

April 19, 2016

Veronica Zhune
Environmental Engineer
Division of Environmental Remediation
NYSDEC Region 2
One Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407

**Re: Spill Closure Report for Spill No. 1510320
River Place I
650 West 42nd Street (the site)
New York, NY
Brownfield Cleanup Program (BCP) Site No. C231024
Langan Project No.: 170040901**

Dear Ms. Zhune:

This letter describes the activities completed to close New York State Department of Environmental Protection (NYSDEC) Spill No. 1510320 at 650 West 42nd Street in New York, New York (Block 1089, Lot 1). The site is primarily occupied by a 40-story residential building (River Place I) with frontage on West 41st Street, West 42nd Street, and 12th Avenue. The remaining portions of the site consist of landscaped park areas, sidewalks, and driveways. A site location map is included as Figure 1. This report includes a discussion of the site background and a detailed account of spill remediation activities, specifically soil excavation and confirmation soil sampling. Work was completed in accordance with the July 2006 Site Management Plan (SMP) for BCP Site No. C231024.

Site Background

The Site was owned and operated by The Consolidated Edison Company (Con Edison) as a manufactured gas plant (MGP) between the 1860s and 1920s and was subsequently developed as a railroad yard in the 1930s. By 1980, the Site was converted into a parking lot. Subsurface Investigations completed in the 1990s revealed that soil and groundwater was impacted by volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) likely associated with former MGP operations. Several underground storage tanks (USTs) and associated contaminated soil were removed from the site to address the impacts. In 1996, NYSDEC issued two letters stating that no further action was required; however, NYSDEC noted that future soil disturbance should be done pursuant to a Health and Safety Plan (HASP).

River Place 1 was constructed in 2000. In 2002, The Consolidated Edison Company (Con Edison) entered into a Voluntary Cleanup Agreement (VCA) to investigate and remediate former MGP properties, including the site. The site owner, River Place 1, LLC, and Consolidated Edison transferred into the Brownfield Cleanup Program (BCP) in December 2004.

In July 2006, a Site Management Plan (SMP) was prepared for the site and the adjacent River Place II site (BCP Site No. C231012). The SMP addresses residual impacted soil and groundwater at the site and establishes institutional and engineering controls for the site. The primary engineering control for the site is a cover system consisting of the River Place I concrete slabs, concrete and asphalt walkways and driveways, and clean soil cover in landscaped areas.

The subject spill was reported on January 19, 2016 after maintenance personnel observed a release of No. 2 fuel oil on the floor of the pump room located in the southeast portion of River Place I. The pump is connected to an active, 20,000 gallon aboveground storage tank (AST) located in an adjoining room. Impacts were also observed along a paving stone walkway southeast of the pump room and within the eastern adjoining playground. The leak was due to a failed vibration eliminator located on the discharge side of the pump. NYSDEC assigned Spill No. 1510320. The Spill remediation activities discussed below were completed in accordance to the NYSDEC-approved SMP.

Spill Remediation Activities

The vibration eliminator was replaced and oil absorbent (i.e. Oil-Dri ®) was placed on the floor of the pump room. After the leaking pump was repaired by building maintenance personnel, the Owner contracted PAL Environmental Services (PAL) of Long Island City, New York to remediate the spill. On January 20 and 21, 2016, PAL excavated an about 25 feet (north to south) by 9 feet (east to west) area of the paving stone walkway outside of the pump room and a portion of the adjoining playground. Impacted material was removed to depths ranging from 6 to 12 inches below surface grade. Langan was on-site to observe remediation, perform community air monitoring during excavation, and collect endpoint samples as summarized below. A photograph log is provided as Attachment A.

Impacted Walkway: PAL lifted the paving stones and cleaned them with water and degreasing solution, which were containerized in 55-gallon drums. The central paving stones from the walkway were placed on plastic sheeting and subsequently disposed of offsite. The paving stones were underlain by a layer of asphalt followed by a sandy cement sub-base and the engineered composite cover. Petroleum-like staining and odors were observed in the sub-base and photoionization detector (PID) readings ranged from 40 to 80 parts per million (ppm). The petroleum-impacted asphalt and sub-base was removed and disposed off-site. Petroleum impacts were not observed in the engineered composite cover.

Impacted Playground: The playground cover is composed of artificial turf underlain by a composite foam layer followed by asphalt and the engineered composite cover. Petroleum-like staining and odors were observed in the turf, composite foam layer, and asphalt. PID readings ranged from 40 to 80 ppm. Impacted turf, composite foam layer, and asphalt were removed and disposed off-site. Petroleum-impacts were not observed in the engineered composite cover.

Particulate matter with particles less than 10 µm in diameter (PM10) and VOCs were monitored at the perimeter of the excavation. Ambient VOC concentrations were measured using a handheld PID. VOC and PM10 concentrations were detected below applicable SMP action levels.

Approximately 2,500 pounds of petroleum-impacted material was removed using hand tools, a jackhammer and vacuum truck and disposed of at Republic Environmental Systems, LLC in Hatfield, PA under non-hazardous waste manifests. The completed waste manifests are provided as Attachment B.

On March 15, 2016, SCI General Construction Services (SCI) backfilled the excavated trench with 3/4-inch quarry stone. SCI replaced asphalt, pavers, composite foam, and turf within the walkway and playground areas between March 18 and 30, 2016. Backfill documentation, including facility permit and sieve analysis, are provided as Attachment C.

Confirmation Sampling

Pursuant to NYSDEC requirements, two confirmation soil samples and one duplicate (quality assurance/quality control [QA/QC] sample) were collected, one from the walkway area (EP01_0-5_012116) and one from the playground area (EP02_0-5_012116), as shown on Figure 2. The samples were collected into laboratory-prepared containers, tightly sealed, uniquely labeled, and then stored on ice for transport to Alpha Analytical (Alpha) in Westborough, Massachusetts, under standard chain-of-custody procedures. The samples were analyzed for NYSDEC CP-51 Soil Cleanup Guidance list volatile organic carbons (VOC) and semivolatile organic compounds (SVOC) via U.S. Environmental Protection Agency (USEPA) Methods 8260 and 8270, respectively.

Soil Sampling Results

Endpoint sample results were compared to Soil Cleanup Levels listed in Table 3 of the NYSDEC CP-51 Soil Cleanup Guidance dated October 21, 2010. Detected concentrations of VOCs and SVOCs were below their respective Soil Cleanup Levels.

The laboratory analytical results are summarized in Table 1 and laboratory analytical reports are provided as Attachment D.

Conclusions and Recommendations

The results from the confirmation samples indicate that the actions described above to excavate and dispose of contaminated soil have remediated the spill impacts. We recommend that Spill No. 1510320 be closed and request that NYSDEC issue a letter indicating that no further action is required.

Closure

We thank you in advance for your review of this Spill Closure Report and consideration of our spill closure request. Please do not hesitate to contact the undersigned at 212.479.5582 if you have any questions.

Sincerely,
Langan Engineering and Environmental Services, Inc. PC

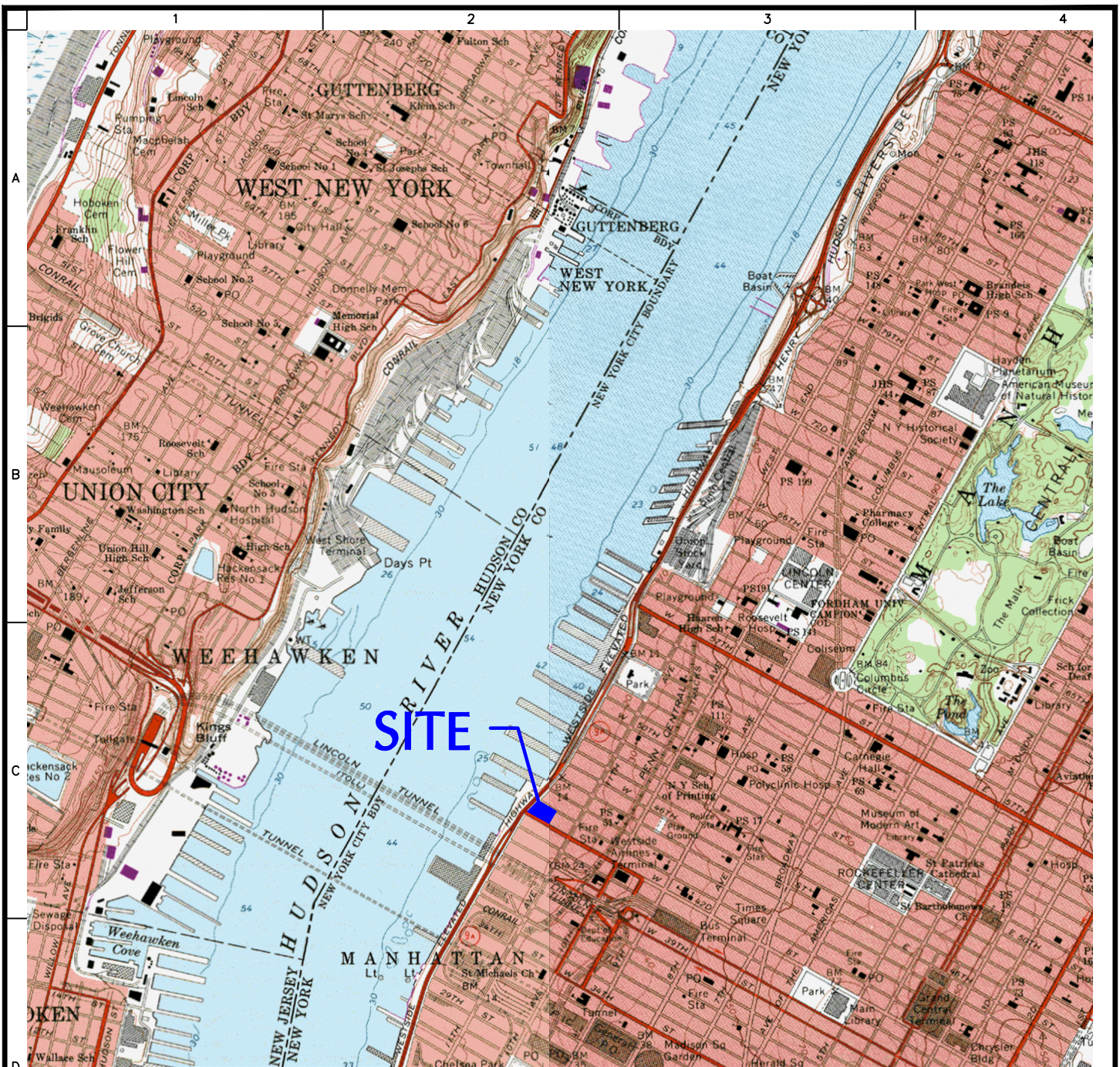


Ryan Manderbach, CHMM
Senior Project Manager

Enclosure(s):

