Kevin Scott
Project Manager

February 6, 2012
Mr. Eric Daly
On-Scene Coordinator
U.S. Environmental Protection Agency Region 2
2890 Woodbridge Avenue
Edison, NJ 08837

Subject: Draft Sampling Trip Report for the Riverside Avenue Site
Newark, Essex County, New Jersey
Contract: EPA Region 7 START, Region 2 Crossover
Contract No. EP-S7-06-01
Task No. 9004L100178000

Dear Mr. Daly:

Tetra Tech EM Inc. (Tetra Tech) is submitting the draft sampling trip report for the Riverside Avenue site located at Riverside Avenue in Newark, New Jersey. The trip report summarizes the test pit sampling activities conducted at the site from January 25 through January 27, 2012. If you have any questions regarding this report, please contact me at (302) 283-2248 or kevin.scott@tetratech.com.

Sincerely,

Kevin Scott
Project Manager

Enclosure
cc: TDD File

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DRAFT SAMPLING TRIP REPORT
RIVERSIDE AVENUE SITE
NEWARK, ESSEX COUNTY, NEW JERSEY

Prepared for

U.S. Environmental Protection Agency Region 2
Emergency and Remedial Response Division
2890 Woodbridge Avenue
Edison, New Jersey 08837

Prepared by

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EPA Contract No. EP-S7-06-01

Task No. 9004L100178000

February 6, 2012

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1.0 INTRODUCTION

Under Region 7 Superfund Technical Assessment and Response Team (START) Contract No. EP-S7-06-01, Task No. 9004L100178000, U.S. Environmental Protection Agency (EPA) Region 2 tasked Tetra Tech EM Inc. (Tetra Tech) to conduct a removal assessment at the Riverside Avenue site, located in Newark, Essex County, New Jersey. Results from this investigation will be used to determine the nature and extent of soil contamination in the vicinity of the underground storage tank (UST) farm at the site. All sampling was completed in accordance with the site-specific abbreviated sampling and analysis plan (SAP) and quality assurance project plan (QAPP) prepared for the site (Tetra Tech 2012a, 2012b)

Information collected during this investigation will be used to determine if hazardous substances that might pose a significant risk to public health or the environment are present at the site and if remediation is warranted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and the Superfund Amendments and Reauthorization Act of 1986 (SARA).

This trip report provides site background information in Section 2.0, describes sampling activities in Section 3.0, and summarizes observations and conclusions from the investigation in Section 4.0. All references cited in this trip report are listed after the text. The appendices include figures illustrating the site and test pit locations associated with this investigation in Appendix A; tables in Appendix B; photographic documentation of site activities in Appendix C; and field logbook notes, and chain-of-custody records in Appendix D and E, respectively.

2.0 BACKGROUND

This section describes the site location and layout, presents a site description, discusses the site's history, and summarizes previous investigation activities conducted on and in the vicinity of the Riverside Avenue site.

2.1 SITE LOCATION AND LAYOUT

The Riverside Avenue site is located off of McCarter Highway (New Jersey Route 21) on Riverside Avenue in Newark, New Jersey, as shown on Figure 1, Site Location Map, in Appendix A. The site is identified in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) as being located at 29 Riverside Avenue. The geographic coordinates for the approximate center of the site are 40º 45' 56.52" north latitude and 74˚ 9' 32.7594" west longitude. The area being investigated covers approximately 1/10 of 1 acre (5,000 square feet) on Lot 64 (Block 614) where 10 underground tanks are buried as shown on Figure 2, Site Layout Map, in Appendix A. Lot 64 is owned by the

City of Newark, New Jersey. The area of investigation is bordered by commercial properties to the north, by the Passaic River to the east, by commercial properties to the south, and by the Norfolk Southern Railroad, McCarter Highway (New Jersey Route 21), and Riverside Avenue to the west. Access to the site is through Riverside Avenue.

2.2 SITE DESCRIPTION

The Riverside Avenue site is a former PPG paint manufacturing facility located in an industrial area of Newark, New Jersey. Two buildings located on the property have been investigated: Buildings 7 and 12. Building 7 is a three-story building that contains approximately one hundred 3,000 to 10,000-gallon aboveground storage tanks (AST) and two subsurface impoundments (sub-basements), and Building 12 is a five-story building containing two abandoned 10,000-gallon ASTs containing hazardous waste. Previous field investigations have confirmed the presence of ten 12,000-gallon underground storage tanks (UST) containing hazardous substances, primarily volatile organic compounds (VOC), buried in the central portion of the site (Lockheed Martin 2010a). The area surrounding the ten 12,000-gallon USTs is the focus of this removal assessment. Figure 2, Site Layout Map, in Appendix A shows the locations of Buildings 7 and 12, and the 12,000-gallon USTs in the center of the site.

Site soil is composed of fill material that was used to create land adjacent to the Passaic River (U.S. Geological Survey [USGS] 1955).

2.3 SITE HISTORY

Based on existing Sanborn Fire Insurance maps, the site has been used for industrial activities from 1909 through 1983. Various operators used the property for the manufacture of paints and varnishes. From 1931 to 1950, PPG conducted operations on approximately 7 acres along the western shore of the Passaic River. From approximately 1950 through 1973, the size of the operations decreased. Various tenants have occupied the property from 1973 through 1993. In 1993, the City of Newark obtained portions of the site through foreclosure (Weston Solutions, Inc. [Weston] 2009; Sanborn Maps 1909, 1931, and 1950).

2.4 PREVIOUS SITE INVESTIGATIONS

In May 2009, Weston completed a preliminary assessment (PA) for the City of Newark as part of the New Jersey Department of Environmental Protection (NJDEP) remediation program. During the PA, Weston investigated Buildings 7 and 12 located in the central portion of the Riverside Avenue site, and the property surrounding the buildings. While conducting the PA, Weston identified several areas of concern (AOC) based on Sanborn maps. The AOCs included ASTs, USTs, and underground piping (Weston 2009). In August and October 2009, Birdsall Services

Group Inc./PMK Group, Inc. (Birdsall) completed a site inspection (SI) at the site to investigate possible contamination from the AOCs. Birdsall also has a geophysical survey completed for the site. The survey identified possible USTs located east of Building 12. Subsequently, 10 USTs were confirmed to be present at this location (Birdsall 2009).

During the SI, A total of 17 soil borings were installed and 23 soils samples were collected. The soil samples were analyzed for total petroleum hydrocarbons (TPH) and priority pollutants. Analytical results from soil samples collected from areas surrounding the identified AOCs contained TPH in every sample; VOCs benzene, toluene, and ethylbenzene in about 12 samples; several semivolatile organic compounds (SVOC) in every sample; lead in every sample; and polychlorinated biphenyls (PCB) in seven samples. SVOC and lead contamination are present in soil throughout the area sampled.

EPA Region 2 requested the EPA Environmental Response Team (ERT) conduct a subsurface investigation of a portion at the Riverside Avenue site. On May 26 and 27, 2010, ERT collected 24 subsurface soil samples from 12 soil borings, 12 groundwater samples from the soil boring locations, and six sediment samples from the Passaic River adjacent to 29 Riverside Avenue (Lockheed Martin 2010a).

The analytical results from the 2010 subsurface investigation identified SVOCs in the 24 soil and six sediment samples collected from the site and the Passaic River, respectively. The most prevalent SVOCs detected in soil include benzo(a)anthracene (up to 4.9 milligrams per kilogram [mg/kg]), benzo(b)fluoranthene (up to 3.3 mg/kg), benzo(k)fluoranthene (up to 4.5 mg/kg), benzo(a)pyrene (up to 4.1 mg/kg), and indeno(1,2,3-cd)pyrene (up to 1.9 mg/kg). Lead was detected in 19 of the 24 soil samples at concentrations up to 4,700 mg/kg. Benzene was detected in two soil samples at concentrations up to 2.9 mg/kg. The sediment samples contained the same SVOCs detected in the soil samples including benzo(a)anthracene (up to 5.2 mg/kg), benzo(b)fluoranthene (up to 4.3 mg/kg), benzo(k)fluoranthene (up to 2.1 mg/kg), benzo(a)pyrene (up to 4.6 mg/kg), and indeno(1,2,3-cd)pyrene (up to 1.8 mg/kg). Lead also was detected in all sediment samples, with a maximum concentration of 21,000 mg/kg (Lockheed Martin 2010a).

