



June 10, 2015

Mr. Henry Willems  
NYSDEC  
DER, Remedial Bureau C  
625 Broadway, 11th Floor  
Albany, NY 12233-7014

Re: *Former Sunbelt Equipment  
25 Kent Ave. Brooklyn, NY 11249  
NYSBCP Site # C224207  
Supplemental Investigation Work Plan*

Dear Mr. Willems:

Environmental Business Consultants (EBC) has prepared the following report to document the results of a Supplemental Subsurface Investigation performed at Former Sunbelt Equipment Site located at 25 Kent Avenue, Brooklyn, NY (**Figure 1**). The work was performed in accordance with the Supplemental Investigation Work Plan (SIWP) dated May 21, 2015, and approved by the Department.

The work included fourteen soil borings (15B1-15B14) as specified in the SIWP plus two additional borings (15B4A and 15B15) which were added to provide additional information at depth due to refusal at three of the fourteen originally proposed boring locations. Additionally, EBC investigated a utility tunnel present on the west side of the Site adjacent to Kent Avenue. As per the SIWP.

### **Soil Borings**

On May 27, 2015 and May 28, 2015, EBC installed a total of 16 soil borings. Thirteen (13) of these borings were installed to a depth of 30 feet below grade and three borings were installed to a depth of 8-10 feet below grade due to refusal. C<sup>2</sup> Environmental installed borings on the approximate eastern portion of the property using a track-mounted Geoprobe™ model 6620DT and Soil Mechanics installed borings on the western portion of the Site using a truck-mounted hollow-stem auger rig with a two-foot long split-spoon sampler. All work was conducted under the oversight of EBC field personnel and the NYSDEC Project Manager, Mr. Henry Willems.

Two borings (15B13 and 15B14) were installed to a depth of 30 feet in the vicinity of the former iron works area. Two borings (15B11 and 15B12) were installed to a depth of 30 feet below grade surface (bgs) in the vicinity of the former varnish works area. Eight borings (15B1-3, 15B4A, 15B5-6, 15B9-10 and 15B15) were installed to a depth of 30 feet bgs in the western portion of the Site in the vicinity of the former petroleum works area. Additionally, three borings (15B4 and 15B7-8) were installed to a depth of 8-10 feet bgs in the former petroleum works area because refusal was encountered. Boring locations 15B4A and 15B15



were added to the fourteen proposed borings in order to collect additional information at depths due to refusal at 8-10 feet at boring locations 15B4, 15B7 and 15B8. Please see **Figure 2** for soil boring locations. Soil conditions from each of these locations are described in the following:

*Former Iron Works Area (15B13 and 15B14)*

Historic fill material was present at these two boring locations from the surface to a depth of approximately seven to ten feet bgs. Brown silt and sandy silt was present below the fill layer. Additionally, brown clay was present in both borings approximately 15 to 17 feet bgs. Clay was predominant in boring 15B14 to the terminal portion of the boring at 30 feet bgs. Brown sand was present beneath the clay layer from 17 to 28 feet bgs in boring 15B13. A reddish/brown layer of clay was encountered at the bottom of boring 15B13 from 28 to 30 feet. Based upon observed moisture content and the portion of recovered soils that were wet or saturated, depth to groundwater was estimated at approximately 10-13 feet bgs. Soil recovered from borings 15B13 and 15B14 from the surface to the terminal depth of 30 feet below grade did not exhibit any signs of petroleum impacts.

*Former Varnish Works Area (15B11 and 15B12)*

Historic fill material was present from the surface to a depth of approximately five feet bgs at boring location 15B12; however, no fill material was observed in boring location 15B11. The top five feet of boring 15B11 consisted of tan sand and brown silty sand. Brown silt was present from approximately five to nine feet bgs at both locations followed by wet, black-stained sand and silt exhibiting strong petroleum odors, sheen and moderate to high PID responses. Depth to groundwater was estimated at approximately 10 feet bgs. Petroleum impacted soil (e.g., stained soils with petroleum odors and PID responses) extended from nine to fifteen feet bgs at 15B11 and from nine to twenty feet below grade at 15B12. Clean brown sand, followed by tan clay and sand mixtures were present from 15 to 30 feet bgs at 15B11. Clean brown sandy silt and brown sand followed by gray clay was present at 15B12 from 20 to 30 feet bgs.