Table 1: Confirmation Soil Sample Analytical Results Summary
Figure 1: Site Location Map
Figure 2: Sample Location Map
Attachment A – Photograph Log
Attachment B – Non-Hazardous Waste Manifest
Attachment C – Backfill Documentation
Attachment D – Laboratory Analytical Report

cc: Roman Galeano –Silverstein Properties, Inc.
Douglas MacNeal – NYSDEC
Alan Poeppel - Langan



WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

BASE MAP OBTAINED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS), TOPOGRAPHIC MAPS, CENTRAL PARK, NY QUADRANGLE, DATED 1979, AND WEEHAWKEN NJ, NY QUADRANGLE, DATED 1967 AND REVISED 1981.

LANGAN

21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001

T: 212.479.5400 F: 212.479.5444 www.langan.com

Langan Engineering, Environmental, Surveying and
Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
RIVER PLACE I

**650 WEST 42ND STREET
SPILL NO. 1510320**

BLOCK No. 1089, LOT No. 1

NEW YORK

NEW YORK

Figure Title

**SITE LOCATION
MAP**

Project No.
170040901

Date
10/22/2014

Scale
NTS

Drawn By
NCR

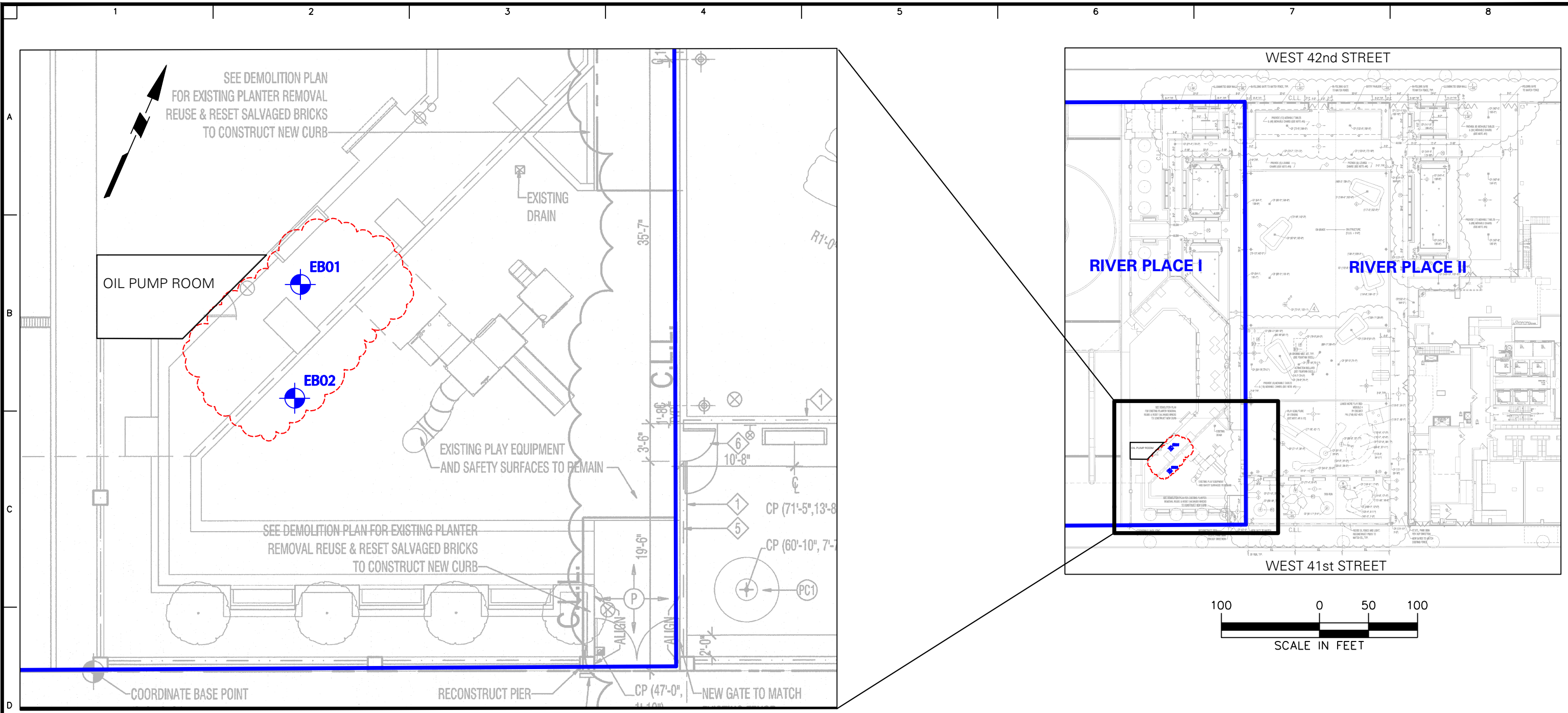
Checked By
JH

Submission Date
4/06/2016

Figure

1

Sheet 1 of 2



NOTES

1. BASE MAP TAKEN FROM MANHATTAN SURVEYING ARCHITECTURAL SURVEY DATED JUNE 3, 2006 AND PARK LAYOUT AND MATERIALS PLAN BY COSTAS KONDYLIS AND PARTNERS LLP ARCHITECTS DATED OCTOBER 1, 2008.

- LEGEND**
- APPROXIMATE SITE BOUNDARY
 - APPROXIMATE CONFIRMATION SAMPLE LOCATION
 - APPROXIMATE EXTENT OF SPILL IMPACTS

LANGAN

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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project

RIVER PLACE I

NYSDEC SPILL No. 1510320
650 WEST 42ND STREET
BLOCK No. 1089, LOT No.1
NEW YORK NEW YORK

Figure Title

**CONFIRMATION
SAMPLE LOCATION
PLAN**

Project No. 170040901	Figure 2
Date 04/04/2016	
Scale AS SHOWN	
Drawn By DAH	
Checked By NR	Sheet 2 of 2
Submission Date	

Table 1

Confirmation Soil Sample Analytical Results Summary
River Place I
650 West 42nd Street
New York, NY
Langan Project No. 170040901

Sample Location Sample Date Laboratory Sample ID Sample Depth (feet bgs)	CP-51 Soil Cleanup Level	DUP01 1/21/2016 L1601873-03 0 to 0.5	EP01_0-5_012116 1/21/2016 L1601873-01 0 to 0.5	EP02_0-5_012116 1/21/2016 L1601873-02 0 to 0.5
Volatile Organic Compounds (mg/kg)				
1,2,4-Trimethylbenzene	3.6	0.0028 J	0.0012 J	0.071
1,3,5-Trimethylbenzene	8.4	0.0007 J	0.0096 U	0.017
Benzene	0.06	0.0017 U	0.0019 U	0.0013 U
Ethylbenzene	1	0.00021 J	0.0019 U	0.00089 J
Isopropylbenzene	2.3	0.0017 U	0.0019 U	0.00082 J
Methyl tert butyl ether	0.93	0.0033 U	0.0038 U	0.0027 U
n-Butylbenzene	12	0.00037 J	0.0019 U	0.01
n-Propylbenzene	3.9	0.0017 U	0.0019 U	0.0047
Naphthalene	12	0.0015 J	0.00087 J	0.022
o-Xylene	0.26	0.00044 J	0.00038 J	0.0038
p-Isopropyltoluene	10	0.0017 U	0.0019 U	0.0028
p/m-Xylene	0.26	0.00088 J	0.00082 J	0.0047
sec-Butylbenzene	11	0.0017 U	0.0019 U	0.0035
tert-Butylbenzene	5.9	0.0084 U	0.0096 U	0.0067 U
Toluene	0.7	0.001 J	0.0014 J	0.00098 J
Semi-volatile Organic Compounds (mg/kg)				
Acenaphthene	20	0.32 U	0.02 J	0.15 U
Acenaphthylene	100	0.32 U	0.058 J	0.066 J
Anthracene	100	0.24 U	0.11	0.085 J
Benzo(a)anthracene	1	0.13 J	0.31	0.29
Benzo(a)pyrene	1	0.14 J	0.29	0.32
Benzo(b)fluoranthene	1	0.16 J	0.39	0.4
Benzo(ghi)perylene	100	0.1 J	0.2	0.22
Benzo(k)fluoranthene	0.8	0.07 J	0.14	0.14
Chrysene	1	0.14 J	0.27	0.26
Dibenzo(a,h)anthracene	0.33	0.24 U	0.089 J	0.093 J
Fluoranthene	100	0.22 J	0.56	0.42
Fluorene	30	0.4 U	0.019 J	0.18 U
Indeno(1,2,3-cd)pyrene	0.5	0.097 J	0.24	0.26
Naphthalene	12	0.4 U	0.18 U	0.024 J
Phenanthrene	100	0.091 J	0.33	0.17
Pyrene	100	0.22 J	0.47	0.41
General Chemistry (mg/kg)				
Solids, Total		80.9	90.2	88.8

Notes:

1. Soil Sample Analysis is compared to Tables 2 and 3 of the New York Department of Environmental Conservation CP-51 Soil Cleanup Guidance, October 21, 2010.
2. mg/Kg = milligrams per kilogram.
3. bgs = below ground surface.
4. DUP01 is a duplicate of sample EP01_0-5_012116.