Groundwater samples collected during the 2010 subsurface investigation contained notable concentrations of lead in nine of the 12 groundwater samples collected from the soil borings on site, with a maximum concentration of 16 micrograms per liter (µg/L). Other contaminants found in the groundwater samples included benzene (up to 16 µg/L); m,p,o-xylene (up to 1,400 µg/L); methylene chloride (up to 110 µg/L); naphthalene (up to 6.1 µg/L); and 2-methylnaphthalene (8.8 µg/L) (Lockheed Martin 2010a).

In October 2009, NJDEP responded to a spill into the Passaic River from two tanks in the basement of Building 12 on the Riverside Avenue site. The spilled material was characterized as waste solvent and fuel (NJDEP 2009). In response to the spill and the presence of contamination identified during the May 2010 SI, the EPA removal program began removal actions at the site. The actions included surface and subsurface soil sampling, groundwater sampling, and waste characterization (Lockheed Martin 2010b).

Under EPA Region 7 START Contract No. EP-S7-06-01, Technical Direction Document (TDD) No. 0178, EPA Region 2 tasked Tetra Tech to conduct a site removal assessment at the Riverside Avenue site in June 2010. Tetra Tech completed the following tasks during this removal assessment:

- Inventoried and collected liquid and/or residual solid samples from tanks located on the second and third floors of Building 7
- Collected aqueous and sediment samples from the basements of Buildings 7 and 12 where pooled water has accumulated
- Inventoried and sampled drums and containers located on site
- Collected samples of red and blue-colored dry pigment materials located on the floor of Building 12
- Collected samples of the tar/resin-like materials leaching from the west bank of the Passaic River and observed along the base of the north wall of Building 7
- Packaged and shipped samples to laboratories procured through the EPA Contract Laboratory Program (CLP) for target compound list (TCL) and toxicity characteristics leaching procedure (TCLP) VOCs, SVOCs, pesticides, and PCBs and TAL and TCLP metals and cyanide (Tetra Tech 2010)

The sub-basement sediment samples contained acetone up to 11,000 micrograms per kilogram (µg/kg); chloroform up to 2,200 µg/kg; 1,3-dichlorobenzene up to 290,000 µg/kg; methylene chloride up to 220,000 µg/kg; tetrachloroethene up to 280,000 µg/kg; 1,1,1-trichloroethane up to 1,100,000 µg/kg; and 2-methylphenol up to 4,700,000 µg/kg. The tank wastes contained acetone up to 1,100 µg/kg, methylene chloride up to 560 µg/kg, and xylene up to 630 µg/kg. Resin from the pipes contained ethylbenzene up to 150,000 µg/kg, isopropylbenzene up to 7,700 µg/kg, and m,p-xylene up to 65,000 µg/kg. Samples were collected from pigments found in containers and on the floor. The pigments contained acetone up to 710 µg/kg, methylene chloride up to 300 µg/kg, toluene up to 4,300 µg/kg, and lead up to 143 mg/kg (Tetra Tech 2010).

Previous investigations of the Riverside Avenue site have only been conducted in the central portion of the site near Buildings 7 and 12. However, PPG operations were located north and

south of the central portion of the site. No samples have been previously collected from the northern and southern portions of the former PPG operational areas. In November and December 2011, EPA START Region 7 contractor Tetra Tech collected surface soil, subsurface soil, and groundwater samples from the northern and southern portions of the site to identify possible contamination from releases from former operational areas such as storage tanks located on the northern and southern portions of the site. The sampling activities from this investigation were described in a drafted trip report prepared by Tetra Tech and submitted to EPA on December 21, 2011. Tetra Tech and EPA are currently reviewing and evaluating the sample analytical results for this sampling event.

3.0 SITE ACTIVITIES

On Tuesday, January 24, 2012, Tetra Tech employee Kevin Scott traveled to the Riverside Avenue site and met with U.S. EPA On-Scene Coordinator Eric Daly and the foreman for the EPA's Emergency and Rapid Response Service (ERRS) contractor to discuss the approach for the removal assessment and determine the locations for the six proposed test trenches (test pits). Test pit excavation was performed by the ERRS contractor and test pit soil sample collection was performed by Tetra Tech. Test pits TP1, TP2, and TP3 were excavated and sampled on January 25, 2012. Test pit TP4 was excavated and sampled on January 26 and TP5 was partially excavated on January 26, but was not completed on this date because an 8 inch diameter water main was broken during the excavation of this test pit. Tetra Tech collected two of the three samples proposed for test pit TP5 on January 26. Test pit TP6 was excavated and sampled on January 27, 2012 as was the completion of the excavation and sampling of test pit TP5.

Figure 3, Test Pit Location Map, in Appendix A shows the locations of the six test pits excavated along the perimeter of the UST farm. Test pits were identified as TP1 through TP6. Two test pits were excavated on each of the north and south sides of the UST perimeter and one test pit was excavated on each of the east and west sides. Table 1 in Appendix B is a summary of the samples collected from the six test pits, including the date and time of each sample collected; the test pit number and sample depth; the analytical parameter and method, and laboratory, chain-of-custody record number and air bill number.

This section discusses sampling activities, sampling handling, equipment decontamination, and investigation-derived waste (IDW) and equipment decontamination procedures conducted as part of the January 2012 sampling event.

3.1 SAMPLING ACTIVITIES

Figure 4 in Appendix A shows the sampling locations and depths. Tetra Tech obtained geographic coordinates for each of the sampling locations using Google Earth. The coordinates

are included in sample summary Table 2 Appendix B. A photographic documentation log of the investigation is provided in Appendix C. Copies of the logbook notes are provided in Appendix D. Logbook notes were recorded in accordance with Tetra Tech SOP No. 024, "Recording of Notes in Field Logbook" (Tetra Tech 2008b). Copies of chain-of-custody records from the sampling event are provided in Appendix E.

This section describes the sampling activities and summarizes the sample collection methods, samples collected, and locations for the samples collected as part of this investigation.

3.2 SOIL SAMPLING

Tetra Tech collected a total of 20 soil samples (including two duplicate samples) from six test pits excavated by the EPA ERRS contractor around the perimeter of the UST farm as shown on Figure 3, Sampling Location Map, in Appendix A. Samples were collected at three depth intervals in each test pit - 4 feet below ground surface (bgs), 8 feet bgs, and 10 feet bgs. An ERRS laborer determined the depth of the excavation by dropping the end of a weighted tape measure into the excavation. When the desired depth interval was reached, the ERRS operator scooped dirt into the excavator bucket and then lifted it out of the excavation and positioned the bucket in a manner to facilitate sample collection by the START contractor. This procedure was repeated for each depth interval in each of the six test pits. Table 1 in Appendix B provides a summary of the surface soil samples collected from the Riverside Avenue site.

Soil samples were collected in accordance with Tetra Tech SOP No. 005, "Soil Sampling" (Tetra Tech 2009c). Tetra Tech collected soil directly into Encore samplers for VOC analysis. Additional sample volume was collected and homogenized, and then transferred with a dedicated plastic scoop into certified-clean bottleware for analyses for SVOCs, pesticides, aroclors, herbicides, metals, cyanide, and moisture. In four of the six test trenches, additional sample was also collected at the 8 foot depth for five soil samples, including one duplicate sample) for analysis for dioxins and furans. All soil samples were screened with a photoionization detector (PID) to evaluate the presence of VOCs. Table 3 in Appendix B provides a summary of the PID readings measured during the excavations of test pits TP1 through TP5. Due to inclement weather on January 27, 2012, the PID was not used during the excavation of test pit TP6.

3.3 SAMPLE HANDLING

Sample handling, packaging, and shipment procedures were performed in accordance with Tetra Tech SOP No. 019, "Packaging and Shipping Samples" (Tetra Tech 2008a). With the exception of soil samples that were shipped to Lancaster Laboratories, a Tetra Tech subcontracted laboratory, all samples were shipped to EPA-approved CLP laboratories. All sampling data, including sampling times, dates, locations, types, and sampler, were recorded on Scribe chain-of-

custody/traffic reports and in the site logbook; copies are provided in Appendix D and Appendix E, respectively.

3.4 IDW AND QUIPMENT DECONTAMINATION

Dedicated sampling equipment and personal protective equipment (PPE) were double-bagged and disposed of with other waste produced at the site. All investigation-derived waste (IDW) was double-bagged and disposed of as dry, industrial waste.

4.0 OBSERVATIONS AND CONCLUSIONS

Dark, oil-stained fill material was encountered at all test pit locations and a strong petroleum odor was detected during the excavation of each test pit. A visible oily sheen was observed on the surface of pooled groundwater that accumulated in the bottom of each excavation . The water table was measured at a depth of approximately 6 feet bgs. A clay layer was determined to be present at approximately 11' bgs. All soil samples collected from the site did have notable visible contamination and notable petroleum odors. A pesticide odor was detected during the excavation of Test pit TP5.

