND	ug/Kg dry	52.5	23.1000	1	11/17/06
Isopropylbenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Methyl tert-Butyl Ether	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Methylene Chloride	ND	ug/Kg dry	263	20.0000	1	11/17/06
Naphthalene	ND	ug/Kg dry	52.5	8.4000	1	11/17/06
n-Butylbenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
n-Propylbenzene	ND	ug/Kg dry	52.5	10.5000	1	11/17/06
sec-Butylbenzene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
Styrene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
tert-Butylbenzene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Tertiary-amyl methyl ether	ND	ug/Kg dry	52.5	14.7000	1	11/17/06
Tetrachloroethene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
Tetrahydrofuran	ND	ug/Kg dry	263	105.0000	1	11/17/06
Toluene	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
trans-1,2-Dichloroethene	ND	ug/Kg dry	52.5	16.8000	1	11/17/06
trans-1,3-Dichloropropene	ND	ug/Kg dry	52.5	12.6000	1	11/17/06
Trichloroethene	ND	ug/Kg dry	52.5	11.6000	1	11/17/06
Trichlorofluoromethane	ND	ug/Kg dry	52.5	13.7000	1	11/17/06
Vinyl Acetate	ND	ug/Kg dry	263	20.0000	1	11/17/06
Vinyl Chloride	ND	ug/Kg dry	52.5	12.6000	1	11/17/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 22  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	ug/Kg dry	52.5	9.5000	1	11/17/06
Xylene P,M	ND	ug/Kg dry	105	25.2000	1	11/17/06
Xylenes (Total)	ND	ug/Kg dry	158			11/17/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	93 %		70-130
Surrogate: 4-Bromofluorobenzene	84 %		70-130
Surrogate: Dibromofluoromethane	98 %		70-130
Surrogate: Toluene-d8	91 %		70-130

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 29.8  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 11/16/06

### 8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	30.7	1	11/17/06

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	84 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 30.8  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 11/16/06

### 8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	ug/Kg dry	396	20.2000	1	11/16/06
1,2,4-Trichlorobenzene	ND	ug/Kg dry	396	25.9000	1	11/16/06
1,2-Dichlorobenzene	ND	ug/Kg dry	396	22.3000	1	11/16/06
1,3-Dichlorobenzene	ND	ug/Kg dry	396	23.5000	1	11/16/06
1,4-Dichlorobenzene	ND	ug/Kg dry	396	22.2000	1	11/16/06
2,3,4,6-Tetrachlorophenol	ND	ug/Kg dry	1980	27.3000	1	11/16/06
2,4,5-Trichlorophenol	ND	ug/Kg dry	396	36.8000	1	11/16/06
2,4,6-Trichlorophenol	ND	ug/Kg dry	396	20.7000	1	11/16/06
2,4-Dichlorophenol	ND	ug/Kg dry	396	23.2000	1	11/16/06
2,4-Dimethylphenol	ND	ug/Kg dry	396	16.6000	1	11/16/06
2,4-Dinitrophenol	ND	ug/Kg dry	1980	230.0000	1	11/16/06
2,4-Dinitrotoluene	ND	ug/Kg dry	396	29.7000	1	11/16/06
2,6-Dinitrotoluene	ND	ug/Kg dry	396	20.7000	1	11/16/06
2-Chloronaphthalene	ND	ug/Kg dry	396	21.4000	1	11/16/06
2-Chlorophenol	ND	ug/Kg dry	396	26.5000	1	11/16/06
2-Methylnaphthalene	ND	ug/Kg dry	396	19.6000	1	11/16/06
2-Methylphenol	ND	ug/Kg dry	396	14.3000	1	11/16/06
2-Nitroaniline	ND	ug/Kg dry	396	25.8000	1	11/16/06
2-Nitrophenol	ND	ug/Kg dry	396	21.3000	1	11/16/06
3,3'-Dichlorobenzidine	ND	ug/Kg dry	792	26.5000	1	11/16/06
3+4-Methylphenol	ND	ug/Kg dry	792	18.5000	1	11/16/06
3-Nitroaniline	ND	ug/Kg dry	396	24.9000	1	11/16/06
4,6-Dinitro-2-Methylphenol	ND	ug/Kg dry	1980	24.2000	1	11/16/06
4-Bromophenyl-phenylether	ND	ug/Kg dry	396	30.3000	1	11/16/06
4-Chloro-3-Methylphenol	ND	ug/Kg dry	396	26.7000	1	11/16/06
4-Chloroaniline	ND	ug/Kg dry	792	136.0000	1	11/16/06
4-Chloro-phenyl-phenyl ether	ND	ug/Kg dry	396	22.7000	1	11/16/06
4-Nitroaniline	ND	ug/Kg dry	396	26.4000	1	11/16/06
4-Nitrophenol	ND	ug/Kg dry	1980	218.0000	1	11/16/06
Acenaphthene	ND	ug/Kg dry	396	29.1000	1	11/16/06
Acenaphthylene	ND	ug/Kg dry	396	19.1000	1	11/16/06
Acetophenone	ND	ug/Kg dry	792	255.0000	1	11/16/06
Aniline	ND	ug/Kg dry	1980	28.5000	1	11/16/06
Anthracene	ND	ug/Kg dry	396	22.5000	1	11/16/06
Azobenzene	ND	ug/Kg dry	396	41.5000	1	11/16/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 30.8  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 11/16/06

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	ND	ug/Kg dry	396	20.3000	1	11/16/06
Benzo(a)pyrene	ND	ug/Kg dry	198	21.0000	1	11/16/06
Benzo(b)fluoranthene	ND	ug/Kg dry	396	36.6000	1	11/16/06
Benzo(g,h,i)perylene	ND	ug/Kg dry	396	23.2000	1	11/16/06
Benzo(k)fluoranthene	ND	ug/Kg dry	396	34.6000	1	11/16/06
Benzoic Acid	ND	ug/Kg dry	1980	250.0000	1	11/16/06
Benzyl Alcohol	ND	ug/Kg dry	396	23.6000	1	11/16/06
bis(2-Chloroethoxy)methane	ND	ug/Kg dry	396	16.6000	1	11/16/06
bis(2-Chloroethyl)ether	ND	ug/Kg dry	396	31.2000	1	11/16/06
bis(2-chloroisopropyl)Ether	ND	ug/Kg dry	396	22.3000	1	11/16/06
bis(2-Ethylhexyl)phthalate	ND	ug/Kg dry	396	26.1000	1	11/16/06
Butylbenzylphthalate	ND	ug/Kg dry	396	20.7000	1	11/16/06
Carbazole	ND	ug/Kg dry	396	25.9000	1	11/16/06
Chrysene	ND	ug/Kg dry	198	24.8000	1	11/16/06
Dibenzo(a,h)Anthracene	ND	ug/Kg dry	198	24.4000	1	11/16/06
Dibenzofuran	ND	ug/Kg dry	396	22.0000	1	11/16/06
Diethylphthalate	ND	ug/Kg dry	396	28.7000	1	11/16/06
Dimethylphthalate	ND	ug/Kg dry	396	27.3000	1	11/16/06
Di-n-butylphthalate	ND	ug/Kg dry	396	24.6000	1	11/16/06
Di-n-octylphthalate	ND	ug/Kg dry	396	27.0000	1	11/16/06
Fluoranthene	ND	ug/Kg dry	396	23.8000	1	11/16/06
Fluorene	ND	ug/Kg dry	396	18.9000	1	11/16/06
Hexachlorobenzene	ND	ug/Kg dry	396	27.9000	1	11/16/06
Hexachlorobutadiene	ND	ug/Kg dry	396	36.5000	1	11/16/06
Hexachlorocyclopentadiene	ND	ug/Kg dry	1980	113.0000	1	11/16/06
Hexachloroethane	ND	ug/Kg dry	396	22.3000	1	11/16/06
Indeno(1,2,3-cd)Pyrene	ND	ug/Kg dry	396	28.5000	1	11/16/06
Isophorone	ND	ug/Kg dry	396	16.6000	1	11/16/06
Naphthalene	ND	ug/Kg dry	396	19.8000	1	11/16/06
Nitrobenzene	ND	ug/Kg dry	396	25.7000	1	11/16/06
N-Nitrosodimethylamine	ND	ug/Kg dry	396	33.5000	1	11/16/06
N-Nitroso-Di-n-Propylamine	ND	ug/Kg dry	396	24.5000	1	11/16/06
N-nitrosodiphenylamine	ND	ug/Kg dry	396	21.1000	1	11/16/06
Pentachlorophenol	ND	ug/Kg dry	1980	204.0000	1	11/16/06
Phenanthrene	ND	ug/Kg dry	396	27.2000	1	11/16/06
Phenol	ND	ug/Kg dry	396	20.2000	1	11/16/06

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Soil #1  
Date Sampled: 11/16/06 12:30  
Percent Solids: 82  
Initial Volume: 30.8  
Final Volume: 1  
Extraction Method: 3550B

ESS Laboratory Work Order: 0611298  
ESS Laboratory Sample ID: 0611298-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 11/16/06

### 8270C Semi-Volatile Organic Compounds

Pyrene	ND	ug/Kg dry	396	18.4000	1	11/16/06
Pyridine	ND	ug/Kg dry	1980	44.7000	1	11/16/06

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	97 %		30-130
Surrogate: 2,4,6-Tribromophenol	87 %		30-130
Surrogate: 2-Chlorophenol-d4	95 %		30-130
Surrogate: 2-Fluorobiphenyl	95 %		30-130
Surrogate: 2-Fluorophenol	93 %		30-130
Surrogate: Nitrobenzene-d5	93 %		30-130
Surrogate: Phenol-d6	96 %		30-130
Surrogate: p-Terphenyl-d14	125 %		30-130

APPENDIX I

CERTIFICATE OF ANALYSIS –  
TOPSOIL LOAM ARSENIC SAMPLING  
(#’s 0611064-01, 0611064-02, 0611064-03, 0611211)

# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Loam AR 1  
Date Sampled: 11/03/06 14:00  
Percent Solids: 87

ESS Laboratory Work Order: 0611064  
ESS Laboratory Sample ID: 0611064-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.5	6010B	1	JP	11/03/06	1.78	100



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Loam AR 2  
Date Sampled: 11/03/06 14:02  
Percent Solids: 87

ESS Laboratory Work Order: 0611064  
ESS Laboratory Sample ID: 0611064-02  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.5	6010B	1	JP	11/03/06	1.76	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: Loam AR 3  
Date Sampled: 11/03/06 14:04  
Percent Solids: 87

ESS Laboratory Work Order: 0611064  
ESS Laboratory Sample ID: 0611064-03  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.3	6010B	1	JP	11/03/06	1.82	100

# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: Vertex  
Client Project ID: TPL  
Client Sample ID: TPL - 1  
Date Sampled: 11/13/06 12:00  
Percent Solids: 76

ESS Laboratory Work Order: 0611211  
ESS Laboratory Sample ID: 0611211-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	6.7	6010B	1	SVD	11/13/06	1.97	100

APPENDIX J

CERTIFICATE OF ANALYSIS –  
CONFIRMATORY LOAM SAMPLE  
(#0704473)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/kg dry	6.5	6010B	10	1	SVD	04/27/07	1.96	100
Arsenic	ND	mg/kg dry	3.3	6010B	7	1	SVD	04/27/07	1.96	100
<b>Beryllium</b>	<b>0.37</b>	mg/kg dry	0.07	6010B	0.4	1	SVD	04/27/07	1.96	100
Cadmium	ND	mg/kg dry	0.65	6010B	39	1	SVD	04/27/07	1.96	100
<b>Chromium</b>	<b>5.8</b>	mg/kg dry	1.3	6010B	1400	1	SVD	04/27/07	1.96	100
<b>Copper</b>	<b>12.0</b>	mg/kg dry	1.3	6010B	3100	1	SVD	04/27/07	1.96	100
<b>Lead</b>	<b>18.8</b>	mg/kg dry	6.5	6010B	150	1	SVD	04/27/07	1.96	100
<b>Mercury</b>	<b>0.042</b>	mg/kg dry	0.036	7471A	23	1	EEM	04/27/07	0.71	40
<b>Nickel</b>	<b>3.6</b>	mg/kg dry	3.3	6010B	1000	1	SVD	04/27/07	1.96	100
Selenium	ND	mg/kg dry	6.5	6010B	390	1	SVD	04/27/07	1.96	100
Silver	ND	mg/kg dry	0.65	6010B	200	1	SVD	04/27/07	1.96	100
Thallium	ND	mg/kg dry	1.6	7841	5.5	5	JP	04/27/07	1.96	100
<b>Zinc</b>	<b>43.0</b>	mg/kg dry	3.3	6010B	6000	1	SVD	04/27/07	1.96	100

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

RI - RES DEC

Analyte	Results	Units	MRL	MDL	Limit	DF	Analyzed
1,1,1,2-Tetrachloroethane	ND	mg/kg dry	0.154	0.0492	2.2	1	05/01/07
1,1,1-Trichloroethane	ND	mg/kg dry	0.0769	0.0185	540	1	05/01/07
1,1,2,2-Tetrachloroethane	ND	mg/kg dry	0.0769	0.0215	1.3	1	05/01/07
1,1,2-Trichloroethane	ND	mg/kg dry	0.0769	0.0323	3.6	1	05/01/07
1,1-Dichloroethane	ND	mg/kg dry	0.0769	0.0215	920	1	05/01/07
1,1-Dichloroethene	ND	mg/kg dry	0.0769	0.0169	0.2	1	05/01/07
1,1-Dichloropropene	ND	mg/kg dry	0.0769	0.0139		1	05/01/07
1,2,3-Trichlorobenzene	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
1,2,3-Trichloropropane	ND	mg/kg dry	0.0769	0.0385		1	05/01/07
1,2,4-Trichlorobenzene	ND	mg/kg dry	0.0769	0.0154	96	1	05/01/07
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
1,2-Dibromo-3-Chloropropane	ND	mg/kg dry	0.385	0.154	0.5	1	05/01/07
1,2-Dibromoethane	ND	mg/kg dry	0.0769	0.0154	0.01	1	05/01/07
1,2-Dichlorobenzene	ND	mg/kg dry	0.0769	0.0154	510	1	05/01/07
1,2-Dichloroethane	ND	mg/kg dry	0.0769	0.0185	0.9	1	05/01/07
1,2-Dichloropropane	ND	mg/kg dry	0.0769	0.0215	1.9	1	05/01/07
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.0769	0.0200		1	05/01/07
1,3-Dichlorobenzene	ND	mg/kg dry	0.0769	0.0169	430	1	05/01/07
1,3-Dichloropropane	ND	mg/kg dry	0.0769	0.0139		1	05/01/07
1,4-Dichlorobenzene	ND	mg/kg dry	0.0769	0.0200	27	1	05/01/07
1,4-Dioxane - Screen	ND	mg/kg dry	7.69	3.69		1	05/01/07
1-Chlorohexane	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
2,2-Dichloropropane	ND	mg/kg dry	0.154	0.0354		1	05/01/07
2-Butanone	ND	mg/kg dry	1.92	0.314	10000	1	05/01/07
2-Chlorotoluene	ND	mg/kg dry	0.0769	0.0215		1	05/01/07
2-Hexanone	ND	mg/kg dry	0.769	0.0769		1	05/01/07
4-Chlorotoluene	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
4-Isopropyltoluene	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
4-Methyl-2-Pentanone	ND	mg/kg dry	0.769	0.0970	1200	1	05/01/07
Acetone	ND	mg/kg dry	1.92	0.654	7800	1	05/01/07
Benzene	ND	mg/kg dry	0.0769	0.0215	2.5	1	05/01/07
Bromobenzene	ND	mg/kg dry	0.0769	0.0154		1	05/01/07
Bromochloromethane	ND	mg/kg dry	0.0769	0.0231		1	05/01/07
Bromodichloromethane	ND	mg/kg dry	0.0769	0.0200	10	1	05/01/07
Bromoform	ND	mg/kg dry	0.0769	0.0169	81	1	05/01/07

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Bromomethane	ND	mg/kg dry	0.154	0.0154	0.8	1	05/01/07
Carbon Disulfide	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
Carbon Tetrachloride	ND	mg/kg dry	0.0769	0.0200	1.5	1	05/01/07
Chlorobenzene	ND	mg/kg dry	0.0769	0.0169	210	1	05/01/07
Chloroethane	ND	mg/kg dry	0.154	0.0462		1	05/01/07
Chloroform	ND	mg/kg dry	0.0769	0.0169	1.2	1	05/01/07
Chloromethane	ND	mg/kg dry	0.154	0.0231		1	05/01/07
cis-1,2-Dichloroethene	ND	mg/kg dry	0.0769	0.0215	630	1	05/01/07
cis-1,3-Dichloropropene	ND	mg/kg dry	0.0769	0.0154		1	05/01/07
Dibromochloromethane	ND	mg/kg dry	0.0769	0.0123	7.6	1	05/01/07
Dibromomethane	ND	mg/kg dry	0.0769	0.0200		1	05/01/07
Dichlorodifluoromethane	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
Diethyl Ether	ND	mg/kg dry	0.0769	0.0215		1	05/01/07
Di-isopropyl ether	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
Ethyl tertiary-butyl ether	ND	mg/kg dry	0.0769	0.0154		1	05/01/07
Ethylbenzene	ND	mg/kg dry	0.0769	0.0169	71	1	05/01/07
Hexachlorobutadiene	ND	mg/kg dry	0.0769	0.0339	8.2	1	05/01/07
Isopropylbenzene	ND	mg/kg dry	0.0769	0.0169	27	1	05/01/07
Methyl tert-Butyl Ether	ND	mg/kg dry	0.0769	0.0169	390	1	05/01/07
Methylene Chloride	ND	mg/kg dry	0.385	0.0292	45	1	05/01/07
Naphthalene	ND	mg/kg dry	0.0769	0.0123	54	1	05/01/07
n-Butylbenzene	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
n-Propylbenzene	ND	mg/kg dry	0.0769	0.0154		1	05/01/07
sec-Butylbenzene	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
Styrene	ND	mg/kg dry	0.0769	0.0185	13	1	05/01/07
tert-Butylbenzene	ND	mg/kg dry	0.0769	0.0169		1	05/01/07
Tertiary-amyl methyl ether	ND	mg/kg dry	0.0769	0.0215		1	05/01/07
Tetrachloroethene	ND	mg/kg dry	0.0769	0.0185	12	1	05/01/07
Tetrahydrofuran	ND	mg/kg dry	0.385	0.154		1	05/01/07
Toluene	ND	mg/kg dry	0.0769	0.0200	190	1	05/01/07
trans-1,2-Dichloroethene	ND	mg/kg dry	0.0769	0.0246	1100	1	05/01/07
trans-1,3-Dichloropropene	ND	mg/kg dry	0.0769	0.0185		1	05/01/07
Trichloroethene	ND	mg/kg dry	0.0769	0.0169	13	1	05/01/07
Trichlorofluoromethane	ND	mg/kg dry	0.0769	0.0200		1	05/01/07
Vinyl Acetate	ND	mg/kg dry	0.385	0.0292		1	05/01/07
Vinyl Chloride	ND	mg/kg dry	0.0769	0.0185	0.02	1	05/01/07

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.3  
Final Volume: 15  
Extraction Method: 5035

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: RES

### 5035/8260B Volatile Organic Compounds / Methanol

Xylene O	ND	mg/kg dry	0.0769	0.0139	110	1	05/01/07
Xylene P,M	ND	mg/kg dry	0.154	0.0369	110	1	05/01/07
Xylenes (Total)	ND	mg/kg dry	0.231			1	05/01/07

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	111 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	101 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	111 %		70-130
<i>Surrogate: Toluene-d8</i>	101 %		70-130



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 20.3  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: JLS  
Prepared: 04/27/07

### 8100M Total Petroleum Hydrocarbons

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	84.4	mg/kg dry	47.4	500	1	04/28/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	74 %		40-140

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.6  
Final Volume: 0.5  
Extraction Method: 3541