Qualifiers:

1. J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit). Result is an estimated concentration.
2. U = analyte not detected at or above the level indicated.

Attachment A
Photograph Log



Photograph 1: View of No.2 fuel oil staining on paving stone walkway outside of pump room.



Photograph 2: View of impacted pavers in degreasing solution.



Photograph 3: View of impacts under turf and composite foam layer in playground.



Photograph 4: View of impacted material removal



Photograph 5: View of impacted material removal.



Photograph 6: View of impacted material removal.



Photograph 7: View of backfill (i.e. ¾-inch quarry stone) compaction.



Photograph 8: View of new composite foam and turf in playground area.



Photograph 9: View of restored paver stone walkway.

Attachment B

Non-Hazardous Waste Manifest

NON-HAZARDOUS WASTE MANIFEST

130779613

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		Generator's US EPA ID No. N/A		Manifest Document No. S P - 0 1		2. Page 1 of 2	
1. Generator's Name and Address Big Green Properties, Inc. 250 Greenwich Street New York, NY 10007				650 West 42nd Street New York, NY			
4. Generator's Phone () 212 551-7368							
5. Transporter 1 Company Name PAL Environmental Services, Inc		6. US EPA ID Number NYR000134791		A. State Transporter's ID			
7. Transporter 2 Company Name MERO ENV CONT CORP		8. US EPA ID Number NYR000134957		B. Transporter 1 Phone 718-349-0900			
9. Designated Facility Name and Site Address Republic Environmental Systems (PA), LLC 2369 Sandstone Drive Hatfield, PA 19440		10. US EPA ID Number PAD085690592		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone 215-822-8995			
11. WASTE DESCRIPTION				Containers		13. Total Quantity	
				No. Type		14. Unit Wt/Vol.	
Non Hazardous, Non DOT Regulated Material (Petroleum Contaminated Field Turf)				10 DM		2000 P	
Non Hazardous, Non DOT regulated material (oil and water)				2 DM		400 P	
G. Additional Descriptions for Materials Listed Above				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information							
1) 11a) Approval Number 746062 Job Number In case of an emergency contact PAL Environmental @ 718-349-0900 11b) 746061 DOCH 855457-16							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
As Agent of Owner							
Printed/Typed Name				Signature		Date	
FLORIO CELLA				[Signature]		1/21/16	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
L.W.S. Brink				[Signature]		1/21/16	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Robert Reichen 14				[Signature]		01/24/16	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 15.				Signature		Date	
MAL VVAMPED				[Signature]		02/23/16	

NON-HAZARDOUS WASTE

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved: OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number N/A	22. Page of 2	23. Manifest Tracking Number SP-01	
24. Generator's Name Silverstein Properties Inc					
25. Transporter 03 Company Name REPUBLIC ENV SYS (TRANS GROUP) LLC			U.S. EPA ID Number P00982661381		
26. Transporter Company Name			U.S. EPA ID Number		
27a. HM.	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group, if any)	28. Containers No. Type		29. Total Quantity	30. Unit Wt/Vol.
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
32. Special Handling Instructions and Additional Information					
33. Transporter 3 Acknowledgment of Receipt of Materials Printed/Typed Name: <i>Ed Bollman</i> Signature: <i>[Signature]</i> Month: 2 Day: 1 Year: 16					
34. Transporter Acknowledgment of Receipt of Materials Printed/Typed Name: Signature: Month: Day: Year:					
35. Discrepancy					
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)					

NON-HAZARDOUS WASTE MANIFEST

2317 883/15

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. N/A		Manifest Document No. SP - 03		2. Page 1 of 2	
3. Generator's Name and Mailing Address Silverstein Properties, Inc. 250 Greenwich Street New York, NY 10007				650 West 42nd Street New York, NY			
4. Generator's Phone (212) 551-7368							
5. Transporter 1 Company Name PAL Environmental Services, Inc		6. US EPA ID Number NYR000134791		A. State Transporter's ID			
7. Transporter 2 Company Name Metro Environmental Contracting		8. US EPA ID Number NYR000134957		B. Transporter 1 Phone 718-349-0900			
9. Designated Facility Name and Site Address Republic Environmental Systems (PA), LLC 2869 Sandstone Drive Hatfield, PA 19440		10. US EPA ID Number PAD085690592		C. State Transporter's ID			
				D. Transporter 2 Phone 631-884-1880			
				E. State Facility's ID			
				F. Facility's Phone 215-822-8995			
				Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non Hazardous, Non DOT Regulated Material (Petroleum Contaminated Field Turf)		001 DM		150.00		P	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information 1) 11a) Approval Number 746062 Job Number 166037 In case of an emergency contact PAL Environmental @ 718-349-0900 #166037 DOCH 868000-16							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
ON BEHALF OF				Date			
Printed/Typed Name MATT SIMPSON - PAL				Signature [Signature]		Month Day Year 2 10 16	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date			
Printed/Typed Name Jeremy Bravo				Signature [Signature]		Month Day Year 2 10 16	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date			
Printed/Typed Name James Ulrich				Signature [Signature]		Month Day Year 2 11 16	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.							
Printed/Typed Name MATT SIMPSON				Signature [Signature]		Date Month Day Year 2 11 16	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



Form Approved. OMB No. 2050-0039

GENERATOR

Attachment C

Backfill Documentation



TILCON NEW YORK INC.

CORP. OFFICES 162 OLD MILL ROAD WEST NYACK, NY 10994
845-358-4500 www.tilconny.com

November 30, 2015

New York Concrete Corp
Brick Court
708 Sharrotts Road
Staten Island, NY 10309

Attn: Leo McGugart
Re: West 41st Street

Dear Mr. McGugart:

As it is produced by our West Nyack Quarry 3/4" Stone (also known as NYSDOT #2 Stone) is manufactured to meet New York State Department of Transportation (NYSDOT) Standard Specifications. Our West Nyack Quarry supplies 100% virgin trap rock (diabase) that is quarried and processed to finished sizes.

Material shipped from our West Nyack facility is clean and free of contaminants prior to loading. Our West Nyack source (#8-8R) was approved by the NYSDOT under test number 14AR45. That test result indicating source quality is attached. Also attached, please find a typical gradation for 3/4" Stone.

If you have any questions or require additional information, please contact me at (518) 374-2222 or by email at cvanpatten@callanan.com.

Very truly yours;
TILCON NEW YORK, INC.

A handwritten signature in black ink that reads "Colleen VanPatten". The signature is written in a cursive, flowing style.

Colleen VanPatten
Quality Control Department

**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU
COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS**

SOURCE #: **8- 8R** TEST #: **14AR 45** BR3a SERIAL #: **181161** SM LAB #: **14020803**

Tilcon New York, Inc.
West Nyack, NY

On 10/09/14 results of tests on material represented by sample 181161 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes		No. 2	No. 1	No. 1A
10	Cycle MgSO ₄		1.1	
25	Cycle 3% freeze -thaw			
			100	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Non-carbonate				
% Insoluble residue				
L.A. Abrasion				
Bulk Specific Gravity SSD		2.91		Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity		2.885		
Apparent Specific Gravity		2.969		
Absorption		1.0		
COMPOSITION (Size No.)		%	COMPOSITION (Size No. 1)	
			Trap Rock	
			Trap Rock (W/Pink Feldspar)	



Gradation Test Report

Plant 060_00209-West Nyack Aggregate

Product NY 2 (ASTM 5)-3/4"

Specification NYSDOT 2



1559265578

Sample Information

Sample No 1559265578
Date Sampled 09/29/2015 09:10
Sampled By Donald Brice
Type Shipping
Method Load-out Face

Split Sample ☐
Resample ☐

Gradation Results

Date Completed 09/29/2015 09:10

Tested By Donald Brice

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure		
g		10930.00						
Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
1 1/2" (37.5mm)	0.0	0.0	0.0	0.0	100.0		100-100	
1" (25mm)	665.0	665.0	6.1	6.1	93.9		90-100	
3/4" (19mm)	4745.0	5410.0	43.4	49.5	50.5			
1/2" (12.5mm)	5270.0	10680.0	48.2	97.7	2.3		0-15	
3/8" (9.5mm)	155.0	10835.0	1.4	99.1	0.9			
#4 (4.75mm)	10.0	10845.0	0.1	99.2	0.8			
Pan	85.0	10930.0	0.78	100.00	0.00			

**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU
COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS**

SOURCE #: **8- 8R** TEST #: **14AR 45** BR3a SERIAL #: **181161** SM LAB #: **14020803**

Tilcon New York, Inc.
West Nyack, NY

On 10/09/14 results of tests on material represented by sample 181161 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes		No. 2	No. 1	No. 1A
10	Cycle MgSO ₄		1.1	
25	Cycle 3% freeze -thaw			
% Non-carbonate			100	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Insoluble residue				
L.A. Abrasion				
Bulk Specific Gravity SSD		2.91		Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity		2.885		
Apparent Specific Gravity		2.969		
Absorption		1.0		
COMPOSITION (Size No.)		%	COMPOSITION (Size No. 1)	
			Trap Rock	
			Trap Rock (W/Pink Feldspar)	



PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:

TILCON NEW YORK INC

162 OLD MILL RD

WEST NYACK, NY 10994

(845) 358-4500

Facility:

TILCON - WEST NYACK STONE

PROCESSING

CRUSHER RD

WEST NYACK, NY 10994

Facility Location: in CLARKSTOWN in ROCKLAND COUNTY

Facility Principal Reference Point: NYTM-E: 587.377 NYTM-N: 4551.053

Latitude: 41°06'21.8" Longitude: 73°57'33.8"

Authorized Activity: To continue to mine and process trap rock affecting a maximum of 148 acres on a total site of 175 acres of land owned by the permittee in accordance with previously approved mining and reclamation plans as amended by plans referenced in Special Condition #1 and as conditioned herein.

