TETRA TECH

Kevin Scott
Project Manager

238179

DATE: December 9, 2010

TO: Dwayne Harrington, On-Scene Coordinator, U.S. EPA

FROM: Kevin Scott, Project Manager, Tetra Tech EM Inc. KScott

SUBJECT: TECHNICAL MEMORANDUM – ADDENDUM TO FINAL TRIP REPORT
TENTATIVELY IDENTIFIED COMPOUNDS DETECTED IN AQUEOUS AND SEDIMENT SAMPLES
RIVERSIDE AVENUE SITE, NEWARK, NJ
EPA CONTRACT NO.: EP-S7-06-01 TDD NO. 78

INTRODUCTION

Under Eastern Area Superfund Technical Assessment and Response Team (START) Contract No. EP-S7-06-01, Technical Direction Document (TDD) No. 0178, 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 at 29 Riverside Avenue, Newark, New Jersey. The site encompasses two multistory buildings designated as Buildings 7 and 12, 10 underground storage tanks (UST), and formerly held numerous above ground storage tanks. As part o the removal assessment, aqueous and sediment samples were collected from a sump in the basement of Building 12 and two subbasement waste impounds in Building 7. The aqueous and sediment samples were analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC).

Laboratory analysis of the samples collected by START personnel indicated the presence of numerous organic compounds not included in the target list and were categorized as tentatively identified compounds (TICs). Compounds were tentatively identified if the results of the laboratory analysis gave an 85 percent confidence of the compounds presence when compared to a computer-based library; otherwise, the compound was listed as unknown and numbered with the number increasing with retention time. Numerous TICs were present in both media sampled at the site.

BACKGROUND

On June 8, 2010, Tetra Tech collected a total of three aqueous samples and three sediment samples from the subbasement of Building 7, including one duplicate sample and one aqueous and one sediment samples from a sump in the basement of Building12. ' Other media samples were collected as part of the removal assessment conducted at the site in June 2010 and are described in more detail in the final trip report submitted by Tetra Tech on September 27, 2010.

RESULTS AND DISCUSSIONS

In most of the samples, TICs dominated the analytical results for both VOCs and SVOCs, both in the number of compounds and total concentrations. The TICs are summarized in Tables 1 and 2. Tables 3 and 4 list the TICs by frequency in the media and concentration range in sediments and aqueous samples, respectively.

Tetra Tech, Inc.
240 Continental Drive, Suite 200, Newark, DE 19713
Tel 302.738.7551 | Fax 302.454.5988
www.tetratech.com

Table 1
Summary of Tentatively Identified Compounds Detected in Sediment Samples Collected from Building 7 and 12
Rivers ide Avenue Site
Newark, NJ