*Former Petroleum Works Area (15B1-10 and 15B15)*

Historic fill material was encountered at each of these locations from surface to depths ranging from three to six feet below grade. Petroleum impacted fill material was encountered at boring locations 15B7, 15B8 and 15B9. Petroleum impacted soil was observed from zero to ten feet below grade at boring locations 15B7 and 15B8. However, refusal was encountered at ten feet bgs at both of these locations, so the extent of contamination could not be determined. Petroleum impacted soil was observed from zero to 15 feet bgs at 15B9. At the remaining boring locations in the Former Petroleum Works area, petroleum impacted soil was encountered beneath the fill material layer at depths as shallow as four feet bgs. Impacted soil extended to depths ranging from 8 to 12 feet bgs at boring locations 15B1, 15B2, 15B4 and 15B4A. Petroleum impacts were observed to depths ranging from approximately five to 30 feet bgs at boring locations 15B3, 15B5, 15B6, 15B10 and 15B15. Wet wood and wood fragments with a strong petroleum odor was recovered from the six to ten foot interval in borings 15B1, 15B2, 15B3, 15B4A and 15B6. Gray fine-grained sand and silt mixtures with no wood and no evidence of petroleum impacts were present in deeper soil ranging from approximately eight to 22 feet bgs at boring locations 15B1, 15B2, 15B4A and 15B6. This eight to 22 foot interval

consisted of petroleum impacted gray sand and silt mixtures at boring locations 15B3, 15B5, 15B10 and 15B15. A layer of black/brown peat moss and compacted plant matter was encountered in borings 15B1, 15B2, 15B3, 15B4A, 15B5, 15B6 and 15B15 at depths ranging from 17 to 24 feet bgs. Gray and brown fine-grained sand and sandy silt were present below the layer of peat and compacted organics at all of the borings from this area (except for 15B4, 15B7 and 15B8, which hit refusal at eight to ten feet bgs and 15B15 which had a layer of brown clay at 25 to 30 feet bgs). The gray/brown fine-grained material extended to the bottom of each boring at 30 feet bgs.

Depth to groundwater varied at each location in the Former Petroleum Works area and was estimated from four to ten feet below grade. Depth to groundwater measurements were taken at several boring locations in this area through sections of the hollow-stem auger, once installed to 30 feet bgs. However, most measurements did appear to be accurate. This was likely due to the variable soil layers encountered including clay layers and also because groundwater was not allowed sufficient time to attenuate to its natural level before removing the hollow stem auger sections and mobilizing to the next boring location.

Boring logs for each soil boring location are provided in **Appendix A**. Additionally, photographs of soils recovered from borings are shown in **Appendix B**.

### **Utility Tunnel Excavation and Inspection**

The location of a utility tunnel had been documented in previous investigative reports and was known to be present on the western side of the property adjacent to Kent Avenue. On May 28, 2015, a track mounted excavator was used to expose the top of the tunnel and determine how far onto the Site the utility tunnel extends by excavating to expose the end. The top of the tunnel was exposed for visual inspection and to determine the best way to seal it at the property line. An Environmental Professional (EP) documented the observations and measurements in a bound notebook along with photographs so that the tunnel can be represented on a scaled site plan. Photographs of the exposed utility tunnel can be viewed in **Appendix C**. The following summarizes observations made during the excavation of the utility tunnel area and preliminary decisions discussed in the field by the EP, the onsite NYSDEC PM, Mr. Henry Willems, the Owners Representative, Mr. Allan Konstam and the Remedial Engineer, Mr. Ariel Czemerinski.

A twenty foot by twenty foot excavation to a depth of approximately 8 feet below grade was exposed approximately four feet to the east of the property line adjacent to Kent Avenue. The excavation of this area revealed a brick structure, copious amounts of historic fill material and several 8-12 inch diameter metal pipes. Black-stained soil with a strong petroleum odor was encountered at approximately 4 feet below grade. No in-tact structures were observed; however, it is assumed based upon field observations that the brick structure and metal pipes were what comprised the historic utility tunnel. The tunnel appeared to be approximately 15 feet wide and extended approximately 20 feet into the property.



Water was sprayed continuously over the excavation area in order to suppress dust from becoming airborne. The utility tunnel is present in an area with known elevated levels of lead and petroleum impacts.

As discussed with the RE and DEC, this area should be addressed and remediated during the early stages of development. A sidewalk closure permit will be required to further excavate this area as it is adjacent to Kent Avenue and there is a potential for undermining. Once the tunnel is exposed, it should be sealed with mortar at the property boundary to prevent any possible transfer of liquids from off-site sources, as it is anticipated that the utility tunnel connects the Site to the western portion of the former refinery. This contingency will be addressed in the support of excavation (SOE) document.

Should you have any questions or require further information, please do not hesitate to call either of the undersigned.

Very truly yours,

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Robert Bennett  
Project Manager