Permit Authorizations

Mined Land Reclamation - Under Article 23, Title 27

Permit ID 3-3920-00054/00025

Renewal

Effective Date: 9/25/2006

Expiration Date: 9/24/2011

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: STUART M FOX, Deputy Chief Permit Administrator

Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: _____

Stuart M. Fox

Date 9/25/06



Permit Components

MINED LAND RECLAMATION PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

MINED LAND RECLAMATION PERMIT CONDITIONS

1. Conformance With Plans All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such plans were approved by the Department on the effective date of this permit and consist of the following items: See Special Condition No. 2.

2. Plan Requirements: All work shall be carried out in accordance with previously approved mining and reclamation plans as amended by the following:

- Application for Renewal of Mining Permit prepared by Spectra Environmental Group, Inc. (Spectra) dated February, 2006.
- Response to Notice of Incomplete Application prepared by Spectra dated March 10, 2006 (revised April 3, 2006).
- Final Grades and Profiles prepared by Spectra dated February 17, 2006.
- Temporary Erosion and Sediment Controls prepared by Spectra dated February 17, 2006.
- Berm Slope Map prepared by Spectra dated February 17, 2006.
- Permanent Stormwater Controls and Grading Plan with Cross Sections prepared by Spectra dated March 22, 2006 (revised March 31, 2006).
- Slope Stabilization Planting Plan prepared by Robert G. Torgerson, A.S.L.A., dated February 6, 2006 (revised on February 21, 2006).
- Mine Plan Map (with SPDES outfalls) dated February 17, 2006 and revised on March 22, 2006.
- Reclamation Map prepared by Spectra dated February 17, 2006.

3. Licensed Blaster Required All blasting shall be undertaken, monitored and recorded by a blaster licensed by the New York State Department of Labor. The permittee shall maintain copies of all blasting records. Such records shall be made available to the department upon request.

4. Vibration Standards Blasting shall be controlled so that vibrations (Peak Particle Velocity) satisfy the Variable Particle vs. Frequency Limits recommended by the U.S. Bureau of Mines Report - 8507 (November 1980). If measurements are made at other than the nearest residential structure, the measurement shall be interpreted in accordance with U.S. Bureau of Mines Report - 8507.



5. Air Blast Limits Air blast shall not exceed the maximum limits listed below at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area.

0.1	Hz high-pass system	134 dB
2	Hz high-pass system	133 dB
5 or 6	Hz high-pass system	129 dB
c-slow (events not exceeding 2-sec. duration)		105 dB

6. Obtaining All Necessary Local, State and Federal Approvals: As specified in Item "A" on pages 4 and 5 of this permit, the granting of this permit does not relieve the permittee of its responsibility of obtaining all other necessary local, state and federal approvals which may be required.

7. Annual Reports: The permittee shall submit a written annual report to the the Region 3 Mined Land Reclamation Specialist during the month of December for each year of the permit term. The annual report must identify the numbers of acres mined and the number of acres reclaimed during the report years. Operational problems, complaints and the overall status of the project should be included in the report.

8. Strip and Stockpile Soils for Reclamation Prior to the excavation of previously undisturbed areas, topsoil and overburden shall be stripped, stockpiled separately, and used for reclamation of mined areas. These stockpiles shall be seeded to establish a vegetative cover within 30 days, or as soon as practicable following their construction. The permittee shall locate all overburden stockpiles within the permitted area of the approved Life of Mine. Sufficient quantities of topsoil must be retained on the site for use in reclamation, unless prior approval is granted by the department.

9. No Unpermitted Discharge Outside Limits of Mine There shall be no natural swales or channels or constructed features such as ditches, pipes, etc., that are capable of discharging waters to any offsite areas or to any areas outside the limits of the Life of Mine except those explicitly described and shown in the narrative and graphic portions of the approved Mined Land Use Plan. All silt laden water and storm water generated on, or running across, the site shall be retained within the approved project area. The permittee must comply with all applicable State Pollutant Discharge Elimination System (SPDES) permit requirements and provide necessary notifications for off-site point source discharges.

10. Fueling of Equipment and Reporting of Spills Fueling of equipment shall be controlled to prevent spillage. Any spillage of fuels, waste oils, other petroleum products or hazardous materials shall be reported to the department's Spill Hotline number (1-800-457-7362) within 2 hours. The permittee shall retain the department's Spill Response number for immediate access in the permittee's office and at the mine site.

11. Bond, Surety to Remain in Force Any required reclamation bond or other surety, in an amount determined by the department, shall be maintained in full force and effect. Such a bond or other surety shall not be terminated until the reclamation of the mined area is approved by the department in writing.

12. Maintain Area Markers for Permit Term The permittee shall provide permanent markers such as stakes, posts or other devices acceptable to the Department to identify and delineate the permit area, as outlined on the approved Mining Plan Map. These markers are to be installed prior to the start of mining and shall be maintained for the duration of the permit term.



13. Dust Control Water or other approved dust palliatives must be applied to haulageways and other parts of the mine, as often as necessary, to prevent visible dust from leaving the mine property.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY12561 -1620

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Mined Land Reclamation.



5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS
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Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

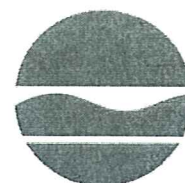


Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action, Renewal Under the State Environmental Quality Review Act (SEQR), the Department of Environmental Conservation has determined that this permit is a renewal where there will be no material change in permit conditions or the scope of permitted activities and is therefore a Type II Action and not subject to further procedures under this law.

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, New York 12233-1750
Phone: (518) 402-9167 • FAX: (518) 402-9168
Website: www.dec.ny.gov



Alexander B. Grannis
Commissioner

July 25, 2008

Mr. Richard Randlov
Tilcon New York, Inc.
162 Old Mill Rd.
West Nyack, NY 10994-0036

Re: DEC ID # 3-3920-00054/00025
MLR # 30010
Facility: West Nyack Quarry

Dear Permittee:

The Department of Environmental Conservation is pursuing an initiative to provide uniform conditions statewide for blasting activities authorized by Mined Land Reclamation Permits. The eight standard blasting conditions, presently in use, have been developed by Mined Land Reclamation program staff and require the implementation of best management practices that address safe and environmentally protective blasting. This permit modification initiative will result in consistent blasting conditions being in force for all mining operations that utilize blasting as a method of extraction, thus ensuring consistency within Department regions and across the state.

To implement this initiative, Department initiated modifications are being proposed, pursuant to the Uniform Procedures Regulation at 6 NYCRR Part 621.13(a)(4), for those permits that require changes or additions to existing permit conditions. The following modifications are proposed for the referenced permit:

New Conditions:

Licensed Blaster Required All blasting shall be undertaken, monitored and recorded by a blaster licensed by the New York State Department of Labor. The permittee shall maintain copies of all blasting records. Such records shall be made available to the Department (NYSDEC) upon request.

Seismograph Monitoring All blasts shall be monitored with a properly calibrated seismograph. Seismographs shall be installed at the nearest residential receptor and any locations identified within the approved Mined Land Use Plan or locations determined by the

Department. Seismograph records shall be provided to the Department upon request.

Prevent Injury

Blasting shall be conducted in a manner to prevent injury to persons and damage to public or private property outside the permit area.

Ground Vibration Limits

Ground vibration shall not exceed the limits as per the attached ground vibration limits graph from the U. S. Bureau of Mines Report of Investigation 8507 (Figure B-1, Safe levels of blasting vibration for houses using a combination of velocity and displacement [see attached]). Maximum peak particle velocity shall not exceed these limits at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area.

Blasting Hours

Blasting shall be conducted between the hours of 9:00 a.m. to 5:00 p.m. Exceptions from these hours will require prior Department approval. No blasting will occur on Sundays or legal holidays.

Storage of Explosives

Storage of explosives on site shall conform to State of New York, Department of Labor Industrial Code Rule 39, found at 12 NYCRR 39:

Part 39.6 General Provisions for the Storage and Handling of Explosives

Part 39.8 Construction and Maintenance of Magazines

Part 39.9 Location of Magazines

No Flyrock Beyond the Property Line

There shall be no flyrock beyond the property line including flyrock that travels in the air or along the ground. In the event of flyrock beyond the property line, all blasting shall cease immediately and the flyrock incident shall be reported within 24 hours to the Regional Mined Land Reclamation Specialist. Blasting shall not resume until written approval to resume blasting is obtained from the Department.

Should you object to these modifications you may submit a written statement giving reasons why your permit should not be modified or you may request a hearing or both. Statements and requests for hearing must be submitted by August 11, 2008 and directed to me at the letterhead address. If you do not respond with an objection to the proposed conditions by the deadline, the permit modifications will go into effect on August 12, 2008.

This modification of your permit does not change the date of expiration. When you renew your permit, near the end of the permit term, these conditions will be included in your renewed permit. Please keep this letter with your current permit.

Should you have any questions regarding this modification call either Chris McKelvey at (518) 402 - 8072 or me at (518) 402 - 9154.