Elevated PID readings were recorded in the test pits. The maximum PID reading in test pits TP1 through TP5 were 146 ppm, 190.5 ppm, 192.5ppm, 153.5 ppm and 200.7, respectively.

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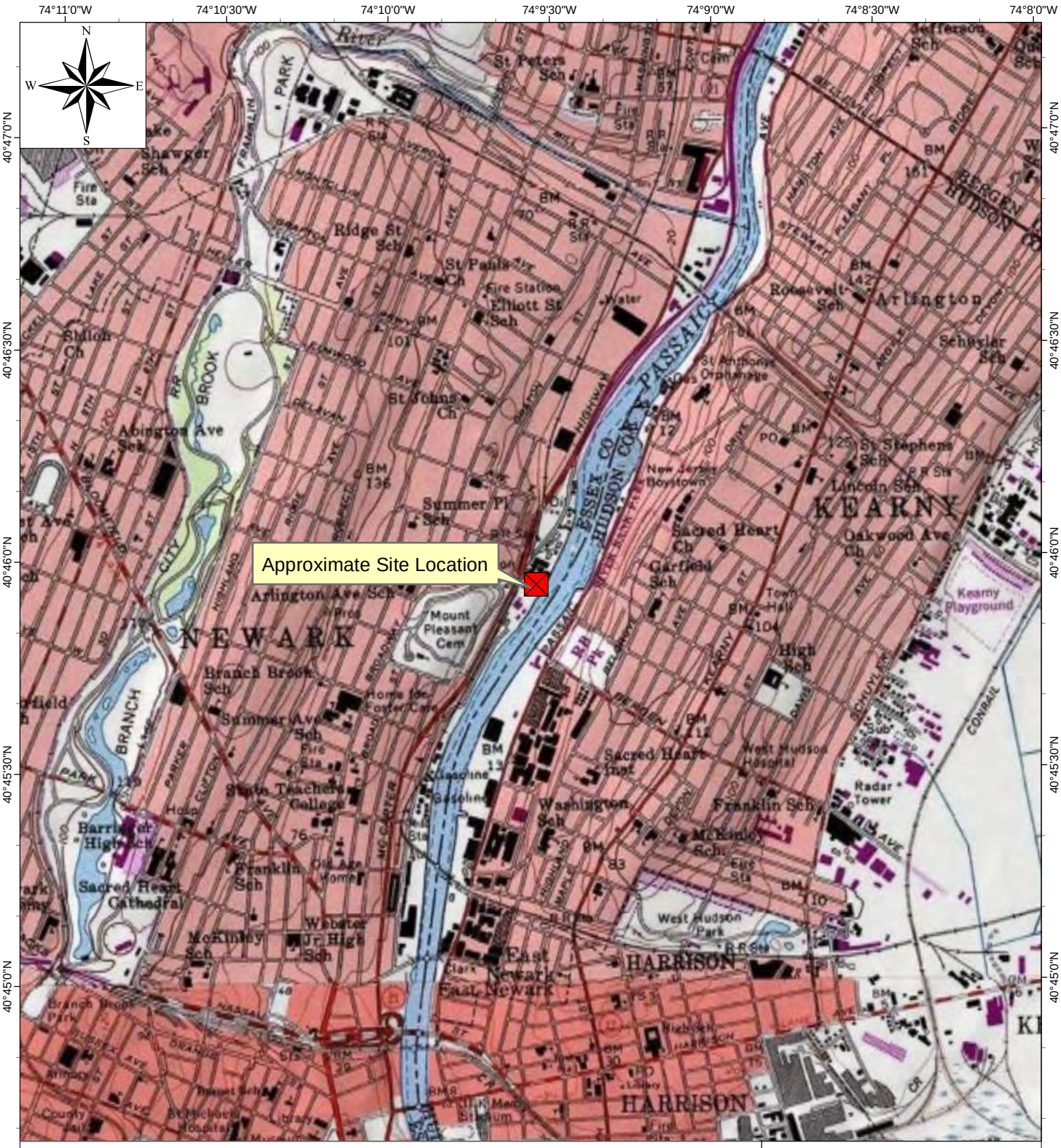
USGS. 1967. 7.5-Minute Series Topographic Map of Elizabeth, New Jersey, Quadrangle. Photorevised 1981.

Weston Solutions, Inc. (Weston). 2009. Preliminary Assessment Report. 1700-1712 and 1702 -1716 MC Carter Highway, Newark, New Jersey. May.

APPENDIX A

FIGURES

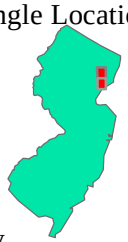
1 Site Location
2 Site Layout Map
3 Test Pit Location Map
4 Test Pit Sample Location Map



Source: Modified from USGS 7.5-Minute Series Topographic Quadrangles: Elizabeth, New Jersey, 1967, Photorevised 1981; Orange, New Jersey, 1955, Photorevised 1981

0 0.25 0.5 Miles

Quadrangle Location =



New Jersey

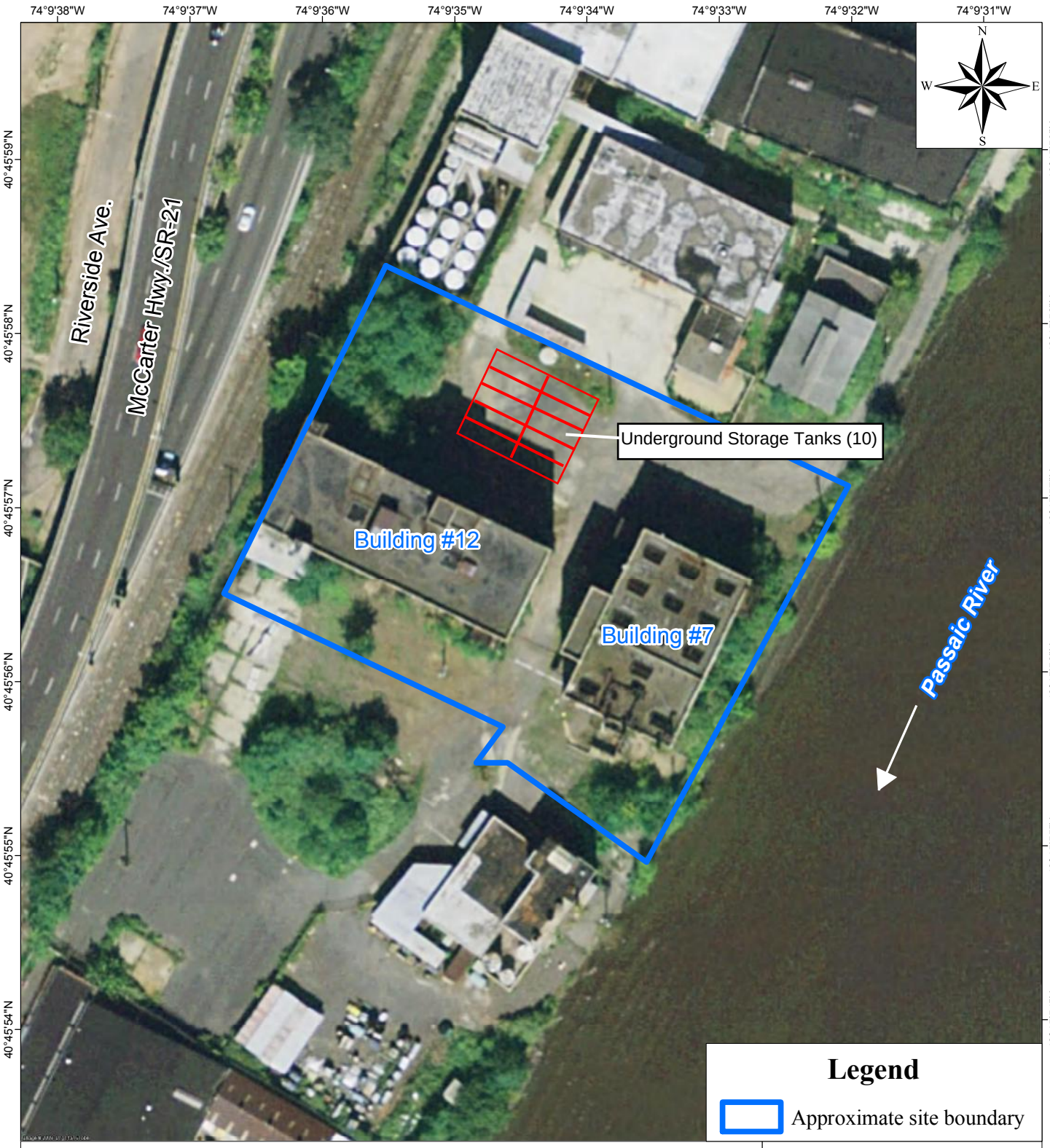
Riverside Avenue
Newark, Essex County, New Jersey

Figure 1
Site Location Map

Project number 9004L9004L100178000
EPA Contract No. EP-S7-06-01

TETRA TECH

Date Saved: 2/1/2011 10:38:11 AM User: kevin scott Path: S:\CADD\I\9004\L100178000\TTEMI-I100178_Riverside_Avenue\mxd\TripReport\Riverside_1.mxd



Source: Modified from DigitalGlobe aerial photography, September 19, 2009.