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 04/28/07

### 8270C Semi-Volatile Organic Compounds

#### RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	mg/kg dry	0.411	0.8	1	04/29/07
1,2,4-Trichlorobenzene	ND	mg/kg dry	0.411	96	1	04/29/07
1,2-Dichlorobenzene	ND	mg/kg dry	0.411	510	1	04/29/07
1,3-Dichlorobenzene	ND	mg/kg dry	0.411	430	1	04/29/07
1,4-Dichlorobenzene	ND	mg/kg dry	0.411	27	1	04/29/07
2,3,4,6-Tetrachlorophenol	ND	mg/kg dry	2.06		1	04/29/07
2,4,5-Trichlorophenol	ND	mg/kg dry	0.411	330	1	04/29/07
2,4,6-Trichlorophenol	ND	mg/kg dry	0.411	58	1	04/29/07
2,4-Dichlorophenol	ND	mg/kg dry	0.411	30	1	04/29/07
2,4-Dimethylphenol	ND	mg/kg dry	0.411	1400	1	04/29/07
2,4-Dinitrophenol	ND	mg/kg dry	2.06	160	1	04/29/07
2,4-Dinitrotoluene	ND	mg/kg dry	0.411	0.9	1	04/29/07
2,6-Dinitrotoluene	ND	mg/kg dry	0.411		1	04/29/07
2-Chloronaphthalene	ND	mg/kg dry	0.411		1	04/29/07
2-Chlorophenol	ND	mg/kg dry	0.411	50	1	04/29/07
2-Methylnaphthalene	ND	mg/kg dry	0.411	123	1	04/29/07
2-Methylphenol	ND	mg/kg dry	0.411		1	04/29/07
2-Nitroaniline	ND	mg/kg dry	0.411		1	04/29/07
2-Nitrophenol	ND	mg/kg dry	0.411		1	04/29/07
3,3'-Dichlorobenzidine	ND	mg/kg dry	0.822	1.4	1	04/29/07
3+4-Methylphenol	ND	mg/kg dry	0.822		1	04/29/07
3-Nitroaniline	ND	mg/kg dry	0.411		1	04/29/07
4,6-Dinitro-2-Methylphenol	ND	mg/kg dry	2.06		1	04/29/07
4-Bromophenyl-phenylether	ND	mg/kg dry	0.411		1	04/29/07
4-Chloro-3-Methylphenol	ND	mg/kg dry	0.411		1	04/29/07
4-Chloroaniline	ND	mg/kg dry	0.822	310	1	04/29/07
4-Chloro-phenyl-phenyl ether	ND	mg/kg dry	0.411		1	04/29/07
4-Nitroaniline	ND	mg/kg dry	0.411		1	04/29/07
4-Nitrophenol	ND	mg/kg dry	2.06		1	04/29/07
Acenaphthene	ND	mg/kg dry	0.411	43	1	04/29/07
Acenaphthylene	ND	mg/kg dry	0.411	23	1	04/29/07
Acetophenone	ND	mg/kg dry	0.822		1	04/29/07
Aniline	ND	mg/kg dry	2.06		1	04/29/07
Anthracene	ND	mg/kg dry	0.411	35	1	04/29/07
Azobenzene	ND	mg/kg dry	0.411		1	04/29/07

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.6  
Final Volume: 0.5  
Extraction Method: 3541

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 04/28/07

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	ND	mg/kg dry	0.411	0.9	1	04/29/07
Benzo(a)pyrene	ND	mg/kg dry	0.206	0.4	1	04/29/07
Benzo(b)fluoranthene	ND	mg/kg dry	0.411	0.9	1	04/29/07
Benzo(g,h,i)perylene	ND	mg/kg dry	0.411	0.8	1	04/29/07
Benzo(k)fluoranthene	ND	mg/kg dry	0.411	0.9	1	04/29/07
Benzoic Acid	ND	mg/kg dry	2.06		1	04/29/07
Benzyl Alcohol	ND	mg/kg dry	0.411		1	04/29/07
bis(2-Chloroethoxy)methane	ND	mg/kg dry	0.411		1	04/29/07
bis(2-Chloroethyl)ether	ND	mg/kg dry	0.411	0.6	1	04/29/07
bis(2-chloroisopropyl)Ether	ND	mg/kg dry	0.411	9.1	1	04/29/07
bis(2-Ethylhexyl)phthalate	ND	mg/kg dry	0.411	46	1	04/29/07
Butylbenzylphthalate	ND	mg/kg dry	0.411		1	04/29/07
Carbazole	ND	mg/kg dry	0.411		1	04/29/07
Chrysene	ND	mg/kg dry	0.206	0.4	1	04/29/07
Dibenzo(a,h)Anthracene	ND	mg/kg dry	0.206	0.4	1	04/29/07
Dibenzofuran	ND	mg/kg dry	0.411		1	04/29/07
Diethylphthalate	ND	mg/kg dry	0.411	340	1	04/29/07
Dimethylphthalate	ND	mg/kg dry	0.411	1900	1	04/29/07
Di-n-butylphthalate	ND	mg/kg dry	0.411		1	04/29/07
Di-n-octylphthalate	ND	mg/kg dry	0.411		1	04/29/07
Fluoranthene	ND	mg/kg dry	0.411	20	1	04/29/07
Fluorene	ND	mg/kg dry	0.411	28	1	04/29/07
Hexachlorobenzene	ND	mg/kg dry	0.206	0.4	1	04/29/07
Hexachlorobutadiene	ND	mg/kg dry	0.411	8.2	1	04/29/07
Hexachlorocyclopentadiene	ND	mg/kg dry	2.06		1	04/29/07
Hexachloroethane	ND	mg/kg dry	0.411	46	1	04/29/07
Indeno(1,2,3-cd)Pyrene	ND	mg/kg dry	0.411	0.9	1	04/29/07
Isophorone	ND	mg/kg dry	0.411		1	04/29/07
Naphthalene	ND	mg/kg dry	0.411	54	1	04/29/07
Nitrobenzene	ND	mg/kg dry	0.411		1	04/29/07
N-Nitrosodimethylamine	ND	mg/kg dry	0.411		1	04/29/07
N-Nitroso-Di-n-Propylamine	ND	mg/kg dry	0.411		1	04/29/07
N-nitrosodiphenylamine	ND	mg/kg dry	0.411		1	04/29/07
Pentachlorophenol	ND	mg/kg dry	2.06	5.3	1	04/29/07
Phenanthrene	ND	mg/kg dry	0.411	40	1	04/29/07
Phenol	ND	mg/kg dry	0.411	6000	1	04/29/07

# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: Enviro-Safe Corporation  
Client Project ID: TPL  
Client Sample ID: TPL  
Date Sampled: 04/26/07 11:45  
Percent Solids: 78  
Initial Volume: 15.6  
Final Volume: 0.5  
Extraction Method: 3541

ESS Laboratory Work Order: 0704473  
ESS Laboratory Sample ID: 0704473-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 04/28/07

### 8270C Semi-Volatile Organic Compounds

Pyrene	ND	mg/kg dry	0.411	13	1	04/29/07
Pyridine	ND	mg/kg dry	2.06		1	04/29/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	64 %		30-130
Surrogate: 2,4,6-Tribromophenol	83 %		30-130
Surrogate: 2-Chlorophenol-d4	71 %		30-130
Surrogate: 2-Fluorobiphenyl	80 %		30-130
Surrogate: 2-Fluorophenol	69 %		30-130
Surrogate: Nitrobenzene-d5	65 %		30-130
Surrogate: Phenol-d6	75 %		30-130
Surrogate: p-Terphenyl-d14	90 %		30-130

## APPENDIX K

### ENVIRONMENTAL LAND USAGE RESTRICTIONS



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

March 29, 2007

Ms. Nancy H. Kafka, Senior Program Manager  
Parks for People Program  
The Trust for Public Land  
33 Union Street – 4<sup>th</sup> Floor  
Boston, MA 02108

RE: Lincoln Lace & Braid (Former Ponagansett Landfill)  
55-59 Ponagansett St. (a.k.a. 67 Melissa Street)  
Plat 113, Lot 440  
Providence, Rhode Island  
Case No. 2001-024

Dear Ms. Kafka:

This letter serves as notice that the Rhode Island Department of Environmental Management (the Department) has reviewed and approved the attached Environmental Land Usage Restriction (ELUR) and associated Soil Management Plan (SMP) for the above referenced property. Enclosed please find one original of the ELUR and SMP, and all associated attachments and exhibits, to be recorded with the City of Providence on the title of property referenced above. Per Section 8.09 of the *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases*, a copy of the final, Department approved, recorded ELUR must be submitted to the Department's Office of Waste Management within fifteen (15) days of the date that it was entered into the City of Providence's Land Evidence Records.

If you have any questions please contact me at 401-222-2797, extension 7149, or by email at [sarah.destefano@dem.ri.gov](mailto:sarah.destefano@dem.ri.gov).

Sincerely,

Sarah R. DeStefano, Engineer  
Office of Waste Management

cc: Kelly Owens, Supervising Engineer, RIDEM/OWM

## ENVIRONMENTAL LAND USAGE RESTRICTION

This Declaration of Environmental Land Usage Restriction (this "Restriction") is made on this \_\_\_\_\_ day of \_\_\_\_\_, 2007 by The Trust for Public Land, a public benefit corporation and its successors and/or assigns ( the "Grantor").

### WITNESSETH:

WHEREAS, the Grantor is the owner in fee simple of certain real property identified as Lot 440 on Plat 113 and commonly know as 67 Melissa Street, Providence, Rhode Island (the "Property"), more particularly described in **Exhibit A** (Legal Description), which is attached hereto and made a part hereof;

WHEREAS, that certain portion of the Property identified on the survey which is attached hereto as **Exhibit B** and is made a part hereof (the "Restricted Property") has been determined to contain soil which is contaminated with certain hazardous materials and/or petroleum in excess of applicable residential direct exposure criteria pursuant to the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases. ("Remediation Regulations");

WHEREAS, the Grantor has determined that the environmental land use restrictions set forth below are consistent with the regulations adopted by the Rhode Island Department of Environmental Management ("Department") pursuant to R.I.G.L. §23-19.14.1 et seq; WHEREAS, the Department's approval of this restriction is contained in the document entitled Remedial Approval Letter issued pursuant to the Remediation Regulations;

WHEREAS, to prevent exposure to or migration of hazardous materials and/or petroleum and to abate hazards to human health and/or the environment, and in accordance with the Remedial Approval Letter, the Grantor desires to impose certain restrictions upon the use, occupancy, and activities of and at the Restricted Property;

WHEREAS, the Grantor believes that this Restriction will effectively protect public health and the environment from such contamination; and

WHEREAS, the Grantor intends that this Restriction shall run with the land and be binding upon and enforceable against the Grantor and the Grantor's successors and assigns.

NOW, THEREFORE, Grantor agrees as follows:

**A. Restrictions Applicable to the Restricted Property:** In accordance with the Remedial Approval Letter, the use, occupancy and activity of and at the Restricted Property is restricted as follows:

- i No residential use of the Restricted Property shall be permitted that is contrary to Department approvals and restrictions contained herein;
- ii No groundwater at the Restricted Property shall be used as potable water;

- iii No soil at the Restricted Property shall be disturbed in any manner without written permission of the Department's Office of Waste Management, except as permitted in the Soil Management Plan (the "SMP") approved by the Department in a written approval letter dated March 29, 2007, **Exhibit C** and attached hereto;
- iv Humans engaged in activities at the Restricted Property shall not be exposed to soils containing Hazardous Materials and/or Petroleum in concentrations exceeding the applicable Department approved direct exposure criteria set forth in the Remediation Regulations; and
- v The engineered controls at the Restricted Property described in the SMP shall not be disturbed and shall be properly maintained to prevent humans engaged in [residential activity from being exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department-approved residential direct exposure criteria in accordance with the Remediation Regulations.