Sincerely,

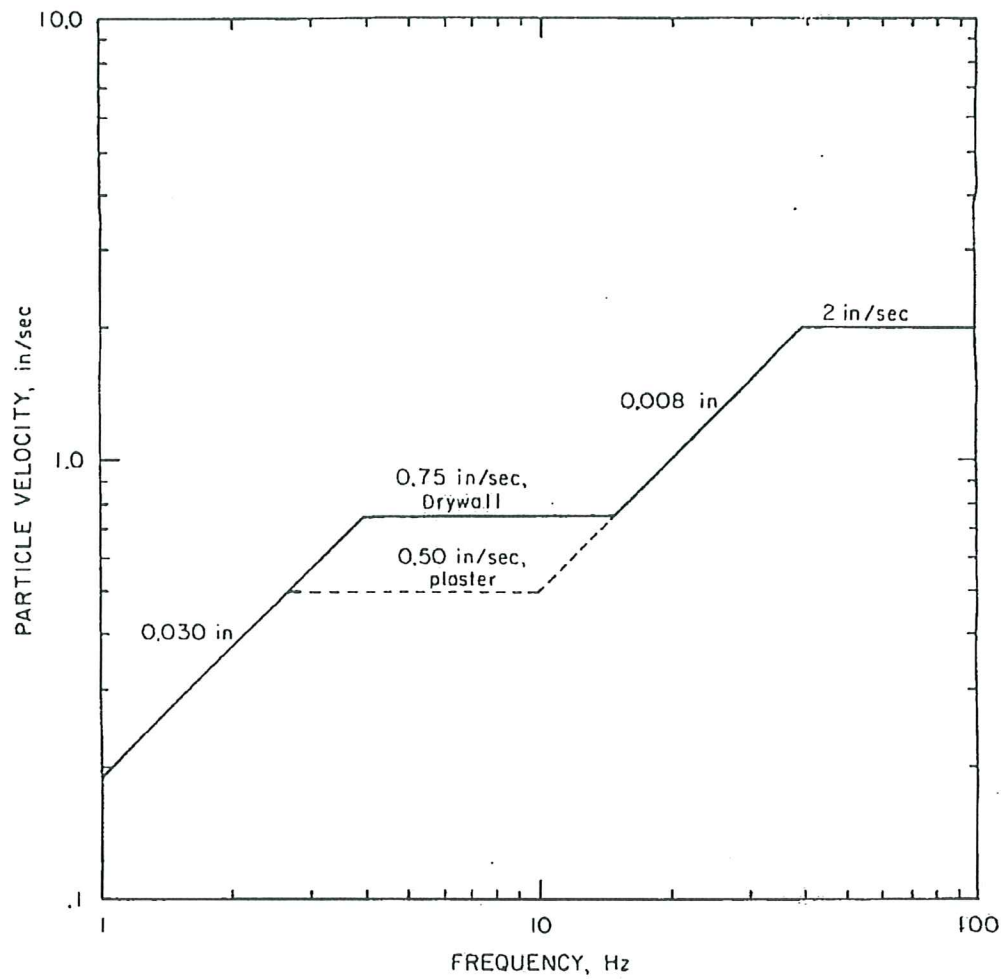
A handwritten signature in cursive script that reads "Charles B. Gardner".

Charles B. Gardner
Deputy Permit Administrator

attach.

c. Regional Permit Administrator
Regional Mined Land Specialist
C. McKelvey

BLASTING CHART - GROUND VIBRATION LIMITS



RI-8501 Figure B-1. Safe levels of blasting vibration for houses using a combination of velocity and displacement.

From: Siskind, D. E., Stagg, M. S., Kopp, J. W., and Dowding, C. H., 1980, Structure Response and Damage Produced by Ground Vibration From Surface Mine Blasting, Bureau of Mines Report of Investigation RI-8507, United States Department of the Interior, 74 p.

Attachment D

Laboratory Analytical Report



ANALYTICAL REPORT

Lab Number:	L1601873
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	RIVERSIDE PLACE
Project Number:	170040901
Report Date:	01/28/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1601873-01	EP01_0-.5_012116	SOIL	ONE RIVER PLACE	01/21/16 14:00	01/21/16
L1601873-02	EP02_0-.5_012116	SOIL	ONE RIVER PLACE	01/21/16 14:05	01/21/16
L1601873-03	DUP01	SOIL	ONE RIVER PLACE	01/21/16 14:00	01/21/16
L1601873-04	FIELD BLANK	WATER	ONE RIVER PLACE	01/21/16 14:15	01/21/16
L1601873-05	TRIP BLANK	WATER	ONE RIVER PLACE	01/21/16 00:00	01/21/16

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

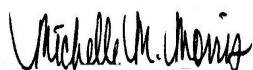
Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 01/28/16

ORGANICS

VOLATILES

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-01
Client ID: EP01_0-5_012116
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/25/16 10:42
Analyst: BN
Percent Solids: 90%

Date Collected: 01/21/16 14:00
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	1.9	0.22	1
Toluene	1.4	J	ug/kg	2.9	0.37	1
Ethylbenzene	ND		ug/kg	1.9	0.24	1
Methyl tert butyl ether	ND		ug/kg	3.8	0.16	1
p/m-Xylene	0.82	J	ug/kg	3.8	0.38	1
o-Xylene	0.38	J	ug/kg	3.8	0.33	1
n-Butylbenzene	ND		ug/kg	1.9	0.22	1
sec-Butylbenzene	ND		ug/kg	1.9	0.23	1
tert-Butylbenzene	ND		ug/kg	9.6	0.26	1
Isopropylbenzene	ND		ug/kg	1.9	0.20	1
p-Isopropyltoluene	ND		ug/kg	1.9	0.24	1
Naphthalene	0.87	J	ug/kg	9.6	0.26	1
n-Propylbenzene	ND		ug/kg	1.9	0.21	1
1,3,5-Trimethylbenzene	ND		ug/kg	9.6	0.27	1
1,2,4-Trimethylbenzene	1.2	J	ug/kg	9.6	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-02
Client ID: EP02_0-5_012116
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/25/16 11:08
Analyst: BN
Percent Solids: 89%

Date Collected: 01/21/16 14:05
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	1.3	0.16	1
Toluene	0.98	J	ug/kg	2.0	0.26	1
Ethylbenzene	0.89	J	ug/kg	1.3	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.7	0.11	1
p/m-Xylene	4.7		ug/kg	2.7	0.26	1
o-Xylene	3.8		ug/kg	2.7	0.23	1
n-Butylbenzene	10		ug/kg	1.3	0.15	1
sec-Butylbenzene	3.5		ug/kg	1.3	0.16	1
tert-Butylbenzene	ND		ug/kg	6.7	0.18	1
Isopropylbenzene	0.82	J	ug/kg	1.3	0.14	1
p-Isopropyltoluene	2.8		ug/kg	1.3	0.17	1
Naphthalene	22		ug/kg	6.7	0.18	1
n-Propylbenzene	4.7		ug/kg	1.3	0.15	1
1,3,5-Trimethylbenzene	17		ug/kg	6.7	0.19	1
1,2,4-Trimethylbenzene	71		ug/kg	6.7	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	95		70-130

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-03
Client ID: DUP01
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/25/16 11:34
Analyst: BN
Percent Solids: 81%

Date Collected: 01/21/16 14:00
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	1.7	0.20	1
Toluene	1.0	J	ug/kg	2.5	0.32	1
Ethylbenzene	0.21	J	ug/kg	1.7	0.21	1
Methyl tert butyl ether	ND		ug/kg	3.3	0.14	1
p/m-Xylene	0.88	J	ug/kg	3.3	0.33	1
o-Xylene	0.44	J	ug/kg	3.3	0.29	1
n-Butylbenzene	0.37	J	ug/kg	1.7	0.19	1
sec-Butylbenzene	ND		ug/kg	1.7	0.20	1
tert-Butylbenzene	ND		ug/kg	8.4	0.23	1
Isopropylbenzene	ND		ug/kg	1.7	0.17	1
p-Isopropyltoluene	ND		ug/kg	1.7	0.21	1
Naphthalene	1.5	J	ug/kg	8.4	0.23	1
n-Propylbenzene	ND		ug/kg	1.7	0.18	1
1,3,5-Trimethylbenzene	0.70	J	ug/kg	8.4	0.24	1
1,2,4-Trimethylbenzene	2.8	J	ug/kg	8.4	0.24	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-04
Client ID: FIELD BLANK
Sample Location: ONE RIVER PLACE
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/27/16 15:56
Analyst: PD

Date Collected: 01/21/16 14:15
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	90		70-130

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-05
Client ID: TRIP BLANK
Sample Location: ONE RIVER PLACE
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/27/16 16:19
Analyst: PD

Date Collected: 01/21/16 00:00
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	91		70-130

Project Name: RIVERSIDE PLACE

Lab Number: L1601873

Project Number: 170040901

Report Date: 01/28/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/25/16 09:51
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-03 Batch: WG860228-3					
Benzene	ND		ug/kg	1.0	0.12
Toluene	ND		ug/kg	1.5	0.19
Ethylbenzene	ND		ug/kg	1.0	0.13
Methyl tert butyl ether	ND		ug/kg	2.0	0.08
p/m-Xylene	0.26	J	ug/kg	2.0	0.20
o-Xylene	ND		ug/kg	2.0	0.17
n-Butylbenzene	ND		ug/kg	1.0	0.11
sec-Butylbenzene	ND		ug/kg	1.0	0.12
tert-Butylbenzene	ND		ug/kg	5.0	0.14
Isopropylbenzene	ND		ug/kg	1.0	0.10
p-Isopropyltoluene	ND		ug/kg	1.0	0.12
Naphthalene	ND		ug/kg	5.0	0.14
n-Propylbenzene	ND		ug/kg	1.0	0.11
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.14
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.14