0 50 100 Feet

Approximate Site Location =

New Jersey

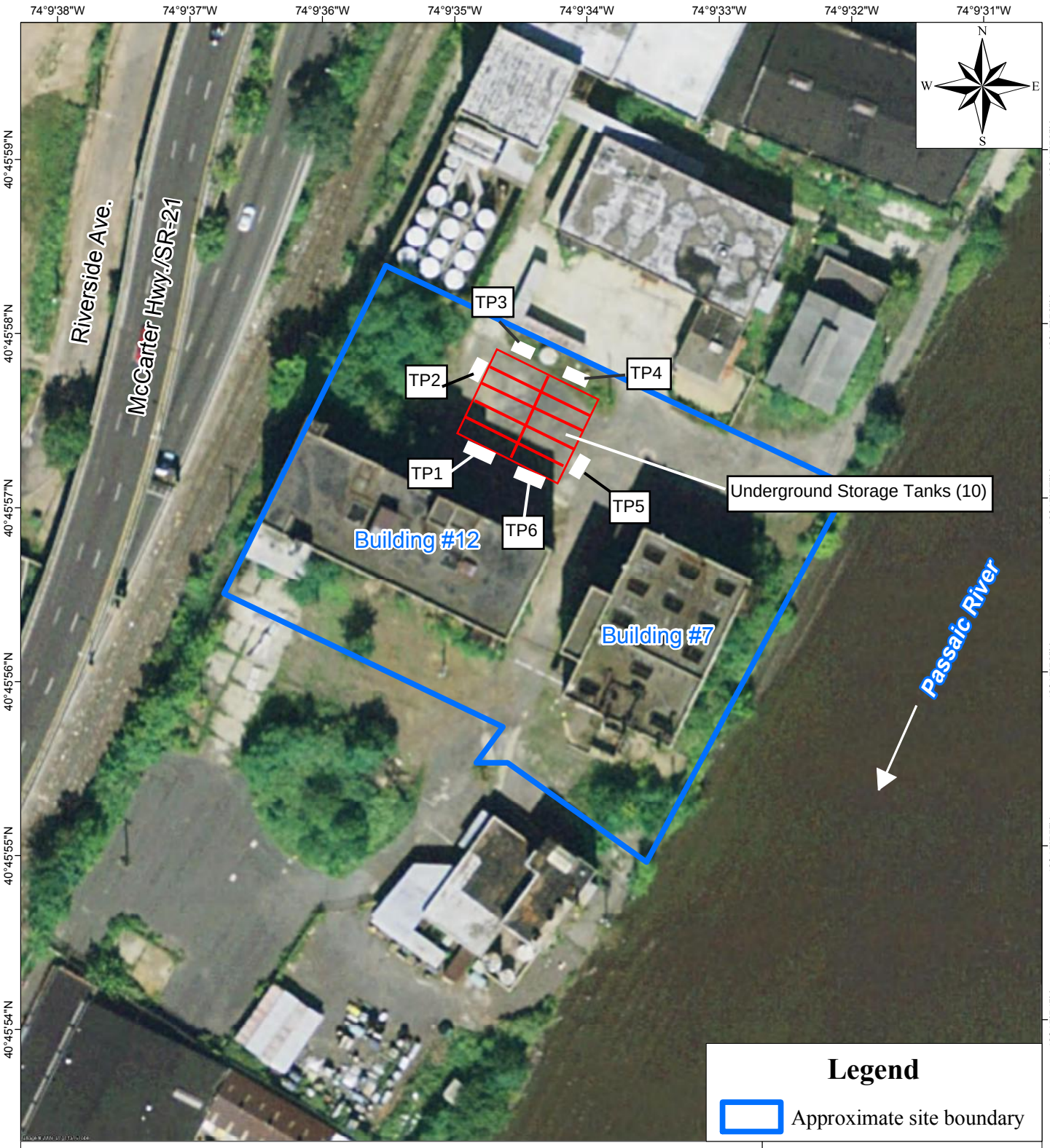
29 Riverside Avenue
Newark, Essex County, New Jersey

Figure 2
Site Layout Map

Project number 9004L100178
EPA Contract No. EP-S7-06-01

Map created on June 25, 2010
by D. Call, Tetra Tech EM Inc.

TETRA TECH



Source: Modified from DigitalGlobe aerial photography, September 19, 2009.

0 50 100 Feet

Approximate Site Location =

New Jersey

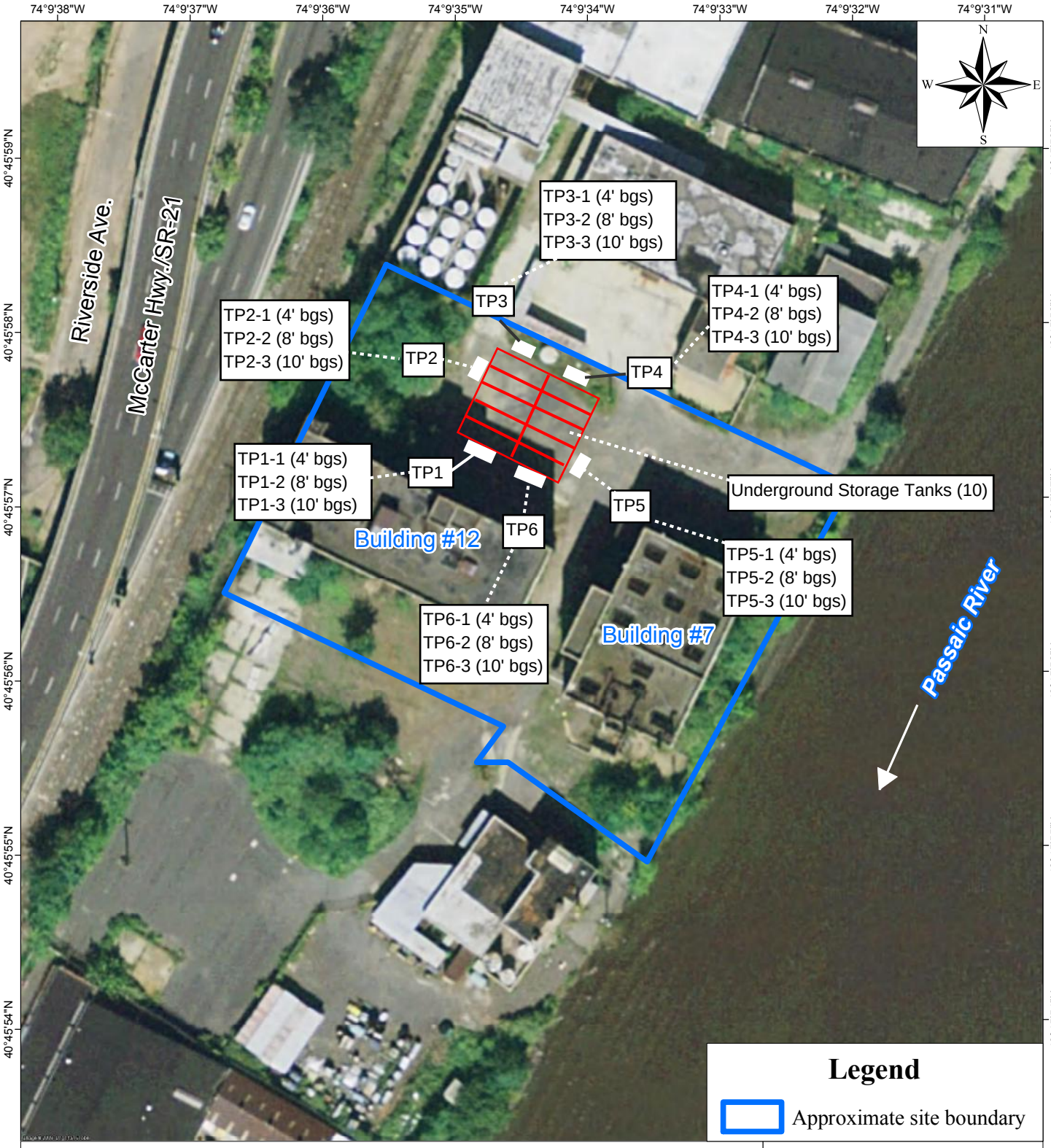
29 Riverside Avenue
Newark, Essex County, New Jersey

Figure 3
Test Pit Location Map

Project number 9004L100178
EPA Contract No. EP-S7-06-01

Map created on Feb 1, 2012
by k. scott, Tetra Tech EM Inc.