**B. No action shall be taken, allowed, suffered, or omitted at the Restricted Property if such action or omission is reasonably likely to:**

- i Create a risk of migration of Hazardous Materials and/or Petroleum;
- ii Create a potential hazard to human health or the environment; or
- iii Result in the disturbance of any engineered controls utilized at the Restricted Property, except as permitted in the Department-approved SMP.

**C. Emergencies:** In the event of any emergency which presents a significant risk to human health or to the environment, including but not limited to, maintenance and repair of utility lines or a response to emergencies such as fire or flood, the application of Paragraphs A (iii.-v.) and B above may be suspended, provided such risk cannot be abated without suspending such Paragraphs and the Grantor complies with the following:

- i Grantor shall notify the Department's Office of Waste Management in writing of the emergency as soon as possible but no more than three (3) business days after Grantor's having learned of the emergency. (This does not remove Grantor's obligation to notify any other necessary state, local or federal agencies);
- ii Grantor shall limit both the extent and duration of the suspension to the minimum period reasonable and necessary to adequately respond to the emergency;
- iii Grantor shall implement reasonable measures necessary to prevent actual, potential, present and future risk to human health and the environment resulting from such suspension;
- iv Grantor shall communicate at the time of written notification to the Department its



- intention to conduct the emergency response actions and provide a schedule to complete the emergency response actions;
- v Grantor shall continue to implement the emergency response actions, on the schedule submitted to the Department, to ensure that the Restricted Property is remediated in accordance with the Remediation Regulations (or applicable variance) or restored to its condition prior to such emergency. Based upon information submitted to the Department at the time that this Restriction was recorded pertaining to known environmental conditions at the Restricted Property, emergency maintenance and repair of utility lines shall only require restoration of the Restricted Property to its condition prior to the maintenance and repair of the utility lines; and
  - vi Grantor shall submit to the Department, within ten (10) days after the completion of the emergency response action, a status report describing the emergency activities that have been completed.

- D. Release of Restriction; Alterations of Subject Area:** The Grantor shall not make, or allow or suffer to be made, any alteration of any kind in, to, or about any portion of the Restricted Property inconsistent with this Restriction unless the Grantor has received the Department's prior written approval for such alteration. If the Department determines that the proposed alteration is significant, the Department may require the amendment of this Restriction. Alterations deemed insignificant by the Department will be approved via a letter from the Department. The Department shall not approve any such alteration and shall not release the Restricted Property from the provisions of this Restriction unless the Grantor demonstrates to the Department's satisfaction that Grantor has managed the Restricted Property in accordance with applicable regulations.
- E. Notice of Lessees and Other Holders of Interests in the Restricted Property:** The Grantor, or any future holder of any interest in the Restricted Property, shall cause any lease, grant, or other transfer of any interest in the Restricted Property to include a provision expressly requiring the lessee, grantee, or transferee to comply with this Restriction. The failure to include such provision shall not affect the validity or applicability of this Restriction to the Restricted Property.
- F. Enforceability:** If any court of competent jurisdiction determines that any provision of this Restriction is invalid or unenforceable, the Grantor shall notify the Department in writing within fourteen (14) days of such determination.
- G. Binding Effect:** All of the terms, covenants, and conditions of this Restriction shall run with the land and shall be binding on the Grantor, its successors and assigns, and each owner and any other party entitled to control, possession or use of the Restricted Property during such period of ownership or possession.
- H. Inspection & Non-Compliance:** It shall be the obligation of the Grantor, or any future holder of any interest in the Restricted Property, to provide for annual inspections of the Restricted Property for compliance with this Restriction in accordance with Department requirements. A qualified environmental professional will on behalf of the Grantor or future

holder of any interest in the Restricted Property, evaluate the compliance status of the Restricted Property on an annual basis. Upon completion of the evaluation, the environmental professional will prepare and simultaneously submit to the Department and to the Grantor or future holder of any interest in the Restricted Property and each owner and any other party entitled to control, possession or use of the Restricted Property Restricted Property an evaluation report detailing the findings of the inspection, and noting any compliance violations at the Restricted Property. If the Restricted Property is determined to be out of compliance with the terms of this Restriction, the Grantor or future holder of any interest in the Restricted Property shall submit a corrective action plan in writing to the Department within ten (10) days of receipt of the evaluation report, indicating the plans to bring the Restricted Property into compliance with this Restriction, including, at a minimum, a schedule for implementation of the plan.

In the event of any violation of the terms of this Restriction which remains uncured more than ninety (90) days after written notice of violation, all Department approvals and agreements relating to the Restricted Property may be voided at the sole discretion of the Department.

- I. **Terms Used Herein:** The definitions of terms used herein shall be the same as the definitions contained in Section 3 (DEFINITIONS) of the Remediation Regulations.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Grantor has hereunto set (his/her) hand and seal on the day and year set forth above.

THE TRUST FOR PUBLIC LAND

By: \_\_\_\_\_  
Dorothy Stookey  
Regional Counsel

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF SUFFOLK

On this \_\_\_\_ day of \_\_\_\_\_, 2007, before me, the undersigned notary public, personally appeared Dorothy Stookey, proved to me through satisfactory evidence of identification, which was my personal knowledge of said person, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as Regional Counsel of The Trust for Public Land.

\_\_\_\_\_  
Geraldyn Comeau  
Notary Public

**EXHIBIT A**

Legal Description

EXHIBIT A  
Legal Description of Property:

Beginning at the intersection of the northerly line of Barbara Street and the easterly line of Melissa Street, and running northerly bounding westerly on Melissa Street three hundred fifty (350) feet, more or less, to a point; thence running westerly bounding southerly on the end of Melissa Street fifteen (15) feet, more or less, to a corner at land now or formerly of Providence Turners; thence running northwesterly bounding southwesterly on said last named land one hundred eighty (180) feet, more or less, to the southerly line of land now or formerly of the State of Rhode Island and known as the State Highway Line; thence running easterly along said State Highway Line bounding northerly on said State of Rhode Island land two hundred fifteen (215) feet, more or less, to a point; thence running easterly along said State Highway Line bounding northerly on said last named land two hundred twenty (220) feet, more or less, to a point; thence running southerly bounding easterly on land now or lately of Benjamin Gittleman one hundred sixty (160) feet, more or less, to a point; thence running southerly and southeasterly in a curve to the left having a radius of four hundred fifty (450) feet bounding easterly and northeasterly on said last named land an arc distance of four hundred thirty (430) feet to a point in the northerly line of Barbara Street, the chord of said curve being four hundred thirteen and 83/100 (413.83) feet in length and forming an interior angle with the next described course of  $66^{\circ}30'00''$ ; thence running westerly bounding southerly on Barbara Street four hundred three (403) feet to the point of beginning, making an interior angle of  $92^{\circ}26'53''$  with the first described course.

EXCEPTING, HOWEVER, from the above-described premises, the six (6) tracts or parcels of land located in the City and County of Providence, State of Rhode Island, described on Schedule I attached hereto.

Schedule 1 to Exhibit A

Those six certain lots or parcels of land located on Barbara Street, City of Providence, County of Providence, State of Rhode Island shown on a plan entitled "Perimeter Survey and Replat of Land in the City of Providence, Rhode Island Designated as Assessor's Plat 113, Lot No. 426 for Phoenix Griffin Group II, Ltd." Dated 10/25/90, Revised 1/22/91, Scale 1" = 30', Sheet 1 of 1, Drawing No. 901004-07, Surveyed and Prepared by Louis Federici & Associates, Land Surveyors, 235 Promenade Street, Suite 195, Providence, Rhode Island which plan is recorded with the Providence Land Records on even date herewith, and more particularly described as follows:

**Parcel A**

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and also lying Two Hundred Eighty-two and 15/100 Feet (282.15') Southeasterly of the intersection of the Northerly line of Barbara Street and the Easterly line of Melissa Street;

THENCE, Northeasterly a distance of Eighty-two and 00/100 Feet (82.00') for a corner;

THENCE, Southeasterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Forty-two and 65/100 Feet (42.65') for a corner and to land now or formerly of Ponagansett Realty Associates Limited Partnership;

THENCE, in a generally Southeasterly direction along the arc of a curve having a central angle of  $14^{\circ} 27' 56''$ , a Radius of Four Hundred Fifty and 00/100 Feet (450.00'), an arc length of One Hundred thirteen and 61/100 Feet (113.61') to the Northerly line of Barbara Street for a corner, bounding in a generally Easterly direction by said Ponagansett Realty Associates Limited Partnership;

THENCE, Northwesterly along the Northerly line of Barbara Street turning a chord angle of  $46^{\circ} 21' 29''$  a distance of One Hundred Twenty and 85/100 Feet (120.85') to the point and place of beginning, the last course forming an interior angle of  $90^{\circ} 00' 00''$  with the first mentioned course;

SAID PARCEL contains Six Thousand Four Hundred Thirty-two Square Feet (6,432 sq. ft.) more or less.

**Parcel B**

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and also lying Two Hundred Thirty-two and 10/100 Feet

(232.10') Southeasterly of the intersection of the Northerly line of Barbara Street and the Easterly line of Melissa Street;

THENCE, Northeasterly distance of One Hundred Three and 90/100 Feet (103.90') for a corner;

THENCE, Southeasterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Fifty and 05/100 Feet (50.05') for a corner;

THENCE, Southwesterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of One Hundred Three and 90/100 Feet (103.90') to the Northerly line of Barbara Street for a corner;

THENCE, Northwesterly along the Northerly line of Barbara Street turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Fifty and 05/100 Feet (50.05') to the point and place of beginning, the last course forming an interior angle of  $90^{\circ} 00' 00''$  with the first mentioned course;

SAID PARCEL contains Five Thousand Two Hundred Square Feet (5,200 sq. ft.) more or less.

#### Parcel C

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and One Hundred Eighty-two and 05/100 Feet (182.05') Northeasterly of the intersection of the Northerly line of Barbara Street and the Easterly line of Melissa Street;

THENCE, Northeasterly a distance of One Hundred Three and 90/100 Feet (103.90') for a corner;

THENCE, Southeasterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Fifty and 05/100 Feet (50.05') for a corner;

THENCE, Southwesterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of One Hundred Three and 90/100 Feet (103.90') to the Northerly line of Barbara Street for a corner;

THENCE, Northwesterly along the northerly line of Barbara Street turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Fifty and 05/100 Feet (50.05') to the point and place of beginning, the last course forming an interior angle of  $90^{\circ} 00' 00''$  with the first mentioned course;

SAID PARCEL contains Five Thousand Two Hundred Square Feet (5,200 sq. ft.) more or less.

**Parcel D**

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and also lying One Hundred Sixteen and 05/100 Feet (116.05') from the intersection of the Northerly line of Barbara Street and the Easterly line of Melissa Street.