Sample Number :		B0009		B0009		B0013		B0013		B0014		B0014DL		B0014		B0015		B0015DL		B0015	
Sampling Location :		B12-SED-01		B12-SED-01		B7-SED-02		B7-SED-02		B7-SED-03		B7-SED-03		B7-SED-03		B7-SED-04		B7-SED-04		B7-SED-04	
Field QC										Dup of B7-SED-04		Dup of B7-SED-04		Dup of B7-SED-04		Dup B7-SED-03					
Matrix :		Sediment		Sediment		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Laboratory		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific	
Case #:		40201		40201		40201		40201		40201		40201		40201		40201		40201		40201	
SDG:		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005	
Date Sampled :		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/9/2010		6/9/2010		6/9/2010		6/8/2010		6/8/2010		6/8/2010	
Dilution Factor:		1		20		1		20		1		1		20		1		1		200	
Tentatively Identified Compound	CAS #	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzene, 1,2,3,5-tetramethyl-	000527-53-7											4900	JDN								
Benzene, 1,2,3-trimethyl-	000526-73-8																	46000	JDN		
Benzene, 1,2,3-trimethyl- (01)	000526-73-8					11000	JN			15000	JN	34000	JDN								
Benzene, 1,2,3-trimethyl- (02)	000526-73-8					3300	JN			7500	JN	10000	JDN								
Benzene, 1,2,4,5-tetramethyl-	000095-93-2									3400	JN	5600	JDN								
Benzene, 1,2,4,5-tetramethyl- (01)	000095-93-2					1500	JN														
Benzene, 1,2,4,5-tetramethyl- (02)	000095-93-2					1800	JN														
Benzene, 1,2,4-trichloro-	000120-82-1	16000	JN																		
Benzene, 1,2,4-trimethyl-	000095-63-6													50000	JN						
Benzene, 1,3,5-trichloro-	000108-70-3			1500000	JN																
Benzene, 1,3,5-trimethyl-	000108-67-8					6600	JN			22000	JN	24000	JDN								
Benzene, 1,3,5-trimethyl- (01)	000108-67-8															35000	JN				
Benzene, 1,3,5-trimethyl- (02)	000108-67-8															66000	JN				
Benzene, 1,3-diethyl-	000141-93-5					940	JN														
Benzene, 1-chloro-2-methyl-	000095-49-8															67000	JN	45000	JDN		
Benzene, 1-chloro-2-nitro- (02)	000088-73-3																			5300000	JN
Benzene, 1-chloro-3-nitro-	000121-73-3							210000	JN											450000	JN
Benzene, 1-chloro-4-nitro-	000100-00-5													940000	JN						
Benzene, 1-ethyl-2,4-dimethyl-	000874-41-9									2400	JN										
Benzene, 1-ethyl-2-methyl-	000611-14-3					3600	JN			8300	JN	11000	JDN								
Benzene, 1-ethyl-3-methyl-	000620-14-4					10000	JN			21000	JN	32000	JDN			33000	JN				
Benzene, 1-ethyl-3-methyl- (01)	000620-14-4							78000	JN												
Benzene, 1-methyl-2-(1-meth...	000527-84-4					2900	JN			7000	JN										
Benzene, 1-methyl-3-(1-meth... (01)	000535-77-3											3500	JDN								
Benzene, 1-methyl-3-(1-meth... (02)	000535-77-3											11000	JDN								
Benzene, 2-ethyl-1,3-dimethyl-	002870-04-4					990	JN														
Benzene, 2-ethyl-1,4-dimethyl-	001758-88-9									1900	JN										
Benzene, bromo-	000108-86-1																			6500000	JN
Benzene, methoxy-	000100-66-3															120000	JN	81000	JDN	1100000	JN
Benzene, propyl-	000103-65-1					2700	JN			6000	JN	8800	JDN								
Benzoic acid, 2-hydroxy-, 3...	000087-20-7																			420000	JN
Benzyl alcohol	100-51-6																			3900000	JN
Bicyclohexyl, 4-phenyl-	020273-27-2			44000	JN																
cis-1-Ethyl-3-methyl-cycloh...	019489-10-2									6500	JN	13000	JDN								
Diisopropyl Ether	108-20-3															110000	JN	62000	JDN		
Methyl Salicylate	000119-36-8																			1000000	JN
Naphthalene, 1,2,3,4-tetrah...	001985-59-7															300000	JN	210000	JDN	1200000	JN
Naphthalene, 1,2,3,4-tetrah... (01)	003877-19-8					1200	JN			3100	JN	3300	JDN								
Naphthalene, 1,2,3,4-tetrah... (02)	013065-07-1					1000	JN			2400	JN	3200	JDN								

Table 1
Summary of Tentatively Identified Compounds Detected in Sediment Samples Collected from Building 7 and 12
Rivers ide Avenue Site
Newark, NJ