Cc: C. Sosik, EBC  
A. Czemerinski, AMC  
T. Moskovits  
A. Konstam  
C. Krieger

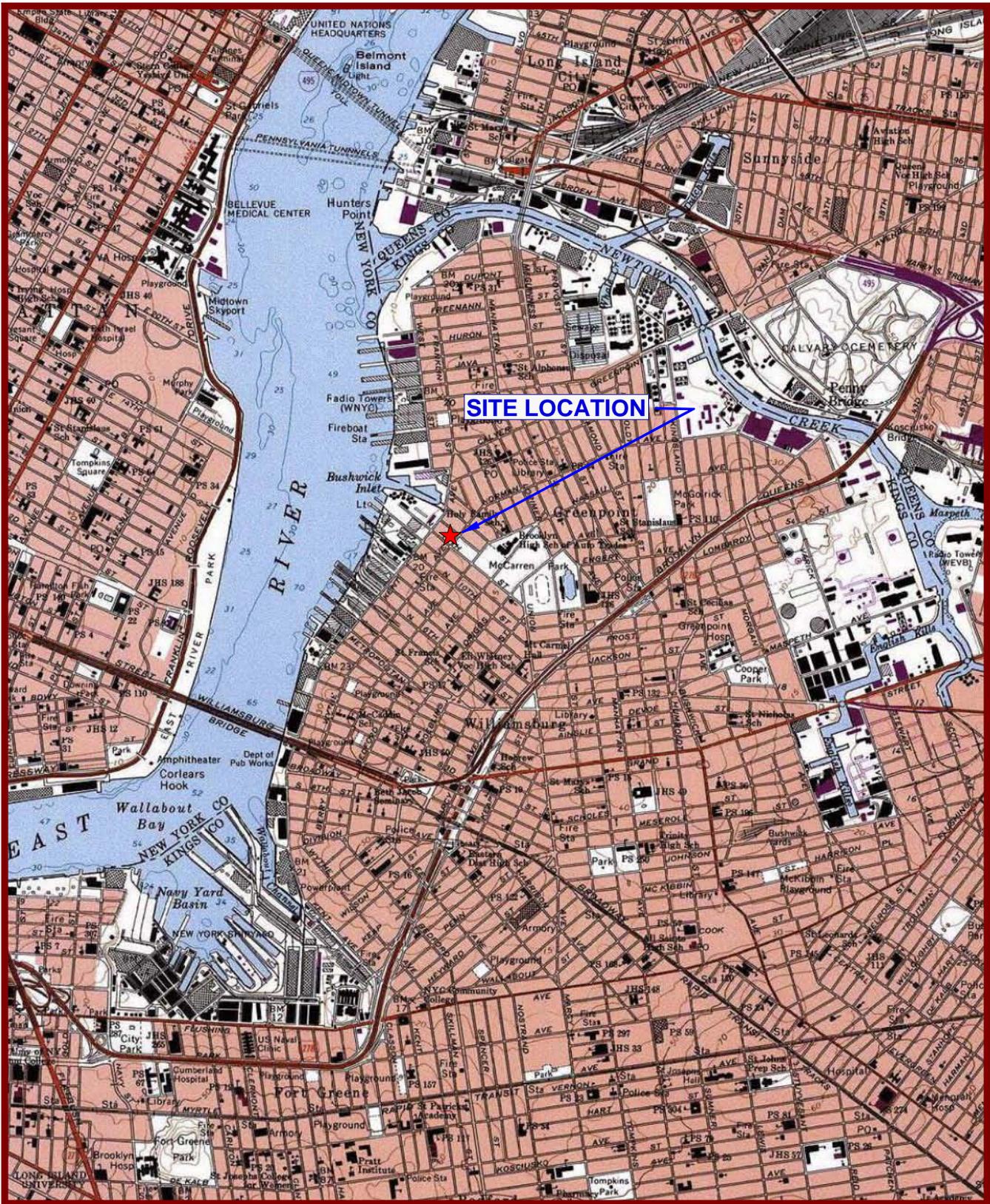
# **FIGURES**



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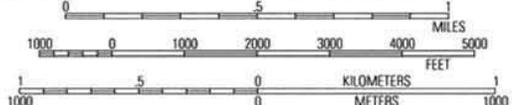
**1808 MIDDLE COUNTRY ROAD  
RIDGE, NY 11961**