THENCE, Northeasterly a distance of One Hundred Three and 90/100 Feet (103.90') for a corner;

THENCE, Southeasterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Sixty-six and 00/100 Feet (66.00') for a corner;

THENCE, Southwesterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of One Hundred Three and 90/100 Feet (103.90') to the Northerly line of Barbara Street for a corner;

THENCE, Northwesterly along the Northerly line of Barbara Street turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Sixty-six and 00/100 Feet (66.00') to the point and place of beginning, the last course forming an interior angle of  $90^{\circ} 00' 00''$  with the first mentioned course;

SAID PARCEL contains Six Thousand Eight Hundred Fifty-seven Square Feet (6,857 sq. ft.) more or less.

**Parcel E**

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and also lying Fifty and 05/100 Feet (50.05') Southeasterly from the intersection of the Northerly line of Barbara Street and the Easterly line of Melissa Street;

THENCE, Northeasterly a distance of One Hundred Three and 90/100 Feet (103.90') for a corner;

THENCE, Southeasterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Sixty-six and 00/100 Feet (66.00') for a corner;

THENCE, Southwesterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of One Hundred Three and 90/100 Feet (103.90') to the Northerly line of Barbara Street for a corner;

THENCE, Northwesterly along the Northerly line of Barbara Street turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Sixty-six and 00/100 Feet (66.00') to the point and place of



beginning, the last course forming an interior angle of  $90^{\circ} 00' 00''$  with the first mentioned course;

SAID PARCEL contains Six Thousand Eight Hundred Fifty-seven Square Feet (6,857 sq. ft.) more or less.

**Parcel F**

BEGINNING at the Southwesterly corner of the herein described parcel, said point lying on the Northerly line of Barbara Street and the Easterly line of Melissa Street;

THENCE, Northeasterly along the Easterly line of Melissa Street a distance of One Hundred four and 00/100 Feet (104.00') for a corner;

THENCE, Southeasterly turning an interior angle of  $87^{\circ} 29' 52''$  a distance of Fifty-four and 59/100 Feet (54.59') for a corner;

THENCE, Southwesterly turning an interior angle of  $90^{\circ} 00' 00''$  a distance of One Hundred three and 90/100 Feet (103.90') to the Northerly line of Barbara Street for a corner;

THENCE, Northwesterly along the Northerly line of Barbara Street turning an interior angle of  $90^{\circ} 00' 00''$  a distance of Fifty and 05/100 Feet (50.05') to the point and place of beginning, the last course forming an interior angle of  $92^{\circ} 30' 08''$  with the first mentioned course;

SAID PARCEL contains Five Thousand Four Hundred Thirty-six Square Feet (5,436 sq. ft.) more or less.

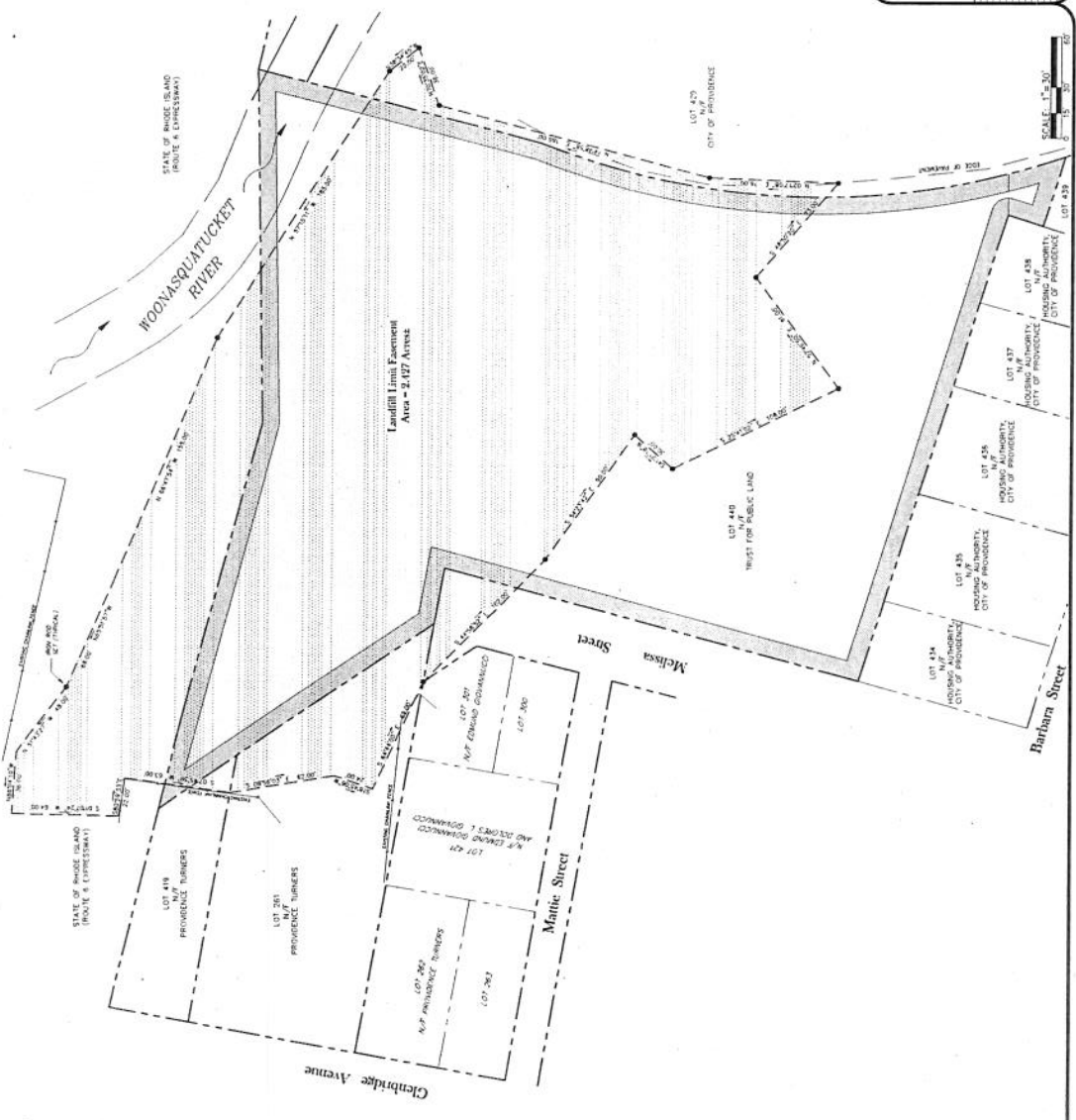
**EXHIBIT B**

Survey of the entire Property with the 'Restricted Property' portrayed

(see attached)

**General Notes**

1. ALL EASEMENTS ARE SHOWN AS DOTTED LINES AND SHALL BE CONSIDERED TO BE PART OF THE CONVEYANCE UNLESS OTHERWISE NOTED.
2. THE CONVEYANCE OF THIS EASEMENT IS SUBJECT TO THE CITY OF PROVIDENCE'S ZONING ORDINANCES AND ANY OTHER APPLICABLE REGULATIONS.
3. THE CITY OF PROVIDENCE HAS REVIEWED THIS PLAN AND HAS DETERMINED THAT THE PROPOSED EASEMENT IS IN ACCORDANCE WITH THE CITY'S ZONING ORDINANCES.
4. THE CITY OF PROVIDENCE HAS REVIEWED THIS PLAN AND HAS DETERMINED THAT THE PROPOSED EASEMENT IS IN ACCORDANCE WITH THE CITY'S ZONING ORDINANCES.
5. THE CITY OF PROVIDENCE HAS REVIEWED THIS PLAN AND HAS DETERMINED THAT THE PROPOSED EASEMENT IS IN ACCORDANCE WITH THE CITY'S ZONING ORDINANCES.
6. THE CITY OF PROVIDENCE HAS REVIEWED THIS PLAN AND HAS DETERMINED THAT THE PROPOSED EASEMENT IS IN ACCORDANCE WITH THE CITY'S ZONING ORDINANCES.
7. THE CITY OF PROVIDENCE HAS REVIEWED THIS PLAN AND HAS DETERMINED THAT THE PROPOSED EASEMENT IS IN ACCORDANCE WITH THE CITY'S ZONING ORDINANCES.



**LANDFILL LIMIT EASEMENT FIGURE**  
**67 Melissa Street**  
 ASSESSOR: PROVIDENCE  
 PREPARED BY: PROVIDENCE  
 PROJECT NO.: 2019-001  
 DATE: 01/15/2020

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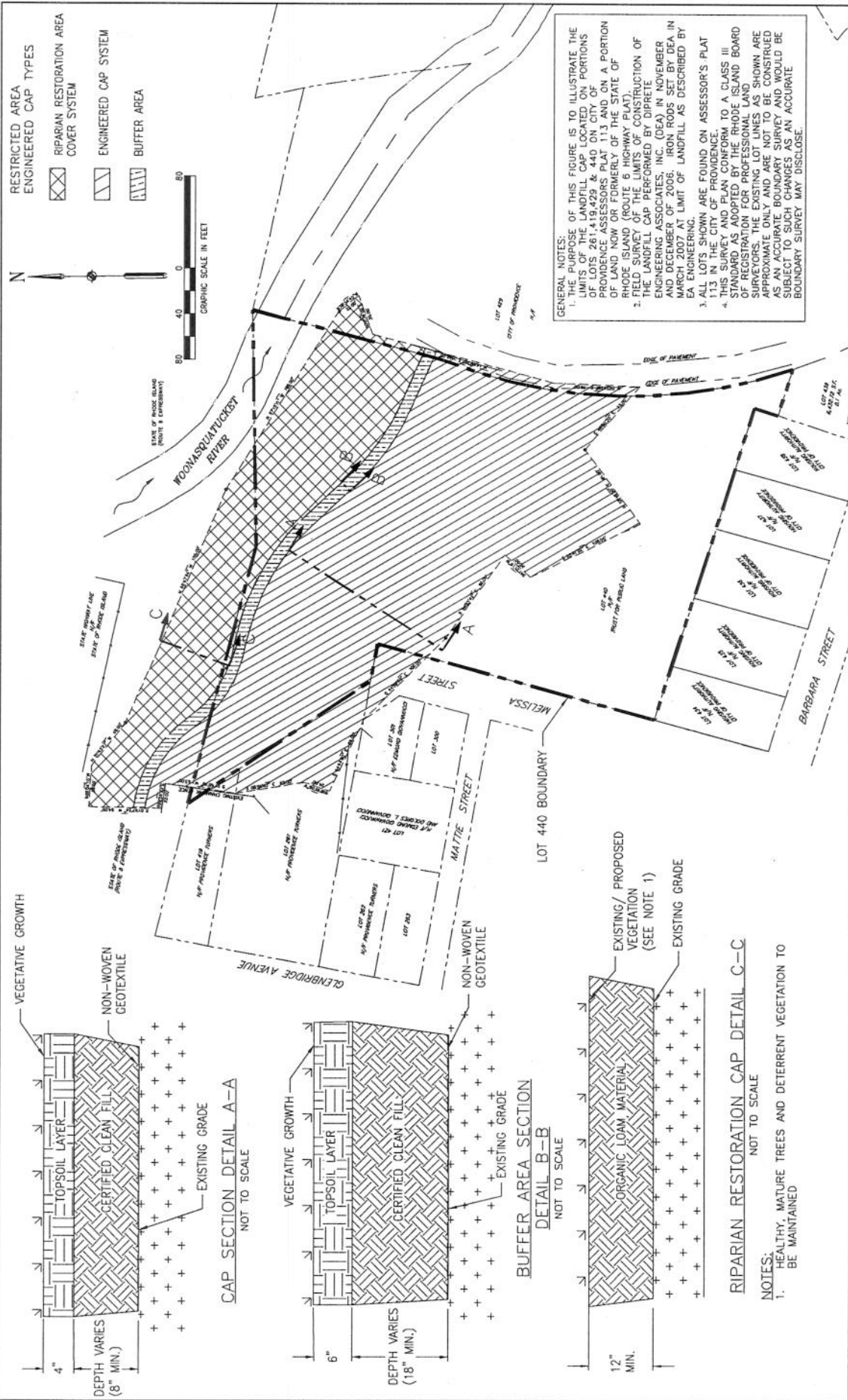
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DATE: 01/15/2020  
 SHEET 1 OF 1