Sample Number :		B0009		B0009		B0013		B0013		B0014		B0014DL		B0014		B0015		B0015DL		B0015	
Sampling Location :		B12-SED-01		B12-SED-01		B7-SED-02		B7-SED-02		B7-SED-03		B7-SED-03		B7-SED-03		B7-SED-04		B7-SED-04		B7-SED-04	
Field QC										Dup of B7-SED-04		Dup of B7-SED-04		Dup of B7-SED-04		Dup B7-SED-03					
Matrix :		Sediment		Sediment		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Laboratory		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific	
Case #:		40201		40201		40201		40201		40201		40201		40201		40201		40201		40201	
SDG:		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005	
Date Sampled :		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/9/2010		6/9/2010		6/9/2010		6/8/2010		6/8/2010		6/8/2010	
Dilution Factor:		1		20		1		20		1		1		20		1		1		200	
Tentatively Identified Compound	CAS #	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Naphthalene, 1-chloro- (01)	000090-13-1															19000	JN				
Naphthalene, 1-chloro- (02)	000090-13-1															180000	JN				
Naphthalene, 1-methyl-	000090-12-0					1500	JN			4000	JN	5100	JDN								
Naphthalene, 2-chloro-	000091-58-7																	130000	JDN		
p-Dicyclohexylbenzene	001087-02-1			61000	JN																
Phenol, 2,4,5-trimethyl-	000496-78-6																			1400000	JN
Phenol, 2,6-dimethyl-	000576-26-1																			1800000	JN
Propane, 1-bromo-2-methyl-	000078-77-3															490000	JN	240000	JDN		
Stannane, chlorotris(2-meth...	007342-38-3							440000	JN												
Stannane, tetrabutyl- (01)	001461-25-2			550000	JN																
Stannane, tetrabutyl- (03)	001461-25-2			990000	JN																
Stannane, tributylchloro-	001461-22-9			8100000	JN									330000	JN						
Styrene	100-42-5																			1100000	JN
Total Alkane TICs	E966796					16000	J	330000	J	47000	J	140000	JD	180000	J			8800	JD		
Unknown-01 (12.88)												3500	JD								
Unknown-01 (3.83)								42000	J					85000	J					450000	J
Unknown-01 (5.43)																140000	J	65000	JD		
Unknown-01 (7.26)				150000	J																
Unknown-01 (9.33)										3000	J										
Unknown-02 (12.87)																		26000	JD		
Unknown-02 (12.88)										2300	J					58000	J				
Unknown-02 (3.83)																				670000	J
Unknown-02 (7.26)				240000	J																
Unknown-02 (9.00)														47000	J						
Unknown-02 (9.01)								53000	J												
Unknown-03 (12.88)										4300	J					22000	J				
Unknown-03 (14.16)								43000	J					78000	J						
Unknown-03 (3.83)																				460000	J
Unknown-03 (9.01)				63000	J																
Unknown-04 (12.88)																25000	J				
Unknown-04 (14.16)								85000	J					46000	J						
Unknown-04 (3.83)																				1100000	J
Unknown-04 (9.01)				100000	J																
Unknown-05 (12.88)																21000	J				
Unknown-05 (14.16)								47000	J					150000	J						
Unknown-05 (5.19)																				460000	J
Unknown-06 (12.88)																19000	J				
Unknown-06 (14.16)								160000	J												
Unknown-06 (7.26)																				590000	J

Table 1
Summary of Tentatively Identified Compounds Detected in Sediment Samples Collected from Building 7 and 12
Rivers ide Avenue Site
Newark, NJ

Sample Number :		B0009		B0009		B0013		B0013		B0014		B0014DL		B0014		B0015		B0015DL		B0015	
Sampling Location :		B12-SED-01		B12-SED-01		B7-SED-02		B7-SED-02		B7-SED-03		B7-SED-03		B7-SED-03		B7-SED-04		B7-SED-04		B7-SED-04	
Field QC										Dup of B7-SED-04		Dup of B7-SED-04		Dup of B7-SED-04		Dup B7-SED-03					
Matrix :		Sediment		Sediment		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge		Sed./Sludge	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Laboratory		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific	
Case #:		40201		40201		40201		40201		40201		40201		40201		40201		40201		40201	
SDG:		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005		B0005	
Date Sampled :		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/9/2010		6/9/2010		6/9/2010		6/8/2010		6/8/2010		6/8/2010	
Dilution Factor:		1		20		1		20		1		1		20		1		1		200	
Tentatively Identified Compound	CAS #	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Unknown-07 (7.26)																				860000	J
Unknown-08 (9.01)																				470000	J
Unknown-09 (14.16)																				560000	J

Notes:
ug/Kg = micrograms per kilogram
B7 = Building 7
B12 = Building 12
Flag = Data qualifier
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
JN = Estimated concentration of tenatively identified compound.
QC = Quality Control
QL = Quantitation limit
SDG = Sample Delivery Group
SED = Sediment