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	91		70-130

Project Name: RIVERSIDE PLACE

Lab Number: L1601873

Project Number: 170040901

Report Date: 01/28/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/27/16 10:31
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-05 Batch: WG860835-3					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	89		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-03 Batch: WG860228-1 WG860228-2								
Methylene chloride	100		100		70-130	0		30
1,1-Dichloroethane	116		115		70-130	1		30
Chloroform	111		111		70-130	0		30
Carbon tetrachloride	114		113		70-130	1		30
1,2-Dichloropropane	115		116		70-130	1		30
Dibromochloromethane	105		104		70-130	1		30
2-Chloroethylvinyl ether	115		114		70-130	1		30
1,1,2-Trichloroethane	115		112		70-130	3		30
Tetrachloroethene	113		111		70-130	2		30
Chlorobenzene	112		111		70-130	1		30
Trichlorofluoromethane	112		109		70-139	3		30
1,2-Dichloroethane	109		109		70-130	0		30
1,1,1-Trichloroethane	114		114		70-130	0		30
Bromodichloromethane	108		108		70-130	0		30
trans-1,3-Dichloropropene	111		109		70-130	2		30
cis-1,3-Dichloropropene	109		110		70-130	1		30
1,1-Dichloropropene	121		119		70-130	2		30
Bromoform	104		103		70-130	1		30
1,1,2,2-Tetrachloroethane	114		111		70-130	3		30
Benzene	114		114		70-130	0		30
Toluene	114		113		70-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-03 Batch: WG860228-1 WG860228-2								
Ethylbenzene	116		116		70-130	0		30
Chloromethane	102		102		52-130	0		30
Bromomethane	96		96		57-147	0		30
Vinyl chloride	108		109		67-130	1		30
Chloroethane	115		116		50-151	1		30
1,1-Dichloroethene	111		112		65-135	1		30
trans-1,2-Dichloroethene	110		112		70-130	2		30
Trichloroethene	114		113		70-130	1		30
1,2-Dichlorobenzene	110		108		70-130	2		30
1,3-Dichlorobenzene	112		113		70-130	1		30
1,4-Dichlorobenzene	112		110		70-130	2		30
Methyl tert butyl ether	107		105		66-130	2		30
p/m-Xylene	116		115		70-130	1		30
o-Xylene	113		114		70-130	1		30
cis-1,2-Dichloroethene	111		110		70-130	1		30
Dibromomethane	105		106		70-130	1		30
Styrene	115		114		70-130	1		30
Dichlorodifluoromethane	86		86		30-146	0		30
Acetone	113		103		54-140	9		30
Carbon disulfide	112		113		59-130	1		30
2-Butanone	117		113		70-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-03 Batch: WG860228-1 WG860228-2								
Vinyl acetate	110		109		70-130	1		30
4-Methyl-2-pentanone	114		112		70-130	2		30
1,2,3-Trichloropropane	113		111		68-130	2		30
2-Hexanone	108		102		70-130	6		30
Bromochloromethane	106		106		70-130	0		30
2,2-Dichloropropane	114		113		70-130	1		30
1,2-Dibromoethane	109		106		70-130	3		30
1,3-Dichloropropane	114		112		69-130	2		30
1,1,1,2-Tetrachloroethane	110		109		70-130	1		30
Bromobenzene	108		107		70-130	1		30
n-Butylbenzene	125		124		70-130	1		30
sec-Butylbenzene	121		121		70-130	0		30
tert-Butylbenzene	117		116		70-130	1		30
o-Chlorotoluene	119		117		70-130	2		30
p-Chlorotoluene	117		116		70-130	1		30
1,2-Dibromo-3-chloropropane	94		89		68-130	5		30
Hexachlorobutadiene	113		111		67-130	2		30
Isopropylbenzene	118		117		70-130	1		30
p-Isopropyltoluene	119		118		70-130	1		30
Naphthalene	107		105		70-130	2		30
Acrylonitrile	116		117		70-130	1		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-03 Batch: WG860228-1 WG860228-2								
Isopropyl Ether	116		116		66-130	0		30
tert-Butyl Alcohol	107		105		70-130	2		30
n-Propylbenzene	122		120		70-130	2		30
1,2,3-Trichlorobenzene	107		106		70-130	1		30
1,2,4-Trichlorobenzene	112		110		70-130	2		30
1,3,5-Trimethylbenzene	117		116		70-130	1		30
1,2,4-Trimethylbenzene	116		115		70-130	1		30
Methyl Acetate	112		107		51-146	5		30
Ethyl Acetate	122		117		70-130	4		30
Acrolein	111		107		70-130	4		30
Cyclohexane	129		128		59-142	1		30
1,4-Dioxane	106		106		65-136	0		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	120		117		50-139	3		30
p-Diethylbenzene	117		115		70-130	2		30
p-Ethyltoluene	118		118		70-130	0		30
1,2,4,5-Tetramethylbenzene	110		110		70-130	0		30
Tetrahydrofuran	118		113		66-130	4		30
Ethyl ether	105		105		67-130	0		30
trans-1,4-Dichloro-2-butene	120		114		70-130	5		30
Methyl cyclohexane	122		120		70-130	2		30
Ethyl-Tert-Butyl-Ether	112		112		70-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-03 Batch: WG860228-1 WG860228-2								
Tertiary-Amyl Methyl Ether	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		97		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	103		101		70-130
Dibromofluoromethane	98		99		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-05 Batch: WG860835-1 WG860835-2								
Methylene chloride	96		95		70-130	1		20
1,1-Dichloroethane	95		95		70-130	0		20
Chloroform	93		92		70-130	1		20
2-Chloroethylvinyl ether	86		80		70-130	7		20
Carbon tetrachloride	88		87		63-132	1		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	89		90		63-130	1		20
1,1,2-Trichloroethane	97		99		70-130	2		20
Tetrachloroethene	95		95		70-130	0		20
Chlorobenzene	96		97		75-130	1		20
Trichlorofluoromethane	71		70		62-150	1		20
1,2-Dichloroethane	89		89		70-130	0		20
1,1,1-Trichloroethane	90		91		67-130	1		20
Bromodichloromethane	90		90		67-130	0		20
trans-1,3-Dichloropropene	89		89		70-130	0		20
cis-1,3-Dichloropropene	91		90		70-130	1		20
1,1-Dichloropropene	100		101		70-130	1		20
Bromoform	86		87		54-136	1		20
1,1,2,2-Tetrachloroethane	99		100		67-130	1		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-05 Batch: WG860835-1 WG860835-2								
Ethylbenzene	102		102		70-130	0		20
Chloromethane	83		78		64-130	6		20
Bromomethane	78		74		39-139	5		20
Vinyl chloride	82		80		55-140	2		20
Chloroethane	74		73		55-138	1		20
1,1-Dichloroethene	91		90		61-145	1		20
trans-1,2-Dichloroethene	96		96		70-130	0		20
Trichloroethene	93		93		70-130	0		20
1,2-Dichlorobenzene	98		98		70-130	0		20
1,3-Dichlorobenzene	98		99		70-130	1		20
1,4-Dichlorobenzene	96		97		70-130	1		20
Methyl tert butyl ether	103		104		63-130	1		20
p/m-Xylene	106		106		70-130	0		20
o-Xylene	106		107		70-130	1		20
cis-1,2-Dichloroethene	99		98		70-130	1		20
Dibromomethane	92		92		70-130	0		20
1,2,3-Trichloropropane	101		103		64-130	2		20
Acrylonitrile	100		100		70-130	0		20
Isopropyl Ether	104		105		70-130	1		20
tert-Butyl Alcohol	112		119		70-130	6		20
Styrene	105		105		70-130	0		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-05 Batch: WG860835-1 WG860835-2								
Dichlorodifluoromethane	63		62		36-147	2		20
Acetone	106		104		58-148	2		20
Carbon disulfide	87		85		51-130	2		20
2-Butanone	108		109		63-138	1		20
Vinyl acetate	98		98		70-130	0		20
4-Methyl-2-pentanone	95		99		59-130	4		20
2-Hexanone	85		86		57-130	1		20
Acrolein	86		84		40-160	2		20
Bromochloromethane	93		93		70-130	0		20
2,2-Dichloropropane	94		94		63-133	0		20
1,2-Dibromoethane	97		97		70-130	0		20
1,3-Dichloropropane	102		103		70-130	1		20
1,1,1,2-Tetrachloroethane	92		92		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	102		102		53-136	0		20
sec-Butylbenzene	99		100		70-130	1		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	105		104		70-130	1		20
p-Chlorotoluene	107		108		70-130	1		20
1,2-Dibromo-3-chloropropane	89		90		41-144	1		20
Hexachlorobutadiene	95		93		63-130	2		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-05 Batch: WG860835-1 WG860835-2								
Isopropylbenzene	104		105		70-130	1		20
p-Isopropyltoluene	98		99		70-130	1		20
Naphthalene	73		76		70-130	4		20
n-Propylbenzene	107		108		69-130	1		20
1,2,3-Trichlorobenzene	77		82		70-130	6		20
1,2,4-Trichlorobenzene	81		83		70-130	2		20
1,3,5-Trimethylbenzene	107		108		64-130	1		20
1,2,4-Trimethylbenzene	101		102		70-130	1		20
Methyl Acetate	98		98		70-130	0		20
Ethyl Acetate	100		101		70-130	1		20
Cyclohexane	96		97		70-130	1		20
Ethyl-Tert-Butyl-Ether	106		107		70-130	1		20
Tertiary-Amyl Methyl Ether	95		97		66-130	2		20
1,4-Dioxane	130		138		56-162	6		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	88		88		70-130	0		20
p-Diethylbenzene	95		96		70-130	1		20
p-Ethyltoluene	108		110		70-130	2		20
1,2,4,5-Tetramethylbenzene	91		92		70-130	1		20
Ethyl ether	92		92		59-134	0		20
trans-1,4-Dichloro-2-butene	86		87		70-130	1		20
Iodomethane	21	Q	42	Q	70-130	67	Q	20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** RIVERSIDE PLACE**Lab Number:** L1601873**Project Number:** 170040901**Report Date:** 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-05 Batch: WG860835-1 WG860835-2								
Methyl cyclohexane	99		100		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		91		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	107		108		70-130
Dibromofluoromethane	92		92		70-130

SEMIVOLATILES

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-01
Client ID: EP01_0-.5_012116
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/27/16 22:29
Analyst: AL
Percent Solids: 90%

Date Collected: 01/21/16 14:00
Date Received: 01/21/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 01/26/16 14:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	20	J	ug/kg	140	19.	1
Fluoranthene	560		ug/kg	110	21.	1
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	310		ug/kg	110	20.	1
Benzo(a)pyrene	290		ug/kg	140	44.	1
Benzo(b)fluoranthene	390		ug/kg	110	31.	1
Benzo(k)fluoranthene	140		ug/kg	110	29.	1
Chrysene	270		ug/kg	110	19.	1
Acenaphthylene	58	J	ug/kg	140	28.	1
Anthracene	110		ug/kg	110	36.	1
Benzo(ghi)perylene	200		ug/kg	140	21.	1
Fluorene	19	J	ug/kg	180	18.	1
Phenanthrene	330		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	89	J	ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	240		ug/kg	140	25.	1
Pyrene	470		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	58		18-120

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-02
Client ID: EP02_0-5_012116
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/27/16 22:55
Analyst: AL
Percent Solids: 89%