TETRA TECH



Source: Modified from DigitalGlobe aerial photography, September 19, 2009.

0 50 100 Feet

Approximate Site Location =

New Jersey

29 Riverside Avenue
Newark, Essex County, New Jersey

Figure 4
Test Pit Sample Location Map

Project number 9004L100178
EPA Contract No. EP-S7-06-01

Map created on Feb 1, 2012
by k. scott, Tetra Tech EM Inc.

TETRA TECH

APPENDIX B

TABLES

1 Sample Summary
2 Geographic Coordinates of Test Pits
3 PID Readings from Test Pit Excavations

TABLE 1
Riverside Avenue Site
Test Pit Sampling Summary

Tetra Tech Sample ID	CLP Sample ID	Orientation to UST perimeter	Sampe Depth (ft bgs)	Sampe Date	Sample Time	Matrix	Analysis	Method	Container Type, Volume, (# of Containers)	Preservative	Field QC	Lab QC	Laboratory	CLP Lab Y/N	Date shipped	FedEx Airbill #	COC/TR #	Sample # on TR/COC
TP1-1	B41H2	SW	4	1/25/2012	1100	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0001
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0001
	B0AA0						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA0						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP1-2	B41H3	SW	8	1/25/2012	1120	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0002
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0002
	B0AA1						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA1						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP1-3	B41H4	SW	10	1/25/2012	1145	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0003
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0003
	B0AA2						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA2						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP2-1	B41H5	W	4	1/25/2012	1225	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0004
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0004
	B0AA3						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA3						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP2-2	B41H6	W	8	1/25/2012	1245	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0005
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0005
	B0AA4						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA4						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
	NA						Dioxins/Furans	SW846 8290A	8 oz. CWM glass jar (1)				Lancaster Laboratories	N	1/27/2012	8645 2662 8565	300804	TP2-2
							Moisture		2 oz. CWM glass jar (1)									
TP2-3	B41H7	W	10	1/25/2012	1300	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0006
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0006
	B0AA5						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA5						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP3-1	B41H8	NW	4	1/25/2012	1500	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0007
							Moisture		2 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0007
	B0AA6						TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA6						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	

TABLE 1
Riverside Avenue Site
Test Pit Sampling Summary

Tetra Tech Sample ID	CLP Sample ID	Orientation to UST perimeter	Sampe Depth (ft bgs)	Sampe Date	Sample Time	Matrix	Analysis	Method	Container Type, Volume, (# of Containers)	Preservative	Field QC	Lab QC	Laboratory	CLP Lab Y/N	Date shipped	FedEx Airbill #	COC/TR #	Sample # on TR/COC
TP3-2	B41H9	NW	8	1/25/2012	1515	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0008
							Moisture		2 oz. CWM glass jar (1)									
	B0AA7						TCL SVOCs		8 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0008
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA7						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
	NA						Dioxins/Furans	SW846 8290A	8 oz. CWM glass jar (1)				Lancaster Laboratories	N	1/27/2012	8645 2662 8565	300804	TP3-2
							Moisture		2 oz. CWM glass jar (1)									
TP3-3	B41H10	NW	10	1/25/2012	1530	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/25/2012	8645 2662 8793	2-012512-172056-0001	02-p-0009
							Moisture		2 oz. CWM glass jar (1)									
	B0AA8						TCL SVOCs		8 oz. CWM glass jar (1)						1/26/2012	8645 2662 8510	2-012612-132645-0001	02PC-0009
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602	2-012712-084509-0003	
	MB0AA8						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP4-1	BA0AA9	NE	4	1/26/2012	915	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/26/2012	8645 2662 8510	2-012712-084509-0003	02PC-0010
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602		
	MB0AA9						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP4-2	B0AB0	NE	8	1/26/2012	930	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/26/2012	8645 2662 8510	2-012712-084509-0003	02PC-0011
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602		
	MB0AB0						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP4-3	B0AB1	NE	10	1/26/2012	945	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/26/2012	8645 2662 8510	2-012712-084509-0003	02PC-0012
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602		
	MB0AB1						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP5-1	B0AB2	E	4	1/26/2012	1020	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/26/2012	8645 2662 8510	2-012712-084509-0003	02PC-0013
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602		
	MB0AB2						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP5-2	B0AB3	E	8	1/26/2012	1030	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/26/2012	8645 2662 8510	2-012712-084509-0003	02PC-0014
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)						1/27/2012	8645 2662 8602		
	MB0AB3						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
	NA						Dioxins/Furans	SW846 8290A	8 oz. CWM glass jar (1)				Lancaster Laboratories	N	1/27/2012	8645 2662 8565	300804	TP5-2
							Moisture		2 oz. CWM glass jar (1)									

TABLE 1
Riverside Avenue Site
Test Pit Sampling Summary

Tetra Tech Sample ID	CLP Sample ID	Orientation to UST perimeter	Sampe Depth (ft bgs)	Sampe Date	Sample Time	Matrix	Analysis	Method	Container Type, Volume, (# of Containers)	Preservative	Field QC	Lab QC	Laboratory	CLP Lab Y/N	Date shipped	FedEx Airbill #	COC/TR #	Sample # on TR/COC
TP5-3	B0AB4	E	10	1/27/2012	1015	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/27/2012	8645 2662 8602	2-012712-084509-0003	02PC-0015
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)									
	MB0AB4						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP6-1	B0AB5	SE	4	1/27/2012	1050	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (4)	4° C	field duplicate (TP7-1)	MS/MSD	A4 Scientific	Y	1/27/2012	8645 2662 8602		02PC-0016
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (2)									
							TCL Pesticides		8 oz. CWM glass jar (2)									
							TCL Aroclors		8 oz. CWM glass jar (2)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (2)								2-012712-084509-0003	
	MB0AB5						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (2)				ALS Laboratory	Laborat	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP6-2	B0AB6	SE	8	1/27/2012	1145	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	field duplicate (TP7-2)	--	A4 Scientific	Y	1/27/2012	8645 2662 8602	2-012712-084509-0003	02PC-0017
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)									
	MB0AB6						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
	NA						Dioxins/Furans	SW846 8290A	8 oz. CWM glass jar (1)		field duplicate		Lancaster Laboratories	N	1/27/2012	8645 2662 8565	300804	TP6-2
							Moisture		2 oz. CWM glass jar (1)									
TP6-3	B0AB7	SE	10	1/27/2012	1215	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	--	--	A4 Scientific	Y	1/27/2012	8645 2662 8602	2-012712-084509-0003	02PC-0018
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)									
	MB0AB7						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP7-1	B0AB8	SE	4	1/27/2012	1245 (1050)	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	field duplicate (TP6-1)	--	A4 Scientific	Y	1/27/2012	8645 2662 8602	2-012712-084509-0003	02PC-0019
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)									
	MB0AB8						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
TP7-2	B0AB9	SE	8	1/27/2012	1300 (1245)	Soil	TCL VOCs	CLP SOW SOM01.2	Encore® Sampler, 5 gram (3)	4° C	field duplicate (TP6-2)	--	A4 Scientific	Y	1/27/2012	8645 2662 8602	2-012712-084509-0003	02PC-0020
							Moisture		2 oz. CWM glass jar (1)									
							TCL SVOCs		8 oz. CWM glass jar (1)									
							TCL Pesticides		8 oz. CWM glass jar (1)									
							TCL Aroclors		8 oz. CWM glass jar (1)									
							Herbicides	SW846 8151A	8 oz. CWM glass jar (1)									
	MB0AB9						TAL Inorganics	CLP SOW ISM01.3	8 oz. CWM glass jar (1)				ALS Laboratory	Y	1/27/2012	8645 2662 8576	2-012712-085202-0004	
	NA						Dioxins/Furans	SW846 8290A	8 oz. CWM glass jar (2)			MS/MSD	Lancaster Laboratories	N	1/27/2012	8645 2662 8565	300804	TP7-2