Table 2
Summary of Tentatively Identified Compounds Detected in Aqueous Samples Collected from Building 7 and 12
Riverside Avenue Site
Newark, NJ

Sample Number :			B0004		B0003		B0003DL		B0003DL		B0012		B0012DL		B0012		B0010	
Sampling Location :			B12-AQ-01		B7-BW-01		B7-BW-01		B7-BW-01		B7-BW-03		B7-BW-03		B7-BW-03		B7-BW-02	
Field QC					Dup B7-BW-03		Dup B7-BW-03		Dup B7-BW-03		Dup B7-BW-01		Dup B7-BW-01		Dup B7-BW-01			
Matrix :			Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water	
Units :			ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Laboratory			A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific	
Case #:			40200		40200		40200		40200		40200		40200		40200		40200	
SDG:			B0003		B0003		B0003		B0003		B0003		B0003		B0003		B0003	
Date Sampled :			6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010	
Time Sampled :			9:30		11:15		11:15		11:15		11:20		11:20		11:20		12:15	
Dilution Factor:			1		2		5		20		2		5		10		500	
Tentatively Identified Compound	CAS #	QL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Methyl-1-butene	000563-46-2								210	JNB					98	JNB		
4,7-Methano-1H-indenol, hex...	037275-49-3														56	JN		
8-Hydroxyquinoline	000148-24-3								69	JN								
Benzene, 1,2,3,4-tetramethyl-	000488-23-3										35	JN						
Benzene, 1,2,3-trimethyl- (01)	000526-73-8				150	JN	120	JDN					81	JDN				
Benzene, 1,2,3-trimethyl- (01)	000526-73-8										260							
Benzene, 1,2,3-trimethyl- (02)	000526-73-8				260	JN	210	JDN			83	JN	45	JDN				
Benzene, 1,2,3-trimethyl- (03)	000526-73-8				85	JN	62	JDN										
Benzene, 1,2,4,5-tetramethyl-	000095-93-2										49	JN						
Benzene, 1,2,4,5-tetramethyl- (01)	000095-93-2				36	JN												
Benzene, 1,2,4,5-tetramethyl- (02)	000095-93-2				50	JN												
Benzene, 1,3,5-trichloro-	000108-70-3		5.8	JN														
Benzene, 1,3,5-trimethyl-	000108-67-8										150	JN	150	JDN				
Benzene, 1,3-diethyl-	000141-93-5				25	JN					24	JN						
Benzene, 1-chloro-2-nitro-	000088-73-3																1900	JN
Benzene, 1-ethyl-2,4-dimethyl-	000874-41-9				62	JN					61	JN						
Benzene, 1-ethyl-2-methyl-	000611-14-3				100	JN			120	JN	100	JN						
Benzene, 1-ethyl-2-methyl- (01)	000611-14-3						210	JDN					150	JDN				
Benzene, 1-ethyl-2-methyl- (02)	000611-14-3						79	JDN					53	JDN				
Benzene, 1-ethyl-3-methyl-	000620-14-4				250	JN					260	JN			80	JN		
Benzene, 1-methyl-2-(1-meth...	000527-84-4						42	JDN					27	JDN				
Benzene, bromo-	000108-86-1																1600	JN
Benzene, propyl-	000103-65-1				55	JN	40	JDN			53	JN	25	JDN				
Benzenemethanol, .alpha.-me...	000098-85-1																1100	JN
Benzenesulfonamide, 4-methyl-	000070-55-3								42	JN					30	JN		
Benzoic acid	65-85-0																17000	JN
Benzyl alcohol	100-51-6																23000	JN
Diisopropyl Ether	108-20-3				790	JN	600	JDN			730	JN	480	JDN				
Formamide, N,N-dimethyl-	000068-12-2								440	JN					340	JN		
Naphthalene, 1,2,3,4-tetrah...	001985-59-7				45	JN	30	JDN			44	JN						
Oxirane, trimethyl-	005076-19-7		55	JN														
Phenol, 2,3,5-trimethyl-	000697-82-5																1300	JN
Phenol, 2,6-dimethyl-	000576-26-1														240	JN	3100	JN
Propane, 1-bromo-2-methyl-	000078-77-3				130	JN	89	JDN			120	JN	58	JDN				
p-Xylene (01)	000106-42-3		10	JN														
p-Xylene (02)	000106-42-3		4.1	JN														
Quinoline	91-22-5								82	JN								
Stannane, tributylchloro-	001461-22-9		210	JN														