Date Collected: 01/21/16 14:05
Date Received: 01/21/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 01/26/16 14:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Fluoranthene	420		ug/kg	110	21.	1
Naphthalene	24	J	ug/kg	180	23.	1
Benzo(a)anthracene	290		ug/kg	110	21.	1
Benzo(a)pyrene	320		ug/kg	150	45.	1
Benzo(b)fluoranthene	400		ug/kg	110	31.	1
Benzo(k)fluoranthene	140		ug/kg	110	30.	1
Chrysene	260		ug/kg	110	19.	1
Acenaphthylene	66	J	ug/kg	150	29.	1
Anthracene	85	J	ug/kg	110	36.	1
Benzo(ghi)perylene	220		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	170		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	93	J	ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	260		ug/kg	150	26.	1
Pyrene	410		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	59		18-120

Project Name: RIVERSIDE PLACE**Lab Number:** L1601873**Project Number:** 170040901**Report Date:** 01/28/16**SAMPLE RESULTS**

Lab ID: L1601873-03 D
Client ID: DUP01
Sample Location: ONE RIVER PLACE
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/28/16 07:52
Analyst: AL
Percent Solids: 81%

Date Collected: 01/21/16 14:00
Date Received: 01/21/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 01/26/16 14:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	320	42.	2
Fluoranthene	220	J	ug/kg	240	46.	2
Naphthalene	ND		ug/kg	400	49.	2
Benzo(a)anthracene	130	J	ug/kg	240	46.	2
Benzo(a)pyrene	140	J	ug/kg	320	99.	2
Benzo(b)fluoranthene	160	J	ug/kg	240	68.	2
Benzo(k)fluoranthene	70	J	ug/kg	240	65.	2
Chrysene	140	J	ug/kg	240	42.	2
Acenaphthylene	ND		ug/kg	320	62.	2
Anthracene	ND		ug/kg	240	79.	2
Benzo(ghi)perylene	100	J	ug/kg	320	48.	2
Fluorene	ND		ug/kg	400	39.	2
Phenanthrene	91	J	ug/kg	240	49.	2
Dibenzo(a,h)anthracene	ND		ug/kg	240	47.	2
Indeno(1,2,3-cd)pyrene	97	J	ug/kg	320	56.	2
Pyrene	220	J	ug/kg	240	40.	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	41		18-120

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-04
Client ID: FIELD BLANK
Sample Location: ONE RIVER PLACE
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 01/27/16 15:18
Analyst: AL

Date Collected: 01/21/16 14:15
Date Received: 01/21/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/26/16 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	0.59	1
Fluoranthene	ND		ug/l	2.0	0.57	1
Naphthalene	ND		ug/l	2.0	0.68	1
Benzo(a)anthracene	ND		ug/l	2.0	0.61	1
Benzo(a)pyrene	ND		ug/l	2.0	0.54	1
Benzo(b)fluoranthene	ND		ug/l	2.0	0.64	1
Benzo(k)fluoranthene	ND		ug/l	2.0	0.60	1
Chrysene	ND		ug/l	2.0	0.54	1
Acenaphthylene	ND		ug/l	2.0	0.66	1
Anthracene	ND		ug/l	2.0	0.64	1
Benzo(ghi)perylene	ND		ug/l	2.0	0.61	1
Fluorene	ND		ug/l	2.0	0.62	1
Phenanthrene	ND		ug/l	2.0	0.61	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.55	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.71	1
Pyrene	ND		ug/l	2.0	0.57	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	88		10-120
4-Terphenyl-d14	103		41-149

Project Name: RIVERSIDE PLACE

Lab Number: L1601873

Project Number: 170040901

Report Date: 01/28/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/27/16 16:26
 Analyst: AL

Extraction Method: EPA 3510C
 Extraction Date: 01/26/16 08:38

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG860255-1					
Acenaphthene	ND		ug/l	2.0	0.59
Fluoranthene	ND		ug/l	2.0	0.57
Naphthalene	ND		ug/l	2.0	0.68
Benzo(a)anthracene	ND		ug/l	2.0	0.61
Benzo(a)pyrene	ND		ug/l	2.0	0.54
Benzo(b)fluoranthene	ND		ug/l	2.0	0.64
Benzo(k)fluoranthene	ND		ug/l	2.0	0.60
Chrysene	ND		ug/l	2.0	0.54
Acenaphthylene	ND		ug/l	2.0	0.66
Anthracene	ND		ug/l	2.0	0.64
Benzo(ghi)perylene	ND		ug/l	2.0	0.61
Fluorene	ND		ug/l	2.0	0.62
Phenanthrene	ND		ug/l	2.0	0.61
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.55
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.71
Pyrene	ND		ug/l	2.0	0.57

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	44		15-120
2,4,6-Tribromophenol	54		10-120
4-Terphenyl-d14	55		41-149

Project Name: RIVERSIDE PLACE

Lab Number: L1601873

Project Number: 170040901

Report Date: 01/28/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/27/16 19:29
 Analyst: AL

Extraction Method: EPA 3546
 Extraction Date: 01/26/16 14:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG860391-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	99	19.
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	99	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	70		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG860255-2 WG860255-3								
Acenaphthene	107		61		37-111	55	Q	30
1,2,4-Trichlorobenzene	96		54		39-98	56	Q	30
Hexachlorobenzene	106		62		40-140	52	Q	30
Bis(2-chloroethyl)ether	97		54		40-140	57	Q	30
2-Chloronaphthalene	101		57		40-140	56	Q	30
1,2-Dichlorobenzene	94		56		40-140	51	Q	30
1,3-Dichlorobenzene	93		54		40-140	53	Q	30
1,4-Dichlorobenzene	94		55		36-97	52	Q	30
3,3'-Dichlorobenzidine	79		47		40-140	51	Q	30
2,4-Dinitrotoluene	83		45		24-96	59	Q	30
2,6-Dinitrotoluene	80		42		40-140	62	Q	30
Fluoranthene	112		64		40-140	55	Q	30
4-Chlorophenyl phenyl ether	105		61		40-140	53	Q	30
4-Bromophenyl phenyl ether	108		62		40-140	54	Q	30
Bis(2-chloroisopropyl)ether	93		53		40-140	55	Q	30
Bis(2-chloroethoxy)methane	103		56		40-140	59	Q	30
Hexachlorobutadiene	92		53		40-140	54	Q	30
Hexachlorocyclopentadiene	56		40		40-140	33	Q	30
Hexachloroethane	79		45		40-140	55	Q	30
Isophorone	99		56		40-140	55	Q	30
Naphthalene	103		58		40-140	56	Q	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG860255-2 WG860255-3								
Nitrobenzene	99		52		40-140	62	Q	30
NitrosoDiPhenylAmine(NDPA)/DPA	107		62		40-140	53	Q	30
n-Nitrosodi-n-propylamine	100		55		29-132	58	Q	30
Bis(2-Ethylhexyl)phthalate	129		71		40-140	58	Q	30
Butyl benzyl phthalate	116		64		40-140	58	Q	30
Di-n-butylphthalate	119		67		40-140	56	Q	30
Di-n-octylphthalate	130		72		40-140	57	Q	30
Diethyl phthalate	112		63		40-140	56	Q	30
Dimethyl phthalate	103		60		40-140	53	Q	30
Benzo(a)anthracene	113		65		40-140	54	Q	30
Benzo(a)pyrene	110		61		40-140	57	Q	30
Benzo(b)fluoranthene	108		61		40-140	56	Q	30
Benzo(k)fluoranthene	114		63		40-140	58	Q	30
Chrysene	116		65		40-140	56	Q	30
Acenaphthylene	102		57		45-123	57	Q	30
Anthracene	120		69		40-140	54	Q	30
Benzo(ghi)perylene	104		60		40-140	54	Q	30
Fluorene	110		63		40-140	54	Q	30
Phenanthrene	111		64		40-140	54	Q	30
Dibenzo(a,h)anthracene	104		58		40-140	57	Q	30
Indeno(1,2,3-cd)Pyrene	104		59		40-140	55	Q	30

Lab Control Sample Analysis Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG860255-2 WG860255-3								
Pyrene	114		63		26-127	58	Q	30
Biphenyl	107	Q	62		54-104	53	Q	30
4-Chloroaniline	82		48		40-140	52	Q	30
2-Nitroaniline	118		64		52-143	59	Q	30
3-Nitroaniline	129		74		25-145	54	Q	30
4-Nitroaniline	138		77		51-143	57	Q	30
Dibenzofuran	105		61		40-140	53	Q	30
2-Methylnaphthalene	103		57		40-140	58	Q	30
1,2,4,5-Tetrachlorobenzene	102		59		2-134	53	Q	30
Acetophenone	110		61		39-129	57	Q	30
2,4,6-Trichlorophenol	116		64		30-130	58	Q	30
P-Chloro-M-Cresol	113	Q	63		23-97	57	Q	30
2-Chlorophenol	105		58		27-123	58	Q	30
2,4-Dichlorophenol	116		63		30-130	59	Q	30
2,4-Dimethylphenol	118		65		30-130	58	Q	30
2-Nitrophenol	47		26	Q	30-130	58	Q	30
4-Nitrophenol	51		30		10-80	52	Q	30
2,4-Dinitrophenol	15	Q	13	Q	20-130	14		30
4,6-Dinitro-o-cresol	14	Q	12	Q	20-164	15		30
Pentachlorophenol	102		50		9-103	68	Q	30
Phenol	48		27		12-110	56	Q	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG860255-2 WG860255-3								
2-Methylphenol	97		54		30-130	57	Q	30
3-Methylphenol/4-Methylphenol	92		51		30-130	57	Q	30
2,4,5-Trichlorophenol	115		64		30-130	57	Q	30
Benzoic Acid	57		34		10-110	51	Q	30
Benzyl Alcohol	84		48		15-110	55	Q	30
Carbazole	111		64		55-144	54	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		38		21-120
Phenol-d6	47		27		10-120
Nitrobenzene-d5	96		51		23-120
2-Fluorobiphenyl	95		51		15-120
2,4,6-Tribromophenol	107		57		10-120
4-Terphenyl-d14	102		57		41-149