Table 2 Geographic Coordinates of Test Pits Riverside Avenue Site Newark, NJ		
Test Pit ID	**Longitude**	**Latitude**
TP1	40° 45’ 57.26” N	74° 09’ 35.16 W
TP2	40° 45’ 57.58” N	74° 09’ 35.08 W
TP3	40° 45’ 57.70” N	74° 09’ 34.86 W
TP4	40° 45’ 57.55” N	74° 09’ 34.39 W
TP5	40° 45’ 57.10” N	74° 09’ 34.51 W
TP6	40° 45’ 57.07” N	74° 09’ 34.81 W

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
1	1/25/2012 10:58	0		6		42.5		TP1
2	1/25/2012 10:59	0		4.5		29.3		TP1
3	1/25/2012 11:00	0		6.2		34.6		TP1
4	1/25/2012 11:01	0		17.7		115.8	H	TP1
5	1/25/2012 11:02	0		5.7		18.9		TP1
6	1/25/2012 11:03	0		3.8		24.5		TP1
7	1/25/2012 11:04	0		0		0		TP1
8	1/25/2012 11:05	0		0.8		7.4		TP1
9	1/25/2012 11:06	0		2		7.5		TP1
10	1/25/2012 11:07	0		0		0.6		TP1
11	1/25/2012 11:08	0		0.8		5.5		TP1
12	1/25/2012 11:09	0		0		0		TP1
13	1/25/2012 11:10	0		0		0		TP1
14	1/25/2012 11:11	0		0.2		5.3		TP1
15	1/25/2012 11:12	0.5		7.2		30.8		TP1
16	1/25/2012 11:13	0.2		4.6		11.7		TP1
17	1/25/2012 11:14	0		5.2		18.8		TP1
18	1/25/2012 11:15	0.6		10.5		53.2	L	TP1
19	1/25/2012 11:16	0		1.7		10.1		TP1
20	1/25/2012 11:17	0		0.2		7.3		TP1
21	1/25/2012 11:18	0		7.8		25.2		TP1
22	1/25/2012 11:19	0		1.7		4.9		TP1
23	1/25/2012 11:20	0		0.6		9.1		TP1
24	1/25/2012 11:21	0		11.7		59.9	L	TP1
25	1/25/2012 11:22	0		18.2		117.5	H	TP1
26	1/25/2012 11:23	0		0		0		TP1
27	1/25/2012 11:24	0		10.2		146	H	TP1
28	1/25/2012 11:25	0.4		22.2		64.8	L	TP1
29	1/25/2012 11:26	0		10.6		47.1		TP1
30	1/25/2012 11:27	0		3.4		22.6		TP1
31	1/25/2012 11:28	0		4.5		15		TP1
32	1/25/2012 11:29	0		0		0		TP1
33	1/25/2012 11:30	0		0.3		6.1		TP1
34	1/25/2012 11:31	0		0		0.8		TP1
35	1/25/2012 11:32	0		2.6		10.5		TP1
36	1/25/2012 11:33	0		0.2		2.5		TP1
37	1/25/2012 11:34	0		0		1		TP1
38	1/25/2012 11:35	0		0.3		3.4		TP1
39	1/25/2012 11:36	0		0.7		5		TP1
40	1/25/2012 11:37	0		0.4		4.6		TP1
41	1/25/2012 11:38	0		1.5		21.2		TP1
42	1/25/2012 11:39	0		0.1		2.1		TP1
43	1/25/2012 11:40	0		3.7		19.4		TP1
44	1/25/2012 11:41	0		0		1.5		TP1
45	1/25/2012 11:42	0		0		0		TP1
46	1/25/2012 11:43	0		0		0		TP1
47	1/25/2012 11:44	0		0		0		TP1
48	1/25/2012 11:45	0		7.9		48.5		TP1
49	1/25/2012 11:46	0		1.5		15.3		TP1
50	1/25/2012 11:47	0		0		0.3		TP1
51	1/25/2012 11:48	0		0.8		7.2		TP1
52	1/25/2012 11:49	0		0.8		6.7		TP1
53	1/25/2012 11:50	0		1.5		6.6		TP1
54	1/25/2012 11:51	0		3		12.5		TP1

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
55	1/25/2012 11:52	0		0		0		TP1
56	1/25/2012 11:53	0		1.7		18.8		TP1
57	1/25/2012 11:54	0		0		0		TP1
58	1/25/2012 11:55	0		0.4		6		TP1
59	1/25/2012 11:56	1.3		6.3		16.3		TP1
60	1/25/2012 11:57	1.2		5.4		14.8		TP1
61	1/25/2012 11:58	0		4.5		15.4		TP1
62	1/25/2012 11:59	0		1.4		8.1		TP1
63	1/25/2012 12:00	0		1.5		6.8		TP1
64	1/25/2012 12:01	0		7.6		19.4		TP1
65	1/25/2012 12:02	0.4		11.5		43.6		TP1
66	1/25/2012 12:03	0		7.5		53	L	TP1
67	1/25/2012 12:04	2.5		19.7		138.8	H	TP1
68	1/25/2012 12:05	3.4		11.1		33.3		TP1
69	1/25/2012 12:06	0		9.6		35.3		TP1
70	1/25/2012 12:07	0		2.7		9		TP1
71	1/25/2012 12:08	0		3.7		13.4		TP1
72	1/25/2012 12:09	0		0.2		3		TP1
73	1/25/2012 12:10	0		2.6		15.1		TP1
74	1/25/2012 12:11	0		2.7		15.5		TP1
75	1/25/2012 12:12	0		0.2		2.1		TP1
76	1/25/2012 12:13	0		0		0.3		TP1
77	1/25/2012 12:14	0		0		0		TP1
78	1/25/2012 12:15	0		4		12.2		TP1
AVERAGE READING TP1				**3.8**				
MAXIMUM READING TP1						**146**		
79	1/25/2012 12:16	0		1.2		10.4		TP2
80	1/25/2012 12:17	0		0.5		9.5		TP2
81	1/25/2012 12:18	0		0		0		TP2
82	1/25/2012 12:19	0		0		0		TP2
83	1/25/2012 12:20	0		18.9		130.3	H	TP2
84	1/25/2012 12:21	0		1.3		20		TP2
85	1/25/2012 12:22	0		0.3		5.5		TP2
86	1/25/2012 12:23	0		18.9		89.8	L	TP2
87	1/25/2012 12:24	0		0.1		2.8		TP2
88	1/25/2012 12:25	0		0.2		2.8		TP2
89	1/25/2012 12:26	0		0		1.6		TP2
90	1/25/2012 12:27	0		1		10.2		TP2
91	1/25/2012 12:28	0		0		0		TP2
92	1/25/2012 12:29	0		0.2		5.7		TP2
93	1/25/2012 12:30	0		0		2.2		TP2
94	1/25/2012 12:31	0		0		0		TP2
95	1/25/2012 12:32	0		0		0.3		TP2
96	1/25/2012 12:33	0		0		0		TP2
97	1/25/2012 12:34	0		0		0		TP2
98	1/25/2012 12:35	0		0		0		TP2
99	1/25/2012 12:36	0		0		0		TP2
100	1/25/2012 12:37	0		0		0		TP2
101	1/25/2012 12:38	0		0		0		TP2
102	1/25/2012 12:39	0		0		0.8		TP2
103	1/25/2012 12:40	0		2.1		29.6		TP2
104	1/25/2012 12:41	0		39.4		190.5	H	TP2
105	1/25/2012 12:42	0		0.4		6		TP2
106	1/25/2012 12:43	0		1.8		15.6		TP2