Table 2
Summary of Tentatively Identified Compounds Detected in Aqueous Samples Collected from Building 7 and 12
Riverside Avenue Site
Newark, NJ

Sample Number :			B0004		B0003		B0003DL		B0003DL		B0012		B0012DL		B0012		B0010	
Sampling Location :			B12-AQ-01		B7-BW-01		B7-BW-01		B7-BW-01		B7-BW-03		B7-BW-03		B7-BW-03		B7-BW-02	
Field QC					Dup B7-BW-03		Dup B7-BW-03		Dup B7-BW-03		Dup B7-BW-01		Dup B7-BW-01		Dup B7-BW-01			
Matrix :			Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water		Basement Water	
Units :			ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Laboratory			A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific		A4 Scientific	
Case #:			40200		40200		40200		40200		40200		40200		40200		40200	
SDG:			B0003		B0003		B0003		B0003		B0003		B0003		B0003		B0003	
Date Sampled :			6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010		6/8/2010	
Time Sampled :			9:30		11:15		11:15		11:15		11:20		11:20		11:20		12:15	
Dilution Factor:			1		2		5		20		2		5		10		500	
Tentatively Identified Compound	CAS #	QL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Unknown-01 (12.87)							29	JD										
Unknown-01 (3.83)																	2900	J
Unknown-01 (4.10)									57	J					22	J		
Unknown-01 (4.15)			520	JB														
Unknown-02 (3.83)																	7300	J
Unknown-02 (4.10)									78	J					57	J		
Unknown-02 (4.15)			33	J														
Unknown-03 (3.83)																	1200	J
Unknown-03 (4.10)									80	J					36	J		
Unknown-03 (4.15)			5.2	J														
Unknown-04 (4.10)									63	J					37	J		
Unknown-04 (4.15)			3.6	JB														
Unknown-05 (4.15)			2.2	JB														
Unknown-05 (5.48)									150	J					38	J		
Unknown-06 (4.15)			2.1	J														
Unknown-06 (5.48)									57	J					32	J		
Unknown-07 (4.15)			4.7	J														
Unknown-07 (5.48)									40	J					25	J		
Unknown-08 (5.48)															24	J		
Unknown-08 (5.52)			24	J														
Unknown-08 (7.56)									67	J					57	J		
Unknown-09 (7.60)			3	J														
Unknown-09 (9.32)									52	J								
Unknown-10 (7.56)															20	J		
Unknown-10 (7.60)			3	J														
Unknown-11 (9.32)															20	J		
Unknown-12 (12.80)															52	J		

Notes:

Empty cell indicates parameter not detected above the reported detection limit.
ug/L = micrograms per liter
AQ = Aqueous sample
BW = Basement water
Dup = Duplicate sample
Flag = Data qualifier
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
JN = Estimated concentration of tenatively identified compound.
QC = Quality Control
QL = Quantitation limit
SDG = Sample Delivery Group

DRAFT

Table 3

Summary and Frequency of Tentatively Identified Compounds Detected in Sediment Samples