**PHONE 631.504.6000  
FAX 631.924.2870**



40°45.000' N  
40°44.000' N  
40°43.000' N  
40°42.000' N

73°59.000' W      73°58.000' W      73°57.000' W      WGS84 73°56.000' W



MN ↑ TN  
13°  
06/04/11

USGS Brooklyn Quadrangle 1995, Contour Interval = 10 feet



Phone 631.504.6000  
Fax 631.924.2870

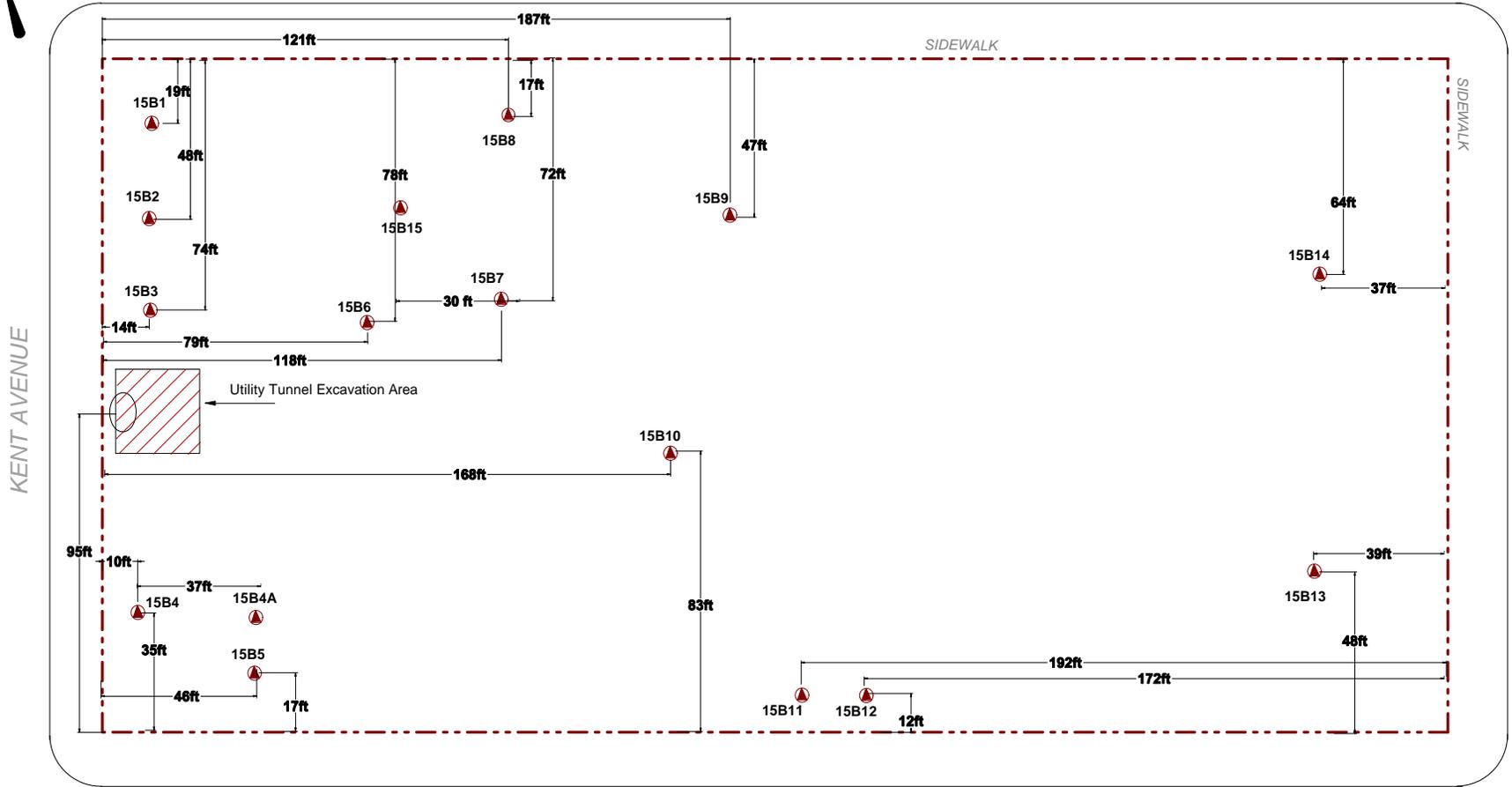
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FORMER SUNBELT EQUIPMENT  
25 KENT AVENUE, BROOKLYN, NY

**FIGURE 1**      SITE LOCATION MAP



NORTH 13th STREET

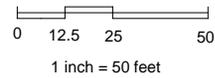


KENT AVENUE

WYTHE AVENUE

NORTH 12th STREET

SCALE



KEY:

- Site Boundary
- ▲ 15Bx Soil Boring Location

**EBC**  
 ENVIRONMENTAL BUSINESS CONSULTANTS  
 Phone 631.504.6000  
 Fax 631.924.2870

Figure No.  
**2**

Site Name: **FORMER SUNBELT EQUIPMENT SITE**  
 Site Address: **25 KENT AVENUE, BROOKLYN, NY 11249**  
 Drawing Title: **SOIL BORING LOCATIONS & UTILITY TUNNEL EXCAVATION AREA**

**APPENDIX A**  
**BORING LOGS**



***ENVIRONMENTAL BUSINESS CONSULTANTS***

**1808 MIDDLE COUNTRY ROAD  
RIDGE, NY 11961**

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# Geologic Boring Log Details



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## 15B1 Boring Log

Location: Northwest corner of the Site adjacent to the intersection of Kent Avenue and North 13th Street		Depth to Water		Site Elevation Datum	
Site Name: Former Sunbelt Equipment		Address: 25 Kent Avenue, Brooklyn, NY		Date	DTW
Drilling Company: Soil Mechanics		Method: Hollow stem auger with 2 foot split spoon		Groundwater depth	
Date Started: 5/28/2015		Date Completed: 5/28/2015		Ground Elevation: 11' amsl	
Completion Depth: 30 Feet		Geologist: Robert Bennett		Well Specifications: 8' 1"	
No Well Installed					