SEA, Inc. No. 1001000004 - Copyright 2020 by Diprite Engineering Associates, Inc.



GENERAL NOTES:

- THE PURPOSE OF THIS FIGURE IS TO ILLUSTRATE THE LIMITS OF THE LANDFILL CAP LOCATED ON PORTIONS OF LOTS 261, 419, 429 & 440 ON CITY OF PROVIDENCE ASSESSORS PLAT 11.3 AND ON A PORTION OF LAND NOW ON FORMERLY OF THE STATE OF RHODE ISLAND (ROUTE 6 HIGHWAY PLAT).
- THE LANDFILL CAP PERFORMED BY THE ENGINEERING ASSOCIATES, INC. (E.A.) IN NOVEMBER AND DECEMBER OF 2008. IRON RODS SET BY E.A. IN MARCH 2007 AT LIMIT OF LANDFILL AS DESCRIBED BY E.A. ENGINEERING.
- ALL LOTS SHOWN ARE FOUND ON ASSESSOR'S PLAT 11.3 IN THE CITY OF PROVIDENCE.
- THIS SURVEY AND PLAN CONFORM TO A CLASS III STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF PROFESSIONAL ENGINEERS AND SURVEYORS. THE PROFESSIONAL LAND SURVEYOR'S REPORT AND PLANS, WHICH ARE APPROXIMATE ONLY AND ARE NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND WOULD BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.

	THE TRUST FOR PUBLIC LAND PONGANSETT AVENUE REMEDIATION PROJECT 67 MELISSA STREET PROVIDENCE, RHODE ISLAND		SITE FIGURE 2	PROJECT MGR: TR	DRAWN BY: BMS/CNS	CHECKED BY: MTL	DATE: MARCH 2007	SCALE: AS SHOWN	PROJECT NO: 6184601	FILE NO: I:\Uncen_Locn_and_Brid (TP.)\2005_Contract\Drge ELUR FIG. 1.DWG
	RESTRICTED AREA ENGINEERED CAP TYPES RIPARIAN RESTORATION AREA COVER SYSTEM ENGINEERED CAP SYSTEM BUFFER AREA									

**Legal Description**  
**Landfill Limit Easement**  
**67 Melissa Street**  
**Providence, Rhode Island**

That certain parcel of land, with all buildings and improvements, situated northerly of the northerly terminus of Melissa Street and southerly of the Woonasquatucket River in the City of Providence, County of Providence, the State of Rhode Island and Providence Plantations and shown on that plan entitled "LANDFILL LIMIT EASEMENT FIGURE, 67 MELISSA STREET, ASSESSOR'S PLAT 113 LOTS 261, 419, 429 & 440, PROVIDENCE, RHODE ISLAND, PREPARED BY: DIPRETE ENGINEERING ASSOCIATES, INC. ENGINEERING, SURVEYING AND PLANNING CONSULTANTS, TWO STAFFORD COURT CRANSTON, R.I. 02920 (401) 943-1000 FAX: (401) 464-6006 PREPARED FOR: EA ENGINEERING, SCIENCE, & TECHNOLOGY, 2350 POST ROAD, WARWICK, R.I. 02886, (401) 736-3440, SHEET 1 OF 1 MARCH 28, 2007 1" = 30'" and being more particularly described as follows:

Beginning at an Iron Rod set in the vicinity of the northwesterly terminus of Melissa Street at the northeasterly corner of land now or formerly of Edmund Giovannucci (Lot 301 on City of Providence Assessor's Map 113);

Thence proceeding South 44°58'52" East a distance of 102.00 feet to a point;

Thence proceeding South 54°23'42" East a distance of 90.00 feet to a point;

Thence proceeding South 41°21'18" West a distance of 30.00 feet to a point;

Thence proceeding South 25°41'02" East a distance of 108.00 feet to a point;

Thence proceeding North 52°46'50" East a distance of 81.00 feet to a point;

Thence proceeding South 48°50'20" East a distance of 73.00 feet to a point;

Thence proceeding North 02°17'08" East a distance of 76.00 feet to a point;

Thence proceeding North 14°48'58" East a distance of 166.00 feet to a point;

Thence proceeding North 70°35'02" East a distance of 36.00 feet to a point;

Thence proceeding North 38°34'45" West a distance of 22.00 feet to a point;

Thence proceeding North 57°15'11" West a distance of 185.00 feet to a point;

Thence proceeding North 66°47'54" West a distance of 155.00 feet to a point;

Thence proceeding North 65°51'57" West a distance of 68.00 feet to a point;

Thence proceeding North  $51^{\circ}43'27''$  West a distance of 48.00 feet to a point;

Thence proceeding North  $86^{\circ}04'10''$  West a distance of 36.00 feet to a point;

Thence proceeding South  $01^{\circ}07'24''$  West a distance of 64.00 feet to a point;

Thence proceeding South  $80^{\circ}59'33''$  East a distance of 22.00 feet to a point;

Thence proceeding South  $07^{\circ}45'39''$  West a distance of 63.00 feet to a point;

Thence proceeding South  $08^{\circ}56'03''$  East a distance of 62.00 feet to a point;

Thence proceeding South  $18^{\circ}45'06''$  West a distance of 24.00 feet to a point;

Thence proceeding South  $64^{\circ}44'00''$  East a distance of 69.00 feet to the point and place of beginning.

The above described parcel contains 2.427 acres, more or less and intends to describe that parcel depicted as "Landfill Limit Easement" on the above referenced plan.

**EXHIBIT C**

Soil Management Plan and Soil Management Plan Approval Letter

(see attached)

## **Soil Management Plan**

### **Former Ponagansett Landfill, 67 Melissa Street, Providence, RI, Plat 113, Lot 440**

This Soil Management Plan (SMP) has been prepared to establish procedures that will be followed should future construction/maintenance activities at the Former Ponagansett Landfill (a.k.a. Lincoln Lace & Braid) property require the need to manage soils excavated from the subsurface or when existing site surfaces / Rhode Island Department of Environmental Management (RIDEM) approved engineered controls (i.e. landscaping) are disturbed. The plan serves to supplement, and will be initiated by, the RIDEM (the Department) notification requirement established by the Environmental Land Usage Restriction (ELUR) for the Property.

#### ***Applicable Area***

This SMP and affiliated ELUR, which limits activity at the property to restricted residential use for recreational purposes, pertains to portions of the Property (the Site). (See attached Site Figure 1.)

#### ***Background***

The property, located at 67 Melissa Street, was formerly a landfill used from approximately 1960 through 1975 (the official RIDEM file name is "LINCOLN LACE & BRAID (PONAGANSETT DUMP)". Refuse has been deposited over most of the landfill area, with a greater thickness at the center. The volume of debris is estimated to be 30,000 yd<sup>3</sup> and includes household, industrial, institutional, construction and demolition debris, and commercial waste. Following the closure of the landfill, the site regenerated with woody and scrubby vegetation. The property was found to contain levels of total petroleum hydrocarbons (TPH) that exceed RIDEM's Method 1 Residential Direct Exposure Criteria (RDEC) for soil of 500 mg/kg. Exceedances of the RDEC for arsenic, beryllium, lead, and mercury were also found in some soil samples. Low levels of volatile organic compounds (VOCs) are also present in the landfill soil, but below the threshold levels established by RIDEM.

More recently, the Site has been remediated. The Department-approved remedy included encapsulating the entire Site with engineered barriers to prevent direct exposure to hazardous materials in soils and buried solid waste. The engineered barriers at the Site consist of the following:

1. Two (2) feet of clean-fill over the ten (10) foot wide buffer area and the stabilization this barrier through the planting and establishment of the proposed species of wetland vegetation;
2. One-foot of clean fill over the riparian buffer restoration area and the stabilization of this engineered barrier through the planting and establishment of the proposed species of wetland vegetation. This also includes the planting of the proposed deterrent vegetative species at the top of slope to discourage human access to this area. The riparian restoration area, the portion of the site immediately adjacent to the Woonasquatucket River, is not intended to be accessed by the public; and



3. One-foot of clean fill with a geotextile liner for the remainder of the landfill and the Site and the stabilization of this engineered barrier through the planting and establishment of the proposed vegetation.

Please refer to attached Site Figure 2.

### ***Soil Management***

The risk of direct exposure of humans to contaminated soil is the primary concern at the site. Individuals engaged in activities at the site may be exposed through incidental ingestion, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. Therefore, the following procedures will be followed to minimize or eliminate the potential of exposure.

### ***Maintenance***

The engineered controls at the Site shall not be disturbed and shall be properly maintained by the property owner to prevent humans engaged in residential (i.e. recreational) activity from being exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department-approved Residential Direct Exposure Criteria in accordance with the Remediation Regulations.

In the event that the integrity of the engineered cap is suspected, or observed to be undermined during site use, the observer(s) will not attempt to handle the situation themselves, but will contact the appropriate authority for further direction. The property owner will then investigate the situation and restrict access to the area of concern until appropriate actions to remedy the situation can be implemented.