Rivers ide Avenue Site

Newark, NJ

Tentatively Identified Compound	CAS #	Frequency of Detection in 10 Samples	Range of Detected Concentrations		Units
			Low	High	
Benzene, 1,2,3,5-tetramethyl-	000527-53-7	1	4900		ug/Kg
Benzene, 1,2,3-trimethyl-	000526-73-8	1	46000		ug/Kg
Benzene, 1,2,3-trimethyl- (01)	000526-73-8	3	11000	46000	ug/Kg
Benzene, 1,2,3-trimethyl- (02)	000526-73-8	3	3300	34000	ug/Kg
Benzene, 1,2,4,5-tetramethyl-	000095-93-2	2	3400	10000	ug/Kg
Benzene, 1,2,4,5-tetramethyl- (01)	000095-93-2	1	1500		ug/Kg
Benzene, 1,2,4,5-tetramethyl- (02)	000095-93-2	1	1800		ug/Kg
Benzene, 1,2,4-trichloro-	000120-82-1	1	16000		ug/Kg
Benzene, 1,2,4-trimethyl-	000095-63-6	1	50000		ug/Kg
Benzene, 1,3,5-trichloro-	000108-70-3	1	1500000		ug/Kg
Benzene, 1,3,5-trimethyl-	000108-67-8	3	6600	1500000	ug/Kg
Benzene, 1,3,5-trimethyl- (01)	000108-67-8	1	35000		ug/Kg
Benzene, 1,3,5-trimethyl- (02)	000108-67-8	1	66000		ug/Kg
Benzene, 1,3-diethyl-	000141-93-5	1	940		ug/Kg
Benzene, 1-chloro-2-methyl-	000095-49-8	2	45000	67000	ug/Kg
Benzene, 1-chloro-2-nitro- (02)	000088-73-3	1	5300000		ug/Kg
Benzene, 1-chloro-3-nitro-	000121-73-3	2	210000	5300000	ug/Kg
Benzene, 1-chloro-4-nitro-	000100-00-5	1	940000		ug/Kg
Benzene, 1-ethyl-2,4-dimethyl-	000874-41-9	1	2400		ug/Kg
Benzene, 1-ethyl-2-methyl-	000611-14-3	3	3600	11000	ug/Kg
Benzene, 1-ethyl-3-methyl-	000620-14-4	4	10000	33000	ug/Kg
Benzene, 1-ethyl-3-methyl- (01)	000620-14-4	1	78000	78000	ug/Kg
Benzene, 1-methyl-2-(1-meth...	000527-84-4	2	2900	78000	ug/Kg
Benzene, 1-methyl-3-(1-meth... (01)	000535-77-3	1	3500		ug/Kg
Benzene, 1-methyl-3-(1-meth... (02)	000535-77-3	1	11000		ug/Kg
Benzene, 2-ethyl-1,3-dimethyl-	002870-04-4	1	990		ug/Kg
Benzene, 2-ethyl-1,4-dimethyl-	001758-88-9	1	1900		ug/Kg
Benzene, bromo-	000108-86-1	1	6500000		ug/Kg
Benzene, methoxy-	000100-66-3	3	81000	6500000	ug/Kg
Benzene, propyl-	000103-65-1	3	2700	1100000	ug/Kg
Benzoic acid, 2-hydroxy-, 3...	000087-20-7	1	420000		ug/Kg
Benzyl alcohol	100-51-6	1	3900000		ug/Kg
Bicyclohexyl, 4-phenyl-	020273-27-2	1	44000		ug/Kg
cis-1-Ethyl-3-methyl-cycloh...	019489-10-2	2	6500	44000	ug/Kg
Diisopropyl Ether	108-20-3	2	62000	110000	ug/Kg
Methyl Salicylate	000119-36-8	1	1000000		ug/Kg
Naphthalene, 1,2,3,4-tetrah...	001985-59-7	3	210000	1200000	ug/Kg
Naphthalene, 1,2,3,4-tetrah... (01)	003877-19-8	3	1200	1200000	ug/Kg
Naphthalene, 1,2,3,4-tetrah... (02)	013065-07-1	3	1000	3300	ug/Kg
Naphthalene, 1-chloro- (01)	000090-13-1	1	19000		ug/Kg
Naphthalene, 1-chloro- (02)	000090-13-1	1	180000		ug/Kg
Naphthalene, 1-methyl-	000090-12-0	3	1500	180000	ug/Kg
Naphthalene, 2-chloro-	000091-58-7	1	130000		ug/Kg

Table 3
Summary and Frequency of Tentatively Identified Compounds Detected in Sediment Samples
Rivers ide Avenue Site
Newark, NJ