1514B1 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0-1			0.0	24" - (FILL) brown silty sand with red brick, ash, and asphalt fragments (no odor)
	1-2	24		0.0	
	2-3			0.0	24" - (FILL) brown silty sand with red brick, ash, and asphalt fragments (no odor)
	3-4	24		0.0	
	4-5			25.0	24" - wet, dark gray stained silty gravelly sand (strong petroleum odor)
	5-6	24		35.0	
	6-7			10.5	4" - wet silty sandy wood fragments (strong petroleum odor)
	7-8	4		NA	
	8-9			30.0	24" - wet, gray stained gravelly silty sand with wood fragments (strong petroleum odor)
	9-10	24		45.0	
	10-11			4.0	12" - wet gray silty sand (petroleum odor)
	11-12	24		0.0	12" - wet gray silty sand (no odor)
	12-13			0.0	24" - wet gray silty sand (no odor)
	13-14	24		0.0	
	14-15			0.0	24" - wet gray silty sand (no odor)
	15-16	24		0.0	
	16-17			0.0	24" - wet gray silty sand (no odor)
	17-18	24		0.0	
	18-19			0.0	24" - wet gray silty sand (no odor)
	19-20	24		0.0	
	20-21			0.0	18" - wet gray silty sand (no odor)
	21-22	24		0.0	6" - black/brown compacted peat/organics (no odor)
	22-23			0.0	24" - black/brown compacted peat/organics (no odor)
	23-24	24		0.0	
	24-25			0.0	24" - wet gray sand, trace silt (no odor)
	25-26	24		0.0	
	26-27			0.0	24" - wet gray sand, trace silt (no odor)
	27-28	24		0.0	
	28-29			0.0	12" - wet gray sand, trace silt (no odor)
	29-30	24		0.0	12" - brown fines silty sand (no odor)

# Geologic Boring Log Details



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## 15B2 Boring Log

Location: Northwest corner of the Site adjacent to the intersection of Kent Avenue and North 13th Street. Approximately 30 feet south of 15B1.		Depth to Water		Site Elevation Datum	
Site Name: Former Sunbelt Equipment		Address: 25 Kent Avenue, Brooklyn, NY		Date	DTW
Drilling Company: Soil Mechanics		Method: Hollow stem auger with 2 foot split spoon		Groundwater depth	
Date Started: 5/28/2015		Date Completed: 5/28/2015		Ground Elevation: 11' amsl	
Completion Depth: 30 Feet		Geologist: Robert Bennett		7' 10"	
Well Specifications: No Well Installed					

15B2 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0-1	24		0.0	24"- (FILL) brown sandy, gravelly silt with ash and concrete fragments (no odor)
	1-2			0.0	
	2-3	24		0.0	12"- (FILL) brown sandy silt with ash and concrete (no odor)
	3-4			12.0	12" - black stained gravelly sand (petroleum odor)
	4-5	24		45.0	24"- gray sandy gravelly silt (petroleum odor) (bottom 2" of recovery is wet)
	5-6			45.0	
	6-7	6		15.0	6" - saturated, dark gray silty sand with wood fragments (petroleum odor)
	7-8			NA	
	8-9	2		2.0	2" - wet, gray stained silty sand with wood fragments (petroleum odor)
	9-10			NA	
	10-11	24		6.0	24" - wet, gray silty sand (petroleum odor)
	11-12			10.0	12" - wet gray silty sand (no odor)
	12-13	24		0.0	24" - wet gray silty sand (no odor)
	13-14			0.0	
	14-15	24		0.0	24" - wet gray silty sand (no odor)
	15-16			0.0	
	16-17	24		0.0	24" - wet gray silty sand (no odor)
	17-18			0.0	
	18-19	24		0.0	24" - wet gray silty sand (no odor)
	19-20			0.0	
	20-21	24		0.0	24" - wet gray silty sand (no odor)
	21-22			0.0	
	22-23	24		0.0	10" -wet gray silty sand (no odor)
	23-24			0.0	14" - black/brown compacted peat/organics (no odor)
	24-25	24		0.0	24" - light gray fines (sandy silt) (no odor)
	25-26			0.0	
	26-27	24		0.0	24" - brown/gray silty clay (no odor)
	27-28			0.0	
	28-29	24		0.0	24" - gray sand (no odor)
	29-30			0.0	



# Geologic Boring Log Details

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## 15B3 Boring Log

Location: West side of the Site adjacent to Kent Avenue.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 11' amsl
Drilling Company: Soil Mechanics	Method: Hollow stem auger with 2 foot split spoon	14' 4"	Well Specifications:
Date Started: 5/27/2015	Date Completed: 5/27/2015		No Well Installed
Completion Depth: 30 Feet	Geologist: Robert Bennett		