Maintenance of the soil cap by the property owner may be required in the event that natural processes (i.e., erosion, etc.) or human activity (i.e. sledding, walking, running, bicycling, etc. or other recreational uses such as games or sports activities) cause the loss of soil or otherwise cause a breach in the integrity of the engineered cap. In accordance with Section A iii of the ELUR, no soil at the property is to be disturbed in any manner without prior written permission of the Department's Office of Waste Management, except for minor inspections, maintenance, and landscaping activities that do not disturb the contaminated, native soils at the Site.

Natural processes such as erosion, tree falls in the riparian zone, and animal activities have the potential to damage the cap. Human activity such as excessive foot traffic and digging could also wear away or penetrate the cap. Thus the site should be monitored on a regular basis for processes or events that may be damaging the cap. If problems are found they should be addressed or documented so that they can be dealt with as part of the routine maintenance of the site. Problem signs to watch for include:

- exposed geotextile
- deep rill or gully formation due to water transportation of soils

- wind-thrown or uprooted trees in the riparian zone
- foot traffic that is causing *excessive* erosion ("desire paths") or damage to vegetation planted in the riparian zone
- significant piles of soil that would indicate deep excavation by animals
- general down gradient soil migration, which is often easiest to detect by watching for the accumulation of sediment down the slope from the area that is eroding

Areas of bare ground are not necessarily a problem but should be watched to see if the soil is being worn away over time. Problems are most likely to develop in areas where bare soil is constantly exposed due to foot traffic or other activity, and areas where the ground surface slopes steeply. Any area that either accumulates soil (depositional area) or where soil seems to go missing (erosion area) should be monitored and responded to appropriately (e.g. during the regular, annual scheduled maintenance or as an emergency maintenance activity depending on the nature of the breach in the engineered cap). Maintenance staff should be trained specifically to look for signs of wear in the cap and damage to vegetation in the riparian zone. At a minimum, the property owner will perform maintenance on a scheduled, annual basis.

Maintaining the integrity of the riparian buffer area cap includes maintaining the stabilization of this engineered barrier through the planting and establishment of the wetland vegetation. This also includes maintaining the deterrent vegetative species at the top of slope to discourage human access to this area. The riparian restoration area, the portion of the site immediately adjacent to the Woonasquatucket River, is not intended to be accessed by the public. A railing will be installed along the top edge of the riparian buffer area as part of the construction of the proposed bicycle path to further discourage access to this area.

As part of the post-closure requirements at the Site, *Annual Compliance Inspections*, signed by a qualified environmental professional on behalf of the property owner or future holder of any interest, will be required to certify that the integrity of the engineered and institutional controls at the Site have been maintained and that all on-site operations have been conducted in accordance with a Department approved ELUR and SMP. Annual compliance inspection reports shall be submitted to the Department detailing the findings of the inspection, and noting any compliance violations. In accordance with the ELUR, if the property is determined to be out of compliance, the property owner shall submit a corrective action plan in writing to the Department, indicating the plans to bring the Site into compliance, including a schedule for implementation of the plan.

Any notice of non-compliance issued by the Department pursuant to the terms of the ELUR, or any annual inspection report completed by a qualified environmental professional on behalf of the Property Owner which notes any compliance violations, shall be delivered by the Property Owner to the following parties in the prescribed order via first class U.S. Postal Service: 1) Elected representative for the area (city councilperson, state representative and state senator), 2) the active non profit organization having an interest in the health and safety of the Woonasquatucket River and Greenway, currently the Woonasquatucket River Watershed Council or its successor

and assigns, 3) the office of the Mayor of Providence, 4) the Chief Public Safety officer for the City of Providence, 5) the Chief of Code Enforcement for the City of Providence, 6) the Rhode Island Department of Public Health - Office of the Director) the Rhode Island Department of Transportation – Chief Engineer, 8) the president of the Hartford Park Residents Association, and 9) any such agency or entity established to participate in maintenance of the Property.

### ***Precautions***

During site work, the appropriate precautions will be taken to restrict unauthorized access to the property.

During all site/earth work, dust suppression (i.e. watering, etc) techniques must be employed at all times. If it is anticipated due to the nature of the contaminants of concern that odors may be generated during site activities, air monitoring and means to control odors will be utilized, as appropriate (i.e. odor-suppressing foam, etc). Best management practices also include the managing and minimizing of the migration and/or surface run-off of hazardous materials at the site during the remedial and/or future site surface disturbances. This should be achieved via the installation of hay bales, silt fencing and any other appropriate measures during the entire duration of site/earth work.

In the event that an unexpected environmental observation or situation arises during site work, including visual and/or olfactory evidence of contamination, such activities will immediately stop. Workers will not attempt to handle the situation themselves but will contact the appropriate authority for further direction. The property owner, or the property owner's environmental consultant, will then contact the Department and work in the area of concern will not recommence until an appropriate course of action can be determined and analytical results are obtained.

In the event that certain soils on site were not previously characterized, these soils are presumed to be regulated until such time that it is demonstrated to the Department, through sampling and laboratory analysis that they are not regulated. (For example, presumptive remedies or locations of previously inaccessible soil.)

If excess soil is generated/excavated from the Property, the soil is to remain on-site for analytical testing, to be performed by an environmental professional, in order to determine the appropriate disposal and/or management options. The soil must be placed on and covered with a minimum of 6-mil polyethylene/plastic sheeting during the entire duration of its staging and secured with appropriate controls to limit the loss of the cover and protect against storm-water and / or wind erosion (i.e. hay bales, silt fencing, rocks, etc).

Excavated soils will be staged and temporarily stored in a designated area of the property. Within reason, the storage location will be selected to limit the unauthorized access to the materials. The property owner will fenced off the temporary storage location

and public access will be prohibited. No regulated soil will be stockpiled on-site for greater than 60 days without prior Department approval.

In the event that stockpiled soils pose a risk or threat of leaching hazardous materials, a proper leak-proof container (i.e. drum or lined roll-off) or secondary containment will be utilized.

Site soils, which are to be disposed of off-site, must be done so at a licensed facility in accordance with all local, state, and federal laws. Copies of the material shipping records associated with the disposal of the material shall be maintained by the site owner and included in the annual inspection report for the site.

Best soil management practices should be employed at all times and regulated soils should be segregated into separate piles (or cells or containers) as appropriate based upon the results of analytical testing, when multiple disposal / reuse options are planned (i.e. reuse on-site underneath a Department approved cap or disposal at a Department approved licensed facility).

All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during the soil disturbance activities will be properly containerized and disposed of following completion of the work. All vehicles utilized during the work shall be properly decontaminated as appropriate prior to leaving the site.

At the completion of site work, all exposed soils are required to be recapped with Department approved engineered controls (2 ft of clean fill or equivalent: building foundations, 4 inches of pavement/concrete – laid in 2 inch by 2 inch perpendicular lifts when possible - underlain with 6 inches of clean fill, and/or 1 foot of clean fill underlain with a geotextile liner) consistent or better than the site surface conditions prior to the work that took place. These measures must also be consistent with the Department approved ELUR recorded on the property.

Any clean fill material brought on site is required to meet the Department's Method 1 Residential Direct Exposure Criteria or be designated by an Environmental Professional as Non-Jurisdictional under the Remediation Regulations. All clean fill, including native sub-grade material and loam, imported to the site must be sampled prior to delivery and placement. Laboratory analytical results must be submitted to the Department via fax, email, etc. Written approval (i.e. email, fax, etc) to use the fill must be granted by the Department prior to use. Clean fill and loam must be sampled for arsenic at a frequency of one sample per 500 cubic yards. One-quarter of the total number of compliance samples of clean fill and loam will be sampled for VOCs, Total Metals (RCRA 13), SVOCs and TPH. In the event that there is less than 500 cubic yards of fill material brought on Site; a minimum of one sample should be analyzed for all analyses (i.e. VOCs, SVOCs, TPH & RCRA 13 Metals). All soil that is to be utilized onsite must meet the Residential Direct Exposure Criteria (Res DEC) or be certified to be non-jurisdictional. The Annual Inspection Report for the site, or Closure Report if applicable,

should include the analytical sampling results from the fill demonstrating compliance. Any fill determined to be non-jurisdictional will also require the submission of a written certification by an Environmental Professional designating that the fill is not jurisdictional.

### ***Worker Health and Safety***

To ensure the health and safety of on-site workers, persons involved in the excavation and handling of the material on site are required to wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers are also required to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the site.

### ***Signage & Markers***

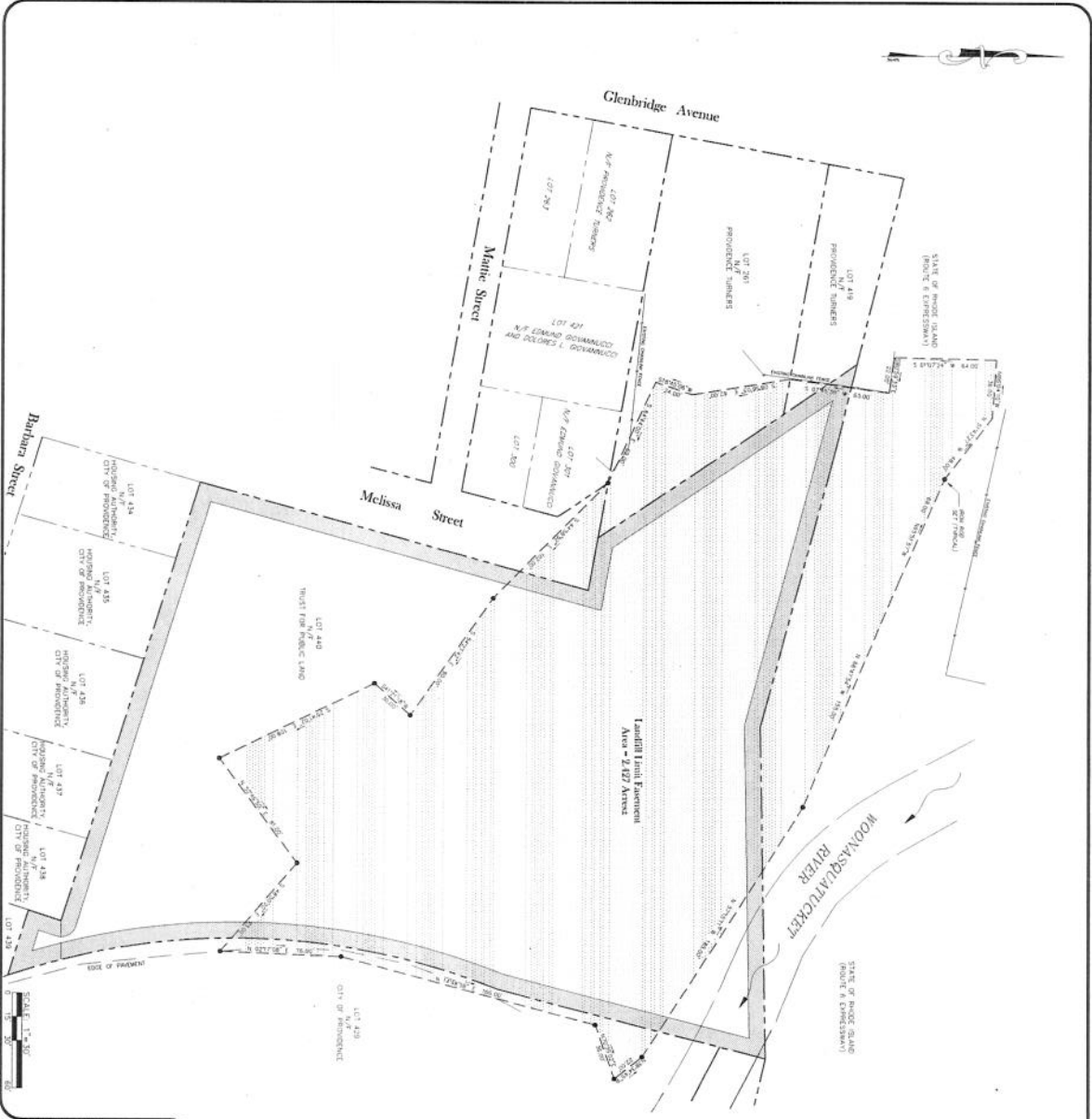
As part of a campaign to inform the public about the existence of the landfill, the protective engineered cap and the precautions required to ensure the public's safety on and confidence in the Site, the Site will be permanently posted with signage to be provided and maintained by the property owner. Signs will be posted in appropriate locations with information about the former use of the Site, noting the geographic location of the landfill, the requirements to maintain integrity of the approved cap and vegetative cover and what to do and who to call should the public notice any wear and tear of the cap and vegetative cover or other environmental concerns, such as foul odors. The signage will be posted in English and Spanish, at a minimum, and to the extent possible will be graphically interpreted so that language is secondary to understanding. It is also the responsibility of the property owner to provide for, and maintain, the installation of permanent markers on the outside edge of the landfill cap perimeter. The purpose of the permanent markers is to clearly delineate the extent of the landfill.