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
107	1/25/2012 12:44	0		0		2.2		TP2
108	1/25/2012 12:45	0		0.6		6.6		TP2
109	1/25/2012 12:46	0		0.1		3.7		TP2
110	1/25/2012 12:47	0		0.1		4.7		TP2
111	1/25/2012 12:48	0		0		0		TP2
112	1/25/2012 12:49	0		0		0		TP2
113	1/25/2012 12:50	0		0		0		TP2
114	1/25/2012 12:51	0		0		0		TP2
115	1/25/2012 12:52	0		0		0		TP2
116	1/25/2012 12:53	0		46.7		172.7	H	TP2
117	1/25/2012 12:54	0.2		2.9		10.1		TP2
118	1/25/2012 12:55	0		1.7		7.5		TP2
119	1/25/2012 12:56	0		4.1		24.2		TP2
120	1/25/2012 12:57	1.1		11.5		23.2		TP2
121	1/25/2012 12:58	0		3.7		16.8		TP2
122	1/25/2012 12:59	0		0		0		TP2
123	1/25/2012 13:00	0		0		0		TP2
124	1/25/2012 13:01	0		0		0		TP2
125	1/25/2012 13:02	0		0		0		TP2
126	1/25/2012 13:03	0		0.1		2.8		TP2
127	1/25/2012 13:04	0		0.1		4.3		TP2
128	1/25/2012 13:05	0		0.8		8.7		TP2
129	1/25/2012 13:06	0		0		2.6		TP2
130	1/25/2012 13:07	0		0		1.6		TP2
131	1/25/2012 13:08	0		0		0.4		TP2
132	1/25/2012 13:09	0		0		0		TP2
133	1/25/2012 13:10	0		0		0		TP2
134	1/25/2012 13:11	0		0		0		TP2
135	1/25/2012 13:12	0		0		0.2		TP2
136	1/25/2012 13:13	0		0		0.3		TP2
137	1/25/2012 13:14	0		3.2		17.1		TP2
AVERAGE READING TP2				**3.3**				
MAXIMUM READING TP2						**190.5**		
1	1/25/2012 14:48	0		0		0		TP3
2	1/25/2012 14:49	0		0		0		TP3
3	1/25/2012 14:50	0		0		0		TP3
4	1/25/2012 14:51	0		0		0		TP3
5	1/25/2012 14:52	0		0		0		TP3
6	1/25/2012 14:53	0		0		0		TP3
7	1/25/2012 14:54	0		0		0		TP3
8	1/25/2012 14:55	0		0		0		TP3
9	1/25/2012 14:56	0		0		0		TP3
10	1/25/2012 14:57	0		0.7		10		TP3
11	1/25/2012 14:58	0		0		0		TP3
12	1/25/2012 14:59	0		11.3		115.5	H	TP3
13	1/25/2012 15:00	1		27.5		159.5	H	TP3
14	1/25/2012 15:01	0		0.3		10.7		TP3
15	1/25/2012 15:02	0		4		27.9		TP3
16	1/25/2012 15:03	0		8		25.5		TP3
17	1/25/2012 15:04	0		7.3		16.2		TP3
18	1/25/2012 15:05	0		2.4		12.8		TP3
19	1/25/2012 15:06	0		0.4		7.8		TP3
20	1/25/2012 15:07	0		0.2		3.6		TP3
21	1/25/2012 15:08	0		0.3		2.2		TP3

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
22	1/25/2012 15:09	0		19.7		165.8	H	TP3
23	1/25/2012 15:10	0		17.7		167.1	H	TP3
24	1/25/2012 15:11	0		0		0		TP3
25	1/25/2012 15:12	0		15.3		177.6	H	TP3
26	1/25/2012 15:13	0		54.7	L	192.5	H	TP3
27	1/25/2012 15:14	0		0.2		4.5		TP3
28	1/25/2012 15:15	0		0		1.9		TP3
29	1/25/2012 15:16	0		0		0		TP3
30	1/25/2012 15:17	0		0.1		2.7		TP3
31	1/25/2012 15:18	0		0		0		TP3
32	1/25/2012 15:19	0		0		0		TP3
33	1/25/2012 15:20	0		0		0.9		TP3
34	1/25/2012 15:21	0		0.1		2.4		TP3
35	1/25/2012 15:22	0		2		10.8		TP3
36	1/25/2012 15:23	0		0.2		6.9		TP3
37	1/25/2012 15:24	0		10.2		42.9		TP3
38	1/25/2012 15:25	0		3.6		42.1		TP3
39	1/25/2012 15:26	0		0		0		TP3
40	1/25/2012 15:27	0		0		0		TP3
41	1/25/2012 15:28	0		0		0.9		TP3
42	1/25/2012 15:29	0		0		0		TP3
43	1/25/2012 15:30	0		0		0		TP3
44	1/25/2012 15:31	0		0		0		TP3
45	1/25/2012 15:32	0		0.9		13.9		TP3
46	1/25/2012 15:33	0		4.1		13.7		TP3
47	1/25/2012 15:34	0		0		0		TP3
48	1/25/2012 15:35	0		0		0		TP3
49	1/25/2012 15:36	0		0.2		1.6		TP3
50	1/25/2012 15:37	0		0.8		4.4		TP3
51	1/25/2012 15:38	0		0.7		6		TP3
52	1/25/2012 15:39	0		0		0		TP3
53	1/25/2012 15:40	0		0		0		TP3
54	1/25/2012 15:41	0		0		0		TP3
55	1/25/2012 15:42	0		0		0		TP3
56	1/25/2012 15:43	0		0		0		TP3
57	1/25/2012 15:44	0		0		0		TP3
58	1/25/2012 15:45	0		0		0		TP3
59	1/25/2012 15:46	0		0		0		TP3
AVERAGE READING TP3				**2.7**				
MAXIMUM READING TP3						**192.5**		
1	1/26/2012 8:49	0		0		0		TP4
2	1/26/2012 8:50	0		0		0		TP4
3	1/26/2012 8:51	0		0		0		TP4
4	1/26/2012 8:52	0		0		0		TP4
5	1/26/2012 8:53	0		0		0		TP4
6	1/26/2012 8:54	0		0		0		TP4
7	1/26/2012 8:55	0		0		0		TP4
8	1/26/2012 8:56	0		0		0		TP4
9	1/26/2012 8:57	0		0		0		TP4
10	1/26/2012 8:58	0		0		0		TP4
11	1/26/2012 8:59	0		0		0		TP4
12	1/26/2012 9:00	0		0		0		TP4
13	1/26/2012 9:01	0		0		0		TP4
14	1/26/2012 9:02	0		0		0		TP4

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
15	1/26/2012 9:03	0		0		0		TP4
16	1/26/2012 9:04	0		0		0		TP4
17	1/26/2012 9:05	0		0		0		TP4
18	1/26/2012 9:06	0		0		0		TP4
19	1/26/2012 9:07	0		0		0		TP4
20	1/26/2012 9:08	0		0		0		TP4
21	1/26/2012 9:09	0		0		0		TP4
22	1/26/2012 9:10	0		0		0		TP4
23	1/26/2012 9:11	0		27.4		109	H	TP4
24	1/26/2012 9:12	0		17.2		129.8	H	TP4
25	1/26/2012 9:13	0		0		0		TP4
26	1/26/2012 9:14	0		0		0		TP4
27	1/26/2012 9:15	0		0		0		TP4
28	1/26/2012 9:16	0		0		0		TP4
29	1/26/2012 9:17	0		0		0		TP4
30	1/26/2012 9:18	0		0		0		TP4
31	1/26/2012 9:19	0		0		0		TP4
32	1/26/2012 9:20	0		0		2.2		TP4
33	1/26/2012 9:21	0		16.4		153.5	H	TP4
34	1/26/2012 9:22	0		3.3		75.9	L	TP4
35	1/26/2012 9:23	0		2.3		21.4		TP4
36	1/26/2012 9:24	0		0		0		TP4
37	1/26/2012 9:25	0		0		0		TP4
38	1/26/2012 9:26	0		0		0		TP4
39	1/26/2012 9:27	0		0		0		TP4
40	1/26/2012 9:28	0		0		0		TP4
41	1/26/2012 9:29	0		0		0		TP4
42	1/26/2012 9:30	0		0		0		TP4
43	1/26/2012 9:31	0		0		0		TP4
44	1/26/2012 9:32	0		0		0		TP4
45	1/26/2012 9:33	0		0.2		2.1		TP4
46	1/26/2012 9:34	0		0		0		TP4
47	1/26/2012 9:35	0		0		0		TP4
48	1/26/2012 9:36	0		0		0		TP4
49	1/26/2012 9:37	0		0		0		TP4
50	1/26/2012 9:38	0		0.1		2		TP4
51	1/26/2012 9:39	0		16.8		37.6		TP4
52	1/26/2012 9:40	10.1		21		50.1	L	TP4
53	1/26/2012 9:41	0		4.9		23.1		TP4
54	1/26/2012 9:42	0		0		0		TP4
55	1/26/2012 9:43	0		0		0		TP4
56	1/26/2012 9:44	0		0		0		TP4
57	1/26/2012 9:45	0		0		0		TP4
58	1/26/2012 9:46	0		0		0		TP4
59	1/26/2012 9:47	0		0		0		TP4
60	1/26/2012 9:48	0		0		0		TP4
61	1/26/2012 9:49	0		0		0		TP4
62	1/26/2012 9:50	0		0		0		TP4
63	1/26/2012 9:51	0		0		0		TP4
64	1/26/2012 9:52	0		0		0		TP4
65	1/26/2012 9:53	0		0		0		TP4
66	1/26/2012 9:54	0		0		0		TP4
67	1/26/2012 9:55	0		0		0		TP4
68	1/26/2012 9:56	0		0		0		TP4