15B3 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0-1	24		0.0	24"- (FILL) brown gravelly sandy silt with red brick and concrete fragments (no odor)
	1-2			0.0	
	2-3	24		0.0	24"- (FILL) brown gravelly sandy silt with red brick and concrete fragments (no odor)
	3-4			0.0	
	4-5	24		0.0	6"- (FILL) brown gravelly sandy silt with red brick and concrete fragments (no odor)
	5-6			0.0	
	6-7	6		7.0	18" - soaked wood (petroleum odor)
	7-8			NA	
	8-9	10		8.5	10"- saturated wood (petroleum odor)
	9-10			NA	
	10-11	24		2.5	24" - wet gray/brown silty sand (petroleum odor)
	11-12			10.8	
	12-13	24		15.0	24" - saturated black/gray gravelly sandy silt (petroleum odor)
	13-14			30.0	
	14-15	24		10.0	24" - saturated black/gray gravelly sandy silt (petroleum odor)
	15-16			12.0	
	16-17	24		0.0	18" - gray/black silty sand (no odor) 6" - black/brown compacted peat/organics (no odor)
	17-18			0.0	
	18-19	24		2.0	10" - wet dk. gray silt with compacted peat (petroleum odor)
	19-20			3.0	
	20-21	24		0.0	14" - dry black/brown compacted peat (petroleum odor)
	21-22			0.0	
	22-23	24		0.0	24" - dry black/brown compacted peat (no odor)
	23-24			0.0	
	24-25	24		0.0	14" - dk. gray silty sand, no odor
	25-26			0.0	
	26-27	24		0.0	24" - saturated gray fines (sand/silt) (no odor)
	27-28			0.0	
	28-29	24		0.0	24" - gray fine sand, trace silt (no odor)
	29-30			0.0	





# Geologic Boring Log Details



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## 15B5 Boring Log

Location: Southwest corner of the Site adjacent to the intersection of Kent Avenue and North 12th Street. Approximately 25 feet east and 18 feet south of 15B4.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: Soil Mechanics	Method: Hollow stem auger with 2 foot split spoon	17' 3"	Well Specifications:
Date Started: 5/27/2015	Date Completed: 5/27/2015		No Well Installed
Completion Depth: 30 Feet	Geologist: Robert Bennett		

15B5 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0-1	24		0.0	24"- (FILL) brown sandy silt with red brick fragments (no odor)
	1-2			0.0	
	2-3	24		0.0	24"- (FILL) brown sandy silt with red brick fragments (no odor)
	3-4			0.0	
	4-5	24		20.0	24"- gray/brown silty sand (strong petroleum odor)
	5-6			30.0	
	6-7	24		30.0	24"- gray/brown silty sand (strong petroleum odor)
	7-8			35.0	
	8-9	24		45.0	24" - wet black/gray silty sand (strong petroleum odor)
	9-10			55.0	
	10-11	24		45.0	24" - wet black/gray silty sand (strong petroleum odor)
	11-12			55.0	
	12-13	24		25.0	24" - wet black/gray silty sand (strong petroleum odor)
	13-14			30.0	
	14-15	24		30.0	24" - wet black/gray silty sand (strong petroleum odor)
	15-16			35.0	
	16-17	24		0.0	18" - wet black/gray silty sand (strong petroleum odor) 6"
	17-18			3.5	- black/brown compacted peat moss (petroleum odor)
	18-19	24		5.0	24" - saturated gray/black sandy silty clay (petroleum odor)
	19-20			10.0	
	20-21	24		0.0	24" - gray fines (sand/silt) (no odor)
	21-22			0.0	
	22-23	24		0.5	24" - brown/gray silty sand (slight petroleum odor)
	23-24			0.8	
	24-25	24		0.4	24" - brown/gray silty sand (slight petroleum odor)
	25-26			0.6	
	26-27	24		0.0	24" - black/brown silty sand (slight petroleum odor)
	27-28			0.0	
	28-29	24		0.0	24" - black/brown silty sand (slight petroleum odor)
	29-30			0.0	



# Geologic Boring Log Details



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## 15B7 Boring Log

Location: Approximately 118 feet east and 72 feet south of the northwest corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/28/2015	Date Completed: 5/28/2015	Well Specifications: No Well Installed	
Completion Depth: 10 Feet	Geologist: Greg Swirson		

15B7 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION	
		Recovery (in.)	Blow per 6 in.	PID (ppm)		
	0					
	to	40		609.0	2" - crushed concrete 18" - brown sand (petroleum odor) 20" - stained black sandy silt with brick and wood fragments (petroleum odor)	
	5					
	to	24		305.0	24" - wet stained black sandy silt (petroleum odor) 27" - wet brown sand with rock (petroleum odor)	
	10					
						* - Refusal encountered at 10 feet bgs.

# Geologic Boring Log Details



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## 15B8 Boring Log

Location: Approximately 121 feet east and 17 feet south of the northwest corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Well Specifications:	
Date Started: 5/28/2015	Date Completed: 5/28/2015	No Well Installed	
Completion Depth: 10 Feet	Geologist: Greg Swirson		

15B8 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	30		1,150.0	1" - crushed asphalt fragments 29" - stained black sandy silt with brick fragments (petroleum odor)
	5				
	to	12		530.0	12" - wet stained black sandy silt with brick fragments (petroleum odor)
	10				
	to				* - Refusal encountered at 10 feet bgs.
	15				
	to				
	20				
	to				
	25				
	to				
	30				
	to				
	35				