### ***Department Approval***

In accordance with Section A iii of the ELUR, no soil at the property is to be disturbed in any manner without prior written permission of the Department's Office of Waste Management, except for minor inspections, maintenance, and landscaping activities that do not disturb the contaminated soil at the Site. As part of the notification process, the site owner shall provide a brief written description of the anticipated site activity involving soil excavation. The notification should be submitted to the Department no later than 60 days prior to the proposed initiation of the start of site activities. The description shall include an estimate of the volume of soil to be excavated, a list of the known and anticipated contaminants of concern, a site figure clearly identifying the proposed areas to be excavated/disturbed, the duration of the project and the proposed disposal location of the soil.

Following written Notification, the Department will determine the post closure reporting requirements. Significant disturbances of regulated soil will require submission of a Closure Report for Department review and approval documenting that the activities were performed in accordance with this SMP and the Department approved ELUR. Minor

disturbances of regulated soil may be documented through the annual certification submitted in accordance with Section H (Inspection & Non-Compliance) of the Department approved ELUR. The Department will also make a determination regarding the necessity of performing Public Notice to abutting property owners/tenants concerning the proposed activities. Work associated with the Notification will not commence until written Department approval has been issued. Once Department approval has been issued, the Department will be notified a minimum of two (2) days prior to the start of activities at the site. Shall any significant alterations to the Department approved plan be necessary, a written description of the proposed deviation, will be submitted to the Department for review and approval prior to initiating such changes.



- General Notes
1. The easement is for the purpose of the construction, installation, operation, maintenance, and repair of the landfill limit easement.
  2. The easement is for the purpose of the construction, installation, operation, maintenance, and repair of the landfill limit easement.
  3. The easement is for the purpose of the construction, installation, operation, maintenance, and repair of the landfill limit easement.
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  9. The easement is for the purpose of the construction, installation, operation, maintenance, and repair of the landfill limit easement.
  10. The easement is for the purpose of the construction, installation, operation, maintenance, and repair of the landfill limit easement.

**LANDFILL LIMIT EASEMENT FIGURE**

**67 Melissa Street**

ASSISTANT REGISTRAR, PLATS, LOTS 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500.

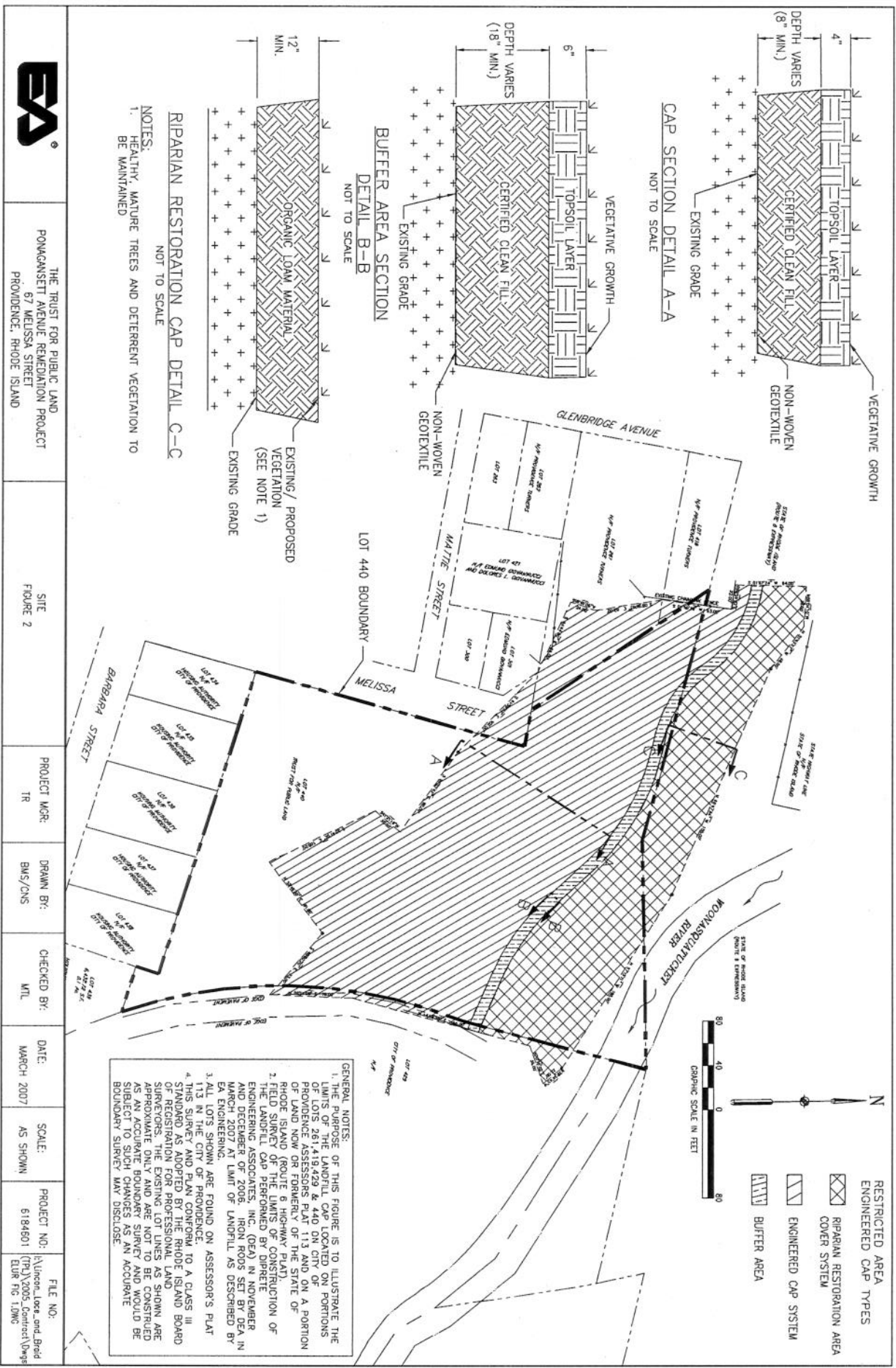
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DATE: 01/15/2011  
 PROJECT: 67 MELISSA STREET  
 SHEET: 1 OF 1



**CAP SECTION DETAIL A-A**  
NOT TO SCALE

**DETAIL B-B**  
NOT TO SCALE

**DETAIL C-C**  
NOT TO SCALE

**RIPIARIAN RESTORATION CAP DETAIL C-C**  
NOT TO SCALE

**NOTES:**  
1. HEALTHY, MATURE TREES AND DETRIMENTAL VEGETATION TO BE MAINTAINED

**GENERAL NOTES:**

1. THE PURPOSE OF THIS FIGURE IS TO ILLUSTRATE THE LOCATION OF THE RESTORED PORTIONS OF LOTS 261, 418, 429 & 440 ON CITY OF PROVIDENCE ASSESSOR'S PLAT 113 AND ON A PORTION OF LAND NOW OR FORMERLY OF THE STATE OF RHODE ISLAND (ROUTE 6 HIGHWAY PLAT).
2. FIELD SURVEY OF THE LIMITS OF CONSTRUCTION OF THE LANDFILL CAP PERFORMED BY DIRECTRE ENGINEERING ASSOCIATES, INC. (DEAI) IN NOVEMBER AND DECEMBER OF 2006. IRON RODS SET BY DEAI IN MARCH 2007. THE LOCATION OF IRON RODS SET BY DEAI IN NOVEMBER AND DECEMBER OF 2006 IS DESCRIBED BY EA ENGINEERING.
3. ALL LOTS SHOWN ARE FOUND ON ASSESSOR'S PLAT 113 IN THE CITY OF PROVIDENCE.
4. THIS SURVEY AND PLAN CONFORM TO A CLASS III STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF RESTORATION FOR PROFESSIONAL LAND SURVEYORS. THE EXISTING LOT LINES AS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE CONSIDERED AS A BASIS FOR ANY ADJUDICATION AND SHOULD BE SUBJECT TO SUCH CHANGES AS AN APPROPRIATE BOUNDARY SURVEY MAY DISCLOSE.

	THE TRUST FOR PUBLIC LAND PONGWASSETT AVENUE REMEDIATION PROJECT 67 MELISSA STREET PROVIDENCE, RHODE ISLAND	SITE FIGURE 2	PROJECT NO: TR	DRAWN BY: BMS/CNS	CHECKED BY: MTL	DATE: MARCH 2007	SCALE: AS SHOWN	PROJECT NO: 6184601	FILE NO: A:\Incep_Loc_and_Brid (TR)\2005_Contract Drawg EUR FIG 1.DWG