TABLE 3
Summary of PID Readings From Test Pit Excavations
Riverside Avenue Sit
Newark, NJ

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 013459
Data Points: 295 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 01/20/2012 13:38

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100	100	100
Low Alarm Levels:	50	50	50

Line#	Date Time	Min(ppm)	Alarm	Avg(ppm)	Alarm	Max(ppm)	Alarm	TEST PIT #
69	1/26/2012 9:57	0		0		0		TP4
70	1/26/2012 9:58	0		0		0		TP4
71	1/26/2012 9:59	0		0		0		TP4
72	1/26/2012 10:00	0		0		0		TP4
73	1/26/2012 10:01	0		0		0		TP4
74	1/26/2012 10:02	0		0		0		TP4
75	1/26/2012 10:03	0		0		0		TP4
76	1/26/2012 10:04	0		0		0		TP4
77	1/26/2012 10:05	0		0		0		TP4
78	1/26/2012 10:06	0		0		0		TP4
79	1/26/2012 10:07	0		0		0		TP4
80	1/26/2012 10:08	0		0		0		TP4
81	1/26/2012 10:09	0		0		0		TP4
AVERAGE READING TP4				**1.4**				
MAXIMUM READING TP4						**153.5**		
82	1/26/2012 10:10	0		0		0		TP5
83	1/26/2012 10:11	0		0		0		TP5
84	1/26/2012 10:12	0		0		0		TP5
85	1/26/2012 10:13	0		0		0		TP5
86	1/26/2012 10:14	0		0		0		TP5
87	1/26/2012 10:15	0		0		0		TP5
88	1/26/2012 10:16	0		0		0		TP5
89	1/26/2012 10:17	0		0		0		TP5
90	1/26/2012 10:18	0		17		97.7	L	TP5
91	1/26/2012 10:19	0		39.8		200.7	H	TP5
92	1/26/2012 10:20	0		0		0		TP5
93	1/26/2012 10:21	0		0		0		TP5
94	1/26/2012 10:22	0		0.5		12		TP5
95	1/26/2012 10:23	0		0.5		19.6		TP5
96	1/26/2012 10:24	0		0		0		TP5
97	1/26/2012 10:25	0		0		0		TP5
98	1/26/2012 10:26	0		0		0		TP5
99	1/26/2012 10:27	0		0		0.2		TP5
AVERAGE READING TP5				**1.8**				
MAXIMUM READING TP5						**200.7**		

Note: Due to inclement weather on 1/27/12, the PID was not used to screen soil samples collected from test pit TP6.

APPENDIX C

PHOTOGRAPHIC DOCUMENTATION LOG

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 001

Photograph Date: 1/25/12

Photograph Time: 10:38

Orientation: Facing west

Description: Photograph shows ERRS Foreman and Heavy Equipment Operator in vicinity of test pit TP1 location, at southwestern end of UST tank farm perimeter. Building #12 is in background.

Photograph No. 002

Photograph Date: 1/25/12

Photograph Time: 10:38

Orientation: Facing west

Description: Photograph shows pooled water in excavated area on Lot 64 in the area of the UST tank farm. One UST is visible in the photograph.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

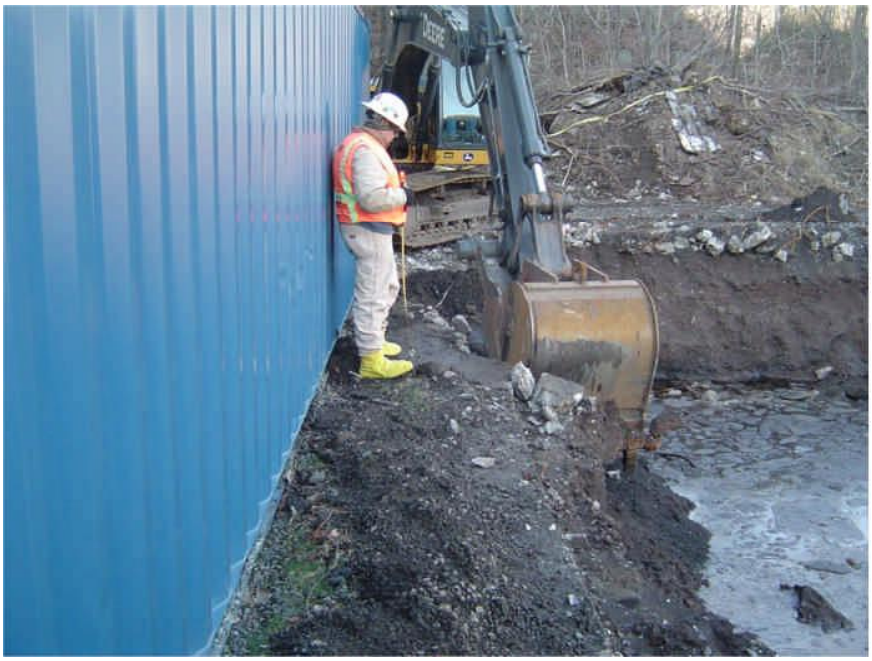
Photograph No. 003

Photograph Date: 1/25/12

Photograph Time: 10:56

Orientation: West

Description: Photograph shows ERRS operator excavating test pit TP1. ERRS Foreman is shown in foreground of photo with a tape measure to measure depth of excavation for sampling interval.



Photograph No. 004

Photograph Date: 1/25/12

Photograph Time: 11:03

Orientation: northwest

Description: Photograph shows soil in excavator bucket collected from a depth of 4' bgs in test pit TP1.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 005

Photograph Date: 1/25/12

Photograph Time: 12:14

Orientation: Facing northwest

Description: Photograph shows ERRS crew starting to excavate test pit TP2.

Photograph No. 006

Photograph Date: 1/25/12

Photograph Time: 12:16

Orientation: Facing southeast

Description: Photograph shows START sample staging location outside of the UST tank farm perimeter fence line.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 007

Photograph Date: 1/25/12

Photograph Time: 12:18

Orientation: North

Description: Photograph shows initial exaction of test pit TP2.

Photograph No. 008

Photograph Date: 1/25/12

Photograph Time: 12:18

Orientation: Facing east

Description: Photograph shows soil in excavator bucket collected from a depth of 4' bgs in test pit TP2.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 009

Photograph Date: 1/25/12

Photograph Time: 12:22

Orientation: Facing west

Description: Photographs shows soil sample collected from TP2 and PID used to screen soil samples for volatile organic compounds.

Photograph No. 010

Photograph Date: 1/25/12

Photograph Time: 15:23

Orientation: Facing northwest

Description: Looking down into test pit TP3. Excavation depth is approximately 8' bgs. Excavation is below water table (approx. 6' bgs). Black oily sheen is also visible in photo, floating on pooled water in excavation.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 011

Photograph Date: 1/26/12

Photograph Time: 09:09

Orientation: Facing west

Description: Photos shows ERRS foreman measuring depth of excavation in test pit TP4.

Photograph No. 012

Photograph Date: 1/26/12

Photograph Time: 10:15

Orientation: Facing north/northwest

Description: Photograph shows initial exaction of test pit TP5.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 013

Photograph Date: 1/26/12

Photograph Time: 10:26

Orientation: Facing south

Description: Looking down into test pit TP5. Excavation depth is approximately 5' bgs. Black oily sheen is also visible in photo, floating on pooled water in excavation.

Photograph No. 014

Photograph Date: 1/26/12

Photograph Time: 10:26

Orientation: Facing south

Description: Photograph shows soil in excavator bucket collected from a depth of 8' bgs in test pit TP5.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 015

Photograph Date: 1/26/12

Photograph Time: 10:51

Orientation: Facing southwest

Description: Photograph shows test pit TP5 overflowing with water after 8 inch water main was damaged by the excavator bucket while attempting to excavate to 10'bgs. ERRS personnel quickly constructed an earthen berm to and swale to channel water into open pit.

Photograph No. 016

Photograph Date: 1/26/12

Photograph Time: 10:38

Orientation: Facing east

Description: Photograph shows the 8 inch water main that was damaged in test pit TP5, after the main had been turned off and the water pumped out of the excavation.

Photographic Documentation

Client: U.S. EPA Region 2
Site Name: Riverside Avenue
Location: Newark, New Jersey

Prepared by: Tetra Tech EM Inc.
Photographer: Kevin Scott, START Region 7
EPA Task Order No.: 9004L100178000

Photograph No. 017

Photograph Date: 1/27/12

Photograph Time: 11:35

Orientation: Facing east

Description: Photograph of test pit TP6.

APPENDIX D

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APPENDIX E

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