# Geologic Boring Log Details



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## 15B9 Boring Log

Location: Approximately 157 feet east and 47 feet south of the northwest corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/28/2015	Date Completed: 5/28/2015	Well Specifications: No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B9 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	32		163.0	32" - (FILL) black stained sandy silt with wood and brick fragments (petroleum odor)
	5				
	to	42		932.0	36" - stained black sandy silt (petroleum odor) 6" - brown silt (petroleum odor)
	10				
	to	38		5.8	38" - wet, slightly stained sandy silt (petroleum odor)
	15				* - groundwater encountered at 10 feet bgs
	to	0		NA	No Recovery
	20				
	to	58		0.0	58" - brown sand with scrap metal at approx. 21 feet bgs (no odor)
	25				
	to	56		2.8	56" - brown sandy silt (no odor)
	30				

# Geologic Boring Log Details



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## 15B10 Boring Log

Location: Approximately 168 feet east and 83 feet north of the southwest corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/28/2015	Date Completed: 5/28/2015	Well Specifications: No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B10 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	30		0.0	2" - crushed concrete 2" - (FILL) crushed asphalt 26" - (FILL) brown sandy silt (no odor)
	5				
	to	26		474.0	13" - brown sandy silt (no odor) 13" - wet stained black silt (petroleum odor)
	10				<i>*groundwater encountered at approximately 9 feet bgs</i>
	to	24		124.0	24" - wet brown sandy silt (petroleum odor)
	15				
	to	30		704.0	20" - wet brown sandy silt (petroleum odor) 4" - stained gray sand (petroleum odor)
	20				
	to	48		2.8	48" - wet brown sand (no odor)
	25				
	to	30		6.6	30" - wet brown sand (slight odor)
	30				

# Geologic Boring Log Details



**ENVIRONMENTAL BUSINESS CONSULTANTS**

## 15B11 Boring Log

Location: Approximately 192 feet west and 24 feet north of the southeast corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/27/2015	Date Completed: 5/27/2015	Well Specifications: No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B11 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	16		0.0	2" - crushed concrete 6" - brown silty sand (no odor) 4" - tan sand (no odor) 4" - brown silty sand (no odor)
	5				
	to	20		302.0	14" - brown silt (no odor) 6" - wet stained black sand (petroleum odor)
	10				
	to	34		315.0	22" - wet gray sandy silt with sheen (petroleum) 12" - brown sand (petroleum odor)  <i>* - groundwater encountered at approximately 10-12 feet bgs</i>
	15				
	to	40		0.0	20" - brown sand (no odor) 20" - tan clay (no odor)
	20				
	to	45		0.0	45" - gray/tan clayey sand (no odor)
	25				
	to	45		0.0	45" - gray sandy clay (no odor)
	30				

# Geologic Boring Log Details



**ENVIRONMENTAL BUSINESS CONSULTANTS**

## 15B12 Boring Log

Location: Approximately 172 feet west and 12 feet north of the southeast corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/27/2015	Date Completed: 5/27/2015	Well Specifications: No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B12 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	22		0.0	1" - crushed concrete 21" - (FILL) brown sandy silt with brick fragments (no odor)
	5				
	to	24		102.0	20" - brown sandy silt (no odor) 4" - wet stained black silt (petroleum odor)
	10				
	to	44		221.0	44" - wet gray clay with sheen (petroleum odor)
	15				<i>* - groundwater encountered at approximately 10-12 feet bgs</i>
	to	44		50.1	22" - wet gray clay with sheen (petroleum odor) 22" - tan clayey sand (slight petroleum odor)
	20				
	to	36		0.0	36" - brown sandy silt (no odor)
	25				
	to	48		0.0	36" - brown sand (no odor) 12" - gray clay (no odor)
	30				

# Geologic Boring Log Details



**ENVIRONMENTAL BUSINESS CONSULTANTS**

## 15B13 Boring Log

Location: Approximately 39 feet west and 48 feet north of the southeast corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Well Specifications:	
Date Started: 5/27/2015	Date Completed: 5/27/2015	No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B13 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	13		0.0	1" - crushed concrete 8" - (FILL) asphalt and brick fragments (no odor) 4" - (FILL) brown/gray silt with brick fragments (no odor)
	5				
	to	25		0.0	13" - (FILL) gray silt with brick fragments (no odor) 12" - brown silt (no odor)
	10				
	to	32		0.0	32" - brown sandy silt (no odor)
	15				* - groundwater encountered at approximately 10-13 feet bgs
	to	38		0.0	28" - tan clay (no odor) 10" - brown gravelly sandy (no odor)
	20				
	to	52		0.0	52" - saturated brown sand (no odor)
	25				
	to	48		0.0	36" - brown sand (no odor) 12" - reddish brown/gray clayey silt (no odor)
	30				

# Geologic Boring Log Details



ENVIRONMENTAL BUSINESS CONSULTANTS

## 15B14 Boring Log

Location: Approximately 64 feet south and 37 feet west of the northeast corner of the Site.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	Well Specifications:
Date Started: 5/27/2015	Date Completed: 5/27/2015		No Well Installed
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B14 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				2" - crushed concrete
	to	19		0.0	11" - (FILL) crushed asphalt (no odor) 6" - (FILL) red brick fragments (no odor)
	5				
	to	20		0.0	3" - (FILL) red brick fragments (no odor) 17" - brown sandy silt with brick and glass fragments (no odor)
	10				
	to	22		0.0	19" - brown sand (no odor) 3" - gray clayey silt (no odor)
	15				<i>* groundwater encountered at approximately 13 feet bgs</i>
	to	32		0.0	16" - brown clay (no odor) 16" - brown sand (no odor)
	20				
	to	56		0.0	56" - brown silty clay (no odor)
	25				
	to	34		0.0	34" - brown sandy clay (no odor)
	30				