Tentatively Identified Compound	CAS #	Frequency of Detection in 10 Samples	Range of Detected Concentrations		Units
			Low	High	
p-Dicyclohexylbenzene	001087-02-1	1	61000		ug/Kg
Phenol, 2,4,5-trimethyl-	000496-78-6	1	1400000		ug/Kg
Phenol, 2,6-dimethyl-	000576-26-1	1	1800000		ug/Kg
Propane, 1-bromo-2-methyl-	000078-77-3	2	240000	1800000	ug/Kg
Stannane, chlorotris(2-meth...	007342-38-3	1	440000		ug/Kg
Stannane, tetrabutyl- (01)	001461-25-2	1	550000		ug/Kg
Stannane, tetrabutyl- (03)	001461-25-2	1	990000		ug/Kg
Stannane, tributylchloro-	001461-22-9	2	330000	8100000	ug/Kg
Styrene	100-42-5	1	1100000		ug/Kg
Total Alkane TICs	E966796	6	8800	1100000	ug/Kg
Unknown-01 (12.88)		1	3500		ug/Kg
Unknown-01 (3.83)		3	42000	450000	ug/Kg
Unknown-01 (5.43)		2	65000	450000	ug/Kg
Unknown-01 (7.26)		1	150000		ug/Kg
Unknown-01 (9.33)		1	3000		ug/Kg
Unknown-02 (12.87)		1	26000		ug/Kg
Unknown-02 (12.88)		2	2300	58000	ug/Kg
Unknown-02 (3.83)		1	670000		ug/Kg
Unknown-02 (7.26)		1	240000		ug/Kg
Unknown-02 (9.00)		1	47000		ug/Kg
Unknown-02 (9.01)		1	53000		ug/Kg
Unknown-03 (12.88)		2	4300	53000	ug/Kg
Unknown-03 (14.16)		2	43000	78000	ug/Kg
Unknown-03 (3.83)		1	460000		ug/Kg
Unknown-03 (9.01)		1	63000		ug/Kg
Unknown-04 (12.88)		1	25000		ug/Kg
Unknown-04 (14.16)		2	46000	85000	ug/Kg
Unknown-04 (3.83)		1	1100000		ug/Kg
Unknown-04 (9.01)		1	100000		ug/Kg
Unknown-05 (12.88)		1	21000		ug/Kg
Unknown-05 (14.16)		2	47000	150000	ug/Kg
Unknown-05 (5.19)		1	460000		ug/Kg
Unknown-06 (12.88)		1	19000		ug/Kg
Unknown-06 (14.16)		1	160000		ug/Kg
Unknown-06 (7.26)		1	590000		ug/Kg
Unknown-07 (7.26)		1	860000		ug/Kg
Unknown-08 (9.01)		1	470000		ug/Kg
Unknown-09 (14.16)		1	560000		ug/Kg

Notes:

ug/Kg = micrograms per kilogram

B7 = Building 7

B12 = Building 12

Table 4
Summary and Frequency of Tentatively Identified Compounds Detected in Aqueous Samples
Riverside Avenue Site
Newark, NJ