Lab Control Sample Analysis Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG860391-2 WG860391-3								
Acenaphthene	53		52		31-137	2		50
Benzidine	33		37		10-66	11		50
n-Nitrosodimethylamine	45		44		22-100	2		50
1,2,4-Trichlorobenzene	56		54		38-107	4		50
Hexachlorobenzene	57		56		40-140	2		50
Bis(2-chloroethyl)ether	53		53		40-140	0		50
2-Chloronaphthalene	61		60		40-140	2		50
1,2-Dichlorobenzene	55		56		40-140	2		50
1,3-Dichlorobenzene	54		54		40-140	0		50
1,4-Dichlorobenzene	54		55		28-104	2		50
3,3'-Dichlorobenzidine	46		45		40-140	2		50
2,4-Dinitrotoluene	60		59		28-89	2		50
2,6-Dinitrotoluene	70		70		40-140	0		50
Fluoranthene	58		57		40-140	2		50
4-Chlorophenyl phenyl ether	55		55		40-140	0		50
4-Bromophenyl phenyl ether	58		58		40-140	0		50
Azobenzene	50		50		40-140	0		50
Bis(2-chloroisopropyl)ether	45		45		40-140	0		50
Bis(2-chloroethoxy)methane	57		57		40-117	0		50
Hexachlorobutadiene	55		55		40-140	0		50
Hexachlorocyclopentadiene	72		72		40-140	0		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG860391-2 WG860391-3								
Hexachloroethane	55		56		40-140	2		50
Isophorone	58		58		40-140	0		50
Naphthalene	55		54		40-140	2		50
Nitrobenzene	54		52		40-140	4		50
NitrosoDiPhenylAmine(NDPA)/DPA	58		58		36-157	0		50
n-Nitrosodi-n-propylamine	56		56		32-121	0		50
Bis(2-Ethylhexyl)phthalate	52		52		40-140	0		50
Butyl benzyl phthalate	58		58		40-140	0		50
Di-n-butylphthalate	57		58		40-140	2		50
Di-n-octylphthalate	58		57		40-140	2		50
Diethyl phthalate	57		56		40-140	2		50
Dimethyl phthalate	56		55		40-140	2		50
Benzo(a)anthracene	56		55		40-140	2		50
Benzo(a)pyrene	58		56		40-140	4		50
Benzo(b)fluoranthene	59		57		40-140	3		50
Benzo(k)fluoranthene	54		52		40-140	4		50
Chrysene	52		51		40-140	2		50
Acenaphthylene	64		62		40-140	3		50
Anthracene	56		55		40-140	2		50
Benzo(ghi)perylene	57		54		40-140	5		50
Fluorene	56		56		40-140	0		50

Lab Control Sample Analysis Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG860391-2 WG860391-3								
Phenanthrene	52		51		40-140	2		50
Dibenzo(a,h)anthracene	54		51		40-140	6		50
Indeno(1,2,3-cd)Pyrene	55		53		40-140	4		50
Pyrene	57		56		35-142	2		50
Biphenyl	54		52	Q	54-104	4		50
Aniline	36	Q	38	Q	40-140	5		50
4-Chloroaniline	55		54		40-140	2		50
2-Nitroaniline	70		68		47-134	3		50
3-Nitroaniline	45		45		26-129	0		50
4-Nitroaniline	58		57		41-125	2		50
Dibenzofuran	55		54		40-140	2		50
2-Methylnaphthalene	59		58		40-140	2		50
1,2,4,5-Tetrachlorobenzene	50		50		40-117	0		50
Acetophenone	61		61		14-144	0		50
2,4,6-Trichlorophenol	71		70		30-130	1		50
P-Chloro-M-Cresol	67		66		26-103	2		50
2-Chlorophenol	61		60		25-102	2		50
2,4-Dichlorophenol	66		65		30-130	2		50
2,4-Dimethylphenol	66		69		30-130	4		50
2-Nitrophenol	68		68		30-130	0		50
4-Nitrophenol	61		58		11-114	5		50

Lab Control Sample Analysis Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG860391-2 WG860391-3								
2,4-Dinitrophenol	82		81		4-130	1		50
4,6-Dinitro-o-cresol	67		68		10-130	1		50
Pentachlorophenol	56		57		17-109	2		50
Phenol	52		51		26-90	2		50
2-Methylphenol	61		61		30-130	0		50
3-Methylphenol/4-Methylphenol	58		58		30-130	0		50
2,4,5-Trichlorophenol	71		69		30-130	3		50
Benzoic Acid	81	Q	80	Q	10-66	1		50
Benzyl Alcohol	60		59		40-140	2		50
Carbazole	56		54		54-128	4		50
Benzaldehyde	48		48		40-140	0		50
Caprolactam	65		64		15-130	2		50
Atrazine	67		67		40-140	0		50
2,3,4,6-Tetrachlorophenol	61		61		40-140	0		50
Pyridine	40		40		10-93	0		50
Parathion, ethyl	83		82		40-140	1		50
1-Methylnaphthalene	57		57		26-130	0		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG860391-2 WG860391-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		59		25-120
Phenol-d6	63		61		10-120
Nitrobenzene-d5	60		58		23-120
2-Fluorobiphenyl	62		60		30-120
2,4,6-Tribromophenol	54		53		10-136
4-Terphenyl-d14	58		56		18-120

INORGANICS & MISCELLANEOUS

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-01
Client ID: EP01_0-5_012116
Sample Location: ONE RIVER PLACE
Matrix: Soil

Date Collected: 01/21/16 14:00
Date Received: 01/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.2		%	0.100	NA	1	-	01/22/16 12:09	30,2540G	RI



Project Name: RIVERSIDE PLACE**Project Number:** 170040901**Lab Number:** L1601873**Report Date:** 01/28/16**SAMPLE RESULTS****Lab ID:** L1601873-02**Client ID:** EP02_0-5_012116**Sample Location:** ONE RIVER PLACE**Matrix:** Soil**Date Collected:** 01/21/16 14:05**Date Received:** 01/21/16**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.8		%	0.100	NA	1	-	01/22/16 12:09	30,2540G	RI



Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

SAMPLE RESULTS

Lab ID: L1601873-03

Client ID: DUP01

Sample Location: ONE RIVER PLACE

Matrix: Soil

Date Collected: 01/21/16 14:00

Date Received: 01/21/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	01/22/16 12:09	30,2540G	RI



Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1601873
Report Date: 01/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG859532-1 QC Sample: L1601835-01 Client ID: DUP Sample						
Solids, Total	80.2	80.1	%	0		20

Project Name: RIVERSIDE PLACE

Project Number: 170040901

Lab Number: L1601873

Report Date: 01/28/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: 22-JAN-16 05:47

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601873-01A	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-01B	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-01C	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-01D	Plastic 2oz unpreserved for TS	A	N/A	2.1	Y	Absent	TS(7)
L1601873-01E	Glass 250ml/8oz unpreserved	A	N/A	2.1	Y	Absent	NYTCL-8270(14)
L1601873-01X	Vial MeOH preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-01Y	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-01Z	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-02A	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-02B	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-02C	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-02D	Plastic 2oz unpreserved for TS	A	N/A	2.1	Y	Absent	TS(7)
L1601873-02E	Glass 250ml/8oz unpreserved	A	N/A	2.1	Y	Absent	NYTCL-8270(14)
L1601873-02X	Vial MeOH preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-02Y	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-02Z	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-03A	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-03B	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-03C	5 gram Encore Sampler	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(2)
L1601873-03D	Plastic 2oz unpreserved for TS	A	N/A	2.1	Y	Absent	TS(7)
L1601873-03E	Glass 250ml/8oz unpreserved	A	N/A	2.1	Y	Absent	NYTCL-8270(14)
L1601873-03X	Vial MeOH preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-03Y	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-03Z	Vial Water preserved split	A	N/A	2.1	Y	Absent	NYTCL-8260HLW(14)
L1601873-04A	Vial HCl preserved	A	N/A	2.1	Y	Absent	NYTCL-8260(14)
L1601873-04B	Vial HCl preserved	A	N/A	2.1	Y	Absent	NYTCL-8260(14)
L1601873-04C	Vial HCl preserved	A	N/A	2.1	Y	Absent	NYTCL-8260(14)

*Values in parentheses indicate holding time in days



Project Name: RIVERSIDE PLACE**Project Number:** 170040901**Lab Number:** L1601873**Report Date:** 01/28/16**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601873-04D	Amber 1000ml unpreserved	A	7	2.1	Y	Absent	NYTCL-8270(7)
L1601873-04E	Amber 1000ml unpreserved	A	7	2.1	Y	Absent	NYTCL-8270(7)
L1601873-05A	Vial HCl preserved	A	N/A	2.1	Y	Absent	NYTCL-8260(14)
L1601873-05B	Vial HCl preserved	A	N/A	2.1	Y	Absent	NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: RIVERSIDE PLACE
Project Number: 170040901

Lab Number: L1601873
Report Date: 01/28/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: DU Report with 'J' Qualifiers



Project Name: RIVERSIDE PLACE
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Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation

EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance

EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols

EPA 9251: NPW: Chloride

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Ti; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C,** **SM4500CN-CE,** **EPA 180.1,** **SM2130B,** **SM4500CI-D,** **SM2320B,** **SM2540C,** **SM4500H-B**

EPA 332: Perchlorate.

Microbiology: **SM9215B;** **SM9223-P/A,** **SM9223B-Colilert-QT,** **Enterolert-QT.**

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Ti, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, V, Zn;

EPA 245.1, **SM4500H-B,** **EPA 120.1,** **SM2510B,** **SM2540C,** **SM2340B,** **SM2320B,** **SM4500CL-E,** **SM4500F-BC,**

SM426C, **SM4500NH3-BH,** **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

EPA 353.2: Nitrate-N, **SM4500NH3-BC-NES,** **EPA 351.1,** **SM4500P-E,** **SM4500P-B,** **E,** **SM5220D,** **EPA 410.4,**

SM5210B, **SM5310C,** **SM4500CL-D,** **EPA 1664,** **SM14 510AC,** **EPA 420.1,** **SM4500-CN-CE,** **SM2540D.**

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT;** **Enterolert-QT,** **SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