# Geologic Boring Log Details



**ENVIRONMENTAL BUSINESS CONSULTANTS**

## 15B15 Boring Log

Location: Approximately 30 feet to the west of the midpoint between boring locations 15B7 and 15B8.		Depth to Water	Site Elevation Datum
Site Name: Former Sunbelt Equipment	Address: 25 Kent Avenue, Brooklyn, NY	Date	DTW
		Groundwater depth	Ground Elevation: 12' amsl
Drilling Company: C <sup>2</sup> Environmental	Method: Geoprobe	Not Detected	
Date Started: 5/28/2015	Date Completed: 5/28/2015	Well Specifications: No Well Installed	
Completion Depth: 30 Feet	Geologist: Greg Swirson		

15B15 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	15		0.0	2" - crushed concrete 13" - (FILL) brown sandy silt with brick fragments (no odor)
	5				
	to	30		832.0	30" - wet stained black sandy silt (petroleum odor)
	10				
	to	45		456.0	42" - wet black stained sandy silt (petroleum odor) 3" - wet brown sandy silt (petroleum odor)
	15				
	to	40		75.0	30" - wet black/brown sandy silt (petroleum odor) 10" - wet black/brown compacted peat/organics (petroleum odor)
	20				
	to	30		15.0	30" - wet stained black sand (petroleum odor)
	25				
	to	38		2.5	38" - brown sandy clay (no odor)
	30				

**APPENDIX B**  
**SOIL BORING PHOTOS**



**ENVIRONMENTAL BUSINESS CONSULTANTS**

**1808 MIDDLE COUNTRY ROAD  
RIDGE, NY 11961**

**PHONE 631.504.6000  
FAX 631.924.2870**

**Photo Log - Soil Borings**

**Photo 1 – Eastern facing view of the Site as seen from the western property boundary along Kent Avenue.**



**Photo 2 – Western facing view of the Site as seen from the eastern side of N. 13th Street.**



**Photo 3 – Soil Mechanics installing soil borings using a truck-mounted auger stem drill rig with two-foot slit-spoon sampler.**



**Photo 4 – C2 Environmental collecting soil borings using a track-mounted Geoprobe™ model 6620DT.**



**Photo 5 – Depth to groundwater measurements taken upon completion of borings through the hollow-stem auger sections.**



**Photo 6 – View of historic fill material collected in a two-foot split-spoon sampler. Fill material was typical in all borings from the surface to three to ten feet below grade.**



**Photo 7 – View of black-stained soil exhibiting strong odors and PID response collected in a two-foot split-spoon sampler. Petroleum impacted soil was typical in most borings from the surface to four to twenty five feet below grade.**



**Photo 8 – View of dark brown peat/compacted organics, recovered at depths ranging from 17-24 feet below grade. Peat was encountered in most borings installed. Specifically, those on the western side of the Site.**



Photo 9 – View of gray fines (fine sand and silt) recovered in all borings from depths ranging from 11 to 30 feet below grade. This material was typically clean (i.e., without visual, olfactory or PID evidence of petroleum impacts).



Photo 10 – View of black-stained soil exhibiting strong odors and PID response collected in a five foot sleeve using Geoprobe. Soil recovered was inspected for visual, olfactory and PID evidence of petroleum impacts.



**Photo 11 – View of all soil boring intervals collected in five foot long sleeves using Geoprobe. Soil recovered was inspected for visual, olfactory and PID evidence of petroleum impacts.**



**APPENDIX C**  
**UTILITY TUNNEL PHOTOS**



***ENVIRONMENTAL BUSINESS CONSULTANTS***

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## Photo Log - Utility Tunnel Inspection

Photo 1 –  
Excavation area  
on the west side  
of the Site  
adjacent to Kent  
Avenue. A 20 by  
20 foot tarp was  
laid out adjacent  
to the excavation  
area in case  
heavily impacted  
soils were  
excavated.



Photo 2 –  
Water  
was sprayed over  
the excavation  
area continuously  
during excavation  
of the utility  
tunnel to  
suppress dust.



**Photo 3 – A brick structure was encountered approximately four feet below grade and extended approximately twenty feet into the property. The excavation was dug approximately eight feet below grade; however, the bottom of the brick structure was not encountered.**



**Photo 4 – Several 8 to 12 inch diameter metal pipes were present in the utility tunnel area.**



**Photo 5 –  
Petroleum  
impacted soil was  
encountered at  
depths ranging  
from  
approximately  
four to eight feet  
below grade in the  
utility tunnel  
excavation area.**