Tentatively Identified Compound	CAS #	Frequency of Detection in 8 Samples	Range of Detected Concentrations		Units
			Low	High	
2-Methyl-1-butene	000563-46-2	2	98	210	ug/L
4,7-Methano-1H-indenol, hex...	037275-49-3	1	56		ug/L
8-Hydroxyquinoline	000148-24-3	1	69		ug/L
Benzene, 1,2,3,4-tetramethyl-	000488-23-3	1	35		ug/L
Benzene, 1,2,3-trimethyl- (01)	000526-73-8	3	81	150	ug/L
Benzene, 1,2,3-trimethyl- (01)	000526-73-8	1	260		ug/L
Benzene, 1,2,3-trimethyl- (02)	000526-73-8	4	45	260	ug/L
Benzene, 1,2,3-trimethyl- (03)	000526-73-8	2	62	85	ug/L
Benzene, 1,2,4,5-tetramethyl-	000095-93-2	1	49		ug/L
Benzene, 1,2,4,5-tetramethyl- (01)	000095-93-2	1	36		ug/L
Benzene, 1,2,4,5-tetramethyl- (02)	000095-93-2	1	50		ug/L
Benzene, 1,3,5-trichloro-	000108-70-3	1	5.8		ug/L
Benzene, 1,3,5-trimethyl-	000108-67-8	2	150	150	ug/L
Benzene, 1,3-diethyl-	000141-93-5	2	24	25	ug/L
Benzene, 1-chloro-2-nitro-	000088-73-3	1	1900		ug/L
Benzene, 1-ethyl-2,4-dimethyl-	000874-41-9	2	61	62	ug/L
Benzene, 1-ethyl-2-methyl-	000611-14-3	3	100	120	ug/L
Benzene, 1-ethyl-2-methyl- (01)	000611-14-3	2	150	210	ug/L
Benzene, 1-ethyl-2-methyl- (02)	000611-14-3	2	53	79	ug/L
Benzene, 1-ethyl-3-methyl-	000620-14-4	3	80	260	ug/L
Benzene, 1-methyl-2-(1-meth...	000527-84-4	2	27	42	ug/L
Benzene, bromo-	000108-86-1	1	1600		ug/L
Benzene, propyl-	000103-65-1	4	25	55	ug/L
Benzenemethanol, .alpha.-me...	000098-85-1	1	1100		ug/L
Benzenesulfonamide, 4-methyl-	000070-55-3	2	30	42	ug/L
Benzoic acid	65-85-0	1	17000		ug/L
Benzyl alcohol	100-51-6	1	23000		ug/L
Diisopropyl Ether	108-20-3	4	480	790	ug/L
Formamide, N,N-dimethyl-	000068-12-2	2	340	440	ug/L
Naphthalene, 1,2,3,4-tetrah...	001985-59-7	3	30	45	ug/L
Oxirane, trimethyl-	005076-19-7	1	55		ug/L
Phenol, 2,3,5-trimethyl-	000697-82-5	1	1300		ug/L
Phenol, 2,6-dimethyl-	000576-26-1	2	240	3100	ug/L
Propane, 1-bromo-2-methyl-	000078-77-3	4	58	130	ug/L
p-Xylene (01)	000106-42-3	1	10		ug/L
p-Xylene (02)	000106-42-3	1	4.1		ug/L
Quinoline	91-22-5	1	82		ug/L
Stannane, tributylchloro-	001461-22-9	1	210		ug/L
Unknown-01 (12.87)		1	29		ug/L
Unknown-01 (3.83)		1	2900		ug/L
Unknown-01 (4.10)		2	22	57	ug/L
Unknown-01 (4.15)		1	520		ug/L

Table 4
Summary and Frequency of Tentatively Identified Compounds Detected in Aqueous Samples
Riverside Avenue Site
Newark, NJ

Tentatively Identified Compound	CAS #	Frequency of Detection in 8 Samples	Range of Detected Concentrations		Units
			Low	High	
Unknown-02 (3.83)		1	7300		ug/L
Unknown-02 (4.10)		2	57	78	ug/L
Unknown-02 (4.15)		1	33		ug/L
Unknown-03 (3.83)		1	1200		ug/L
Unknown-03 (4.10)		2	36	80	ug/L
Unknown-03 (4.15)		1	5.2		ug/L
Unknown-04 (4.10)		2	37	63	ug/L
Unknown-04 (4.15)		1	3.6		ug/L
Unknown-05 (4.15)		1	2.2		ug/L
Unknown-05 (5.48)		2	38	150	ug/L
Unknown-06 (4.15)		1	2.1		ug/L
Unknown-06 (5.48)		2	32	57	ug/L
Unknown-07 (4.15)		1	4.7		ug/L
Unknown-07 (5.48)		2	25	40	ug/L
Unknown-08 (5.48)		1	24		ug/L
Unknown-08 (5.52)		1	24		ug/L
Unknown-08 (7.56)		2	57	67	ug/L
Unknown-09 (7.60)		1	3		ug/L
Unknown-09 (9.32)		1	52		ug/L
Unknown-10 (7.56)		1	20		ug/L
Unknown-10 (7.60)		1	3		ug/L
Unknown-11 (9.32)		1	20		ug/L
Unknown-12 (12.80)		1	52	52	ug/L

Notes:
ug/L = micrograms per liter
AQ = Aqueous sample
BW = Basement water